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CONDUCTED BY

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TO OUR READERS.

"It is most unreasonable that you ask me to write our usual Preface. I have not had a day's fallow before for six months, so now I am off for a fallowing, and I mean to have it.

"I have been to see some Fig-orcharding close to the cottage where honest and moderate John Selden was born, and in that cottage is the warning carved by his own hand and knife—'Thief, avaunt!'.

"Now, in the preface you might introduce that when warning some of our contemporaries, foreign and domestic, not to continue copying from our pages without acknowledging whence they obtained the riches.

"Looking from my lodging window I see a neighbour, trowel in hand, stirring a bit of parterre which a tablecloth would cover, and he reminds me of little Dr. Jowitt, of Oxford memory, of whom it was written—

'Dr. Jowitt a little garden made,
And round it placed a little palisade.
A little garden taketh little wit to show it,
And little wit had little Dr. Jowitt.'

You might give that as clinging to 'gardening under difficulties.'

"Tell our readers, also, that we have long since felt that we Editors are types of Christian Charity, for we bear all things, hope all things, and endure all things, suffer long, and are *kind*—put an emphasis on the last word. Who but we would have returned gentle answers to the man who abused us for not naming forty-five plants he sent without paying the carriage; and the old dame who said we are 'totally unfit to be Editors,' because we did not specially state that she had a Bantam commended at the Fuddly-cum-Pipes Show? Tell them, in addition, that we trust they will duly appreciate our new type, superior paper, and other liberalities.

"To our correspondents and staff-contributors say something courteous; slide in that some of them have written for us for twenty-four years, and yet are as vigorous as those stalwart chaps who have been 'of ours' only for as many months. The old chaps will like that.

"Then you must say something very civil to 'our readers.' Don't say anything about Happy New Years, that's 'stale and unprofitable.' Perhaps you may embody it all in the Spanish greeting, 'May your shadows never be less.'

"We have never said anything to advertisers, so be civil to them; quote Cowley's lines—

'What shall I do to be for ever known,
And make the distant all my own?'

"Reply by an inuendo."

The Editor who received the above from his Co-Editor ventures to print it without a comment or addition.

INDEX.

Abutilon Darwinii, 215; wintering, 227
Acacia lophantha, wintering, 206
Accidents, 910
Achimenes, failing, 207; select, 514; soil, 185
Acorn over water, 14
Æcidium cancellatum, 471
Agaricus procerus, 365
Ageratums, propagating, 186
Agriculture, past and present, 195
"Agricultural Chemistry and Geology," 509
Agrotis Segetum, 607
Airdrie Poultry Show, 456
Aldborough & Boroughbridge Poultry Show, 132
Algiers, Jardin d'Essai, 375
Allamanda soil, 185
Allerton Poultry Show, 133; Pigeons at, 164; Pigeon trimming, 171
Alocasia metallica culture, 226
Alpine plants, 61, 394
Alternantheras—for bedding, 186; magnifica propagation, 227; propagation, 285
Amaranthus salicifolius, 269
Amaryllis, cool culture, 346; culture, 186
Amatnngula fruit, 157
American blight, destroying, 109, 129, 346, 488
Ampelopsis tricuspidata, 494
Amphipyra Tragopogonis, 145
Anauassa sstiva variegata treatment, 75
Andalusians, 407
Angle-shades moth, 357
Annuals for autumn sowing, 179
Anthurium Scherzerianum, 175, 450; culture, 474; large-spathed, 140
Ants, on Peaches, 207; on lawns, 15
Antwerp points, 136
Aphides, 444; on Red Currants, 217
Apios tuberosa, 50
Apples—trees under glass, 166, pruning wall, 149, pruning, 186, moving, 207, espalier, pruning, 223, exposing protected, 267, continuous-flowering, 280, 514, stocks, 357, scale on, 346, select dwarf dessert, 246; twelve dessert, 545; for espaliers, 514
Arabis, dividing, 227
Araucaria not thriving, 246
Arbor-Vitæ, browned, 226; pruning, 474
Ariæma, concinnum, 50; curvatum, 338
Artichokes, and Convolvulus, 364; Jerusalem, cutting down, 92
Ashford Poultry Show, 478
Ash and Oak leafing, 76
Asparagus, culture, 354, 395; forcing, 413; grafting, 14; liquid manure for, 92; planting, 473; seed, 267
Aspidistra lurida culture, 14
Auriculas in greenhouse, 245
Aviary, heating, 307, 458
Aylesbury Poultry Show, 229
Azaleas, culture, 21; flowerless, 15; liquid manure for, 474; syringing, 473

Balsam culture, 27
Bantams, Black Red plumage, 452; weight, 460; catarrhed, 460; Duckwinged, space for, 500; cockerels dying, 359; Black, breeding and management, 339; with large fowls, 17, 29; in confinement, 18; blind, 20; standards, 289; *versus* gardens, 247, 309; breeding Black Red, Hamburgh, 172; Black-breasted Red cock, 252; Japanese, 330; legs of Japanese, 369; Sebright, 98; Wheaten, 252; Wheaten and Game, 288
Barrhead Poultry Show, 431
Barton and North Lincolnshire Poultry Show, 516
Baxter, Mr. W., 362
Beak not closing, 350
Beans—for succession, 371; culture and value of, 107; Scarlet Runner, 107
Bedding-out plants in 1871, 275; preserving, 286
Bedding plants, in 1871, 358, 394, 412; pit for wintering, 55; plants, wintering in a room, 186; propagating, 207; with white foliage, 515
Bedford Horticultural Show, 71; Poultry Show, 78
Bedrooms, plants in, 423
Beds on grass, 268
Beccles Poultry Show, 37
Bees—feeding, 212, 232, 370, 388, 492, for honey, 272; foul brood, 19, 192, 231, 309, 458, What is? 232; fertilising queens in confinement, 20; do old queens leave their hives? fertilising, 38; treatment of swarms and stocks, Ligurian, hinges to bar-and-frame hives, 39; swarm returning, queens piping, uniting, 40; sexes of eggs, 58; queens leaving their hives, adapted to localities, an old swarm of, 59; swarming, 60; successful swarms, driving, preventing swarming, to find the queen, removing from a frame, 79; second swarm deserting hive, 80; market for surplus honeycomb, maiden swarm, 98; supers, 113; drone slaughter, 113, 116; late swarming, 118; uniting expelled, transferring from straw to Woodbury hives, 116; queens leaving their hives, uniting, saving population of condemned stocks, 134; hives, hinges to bar-and-frame, Major Munn's, 135; queens leaving their hives, Mr. Woodbury's death, 153; not working, 154; queens leaving hives, beekeeper's difficulties, incidents, 171; honey dark green, chloroforming, 172; timely feeding, 191; Mr. Woodbury, 192; judging honey, 211; uniting, wintering, September swarm, 212; hiving Italian, transporting hives, 231; uniting, 232; Ligurians in Jersey, 251, 272; honey-harvest, 251; frame-support during operations, 271; removing, 272; hinges to bar hives, 291; and mice, 292; foul brood, 309; French superstitions, Ligurian, removing, grubs in comb, 310; introducing young queens, obtaining honey, 330; leaf-cutting and others, 356; stocking bar-hives, feeding, syrup, &c., 370; in New Zealand, 349; hunting, 388; treacle for, 390; in 1871, 407; near London, ants in hives, 408; in Cheshire, 459; taking supers in November, 460; large *v.* small hives, wintering, 479; combs fallen, 480; queens leaving their hives, unseasonable drones, 499; Sea Lavender for, weak, 500; not fruit robbers, 518; Ligurians raising queens, 519; large and small hives, wintering, 520
Belladonna Lilies, planting-out, 226
Bellis aucubæfolia, 285
Berwick Ornithological Show, 478
Bible—gums, perfumes, and resins of, 52
Bicton, 201, 221
Bingley Poultry Show, 190
Birch trees, moving large, 267
Birds, scaring *versus* killing, 231
Birmingham Philoperisteron Society's Show, 337; Poultry Show, 208, 405, 425, 452; future, 455
Birmingham Rose Show, 25
Biston hirtarius, 144
Blackburn Poultry Show, 94
Blood manure, 453
Bluebottles, 143
Boiler, not acting well, 56; for vinery, 453; unmanageable, 494; level of, 383; heating power; oven-heated, 473
Bomarea chontalensis, 337
Bones, for manure, 346; preparing, 455
Border near Beeches, 206
Borecole, 74; planting, 14
Boston Poultry Show, 37
Botanic garden arrangements, 266
Botanic (Royal) Society's Show, 26
Bottom heat, chamber for, 453
Bouquet defined, 54
Bowood, 509
Box edging failing, 66
Brachyæma Drummondi culture, 365
Brahmas—crosses, dying, 19; breathing interrupted, 20; feathers of Light chickens, 60; cock crop-bound, 60; hackle of Light, crossing with Dorkings, feeding, crooked-breasted, 309; breast, lump on, 329; selecting cockerel, 330; Light, 247, 347, 367, 390, 408, 454, 500; chickens, 350; weight of, 369, 500; darker, 460; points of Light, 135; feathers, 172; livers diseased, 192; hocks, 212
Brassica oleracea, 139
Briars, sowing hips of, 424
Brine for manure, 14
Brisbane Botanic Garden, extracts from report on, 73
Bristol Show, fees, 454; prize list, 404, 405
Broccoli, laying and culture, 399, 401; laying down, 42; protecting, 458
Brookland, Charminster, 64
Brussels Sprouts, 74
Budding tiea, loosening, 185
Bullfinches losing feathers, 116
Bulbs, for March flowering, 460; mulching border, 494; forcing, 513; in pots for beds, 365; various, culture, 307; Hibbert's, 318
Burnley Poultry Show, 169
Butter produced slowly, 292

Cabbages—culture, 139, 265, 314, 365; early, 35; why and how it heads, 52; for succession, 445; plants blind, 92; Sandringham, 365
Cactnaeæ not flowering, 366
Caladiums in winter, 450
Calceolaria, culture, 204, 206; an experiment, 22
Californian Coniferæ, 466
Cambridge Poultry Show, 474
Camellias—culture in Belgium, 157; scale on, 166; flower buds, 35; flowerless, 15; leaves browned, 424; leaves spotted, 185
Campanula pyramidalis not flowering, 149
Canaries—and Groundsel roots, 330; Goldfinch Mule turning light, 390; with Goldfinch, eggs clear, 20; not singing, 116; mules, 136; opening of show season, 171; parasites on, 249; fighting, 252
Canary show cage, 408
Canterbury (New Zealand) Poultry Show, 456
Cantua buxifolia culture, 325
Carnations, tree, temperature for, 514
Carron, Stenhousemuir, and Larbert Poultry Show, 497
Carrot grubs preventing, 109
Castor-Oil plants, wintering, 129
Caterpillars, on Cabbageworts, 246; on vegetables, 265
Cauliflowers, culture, 344; open-headed, 75; protecting, 382
Cedrus Deodara pruning, 236
Celery—culture, 127, 260; grub, 108; earthing-up, 134; varieties, 205; leaf fungus, 245; running to seed, 487; red, 515; shade for, 53
Centaurea candidissima cuttings, 235
Cerastium, dividing, 227
Cereus, night-blooming, and its culture, 23, 67
Cetonia aurata, 124
Ceylon plants, extinction of, 83
Chærophyllum bulbosum, 51
Cheilanthes elegans fronds falling, 92
Cheltenham Poultry Show, 209, 456; error, 188; Canary Show, 498
Chepstow Poultry Show, 247
Cherries—and Plums for walls, 367; Early Rivers, 31; training Morello, 109
Chestnut tree of Monnt Etna, 51
Chickens, dying, dwindling, 211; dying, becoming blind, 252; exhibiting, 98; for table, 408; milk for, fattening, 459; overfeeding, 292; Chrissy-Millie, 60
Chippenham Flower Show, 255
Chippenham Horticultural Society, 9
Chorozema leaves eaten, 206
"Chrysanthemum, Cultnre of," 342
Chrysanthemums—culture, 434; growing against a wall, 129; housing, 227, 316; in Temple Gardens, 395; Forsyth's, 400, 416; potting, atopping, and striking, 76; treatment after flowering, cnttings, 474; select, 495; propagating by suckers and cnttings, 515
Cibotium Barometz, 358
Cinchona, culture, 199; plantations, 88; Bourbon, 199
Cineraria leaves cnrling, 515
Clay and lime dressing, 207
Cleckheaton Poultry Show, 78
Clematis, propagation, 92; Jackmanni propagating, 207
Clianthus Dampieri, culture, 119; and puniceus, 142
Climbers, for dwelling-house, evergreen for shady conservatory wall, 76; for house front, 326; for conservatory, 402; not thriving, 365; for covering a low trellis, 92; for a south wall, 166
Cochins, breeding Lemon and Cinnamon for exhibition, 116; discharging from nostrils, 172; cockerel's weight plumage of Cinnamon, 252; hackle curling, 500; paralysed, 460; White, vultnre-hocked, 350; white slightly yellow, 211; China, Silver-buff, 310
Cochliostema Jacobianum culture, 179
Cockerel for stock, 408
Cocks sitting, 283
Colens, culture, 13; out of doors, 285
Coleuses, wintering, 383
Columbarian Societies amalgamating, 404
Columbarian Society, Northern, Northern Counties, 497
Columbarian Show, Northern, 518
Combs Royal, 162
Conifers, grafting, 307; at Watcombe, 125
Conservatory, and hothonse, 403; plants for small, 267
Coprosma Baueriana propagation, 245; variegata, 423
Cordons, diagonal for Pears, 415 forming, 54
Cornick *v.* Black, 379, 397, 414
Cosmas not flowering, 473
Cottager, who is a? 14
Cottingham Poultry Show, 191
Cotoneaster microphylla fruit, and buxifolia, 156
Cotton waste for hotbeds, 514
Covent Garden Market, 20, 40, 60, 80, 98, 116, 136, 154, 172, 192, 212, 232, 252, 273, 292, 310, 332, 350, 370, 390, 409, 432, 450, 480, 500, 520
Covent Garden monopolists, 1, 23, 47, 61, 87, 103
Covent Garden salesmen, 359
Cows feeding on Cabbages, 390
Crabs as stocks, 215
Cranberry, cultnre of the American, 338
Cratæguses at Watcombe, 125
Crève-Cœurs, colour of, 310; feathers, 20
Crocus, antnmnal-flowering, 142
Crocuses, autumn-flowering, 164
Crops, prospect of, 6
Croton variegatum culture, 92
Croydon Poultry Show, 95; mismanagement, 112; awards, 113; Hamburghs at, 116; arrangements, 134
Cryatal Palace—Cat Show, 68, 479; planting at, 257; Poultry Show, 209, 247, 269, 289, 287, 290, 292, 330, 369, 384, results, 405; Pigeons at, 406 Supplementary Rose Show, 105
Cucullia Verbasci, 242

Cucumbers—disease, 3, 138; early end late, 346; winter culture, 395; for winter, 423; failures, 44, 84, 119; heating span-roofed house for, 129; for pickling, 147; frame, 494; house constructing, 263; culture, 325; tank-heating houses for, 42; not swelling, 58
Cucumis Anguria, 248
Cupressus pruning, 474
Currant, Red, La Versaillaise, 174, 217
Currants, transplanting, 149
Curtis's nursery, 62
Cuttings, 245; flower garden, 265; of flowers, 396
Cyanophyllum magnificum in winter, 346
Cycas revolnta, repotting, 185
Cyelamens — culture, 348; seedling, 267; select, 491
Cydonia japonica fruit, 14
Cypripedium, insigne culture, 450; niveum, 216
Cytisus, hardiness of, 307

Daffodil, autumn-blooming, 503
Dahlias—exhibition stands for, 58; glahra, 296; tubers, preserving, 149; storing, 402; Rising Sun, 313
Dandelion, Broad-leaved, as a winter salad, 119
Darlington Ornithological Society's Show, 387
Darlingtonia californica, 216
Datura culture, 286
Dealers exhibiting, 466
Death's-head moth, 418
December flowers, 440
Decomposition *v.* combnstion, 141
Dendrobium—barbatulum, 215; chrysanthum, merits and cultnre, 118; chrysotis, 80; formosum culture, 383; heterocarpum, 414
"De omnibus rebus," 110, 150, 167, 187
Derby Canary Show, 343, 367
Devizes Poultry Show, 478, 498
Devon, South, a bit of, 62, 83, 101, 125, 139
Diarrhœa in fowls, 460
Dinscia Barberæ, 396
Dicksonia antnretica browned, 226
Dielytra culture, 286
Dinner-table plants with fine foliage, 514
Dipladenia amabilis culture, 15
Disa grandiflora, in the open air, 215; superba culture, 113
Dix, Rev. J., 220
Dodder, destroying, 424
Dorking Poultry Show, 478
Dorkings, 369; cock, 292; crossing, 80; exhibiting, 459; hen broody, 172; pullets' grievance, 270; plumage of Grey, 272; cockerel's weight, 816; cockerel weak-legged 336
Dracocephalum canariense, culture of seedlings, 129
Driffield Poultry Show, 93
Drighlington Poultry Show, 190
Dubbing Game cocks, 292
Dublin Poultry Show, 111, 479
Ducks—hills yellow, 68; eggs, 77; hatching under difficulties, 77; legs paralysed, 370; plumage, 459; prizes for, 151; subscription plate, 388; weights of prize, 427; Aylesbury, 316; Black East Indian, 151, 388; Rouen, 460
Dumfriesshire, fruit for, 402
Durham Poultry Show, 518
Dutch barns, 93

Earwigs, 151
Eccleshill Poultry Show, 57
Echeveria metallica, 403; cuttings, 279; glauca culture, 206; hardiness of, 245; secunda glanca, propagating, 77; soil, 186
Echinopsis cereiformis, 338
Eden, garden of, 383
Edinburgh Poultry Show, 475, 517
Edgings and walks, 377
Edibles, new, 200
Eggs—enormous, 432; hatching, 93; production, distinguishing sex in, 38, 80, 98; for table, 116; fowls laying soft, 135; mending cracked, 136; musty, 369; Negro dispute about, 19; unproductive, blne in nvinry, 20; double, 86; producing, 455; scarcity, 453; grey in dead hen, 460
Ellesmere Poultry Show, 289
Ely Poultry Show, 17
Entomological Society's Meetings, 46, 417, 441, 504
Entrance fees, 367, 388
Epacris propagation, 286
Epidendrum pseudepidendrum, 338
Epiphyllums for grafting on Pereskia stocks, 514
Episcia chontalensis, 216
Epitaph, 325
Eranthemum cinnabarinum *v.* ocellatum, 216
Eria extinctoria, 80
Erythrina Crista-galli culture, 138
Eston and Normanby Cage Bird Pigeon, and Rabbit Show, 94
Eucalyptus, wintering, 206
Eucharis amazonica culture, 220
Evaporating pans for hot-water pipes, 826
Evergreen cuttings, 456
Evergreens, propagating, 286; select, 383
Everlasting Flowers, bleaching white, 206; preserving, 166
Exhibition grievances, 347, 389
Exhibitor winning all the prizes, 28

Faggot-heap soil, 453
Fakenham Poultry Show, 210
Farms, profitable small, 391, 409, 461, 501
Farnworth Poultry Show, 290
Feather, broken sickle, 390
Feathers, 308
Feather Grass dyeing, 154
Fern, what are hardy? 199
Fernery, painting, 227
Ferns—culture of Parsley, 14; for conservatory, 346; for cold fernery, 402; fronds losing colonr, 129; not growing, 473; pillar, for window fernery, 491; select stove and greenhouse, 514; importing from Demerara, 515; in a vinery, 188; treatment of imported, 92; Filmy, 320; Gold and Silver, 462, 484; the Lamb, 353
Fertilisers of flowers connected with their colonr and odour, 343
Ficus elastica, propagating, 14; root grubs, 327
Figs—falling, 178; in open-air at Bicton, 180; rubbing off, 227
Filberts, storing, 263, 268; *v.* squirrels, 226
Filters, 15
Finderne flowers, 88
Firs, caterpillars on, 218; seed sowing, 14
Floors Castle, 465
Floral Society, Show of Metropolitan, 70
Flowers—arrangement of cut, 102; a neglected pretty, 124; crystallised, 258; supply of, 285; cut, for table decoration, 438; cut, in water, 469; how not to have nice, 419; drying, 417; show of for children at Victoria Docks, 28; spring, 46
Flues, draught excessive, 443, 467, 506
Flying, preventing, 350
Forcing, house, a small, 288; vegetables, 311; vegetables, 353, 413
Forest trees on coast, 402
Fountain, portable and self-acting, 467
Fowls—becoming blind, 310; broodiness, 80; black and dying, 311; cleaning for show, 329; food, 459; cross-breeding, 506; to supply chickens and eggs, 80; quantity of food for, 66; dying, 530; fraudulently changing those claimed at exhibitions, 515; out of health, 135; laying soft eggs, 135; keeping, cost of, 212; in a house, 506; for laying, 330; management in moulting season, 316; treatment of moulting, 195; perches, 98; making a sneezing noise, 136, 350; roupy, 135; seasoning, 459; injured at shows, 492; preventing sitting, 80; trespassing, 369
Frame, covering, 286; for bedding plants, 307; ventilating, 424
French horticulturists' relief fund, 505, 511
Frogs in a fernery, 185
Frost, at midsummer, 6; protecting fruit trees from, 28; securing from, 401
Fruit and Vegetable Markets, Metropolitan, 87
"Fruit, the New Method of Growing," 82
Fruit—blossoms, protecting, 302; border, planting on, 267; for wet soil, 473; growing commercially, 8; shelters for, 12; scarcity, 435, and its remedy, 436; Show Great International, 186; trees, border planting, 167, 353, pruning, 473, list of, 267, pruning newly-planted, 307, mulching newly-planted, 514, manuring, 417, on mounds, 346, prnning pyramidal, 388, protection from frost, 85, removing, 237, selection, 185, 207, transplanting, 246; cultnre, 352; stocks, &c., 368; for south wall, 366 select, 366; and vegetables wanted; 246
Fuchsias — culture, 5'5; pyramidal, 403; seedling, 359; select, 495
Fungi, remedies for poisonous, 85
Funguses, search after, 319

Game — breeding Duckwing, 350; cock's spurs, 369; fowls' legs scurvy, 399; chickens, dubbing, 80; cock undubbed, 460; exhibiting, management, 500; points of Duckwing, 98; Brown Red, Light or Dark, 330
Garden, levelling and plotting, 71, 88, 123, 145, 182, 321, 442; under glass, 265
Gardener's cottage, 95; holiday, 274, 381, 465; paying for moving, 207; right to plants, 193; who is a practical? 266
Gardening and natural history, their importance to the young, 66
Gas-heating, 56, 268
Geese, breeding, 20; crossing Toulouse, 29; weights of Birmingham prize, 427; Chinese, 252, 292; White Chinese, 212; Mandarin, 292
Geothermal heating, 187
Geraniums—bedding, 198; rise and progress of bedding, 481; culture in pots out of doors, 149; defined, 54; select for exhibition, 55; leaves, red, 35, browned, 514, spotted, 166; list of, 267; packing, 267; prizes for, 148; 206; storing, 384; stopping, 2 6; room wintering, 453; wintering in a cellar, 346; wintering, 307, 385, 488; Mrs. Pollock, 514; potting Zonal, 185
Giant of the forest, 39
Gladioluses—in 1871, 351; culture, 373; select, 463; failures, 485, 518
Glass—breaking, 1.9; cleaning, 472; cutting and boring, 205; for vinery and orchard house, 150; rolled plate for plant houses, 109; preferable kinds, 206; panes in 100 feet, 85; writing and engraving on, 383
Glastonbury Thorn, 226
Glazed cases unheated, 12
Glazing—in grooves, 56; without top putty, 193; without outside putty, 149
Gloxinias, failing, 207; soil, 166
Goldfloch mules, 136
Gold fish, 136; management, 4 8
Gooseberry and Currant caterpillars, 16
Gooseberry—bushes neglected, 267; disease, 471; pruning, 396; Bayenham, 121; Show, National, 193; transplanting, 149
Goose eggs, the spoiling, 328
Gorhambury, 397, 419
Gorse, pegging down, 473
Gourd, Citron, for preserving, 196
Gracillarias, 124
Grape, jam, 256; wine, 370
Grapes—abortive, 366; all possible, 355; caterpillars on, 207; cracking, 149, 2 6, 396; not colouring, 128, 246; diseased, 84, 54; English, 195; in ground vinery, 54; keeping on Vines, 340; mildewed, 245; ripening in ground vineries, 355; ripe and ripening, 108; scalded, 129; not setting, 166; shanking, 109; shrivelling, 245; Black Tripoli, 77; Golden Champion, 129, 241, 395, 373; Gros Colman cracking, 109; to prevent Chasselas Musqué cracking, 122; Madresfield Court, 437, 504; Mrs. Pince's Black Muscat, 507; Lady Downe's mildewed, 7'; Golden Hamburgh, 414. See also *Vines*.
Grasses for poultry run, 480
Gravel walks, 179; adhesive, 494
Great Horton Poultry Show, 111
Greenhouse — back-wall plants, 197, 227; and vinery heating, 268; stove, 286; bulbous and tuberous plants, 294; shelves, 326; double-spanned, 246; flue-heating a small, 92; arrangement of small, 109, 366; arrangements, 149; heating and erecting, 166, 386; colouring inside, 166; utilising a large, 368; plants, 374; plants for small, 494; plants for pillar and trellis archways, 65; on sloping surface, 379; lofty, &c., 453; staging, 54; reducing light, 55
Greetland and West Vale Poultry Show, 132
Grevillea, intricata, 218; macrostylis, 50
Guano, applying to Roses, 149
Guernsey Poultry Show, 516
Gymnogramma culture, 494

Halifax Poultry Show, 36
Hamburgh — catarrhed, in confined space, 80; incubating, 130, 159; productive, 289; Bantams, 172; Golden-pencilled and spangled, 460; feathers of Golden-spangled, 393; Golden, 190; Silver-pencilled, 212; Spangled, 172; breeding Black, 252; Silver-spangled cock, 869; Silver-pencilled cock's tail, 459
Handicapping poultry exhibitors, 188, 229, 288
"Hardy Flowers," 218
Hartlepool Canary Show, 271
Hartwig, Mr. T., 214
Haslingden Poultry Show, 93
Hatching under difficulties, 77
Hatfield House, 299
Hatfield Show, 406
Heads, 228
Heather transplanting, 129
Heath, and Fern, 200; propagation, 286; Mediterranean, 388
Heaths, hardy, 463; select, 514
Heating—and protecting, 416; a pit, 423; small house, 425; a range of houses, 187; difficulties, 150; small houses, 93, 268; various houses, 307, 453; by a stove, by hot water, by a flue, 516
Hedyroma tulipiferum, 450
Hedge for flower garden, 246
Heliotrope propagating, 206
Hendersyde Park, 275
Henhouse, worm in, 390
Hens, paralysed, 20; inducing to recommence laying, 80; with a broken toe, 98; Polnnd and Hamburgh sitting, 98
Herbaceous plants, select, 55
Hindostan forest trees, 159, 276
"Hoe your own row," 52
Holiday, a gardener's, 442
Holly berried, 435; propsgating variegated, 514
Hollyhock culture, 155
Honeysuckle, Japanese, 54
Hop cultivation for ornament and use, 43, 121; poles for, 121; modes of training, 122; insects, 278
Horse Chestnut, diseased, 473; at Paris, 296
Horticultural and Cottagers' Societies, 504
Horticultural societies, village, 47; rules, &c., for, 48
Horticultural (Royal) Society's Show and Committee Meetings, 44, 86, 120, 177, 216, 258, 356, 437; Rose Show, 5; Nottingham Exhibition, 7, 9, 10; plants for trial at Chiswick, 178; extra privileges, 382; Provincial Show, 400; examination of gardeners, 440; report on International competition, 1871, &c., 467; Birmingham Show, 511
Hotbed materials storing, 453
Hotbeds, temporary, 363
Hot water, not circulating, 287; heating, 366
Houdans, hoarse, 232; hen sitting, 272; points, 330; moulting slowly, 460
House for plants, 326
House's north wall covering, 120
Hoya carnosa, wintering, 206
Huntingdonshire Poultry Show, 271
Hyacinths, for March show, 366; in pots and glasses, 174
Hyde Park, 297
Hyde Poultry Show, 475

Ice—houses, 4; plant out of doors, 227; preserving, 316; storing, 469
Idle Poultry Show, 131
Implements at Nottingham Show, 24
Insects, some predatory, 10, 29, 70, 89, 124, 143, 180, 218, 241, 278, 356, 416, 444, 506
International Exhibition of 1871, horticultnral competition, 467
International Fruit Show, 258, 286
Ipswich Poultry Show, 348
Iresine Lindeni, from seed, 268; propagation, 288, wintering, 453
Irish Royal Agricultural Society's Poultry Show, 111
Iris, hispanica culture, 403; English, planting, 424
Ivy, for covering a house and border, 149; not thriving, 166; with Roses, 217; for a wall, 286
Ixora japonica culture, 15

Jasmine not flowering, 65, 424
Jasminum nudiflorum, 423
Jersey Exhibition, Roses at, 44
Johnstone Poultry Show, 496
Joints of hot-water piping, 246
Judges, overworking, 403, 452, 496

Kalf, Asparagus, 74; Cottagers', 74; Scotch, 74
Kei Apple, 157
Keighley Poultry Show, 131
Kew Gardens, report on their progress and condition, 68; vacant appointments, 512
Kidney Bean forcing, 853; forwarding, 365
Kilmarnock Ornithological Show, 431; Poultry Show, 457
Kitchen fire, heating from, 206
Kitchen garden, forming, 1

Labelling fruit trees, 414
Labels, for fruit, 316; marking, 492
Lane, Mr. H., 252
Lapageria, alba, 425; roseo decaying, 215; unprotected, 9; propagating, 14
Larch, raising from seed, 424
Lasiandra macrantha culture, 15, 346
Lastrea opaca frond shrivelled, 91
Latania borbonica, 446
Lawn, bone dust for, 403; levelling, 494, and turfing, 148; management, 225
Leaves, collecting, 396, and storing, 513; yellow, 14; mottled, 15
Leeds Poultry Show, 496
Locks, cutting off leaves after transplanting, 109
Legs, 287
Leicester Poultry Show, 133
Leigh Poultry Show, 2 9
Lettuces—on banks, 305; and Endive, 344; Lettuce, large, 46
Lilies, a few words about, 440; notes on, 502

Liliums, 121; auratum culture, 130, 166, 366; tigrinum, double, 140; eximium not flowering, 267; giganteum, culture, 474; sowing, 494
Lily of the Valley in pots, 397
Linaria vulgaris, 124, 156
Lindley library, 105
Liskeard Poultry Show, 93; judging at, 135
Lithespermum, after flowering, 206; Gastoni, 216
Littlehereugh Poultry Show, 132; Rabbits, 152
Lobelias, 109, 186
Long Sutton Poultry Show, 112, 192, 290
Loquat in Italy, 6

Magnolia, Exmouth variety not thriving, 91
Maidstone Poultry Show, 516
Makeshifts, 33
Malays, encouraging, 270; legs, 460
Malvern Poultry Show, 152
Manchester and Liverpool Poultry Show, 191 206.
Manchester Botanic Garden, 489
Mandevilla suaveolens, wintering, 208
Mange, 370
Mangold for seed, 286
Manure, modes of applying, 74
Manures, from various feeds, 450; scarcity of, artificial, 109; vegetable refuse as, 141
Manuring vacant ground in winter, 469
Marantas, in winter, 450; Veitchii culture, 207
Market gardening, 322, 398
Markets, 20, 40, 60, 80, 98, 116, 136, 154, 172, 192, 212, 232, 252, 272, 292, 310, 332, 360, 370, 390, 409, 432, 460, 480, 500, 520; London Fruit, Flower, and Vegetable, 87
Meadow, manure on clay, 261
Mealy bug, 923; ammonia for, 286; destroying, 158; in vinery, 179, 227; *versus* ammonia, 199
Megachile centuncularis, 357
Megaclinium purpuratum, 336
Melons—early and late, 345; houses, tank-heating, 142; leaves withering, 76; not setting, 35; plants gangrening, 185; select, 215; watering, 245; signs of ripening, 129; superior, 276
Melton Mowbray Poultry Show, 112
Meryta latifelia, 336
Metropolitan Florists' Show, 173
Middlesbrough Ornithological Show, 349
Middlsten Poultry Show, 79; Poultry Shew, 249
Mignenette, pot-culture, 174
Milla capitata, 50
Mills, Mr. G., 323
Moor Park, 389
Morel, the stinking, 130
Moss, destroying, 488; dying green, 380
Messes, 172
Moths, garden, 219
Moulting, age of, 98; treatment during, 453, 460
Moulton Poultry Show, 56
Mulching, 128
Mules, Goldfinch and Canary, 136
Musa Ensete at Kew, 87
Mushrooms, 225; culture, 325; house under, 225; grub-eaten, 186; in New Zealand, 200; vermin-eaten, 206; large, 91. 50, 78, 85
Myrtle, scale on, 207

Names of plants, 337
Neatness, 284
Nectarines, falling, 207; leaves discoloured, 15
Neighbours, good and bad, 376, 393
Nests for cannibal hens, 330
Netting, fruit tree, 424
Nettles, 219
Newark Poultry Show, 36
Newcastle Pigeon and Bird Show, 568
Newton Don, 465
Night-soil manure. 15
Nitre-phosphate, 526
Northampton Poultry Show, 209
North Ormesby Canary Show, 320
Norwich Poultry Show, 516
November temperature, 392

Oak and Ash leafing, 76
Oakham Poultry Show, 430
Oaks at Watcombe, 125
Oats, ground for fowls, 350
Olla podrida, 295
Oncidium macranthum, 118
Onion, culture, 284; crop destroyed, 295; grub, 254, 337; preventing, 109, 254, 358
Ophiocaryon paradoxicum, 226
Orangery, stove for, 473
Oranges—thinning, 91; trees, flowering of seedling, 424; trees, under Vines, 435; leaves browned, 514
Orchard-house, constructing, 326; management, 148; notes, 314; paving tiles, 207; planting, 223; Plums and Figs, 450; position, heating, 383; 402; width of, 240
Orchids, sale of Mr. Rucker's, 106, 141
Orchis, Bee, its fertilisation, 70
Ormskirk and Southport Poultry Show, 152
Osborn's nursery, alpine plants at, 61
Oundle Poultry Show, 57
Oxalis, culture, 474; edible-rooted, 50
Oxford Botanic Garden managing committee, 69

Pæonia Moutan transplanting, 484
Paint on glass, removing, 365
Palestine, flora of, 52
Pampas Grass soil, 245
Pandanus, culture, 307; leaves spotted, 402; javanicus culture, 226
Pansies, 35
Paraffin as a remedy for American blight, 87
Paris, horticulture in 1871, 193, 286, 297
"Paris, Les Promenades de," 490
Partridge eggs not hatching, 19
Passiflora, cærulea seedling, 267; cinnabarina, 50
Pasture improvement, 458
Peaches—blotched, 166; borders, 102, 206; casting fruit, 92; concreting, 206; for cool house, 307; crop in Delaware, 514; for culture under glass, 474; heading back, 76; house, planting, 285; house, notes from, 414; trees, dying off, 108, management, 91, protecting, 246, pruning, 366, scale on, 227, on walls, 64; select, 435; trellis, 307; on gravelly subsoil, 186; stones not vegetating, 76; watering, Nectarine, and Plum pruning, 402; Knight's Markly Admirable, 106
Pears—for cordons, 402; select, 354; keeping, 492; for west of Ireland, 493; old with new names, 508; for espaliers, 514; guthering, bnsh, 285; this year's, 325; gathering, 926; tree pruning, 186; espalier, pruning, 226; stocks, 557; dingonal cordens, 415; shrivelling witheut ripening, 424; pruning wall trees, 149; Beurré de l'Assomption, 320; Beurré Bollwiller, 266; Sinclair, 380
Peas—cooking, 185; edible-podded, 424; forcing, 503; affording shade, 147; of moderate height, 514; protecting, 453; staking, 53, 90; trials at Seaham Hall, 234; geed varieties, 173; Australian, 321; Laxton's Alpha, 64; Laxton's new, 462; the Glory, 143
Pelargeniums—cul'ure, 14; defined, 54; repotting, 514; select, 35; select double, 14; select Shew and Fancy, 614; solution for dipping, 91; Larkfield Rival, 487
Pencilled feathers, 460
Perches for fewls, 98
Peristerenic Society, 250
Peristerenic (National) Society's meeting, 969
Periwinkle, cutting down, 246
Petunias dying off, 149
Phalænopsis grandiflora culture, 206
Phallus impudicus, 130; destroying, 320
Phœnix dactylifera, 470
Phlogophera meticulesa, 957
Phlox and its culture, 193
Phlexes, new, 105; from seed, 307
Phormium tenax Veitchii, 227
Phytosmegma, 8
Picea, leader replacing, 14; nobilis cones, 474
Pigeons—at Birmingham, 458, 427; prize, amalgamation of societies. 455; catching wild, 459; weight of Runts at Birmingham, 478; washing for exhibition, 480; valuable stolen from exhibitions, 97; cure of lice in, 98; reupy, 116; wen on neck, stolen at Snaith, werks en fancy, 196; distances flown, 153; at Allerton, 154; trimming at Allerten, 171, 188, 211, 231; what to keep, 172; wing disease, 172; weak-eyed, 330; stolen from shows, 17, 55, 77; cankered, 20; and Cherry trees, 20; with shafts bare, 90; portraits of, 60; writing on, 212; yeung dying, of Egypt, 231; crossing with Weed, 252; warming left, 350; aiding moulting, 970; 427; caution to fanciers, 431; Antwerps dying suddenly, 432; Antwerp's beak, 212; Antwerps, 56, 79, 80, 590; Antwerp Carrier, 56, 79, 80; the Baldhead and Beard, 118; Canulet, 158; Dragoens' bars, 498; Fantails not rearing their young, 30; German Hermit, 498; German Ice, 172; German Toy, 390; matching Jacobins, 520; the Owl, 17, 95; Pontera in 1871, 270; Runts at the Cry tal Palace, 330; the Satinette, 250; Volant, 56, 79, 80, 153; White-eye, 56, 79, 80, 153; "The Homing or Carrier," 153
Pince, Mr. R. T., 298
Pine, Austrian *v.* sheep, 383
Pine Apples, culture and judging, 99; weight of at Nottingham Show, 54, 95
Pinus austriaca seedlings damping-off 14
Pipes, painting hot-water, 286
Pit, heating, 423
Pits and flues, 473
Plagianthus Lyalli, 396
Plant protectors, 296, 304
Plants—giving away, 279; in bedrooms, 423; local names of British, 124; What are ornamental? 55
Plumbago capensis culture, 195, 299
Plums, cracking, 54; stocks for pyramid, 474; Duke of Edinburgh, 216; Green Gage dying, 246; The Sultan, 249; Late Rivers, 485
Plusia Gamma, 219
Pocklington Poultry Show. 210
Poinsettia, propagating, 207; pulcherrima imperfect, 473
Polands, 252; crop watery, 272; hen hatching a breed, 60; Golden-spangled plumage, 460
Poppies as a profitable crep, 148
Peppy cultivation in China, 69
Perch, plants for north, 365
Portsmouth Poultry Show, 496
Portulaca, wintering, 206
Pessingwerth, 918
Potato, the, 196
Potatoes—best second early, 129; creps and the disease, 84; storing diseased, 92; disease, 26, 118; earthing-up, 23; fer seed, atering, 267; earthing *versus* non-earthing, 276, 317; estimate of varieties, 276; estimate of merits, 299; forcing, 311; large produce, 174; topping, 205, 207; influenced by neighbourship, 226; at Kensington, 240; trial of, 496; planting, 491; succession of, 337; stering, 345; in Lincolnshire, 355; Carter and Co.'s, 359; select, 376; large produce, 400; American, 156; Early Rose, 67, 235, 274, 285, 296; Lapstone, 445; Red-skinned Lapstone, 445; Sweet, 51; Yerkshire Hero, 825
Pottery, 126
Poultry and Pigeon club, 548
"Poultry, Profitable and Ornamental," 457
Poultry—feeding and run, 292; feeding, 310; experience purchaaed, 327; feed, 350; feeding, 369; entrance fees, 988; sneezing, 390; show mistakes and accidents, 405; yards, 407; for use, indications of age, 5 0; keeping under difficulties, 16, 130, 167, 229; vermin in house, 20; feeding and management, 150, 151; exhibitions for the working classes, insuring exhibited, 151; reared by working classes, prizes for, experience purchased, 168, 228; prizes, working class, 2 7; in 1341, 211; runs for, 212; run, grasses for, 480; shew reperts, 520
Prepayment, consequences of non, 252
Preston Hall, 260
Primulas, Chinese, flower stems short, 474; japenica, 215
Privet, best for hedges, 149
Propagating house, 246
Pretecting, 448; and heating, 416
Protection, 401, 472
Protections of glass, 284
Produce, large, 45
Prunus cerasifera, 996
Psoralea esculenta, 50
Pullet, what is? 990
Pullets for winter laying, 480
Putchley Horticultural Society's rules, 48
Pyrus Malus floribunda, 397

Quince, Portugal, 84
Quinces, preserving, 292
Quick, raising from seed, 424

Rabbits—partly blind, 252; at Stroud, 19; cross-breeding, 20; warts on eyelid, 30; keeping in artificial warrens, 116; plants attacked by, 121; at Littlebereugh Show, 152; prizes at Yerk, 388; single-producing dee, 292; Himalsyan, 30; skins of Himalayan, turning out Hare-Rabbits, 292
Railway, screen from, 92; transport of fowls, 252
Raspberries, failing, 156; Victoria, 358
Rats, barking trees, 307; water, 346
Red spider, destroying, 150; *versus* ammonia, 199, 206
Rendle's plant protectors, 249, 254, 318
Rhododendron losing its leaves, 55
Rhubarb for early spring use, 54
Rhynchosia chrysoeias, 50
Richardia, hardiness of, 366
Roses—best, 404, 469, 473, in the room, 274; budding, 33, 925; climbing for arch, 424; pot culture, 514; at the Crystal Palace, 69, 105; at Curtis's Nursery, 68; destroying aphides, 77; difficulties, 325; election of, 433, 485, 496; exhibition stands, 55; for exhibition, 142, 484; French description of, 469, 483; and Geraniums, 975; gossip about, 293, 275, 293, 379, 394; house for, 246; iron stakes for, 514; in Ireland, 469; among Ivy, 166; with Ivy, 278; and Ivy, 296; some in-

Roses—*Continued.*
quired about, 505, 508; leaves diseased, 76, eaten, 54, injured, 268; manuring, 424; mildewed, 76; for near the sea, 166; new of 1870, 83; new shew, 92; new for 1872, 332; opinion about, 312; propagating, 424; notes on at Hereford, &c., 24; over-luxuriant sheets, 64; at Jersey Exhibition, 44, 62; removing, 149, 207; on own roots, 478; Mr. Radclyffe's, 95; this seasen, 258; seedling, 14; seeds dormant, 166; select, 275, 372, 411; selection, 68, 100; soot and guano liquid manure, 149; under trial, 8; twelve of best, 316; twenty-four best dwarf, 514; this year, 22; for a trellis, 514; tree, oldest, 164; shows of, 417; neglected varieties, 198; propagating Banksian, 156; Princess Beatrice, 358; Princess Christian, 54; Gloire de Dijen cuttings, 286; Bessie Johnsen, 307; propagating Munetti steck, 424; Maréchal Niel culture, 450, not flowering, 76, in vinery, 206; Madame Sertot, 450; Tea-scented, 173; Tea, 142, 195, 235, in the open air, 490
Ricinus culture, 90
Road-making under difficulties, 137, 156
Rochdale Poultry Show, 170
Root-pruning, 346
Rents, edible, 50
Rose beetle, 124
Ross Poultry Shew, 928
Rotation of crops, 254
Roup, cure of, 327, 330
Rubbish heap, 188
Rubus deliciosus, 179; and culture, 228
Rucker, Mr. S., his collection of Orchids to be sold, 83
Ruling passion, 31
Rue leaf described, 268
Ryhope Horticultural Show, 175; Poultry Show, 159

Salads—culture of winter, 81; winter, 119; Broad-leaved Dandelion for, 119
Salt, as a manure, 213; a solvent of silica, 179, 254
Santolina incana, 372, 488; for bedding, 318
Sashes, utilising, 473
Savoys, planting, 14; succession of, 484
Scale, destroying, 488
Scarbereugh Ornithological Show, 928
Scarlet Runners pedless, 246
Scelytus Pruni, 246
Scerzonera culture, 165
Scotch fewls, 459
Scottish Metrepelitan Poultry Show, 517
Screen for hetbeds, 450
Scurf on fowl's head, 930
Scurfy-legged fowls, 469
Seaside planting, 207
Seasonable hints, 988
Sea-weed as manure, 186
Sedums, Fabaria for bedding, 264, 315; Fabaria er spectabile, 352; glandulosum, 215; from seed, 345
Seed sowing out of doors in dry soil and weather, 147
Seedlings in frame eaten, 140
Seemann, Dr. B., death of, 512
Selaginella, exhibiting, 110
Sempervivum californicum, hardiness of, 245
Sewage and soda, 286
Shading—glass, composition for, 55; and protecting, 296
Sharp practice, 188
Sheppard's Nursery, Bedford, 104
Shrub-bedding *v.* flower-bedding, 141
Shrubs—for a lawn, 515; net thriving, 345; select evergreen, 424
Skimmia japonica potting, 267
Smeke, expesing plants te, 488
Soil—collecting, 184; keeping open and compressed, 34; supply of for gardens, 140
Solanum ciliatum berries falling, 246
Soot, applying, 403; te Roses, 149
Southampton Poultry Shew, 287, 292, 367
Sowerby, Mr. J. de C., 200
Spanish—cock's face, 252; hen incubating, 153; fewls, preparing for exhibition, 590
Spiders, 926; red, destroying, 110
Sprig—flowering plants, sowing, 187; flower gardening, 246; and summer results, 236
Stanningley Poultry Show, 169
Stavesacre, 92
Stephanotis, floribunda fruiting, 326; losing its leaves, 149
Stock, selecting, 459
Stoke Newington Chrysanthemum Show, 979
Stove, smokeless, 186; plants for, 187; temperature, in greenhouse, 246 heating by iron, 508; plants for cool, 403; select, 495
Strawberries—autumn, 313; culture, 92, 225; in ground vineries, 169;

STRAWBERRIES—*Continued*
cropping between, 129; culture out of doors, potting for forcing, 148; separating runners, 166; house for, 188; forcing, 186, 268, 306; for the north, 206; fungus on, 226; insects on, stages for potted, 449; leaves spotted, 267; Mr. Radclyffe's, wireworms in, 35; culture, 75; cutting off leaves, 76; season, prolonging, 333; in shallow soil, 565; prolonging season, 410; for exhibition in May, 423; Black Bess, 383; Black Prince, 275; Early Prolific, 41; Dr. Hogg, 54; President, 54, 345; James Veitch, 41; Wonderful, 359
Stream, taking water from, 14
Strond Show, 39
Stuart & Mein's Nursery, 274
Snitors for protection, 281
Sulphur, applying, to destroy insects, &c., 123
Sunflowers, 416
Sunlight, chemical powers of, 142, 164
Surface stirring, 33
Swainsonia galegifolia, 166

TABLE AND ROOM PLANTS, 372, 378
Table-decorating plants, 280
Tacsonia—fruit eatable, 102, 109; seedlings torpid, 15; speciosa, 216; training, 102; splendens culture, 365; Van-Volxemi, 102, 109; not thriving, 206
Tails, 269; lost, 188
Tank-heating, 42, 326
Tanks and filters, 15
Tar, removing from fowls' feathers, 93
Tea, preparation and properties, 160
Tenants, out-going and in-coming, 268; removing plants, 129
Terminalia elegans culture, 367
Terrier's hair falling off, 432
Thistles, exterminating, 365
Thomson, Mr. W., Clovenfords vineyard, 442
"Thomson on the Vine," 104
Tiles, laying edging, 91
Tillandsia Lindeniana culture, 235
Tipulæ, 70
Todmorden Poultry Show, 189
Tomato seed, saving, 55
Tonbridge Wells Poultry Show, 290
Torquay, 62; and its climate, 83
Tortoise management, 350
Tortrix Wosberana, 89
Tredegar Poultry Show, 477
Tree, oldest in Europe, 180
Trees, line of, 185; on mound, 268; quick-growing, 149
Trellis, climbers for covering low, 92; plants for, 565
Trenching, cost of, 245
Tritoma flowering late, 268
Tryphæna pronuba, 506
Tuberose bulbs, 206
Tulips—skins split, 35; not flowering, out of doors, 514; for simultaneous flowering, 245
Tumour, removing, 370
Turkeys—breeding, 349; liver diseased, 369; feeding, 370; weight of prize, 427; not thriving, 272; weight alive and trussed, 460
Turnip moth, 507
Turnips, Swede, for seed, 286

ULLUCUS TUBEROSA, 50
Urceolina culture, 35
Urtica genus, 219
Utricularia montana, 215

VALLOTA PURPUREA CULTURE, 235
Van Geert, Mr. J. 324
Van Mons, J. B., 447
Variegation, influence of scion on stock in inducing, 220
Vase, bulb-planting, 245
Vegetable, cooking, 75, 135; mould for potting, 366; season, review, 335
Vegetable Marrows, culture and cooking, 147; not swelling, 55
Vegetables, for exhibition, 91; list of, 345; for next year, 396
Veitch's plants at Nottingham, 10
Verbenas, for beds and ribbon borders, 149; diseased, 402; for pot culture, 65; venosa wintering, 186; (Lemon-scented), propagating, 206
Verge-cutter, McLachlan's, 380
Verschaffeltia splendida, 421
Vinery—at Chiswick, 359; planting, 366; glass for, 383; arrangements, 402; erecting, 326; glazing, 287; heating a ground, 149; planting for immediate bearing, 186; heating a ground, 277, 287
Vines—borders, surface-dressing, 306; red spider on, 15; leaves yellow, 14, 35; warted, 35, 77; stems decaying, 54; for unheated vinery, 91; leaves rusted, 92; making borders for, 117; selecting and planting young, 117; culture of pot, 119; removing covering from borders, 128; for cool house, 129; leaves withering, 129; roots decaying, 129; effect of violet rays of light on, 142; red spider on, 108, 110, 267; growing several equally well, 179; leaves diseased, 166; scale on, 186; grafted in stove-heated house, 194; lifted, placing out of doors, 267; mildewed, for vinery, leaves spotted, border-making, 226; with Peaches, inside planting, 227; cutting down, Royal Ascot, 245; neglected, 267; not thriving, 267; forcing lifted, 267; planting, 268; pruning old, 285; for greenhouse, compost for border, with Begonias, 286; overcropping, 306; for cool vinery, 307; not watering, 326; culture under glass, 331; soil for, 346; inarching, Peaches and Camellias under, 366; for table decoration, 372; transplanting, 383; leaves diseased, bones for borders, 462; failing, 423; for cool greenhouse, 424; eyes on turf, 442; for early vinery, pruning young, 453; propagating, 478; border covering, 473; in ground vinery, planting, 495; in inside border, 433. See also *Grapes*.
Viola cornuta and alba, dividing, 307
Violets, planting Russian, 135

WAGES, REDUCTION OF, 226
Wakefield Poultry Show, 112
Walks and edgings, 277
Walls, covering north, 109; pointing, 473; trees, glazed covering for, 494
Walnut not thriving, 365
Warrington Poultry Show, 17, 131
Wasps, 242; destroying in nest, 167 protecting fruit from, 220, 227
Watcombe, grounds and pottery, 125 Terra-Cotta Company, 149
Water, containing iron, 186; in pot saucers, 513
Waterer, Mr. F., 230
Waterings, 127, 128, 184; apparatus, 490
Weaver Bird, 490
Week, work for, 11, 32, 52, 73, 89, 106, 126, 146, 164, 182, 203, 223, 243, 263, 283, 303, 324, 343, 363, 381, 4 0, 422, 447, 471, 492, 512; doings of last, 12, 33, 53, 74, 90, 107, 127, 147, 165, 183, 204, 224, 244, 264, 284, 304, 324, 344, 364, 382, 401, 422, 448, 472, 492, 512
Weeping trees, 514
Weigela, 166; rosea propagating, 186
Weir, Mr. H., presentation to 406
Wellingtonia gigantea, 297, 324; seeds,
Westward Ho! Poultry Show, 78 [257
Wharfedale, Lower, its botany, 67
Whitby Canary Show, 171, 211, 230, 249; Poultry Show, 189
Wilkinson, testimonial to Mr., 9
Willow, aphis on, 129
Willows, insects on, 11
Wilts County Poultry Show, 33, 56, 495
Window-gardening, 28
Window plants, 383
Wine, making Grape, 388
Wintering in a cold pit, 14
Wire trellis on fruit wall, 268
Wirral Poultry Show, 190
Wistaria sinensis cuttings, 326
Woburn Cottagers' Show, 284
Woodbury, Mr. T. W., death of, 97, 113
Woodlice in garden, 14
Woodsome Poultry Show, 152
Working, extra, 15
Working class poultry prizes, 368
Work-room, heating under a greenouse, 187
Worms, in cricket field, destroying, 495; in fowls, 310; in pots, 286
Wounds of fowls, ointment for, 327

XIPHION FILIFOLIUM, 337

YELLOW-UNDERWING MOTH, 516
York Poultry Show, 476
Yponomeuta padella, 70

WOODCUTS.

	PAGE
Ædidium cancellatum	471
Agrotis segetum	307
Amaranthus salicifolius	203
Aviary gas stove	458
Bees, feeding	388, 432
„ in New Zealand	389
Bantam house	13
Bicton	202, 222, 223
Birds, suitors for legislation	282
Biston hirtarius	144
Bowood, south front	510
„ lower terrace garden	511
Cherry, Early Rivers	31
Chestnut, the Mount Etua	50
Chiswick, vinery at	360, 361
Combe Royal	162
„ Orangery	163
Conservatory, lawn	255
Cossus ligniperda	30
Crioceris Asparagi	14
Cucullia Verbasci	242
Cucumber houses, tank-heated	42
Filter	15
Flower vases and boxes	126
Fountain, self-acting	467
Gas stove	458
Gooseberry disease	471
Gorhambury House	398
„ flower garden	399
„ conservatory	420
Greenhouse on slope	380
Ground levelling and garden plotting	71, 88, 123, 145, 182, 321, 442
Hatfield house	300
„ Elizabethan garden	301
Hatfield kitchen garden	302, 303
Hens, nest for cannibal	330
Ice house	4, 317
„ preservation	317
Ladder, house	361
Latania borbonica	446
Longchamps, Grande Cascade	491
Megachile centuncularis	357
Melon houses, tank-heated	42
Millitæa Enphrosyne	11
Moor Park	340
„ Italian garden	341
Pear, Beurré de l'Assomption	320
„ Sinclair	381
Phlogophora meticulosa	357
Phœnix dactylifera	470
Pigeons, Baldhead	115
„ Beard	114
„ Satinette	251
„ „ tail feather	250
„ pens for	115
Plum, Sultan	243
Plusia gamma	219
Preston Hall	262, 263
Tortrix Wœberana	89
Triphæna pronuba	506
Van Mons, Jean Baptiste	447
Verge cutter	380
Verschaffeltia splendida	421
Veitch's group of plants at Nottingham Show	10
Vinery at Chiswick	360, 361
Watering apparatus	490
Yponomeuta padella	70
Zeuzera Æsculi	30

J 261

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 6—12, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years. Days.	Sun Rises. m. h.	Sun Sets. m. h.	Moon Rises. m. h.	Moon Sets. m. h.	Moon's Age. Days.	Clock before Sun. m. s.	Day of Year.
6	Th	Birmingham Rose Show opens.	76.0	50.8	63.4	19	53 af 3	15 af 8	10af11	22af 8	19	4 21	187
7	F	Birmingham Rose Show closes.	73.7	50.8	62.2	22	54 3	15 8	29 11	40 9	20	4 31	188
8	S	Crewe Horticultural Show.	74.0	50.0	62.0	20	56 3	14 8	46 11	55 10	21	4 40	189
9	Sun	5 SUNDAY AFTER TRINITY.	74.1	49.4	61.8	18	56 3	14 8	morn.	after.	☾	4 50	190
10	M	Wolverhampton Horticultural Show.	74.7	50.3	62.5	16	57 3	13 8	2 0	16 1	23	4 59	191
11	Tu		75.4	50.7	63.0	11	58 3	13 8	19 0	28 2	24	5 7	192
12	W	Royal Botanic Society's Show opens.	75.9	50.5	63.2	14	59 3	12 8	38 0	32 3	25	5 15	193

From observations taken near London during forty-three years, the average day temperature of the week is 74.8°, and its night temperature 50.3°. The greatest heat was 92°, on the 7th, 1852; and the lowest cold 33°, on the 9th, 1863. The greatest fall of rain was 1.10 inch.

COVENT GARDEN MONOPOLISTS.

CAN nothing be done to break through the hateful monopoly of Covent Garden? No one can doubt it is a monopoly as close and as injurious to both consumers and producers as any that existed in the time of the Tudors.

Let anyone set up a business in Edinburgh, or Glasgow even, and try to procure his fruit anywhere else than in Covent Garden, and see if he will not be undersold till he is driven out of the trade or broken.

Let anyone ask the price of any article in Covent Garden, and then try to sell the same, and I think he will not only be astonished at the difference between the prices asked and offered, but will be equally astonished to find how little it matters who is the particular tradesman he inquires of.

If you have anything so very superior to sell that no one has anything like it to offer, Covent Garden is, perhaps, the best market in the world if you take it and sell it yourself. But for ordinary producers, Covent Garden is, I think, a worse market than that of any large town in England.

If anyone wants a new sensation let him consign a good lot of fruit to the most respectable person in Covent Garden, say twice a-week for a month, and then ask for the "account sale." I think he will hardly repeat the operation. I once heard of a Liverpool merchant, who was in the habit of accounting for the loss each person who consigned goods through him to his market (Brazil) generally sustained, writing by mistake on a consignment of cast-iron, "injured by rats;" but he was a solitary individual, and his conduct was talked about even in Liverpool.

My own experience of Covent Garden is very limited. I once had some Cucumbers so very fine a little after Christmas that I wrote to a friend, and asked him to inquire the price in Covent Garden of good Cucumbers, thinking mine worth sending. His reply was, "I am asked for good ones 3*s.* 6*d.* to 5*s.*" I thought half that price will do for me, so sent a box to the man I understood was A1 in the market. I kept his letter as a curiosity. It stated that the writer would be glad of another box at once; that the Cucumbers were the best ever seen in the market at that time of the year, and even volunteered the statement that they were much finer than some just received from a celebrated grower near Liverpool, who had hitherto sent the best. On receiving a request for a third box, which I at once forwarded, I gently insinuated that an account of the price I was to receive would be satisfactory. The cash was promptly forwarded, and amounted to 9*s.* a dozen, from which packing had to be deducted. My London friend wrote rather strongly, and, from curiosity, advised me to try another shop. I did so, and received 8*s* a dozen. This was the last time anything went from my place to London to be sold.

This subject has been brought to my recollection by seeing an account sent to a nobleman lately by a dealer in Covent Garden for fruit, &c., supplied this season, from which I made the following extract:—

	£	*s.*	*d.*
"*May* 1*st*, 1871.			
24 lbs. Strawberries	28	16	0
20 lbs. Grapes.....	24	0	0
"*May* 10*th*.			
30 lbs. Strawberries	36	0	0"

There is no doubt that those who deal in perishable goods ought to have large profits to cover risks, but it would be very interesting to know if any of your readers have sold Strawberries at these dates, and the prices they obtained. May 10th is not so very early that one would expect to be charged 24*s.* a-pound for Strawberries. Those who can buy fruit at these prices may be trusted to take care of themselves, but the supply of ordinary wholesome fruit to the lower orders of a crowded city like London ought to be provided on free-trade principles. No licensed salesman ought to be required to sell any man's produce, but the producer and consumer ought to come together as in other towns. Why are not other free markets opened for the sale of fruit and vegetables in London?—J. R. PEARSON, *Chilwell, Notts.*

[We rejoice that this subject has been brought prominently to notice by Mr. Pearson. The monopoly is now a more oppressive evil even than formerly, and there are now supplies to be obtained which will facilitate the removal of the evil. There are thousands of amateur gardeners who would gladly dispose of their surplus fruits and vegetables could they readily obtain access to purchasers, and receive fair payments. We hope to have suggestions from many correspondents on this subject, not only for the sake of producers, but for the sake of consumers.—EDS.]

FORMING A KITCHEN GARDEN.

A WELL-MANAGED kitchen garden is always an interesting and instructive sight, and from it some useful lessons may be gained at all seasons. Its position, aspect, shelter, the nature and peculiarities of its soil and subsoil, the kinds of fruit cultivated, the form, health, and productiveness of the trees, the modes of pruning, training, and general culture followed, form ample matter for inquiry and discussion at all times, but more especially during winter, while at other times a host of subjects, by far too numerous to mention separately, claim our attention.

In selecting a site for a kitchen garden the chief things to be sought for are a deep fertile soil, sloping gently to the south or south-west, well sheltered on the north and east sides by high banks, or hills, or lofty umbrageous trees, and with an abundance of pure water close by and yet springing from a considerable elevation above the highest garden levels, so that it may be brought to the garden through pipes, and distributed among the crops by means of a hose and jet. While alluding to this most efficient method of watering, it may be well to advert to the kind of water that may safely be used—rain water, or that which is exposed constantly to the softening and warming influence of sun and air, is undoubtedly the best for all kinds of plants; but while granting this, I cannot but think that undue stress has been laid upon the evil

attending the application of cold spring water to growing crops. Some writers have even gone so far as to say that the effect of such water is so hurtful, that rather than use it they would withhold water altogether. Now, in arranging the water supply of a new garden, our thoughts naturally turn to the hot thirsty months of summer, when water is required in such abundance. For several years I have been obliged to use cold spring water in summer, giving it daily to flowers, fruit trees, and vegetables in large quantities, and in some instances twice a-day. The water is pumped through pipes to the flower garden, and carried in waterpots to other parts fresh and cold as it comes up from the spring far down in the earth; yet, though the water has been poured upon the soil covering the roots of the plants, the warm soil and rich mulching through which it first passes undoubtedly very materially alter its character before it reaches the spongioles of the plants. Sweeping assertions are rarely quite sound, and looking fairly at the results of my own practice, I can hardly suppose that those who altogether condemn the use of spring water among growing crops have ever given it a fair trial. It is right to say that for pot plants this water was exposed to the air for a few hours, and then used with most satisfactory results.

The pipes through which the water passes from ponds or reservoirs should be 1½ inch in diameter, and of cast-iron, each length having a socket at one end into which the small end of the next length is thrust and soldered with lead. This main pipe should, of course, be laid underground deeply enough to be safe from frost, and along the most direct route into the garden, as branch pipes can be connected with it at any point required. There should be plenty of these branches, with stop-cocks and nozzles at different points, so that a short length of hose may suffice for watering the whole of the garden. The laying of so many branch pipes, of course, involves a somewhat larger outlay in the first instance, but it invariably proves to be the most economical and efficient plan in the end, because a long length of hose is not only unwieldly, but owing to the wear and tear it undergoes it soon requires renewing. The size of the hose should be in proportion to the pressure of the water, but I would not recommend it to be less than five-eighths of an inch in diameter, and if larger the watering will, of course, be done more quickly. It should be of indiarubber, and of good quality; that bearing the technical name of 2-ply is best, it being really a tube composed of two layers of canvas between indiarubber.

After the site of the garden is selected and cleared of any trees or other encumbrances, the first work to be done is to thoroughly drain it; in doing this care must be taken to lay the pipes evenly and with sufficient fall to carry off the water quickly. All the tributary or branch pipes should be 2 inches and the mains 4 inches in diameter. The depth at which these drains are laid below the surface must depend altogether upon the nature of the soil. In a light, deep, open soil the water is best kept at 4 feet below the surface, the drains being 30 feet apart, but in heavy tenacious soils half that depth, or even less, is best, and the distance of the drains from each other should be reduced to 20 feet.

Next to the draining comes the building of the walls, which should be entirely of the best kiln bricks, and the height should be from 10 to 12 feet above the ground line, and the thickness about 14 inches. Care must be taken to have enough doors in the walls to afford easy access to the premises and grounds close by. In all gardens exceeding an acre in size there should be a pair of folding gates large enough to give admission to a manure cart. If a broad walk crosses the centre of the garden from these gates, soil and manure may be carted in and distributed on all sides with much ease and expedition. Supposing this central walk to be 9 feet wide, all the other walks should be about 5 feet wide, and made thoroughly hard and sound with a depth of 9 inches of gravel, or broken stone surfaced with gravel. For edgings to the walks nothing can be better or neater than the dwarf-growing Box. Edging tiles present a very neat and finished appearance for a time, but much of this is lost when the tiles become displaced and broken from the sinking of the earth and other causes. If the gradients of any of the paths are very sharp, as they are made drains and gratings should be laid. Such drains can, of course, be easily connected with the regular garden drains. The making of these drains will be more fully explained in a future paper on road-making.

If the glass houses are built in the garden they should be arranged in a neat compact block, so as to encroach upon the space as little as possible, and also because when so arranged they present a more imposing appearance, and are heated much more easily and economically than they could be if placed in the haphazard and loose fashion too often to be seen. The building of glass houses is a matter requiring much care and forethought, especially when the work is not done by a regular horticultural builder. In a well-built house we have an excellent combination of strength, lightness, and elegance; considerable mechanical ingenuity is also displayed in the details of such buildings. In order that the plants cultivated in them may enjoy a higher and more equable temperature than our climate affords, we should so construct them that while all chilling draughts or cold showers are entirely excluded, copious supplies of fresh air may be given at will, and as little obstruction as possible be offered to the sun's rays. The best houses for all purposes are those having all the framing and sash-bars of light woodwork, to which sufficient stability is imparted by suitable ironwork judiciously fitted to the interior. Such houses are far superior to those which have the framework and fittings entirely of iron, as they are not so much affected by extreme heat or cold; they are much cheaper and are equally durable.

The preparation of stations for the fruit trees is an important, and in poor soils a somewhat costly, undertaking if well done; for unless the young trees have an abundant supply of rich loam to feed upon they are quite certain to fail to make a satisfactory growth. In carrying out this operation I can offer no better advice than that given by Mr. Errington under the heading of "Stations for Fruit Trees."

After marking out the desired position for the stations, the first thing to be considered is whether the ground is naturally too wet or too dry. If the former, the hole need only be half the prescribed depth; the other half may rise above the ordinary ground level. If too dry there is no occasion to elevate the surface, only care must be taken not to place the collar of the tree too deep, which is a serious fault under all circumstances. The stations should be made to extend 3 feet on each side of the position for the tree, thus producing an excavation of 6 feet square. A depth of 2 feet is amply sufficient for any fruit tree, and especially for a dwarfing plan. The soil should then be thrown entirely out, and 4 or 5 inches more must be allowed for some impervious material, which shall presently be described. In throwing out the soil care must be taken to place it in samples, or both labour and material will be wasted. It very frequently happens that three distinct samples of soil or subsoil will come to hand during the operation. Of course all clayey, or sour, and badly-coloured subsoil must be rejected, and its amount will be supplied by the new material to be introduced; and if this is scarce, any ordinary surface soil may be in part substituted. In filling the materials back again the best of the original surface soil must be kept downwards, mixing it thoroughly with the new soil; the inferior or second-rate soil may be kept to dress the surface with. As to character of soil to be introduced, that depends partly upon the soil already existing in the garden, as well as on the kind of fruit tree about to be planted. If the soil is naturally sandy and dry, a very stiff or clayey loam should be selected; if naturally clayey, any fresh, mellow, sandy loam, or even the parings of roadsides, commons, or lanes will prove excellent material. The furrowings of old leys from what is considered good wheat soil are, however, of all other soils the best adapted for general fruit culture. Whatever materials are used, let it be remembered that the more of turfy matter that can be introduced the longer will the compost endure. Any sort of turf, even from hungry situations, is most relished by fruit trees. If, nevertheless, no turf can be obtained, and the soil is loose and poor, it is well to introduce any refuse vegetables of a dry character, such as decayed bean or pea haulm, ordinary straw, old thatch, or indeed anything of a decaying vegetable character which is strong in fibre and enduring. If any manure is thought necessary, it should be fresh from the stable or cow-shed, as such will endure longer in the soil, merely using one barrowful of mellow and rather rich soil to plant the tree in. As before observed, the inferior portion of the soil may be reserved to dress the surface of the station with, after the tree is planted; here it will do no harm, and will be in an improvable position.

We now come to the hard materials for the bottom of the hole, 4 or 5 inches in depth, as before stated. It matters not what this is composed of: broken stones from quarries, brickbats, chalk, cinders, or clinkers, &c., all are eligible. These being rammed hard, throw a coating of fine-riddled cinders or very fine gravel over the whole: this secures drainage, and

prevents the roots entering the subsoil to any injurious extent. —(*Cottage Gardener, Vol. I., page* 88.)

In planting some hundreds of young fruit trees last autumn I followed this excellent method in all its most important details; and as all the stations were surrounded by a firm hard mass of clay, the additional precaution was taken to connect all of them by means of suitable pipes with the garden drains nearest to them.

In selecting the fruit trees, if the collection is not a large one, it is best to keep to those kinds whose merits are well established, for, if novelties or scarce varieties are sought for, vigorous plants are hardly ever to be had.

Following this work comes that of preparing the garden soil. Whatever be its nature, it should certainly be stirred to a depth of 18 inches or 2 feet, taking care to keep the best soil uppermost and working-in a liberal dressing of manure. There should be no hesitation about the last-named operation, for if the soil is to give some returns quickly it must have liberal treatment. It is very rarely indeed that fresh-stirred soil, when thus devoted to vegetable culture, is not greatly benefited and improved by a plentiful admixture of some nitrogenous manure. Take, for instance, a poor shallow soil resting upon clay, and from which the nutriment has been absorbed for a long course of years by the roots of forest trees; when the wood is cleared away the surface is seen to be covered with decayed vegetable matter resulting from the annual fall of leaves. Too much stress should not, however, be laid upon the value of this substance to counterbalance the poverty of the soil, for in such a case, if vegetable culture is attempted without the aid of plenty of good farmyard manure it will result in a miserable failure. When a piece of land is surrounded by a wall, and thus transformed into a garden, far greater results are expected from it than before, even if it had been under cultivation, and therefore vigorous measures must be taken to thoroughly enrich the soil with manure in proportion to its strength and the requirements of the intended crops.

Supposing this work to have been done soon enough to bring the soil into tolerable condition during winter, as the planting season arrives, plantations of Asparagus, Sea-kale, Rhubarb, Artichokes, Horseradish, and herbs should be made in proportion to the requirements of the family. All these, which may be regarded as permanent crops, must be planted in a deep rich soil. In planting Asparagus I prefer single rows 4 feet apart, with the plants 1 foot from each other in the rows. Strawberry beds should be principally on some of the borders, a collection of the best kinds forming an interesting and attractive feature in a garden.

As the fruit trees planted within the garden walls are hardly ever sufficient to supply all the requirements of a family, an orchard is made near the garden, and yet well away from the dressed grounds. All kinds of fruit required for culinary purposes should be grown here, so as to keep most of the choice dessert sorts in the garden. Without specifying particular kinds for orchard culture, it may be stated that there should be a good assortment of cooking Apples, Pears for stewing, and Cherries, Plums, and Quinces for tarts and preserving. Medlars, Filberts, and Black Currants should also be planted. If a favourable position for such a purpose can be secured behind the north wall it is to be preferred, as then the orchard, soil yard, a space for odd frames and pits, and the sheds and undergardeners' rooms can all be snugly enclosed with a substantial boarded fence, starting from the wall at the east and west ends, and describing a square or semicircle or any form best suited to the features of the enclosed space, or the surrounding land and trees if there are any. The sheds and garden offices include a tool shed, stokery, fruit room, Mushroom house, store shed for roots, bothy, office, and potting shed; to these it will be well to add a rough shed for soil, and a workshop for the men, to be used in showery weather. In this building there should be a carpenter's bench and suitable tools for rough carpentry. Where there are no regular carpenters or painters kept for the estate work, there should always be a handy man about the garden, able to do any such odd jobs as glazing and painting, or repairing barrows and other things; it is a serious matter to have to send five or six miles for a glazier in the forcing season, or at any time for so frivolous a matter as putting in a fresh pane of glass.

In writing this article, without entering very closely into details, I have striven to enforce the importance of making the garden and all its surroundings of as compact a character as possible, not only for the sake of economising space, but as the basis of real efficiency; it being far easier to manage such a garden thoroughly well in every part, than if, as is sometimes the case, the land devoted to the culture of fruit and vegetables consists of two or three separate portions, so far apart from each other as to make the work of superintendence a very arduous and frequently most unsatisfactory undertaking.—Edward Luckhurst.

NEW AND OLD ROSES UNDER TRIAL.

Lately I gave a list of Roses under trial. Some have not yet given satisfaction, but I will only speak of successes.

The following I can highly recommend:—1, Perfection de Lyon (Ducher); 2, Madame Chirard (unknown); 3, Edward Morren (Granger); 4, The Duke of Edinburgh (Messrs. Paul); 5, Marquise de Mortemart (Liabaud). The first three are first-rate in every respect. 1 is the finest Rose I have seen for many years; 2 is quite fit to go with it; 3 is magnificent and a great improvement on Jules Margottin; 4 is of a most lovely colour; 5 is not surpassed in delicacy of colour. Its growth, however, is only moderate. 4 is a free grower, but the first three are strong growers, and will long stay in a good catalogue. These are all I can speak of at present.

There are some old Roses that deserve a word of praise—Madame Guinoisseau, pale rose; Triomphe de Caen, a velvety crimson purple; Général Jacqueminot; Madame Emile Boyau, variable flesh, but often marked like beautiful Madeline. They are moderate growers, abundant and free bloomers, and admirable for bedders. The last two have been overlooked by the "fast coaches." They are beautiful Roses.

A few words about Souvenir de Poiteau. The blooms of the true sort are very even and smooth in aspect, the colour is a salmon-rose. I have two plants under this name from another firm, but they are Marie Cirodde, and their blooms are as rough as those described by Mr. Pochin. I cut down twelve plants of Marie Cirodde, a fine grower, on account of its rough aspect, and budded them with the Duke of Edinburgh, which, though very beautiful, has as yet been hardly full enough. Eleven plants survived the winter and are blooming nicely.

The Roses are wonderfully fine here, and abundant. Over one thousand people have visited the gardens since Whit-Tuesday. I allow rich and poor to come when they like.

I have overlooked a most beautiful white Bourbon, Marguerite Bonnet; it is a good grower, has fine foliage, and wins ladies' hearts.—W. F. Radclyffe.

PATIENCE UNDER THE CUCUMBER DISEASE.

I have grown Cucumbers very extensively for years, but I cannot say that I have been successful all the time, for, like many of my unfortunate neighbours, I thought the Cucumber disease was caused by neglect. As I always adhere to the motto, "Prevention is better than cure," I used every precaution to prevent its paying me a visit; but, like many more, I am entirely beaten by it, for it visited me in its very worst form for three years. I am happy, however, to add that it has now entirely disappeared, and I confess that I am as ignorant as to its departure as I was at first of its coming.

I have grown Cucumbers in the same houses all the time, besides other houses, of which I have made a temporary use, but I am convinced that none of your writers has at present made any correct statement as to its cause or cure.

Like Mr. R. Fish, on page 271, I find the only plan to adopt is to plant frequently, for I have found the disease generally most affects the old plants. Much has been said as to composts, giving air, care of temperature and watering; and attention to all of these, I admit, is very necessary, even where the disease is at present a stranger; but I have tried every means that could be thought of. I have grown Cucumbers in houses built expressly for them, in Pine stoves, in vineries; I have also grown them in frames of wood, in brick pits, under handlights, and out of doors on beds of leaves—but no matter where, the disease found them out; soil, temperature, and situation made no difference.

My opinion is that, like the Potato disease and the cattle plague, the Cucumber disease will have its course. Besides the three years I had it so badly, it was in all about five years before it entirely left me; and, from what I have seen, I think that once it makes its appearance at a place, from five to seven years must elapse before it entirely disappears. As to different modes of culture, I have tried all, and my Cucumbers are now flourishing under the same treatment as that I adopted in 1867,

and then I could scarcely ever cut a respectable fruit. So I venture to ask, Has soil, temperature, watering, &c., anything to do with the Cucumber disease? My own experience replies, Nothing whatever.

As regards remedies, I think there are none, for I tried everything I could think of. At first I thought, like many others, the disease must be caused by something being wrong at the roots, and, if I remember aright, the first application that I used was lime and water. I soon found this had no effect, although I was advised to try it by a great grower of Cucumbers. After this failed I thought of the wonderful effects of charcoal on some kinds of plants, and I at once tried it. I had a lot beaten up almost into powder, put it into a tub of water overnight, and in the morning used it after adding sufficient hot water to make it warm. I used charcoal several times, both in water and in the soil, but to no purpose. The disease was as bad as ever; and other liquids of different natures were of no use. I had, as I have stated, plenty of room and houses for my purpose, therefore I tried everything I thought likely to prove a remedy at the same time. One house I kept very wet, the atmosphere damp, the temperature high; next to it I kept a house with, say, the soil dry, the atmosphere damp, and the temperature low, and I went on changing in different ways in eight houses, some a long distance from others, and some in the same range, but I have seen very little difference; if there was any, I think it was in favour of keeping the soil rather dry when the disease made its appearance, and preserving a moist atmosphere and cool temperature, and, as should always be done, giving air early. It seems strange, but I could grow a crop of Melons without seeing the least sign of disease in the same house. The Cucumbers so badly infected, had only been taken out three days previous to planting the Melons. In fact, I never saw the least sign of disease on the Melons, and I hope I never shall.—Animo et fide.

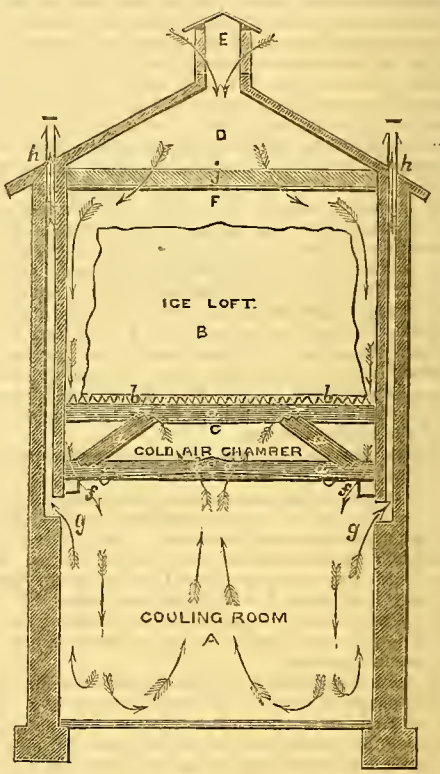
ICE-HOUSES.

The practical rules to be observed in the harvesting, storing, and preservation of ice may be briefly summed up as follows:—1. Secure the purest and most solid ice; it should, particularly, be free from organic substances. 2. Get the ice when it is coldest; it is decidedly beneficial to store it with a temperature considerably below the melting point. 3. Put it up in a compact and solid body, so that the least amount of surface may be exposed to extraneous influences. 4. Do not directly surround or cover it with organic substances, such as straw, shavings, and sawdust. 5. Preserve considerable space about the body of the ice, and ventilate the same; that no water should be allowed to stand around or below it, is a matter of course. 6. Keep the organic substances forming the non-conducting material in the walls and roof of the ice-house dry, in order to prevent any evolution of heat from decay or rot.

A knowledge of the fact that heated air rises, and the cold air remains on the lowest plane of a room, led to the expedient of placing the ice over a room intended to be cooled. But next arose the question regarding the most economical and efficient method of transmitting the cooling effect of the ice through the ceiling into the room below. Wood was first used, but this allowed little of the coolness of the ice to be transmitted into the room below. Then the ice was so packed as to have flues, with holes through the ceiling below them, where the air coming in contact with the ice was cooled, and this lowered the temperature of the room beneath. By this arrangement, however, the ice wasted rapidly, and the flues soon became so large as to prove of no benefit just at the season when the cooling effects of the ice were most desirable. Lastly, some one conceived the idea of making the ceiling of iron, which would most directly cool the uppermost air in the room and cause it to descend, making room for other air to be cooled and descend in like manner. These ceilings were most eagerly taken hold of, and praised as perfection. But their use has developed many great defects. The galvanising scales off, allowing rapid corrosion of the metal; the seams become broken, allowing the water to run through; the room below is not properly ventilated; the condensing of the vapour in the room upon the surface of the iron causes a constant shower; besides, they are very expensive.

To overcome these objections, and reduce the amount of the first outlay to a minimum, an ice-house is proposed, the construction and arrangement of which are as shown in the annexed diagram.

The accompanying engraving shows an upright cross section of an ice-house, with cooling-room A. *a a* are trussed timbers placed about 4 feet apart, for the support of slat floor B, upon which the ice is placed, allowing the air beneath to have direct contact with it. Space C, is a cold-air chamber, with water-tight bottom, which is inclined, in order to collect the ice water in troughs following the sides of the structure. Space F, over the ice, should be about 2 feet, and the ceiling should be covered on the under side of the joist with common boards, and be filled from 8 to 10 inches thick with loose shavings, the object being to allow the air to pass in finely-divided currents from space D into F. On the top of the roof is the injecting ventilator E, and in the walls are flues terminating into ejecting ventilators, *h*. The movements of the air will naturally be as indicated by the arrows. The warmer air in A will rise, and ascend through



the apertures *d*, into chamber C, touch the ice, become cooled, and fall back into A through aperture F. The atmospheric air will enter space D, and divide itself through ceiling *i*, into space F, pass over the exposed surface of the ice, and descend along its four sides through the slat floor B, into chamber C, and thence into room A, for use. An equal quantity of foul air must needs be allowed to escape through openings *g*, and ejecting ventilators *h*.

The advantages of this arrangement may be briefly enumerated as follows:—I. It is cheap. 2. It is durable. 3. It is in strict accordance with physical laws. 4. It accomplishes the necessary ventilation of the ice in two ways: it sends the cool air from above and around the ice, which would otherwise be totally lost, into the room A; and since the air is continually supplied from the atmosphere, preserves the purity of the air in room A. 5. The cold air in chamber C is peculiarly advantageous, since it allows the transmission of cool air into rooms located by the side of cool-room A.—(*American paper in English Mechanic and World of Science.*)

[We have carefully looked over this plan for an ice-house. The chief thing valuable we see in it, is "Do not directly surround or cover the ice with organic matter, such as straw, shavings, sawdust, &c." There are two things that seem to us very objectionable; first, we see nothing of the cheapness spoken of, for to have an ice-loft, a building must be constructed with a cooling chamber beneath, quite as large as the ice-loft over it; and again, by the plan proposed, the atmospheric air, however finely sifted, must pass over the body of the ice before it gets to the cooling chamber. We can fancy what air between 70° and 80° would soon do when passing over

a mass of ice. We could think of a system of reversal, such as the air entering at *h h*, and escaping at E; but we are inclined to think the whole idea of ventilating ice to be a mistake. The sloping bottom of the ice loft, so as to convey all water from melted ice from the sides is good; but then no ice well will long keep ice if, by sufficient trapped drainage, provision is not made against any stagnant water, and the fogs and exhalations that would rise from it. The trap in the drain is to prevent the heated air of summer passing in, whilst the redundant water goes out. Had we to make such a house, we should be satisfied with good open drainage at the bottom of the cooling room, commencing with a drain; then we would do away with all the double floors, cold-air chambers, and ventilating shafts, fill the place with ice from bottom to top, and have a small ventilator or pipe at E, under control, to let out any mists or fogs that might accumulate over and round the ice. The plan shown, however, is ingenious, and we should like to have the opinions of others as well.—EDS.]

ROYAL HORTICULTURAL SOCIETY.

JULY 5TH.

MORE unfortunate weather there could hardly have been than that which occurred on the day when the Royal Horticultural and National Rose Show was held, and, moreover, that after a long series of days disastrous to the beauties of the Rose. The north of England did not put in an appearance, the south was fairly represented, but under the adverse circumstances we need not be surprised that the Show was not so good, take it all in all, either in quantity or quality, as some of those in former years. There was much of what is technically called "roughness," and there were many damaged petals. We are pleased to add, however, that the attendance of visitors was very good, notwithstanding a thunderstorm early in the afternoon, accompanied with a heavy downpour of rain.

The Roses were the great feature of the day, and from the later period at which the Show was held they were, on the whole, superior to most of those exhibited at the Crystal Palace, both in size and freshness. Still, the weather in the interval between the two shows has been unfavourable. The number of stands exhibited, doubtless owing to these causes, was not so great as we have seen on former occasions. In the nurserymen's class for seventy-two single trusses, Messrs. Paul & Son had beautiful examples of Queen Victoria, Duke of Edinburgh, Madame Victor Verdier, Louis Van Houtte, Paul Neron, La France, Triomphe de Rennes, Camille Bernardin, Dr. Andry, Duchesse de Caylus, Mdlle. Julie Daran, Leopold Hausburg, Exposition de Brie, Princess Mary of Cambridge, Souvenir de Malmaison, Céline Forestier, Maréchal Vaillant, Mdlle. Thérèse Levet, Caroline Sansal, Duchesse de Morny, small, but fine in colour; Souvenir d'Elise, Elie Morel, Marie Baumann, Maurice Bernardin, Marie Rady, Baroness Rothschild, Maréchal Niel, and Olivier Delhomme. Messrs. Francis & Co. sent a stand in which there were many inferior blooms. Messrs. Paul were first, Messrs. Francis second.

The next class was for forty-eight, three trusses of each. Messrs. Paul & Son were first with John Hopper, Horace Vernet, Prince of Wales, a globular Rose; Paul Verdier, very beautiful; Victor Verdier, Beauty of Waltham, in fine condition; Général Jacqueminet, Camille Bernardin, Mdlle. Thérèse Levet, La France, very fine; Elie Morel, Duke of Edinburgh, Alfred Colomb, lovely; Madame Caillat, Marie Baumann, Madame Laurent, Leopold Hausburg, Marguerite de St. Amand, Baroness Rothschild, Centifolia rosea, Duc de Rohan, Charles Rouillard, and Triomphe de Rennes. Mr. Turner came second with stands in which were fine trusses of La France, Anna de Diesbach, Climbing Devoniensis, Duke of Edinburgh, Baroness Rothschild, Miss Ingram, Gloire de Dijon, Céline Forestier, Edward Morren, Camille Bernardin, Alfred Colomb, Beauty of Waltham, and Victor Verdier.

For twenty-four Hybrid Perpetuals, three trusses of each, Messrs. Paul & Son were again first with, among others, splendid trusses of Duke of Edinburgh, Marie Baumann, Marie Rady, Madame Vigneron, Duc de Rohan, Baroness Rothschild, Maurice Bernardin, Lælia, Centifolia rosea, Alfred Colomb, and Marquise de Mortemart. Some others, though fine, were a little overblown. Second came Mr. J. Fraser, of Lea Bridge Road, who had beautifully coloured very fresh trusses of Victor Verdier, Dr. Andry, Baroness Rothschild, John Hopper, Alfred Colomb, Duke of Edinburgh, Marguerite de St. Amand, and Xavier Olibo . Mr. Turner, of Slough, sent Duke of Edinburgh, La France, Charles Perry, and several others very fine. Messrs. Francis & Co. also exhibited in this class.

Class 6 was for twenty-four single trusses. Mr. Turner was first with Denis Helye, Duke of Edinburgh, Madame Clémence Jeigneaux, Horace Vernet, Marguerite de St. Amand, François Treyve, Victor Verdier, Climbing Devoniensis, and fine examples of others. Second came Mr. Walker, Thame, with John Hopper, Marie Baumann, Marie Rady, &c.; third, Messrs. Veitch. In both of the last two collections there were fine blooms of varieties already named.

In the amateurs' classes competition was more brisk. For forty-eight single trusses the Rev. G. Arkwright, Pencombe Rectory, Bromyard, was first with excellent examples of La France, Esmeralda, fine in colour; Baroness Rothschild, Triomphe de Rennes, Princess Mary of Cambridge, Souvenir d'un Ami, Madame Knorr, Mrs. Charles Wood, Souvenir d'Elise, and Madame Hector Jacquin. Second came T. Laxton, Esq., Stamford, with John Hopper, Exposition de Brie, Marguerite de St. Amand, Charles Lefebvre, Pierre Netting, Abel Grand, fine, others good, and Annie Laxton, a pretty pink seedling. Third came Mr. Chard, gardener to Sir F. Bathurst, Clarendon Park, Salisbury; and fourth, R. N. G. Baker, Esq., 9, Salisbury Mount, Heavitree, who had very large trusses but too far gone.

For thirty-six, Mr. Ingle, gardener to Mrs. Round, Birch Hall, Colchester, was first, Mr. Chard second, R. N. G. Baker, Esq., third, and Mr. P. Steddart, gardener to H. J. G. Rebow, Esq., Wivenhoe Park, fourth. In these stands we noticed fine specimens of Marie Baumann, Duke of Edinburgh everywhere good, La France, Nardy Frères, John Hopper, Senateur Vaisse, Victor Verdier, Baroness Rothschild, Adam, Marie Rady, Alfred Colomb, Emilie Hausburg, and others.

For twenty-four, single trusses, Mr. J. Skinner, gardener to Capt. Christy, Westerham Hill, was first with trusses which, though not large, were for the most part in fine condition, especially John Hopper, Victor Verdier, Jules Margottin, Charles Lefebvre, Duc de Rohan, Prince Camille de Rohan, and Louis Van Houtte. Mr. W. Soder, gardener to O. Hanbury, Esq., was second; Mr. Wakely, Rainham, Kent, third; and R. B. Postans, Esq., Brentwood, fourth, some of his trusses being remarkably fine.

In twelves, Mr. J. C. Quinnell, Brentwood, took the first place, the Rev. C. C. Ellison, Bracebridge Vicarage, Lincoln, the second, Mr. Wakely third, and Mr. Soder fourth. Victor Verdier, Baroness Rothschild, Madame C. Joigneaux, John Hopper, Charles Lefebvre, Alfred Colomb, Madame Furtado, Elie Morel, Napoléon III., and Marie Baumann were represented by beautiful trusses.

Of new Roses of 1869 or 1870, the best twelve came from Messrs. Paul & Son, and the best were Mr. Gladstone, noticed last week; Paul Neron, Comtesse d'Oxford, splendid glowing colour; Marquise de Castellane, Louise Van Houtte, very fine; Ferdinand de Lesseps, Mdlle. Eugénie Verdier, Catherine Mermet (Tea), and Madame Laurent. Mr. Turner was second with a stand in which some of the blooms had been damaged by the weather. Mdlle. Eugénie Verdier, Louisa Wood, Miss Poole, fine; Comtesse d'Oxford, and Lord Napier were the best. Aristide was very good, and Tippoo Sahib, though weather-stained, appeared to be a very desirable variety. For twelve trusses of any Rose of 1869-70, Messrs. Paul & Son were first with Comtesse d'Oxford, brilliant in colour, a fine Rose. Mr. Turner was second with Miss Poole, in fine condition, and, as remarked in a previous report, a fine Rose. For six trusses of any new Rose of 1869-70, Messrs. Paul & Son were first with Louis Van Houtte, rich velvety, shaded dark crimson. The same firm also exhibited Mdlle. E. Verdier, very open, though of a beautiful rose colour. No second prize was awarded.

The best collection of yellow Roses came from Messrs. Paul & Son, and consisted of fine trusses of Triomphe de Rennes, Céline Forestier, Gloire de Dijon, with pretty buds of Madame Falcot, but Maréchal Niel far from equalling its usual beauty. Mr. Steddart was second, and Mr. May, Stisted, third. Tea-scented and Noisette Roses were not so fine as we have seen them. The best twelve in the amateurs' class, from Mr. Thorneycroft, Floore, Weedon, were, however, very good, especially Devoniensis, Narcisse, and Céline Forestier, but not large. Mr. Steddart was second, and Mr. Tranter, Upper Assenden, third.

Mr. Turner, of Slough, was first for twelve single blooms, showing among others admirable examples of Marie Baumann, Lord Herbert, Victor Verdier, Duke of Edinburgh, La France, and Marguerite de St. Amand. Mr. Hermans, Herenthals, Antwerp, was the only foreign exhibitor of Roses, and they were hopelessly damaged in transit.

Mr. William Paul offered prizes for three blooms of his beautiful new Rose Princess Christian, but we did not notice any stand in competition.

Roses in pots could not have been shown in finer bloom than they were by Mr. Turner, Messrs. Paul & Son, and Messrs. Veitch. For number and size of blooms, considering that the exhibitors were limited to 8-inch pots, they were marvellous. Duke of Edinburgh, Baroness Rothschild, Impératrice Charlotte, Queen Victoria, from Mr. Turner; Edward Morren, Maurice Bernardin, and others from Messrs. Paul and Veitch were magnificent. Messrs. Veitch also exhibited in the miscellaneous class a large and fine group.

Prizes were offered by his Grace the Duke of Buccleuch, President of the Society, for the best group of three plants in pots for dinner-table decoration. The first went to Mr. Chard for plants of Areca aurea, about a feet high, and Hyopherbe Verschaffeltii 1½ feet taller. Mr. Bull came in second with Geonoma Schottiana, Dæmonorops plumosus, and Dekenia nobilis. Messrs. E. G. Henderson & Co. were third. Mr. George, gardener to Miss Nicholson, sent dwarf beautifully-fruited Aucubas. The President also offered prizes for groups suitable for the dinner-table, and consisting of flowers or fruit, or both combined. Messrs. Phillips & Pearce, of Bond Street, were first with a design very similar to that which they exhibited at the Crystal Palace a year ago, and very elaborate in its details. The centre-piece was bordered with a bread-looking glass edge, the stem gracefully entwined with Cissus discolor, and pendant glasses, suspended by chains from

glass branches, were filled with blue-corolla'ed Fuchsias, those in the two end stands being furnished with a kind having a white corolla. The top glasses in each case contained Heaths. Mr. Chard was second with March stands, and Miss Hassard third with a graceful design. An extra prize was awarded to Mr. Soder, gardener to O. Hanbury, Esq.

Miscellaneous collections, though not so numerous as usual, formed an effective part of the Exhibition. Mr. Turner, Slough, sent splendid cut trusses of Verbenas; Mr. Hooper, Bath, Carnations, Cloves, and Pinks; and Messrs. E. G. Henderson & Son, a large collection of Tricolor Pelargoniums.

From M. Dallière, Ghent, came a number of Palms and other fine-foliaged plants; from Messrs. Rollisson, Tooting, a similar group; from Mr. Bull, Chelsea, a numerous group of Orchids, Palms, Lilium auratum, &c. M. Dallière sent a fine group of Marantas; Messrs. Rollisson a large mixed group containing several fine specimen Orchids. From Mr. Turner, Slough, came a case with a plant of Tricolor Pelargonium Rainbow, with large and magnificently-coloured foliage.

Mr. Linden, of Brussels, sent Epidendrum Frederici-Gulielmi, a very fine rosy purple kind, and several fine specimen Orchids; also a collection of Marantas, and other fine-foliaged plants, of which Dieffenbachia meleagris, Eldorado, and chrysophylla had leaves very beautifully marked. Mr. Denning, gardener to Lord Londesborough, had a collection of Orchids, of which Angulon Clowesii was remarkable for the size and number of its yellow Tulip-like flowers, being, in fact, the finest specimen of this plant we remember seeing. Mr. Turner, of Slough, exhibited a brilliant group of new Show Pelargoniums.

Fruit Committee.—G. F. Wilson, Esq., in the chair. Mr. C. Turner, The Royal Nurseries, Slough, sent three splendid bunches of Black Hamburgh and Buckland Sweetwater Grapes, for which a special certificate was awarded. Mr. J. Douglas, Loxford Hall, sent a bunch of a seedling White Grape, a cross between Buckland Sweetwater and White Frontignan, possessing a large share of the Frontignan flavour; a very promising variety, which Mr. Douglas was requested to submit again when fully ripened. Mr. Cruickshank, gardener to Lord Belper, Kingston Hall, Derby, sent a bunch of Chasselas Musqué, and another of Muscat Muscadine, the latter quite ripe, but neither of high flavour. The Committee were not exactly agreed as to their correct names.

Mr. Douglas, Loxford Hall, Ilford, sent a magnificent dish of Lucas Strawberries, but rather wanting in flavour, like all Strawberries this season. A special certificate was awarded. Mr. Paul, Waltham Cross, sent a dish of Waltham Seedling Strawberry of good appearance, but flavour wanting. Mr. Tretman, Spring Grove Nursery, Isleworth, sent a dish of Royalty Strawberry, a new variety certificated last season, possessing a slight Hautbois flavour. Messrs. Paul & Sons sent a collection of Strawberries, as follows:—Premier, Melius, Princess Alice Maude, British Queen, Abd-el-Kader, François Joseph II., large and coarse; President, Marguerite, Dr. Hogg, large and firm; and Sir Harry. None of the varieties were good in flavour. Mr. Tillery, gardener, Welbeck, sent a very fine dish of Galande Peaches and Violette Hâtive Nectarines. A special certificate was awarded.

Mr. Douglas sent a seedling Melon with deep green flesh, and of good rich flavour; also a scarlet-fleshed variety named Gem, of fair quality. Mr. Gilbert, gardener to the Marquis of Exeter, Burghley, sent a fruit of his selected Meredith's Cashmere Melon, a large, yellow, fine-looking sort. This was very juicy and sweet. A special certificate was awarded.

Mr. Perkins, gardener, Warren House, Stanmore, sent a Ripley Queen Pine, weighing 5½ lbs., grown in twelve months from a sucker, and one old Queen Pine, 5¼ lbs., produced in the same way. This was considered a most meritorious exhibition of superior skill in Pine culture, and received a special certificate, the Committee regretting that they had not the power to bestow a higher award.

Mr. Laxton, Stamford, sent examples of three new hybrid Peas. Omega, a dwarf early variety in the way of Little Gem; the Pods were very fine, deep green, well filled, and very promising. Achievement, a very large pale green pod some 7 or 8 inches long. Superlative, deep green pod, 8 inches long and very handsome. The Committee, whilst considering them very fine productions, have decided not to certificate any Peas until they have been tested in the Society's grounds at Chiswick. Mr. Wright, gardener to Capt. Lake, Newlands, near Sittingbourne, Kent, sent a dish of a new early white wrinkled Marrow Pea of good quality.

Mr. C. Turner, The Royal Nurseries, Slough, sent an example of a seedling Cucumber named Wizard, a fine, clean, black-spined variety. The Rev. C. C. Ellison, Bracebridge Rectory, Lincoln, sent a seedling Cucumber named Lick-'em-all, a good variety which has received many prizes, but which in the example shown had no great merit.

Mr. A. Colbourn, gardener to J. Blyth, Esq., Woolhampton, Bucks, sent some very large examples of Mushroom, which were considered very coarse. Mr. A. Parsons, Daneshury, sent a good specimen of the Giant Puff Ball.

Mr. W. Taylor, 9, Southbrook Road, Lee, sent examples of the old Chenipodium Quinoa, recommended for agricultural purposes, &c.

Mr. Wrench, London Bridge, sent examples of Roiffea or Reed Grass, dried and used as matting. It seemed a very excellent substitute, and is coming much into use for tying plants, and a first-class certificate was awarded.

Messrs. Carter & Co. offered prizes for the best six dishes of Peas, including Laxton's Supreme, Laxton's Quality, and Carter's Hundredfold. Mr. Cox, gardener to Earl Beauchamp, Madresfield Court, was first with fine examples of the above, Laxton's Alpha, Veitch's Perfection, and Laxton's Quantity. Mr. Frisby was second with, in addition to the named sorts, Dwarf Waterloo, Alpha, and Supreme. Messrs. Chard, Miles, Lumsden, and Brown, also sent good dishes, but for their size none of the pods were so full as could have been desired.

Floral Committee.—Dr. Denny in the chair. First-class certificates were given to Mr. Turner for Pinks Dr. Masters and Shirley Hibberd; both of them large and very finely laced, the former with more of a crimson tinge. Mr. Wiggins, gardener to Walter Beck, Esq., Isleworth, sent a very fine collection of Show Pelargoniums, containing several very promising kinds. Ada with a maroon top shading off to rose at the edge, with rose-coloured lower petals, received a first-class certificate, as also did Enterprise. Messrs. E. G. Henderson and Co. had a similar award for Petunia Coquette, semidouble, white, purple centre and purple border. The same firm had a second-class certificate for Enchantress Pelargonium, apparently of the Blanche-fleur type, and likewise exhibited a hybrid Ivy-leaved Pelargonium of very free leafy habit, a variegated Hydrangea japonica, Carnations and Picotees, the results of crossing Dianthus moschatus with various members of the same family. Silver Tricolor Pelargonium Minnie Warren was also shown in a basket as a good dwarf edging variety, which it decidedly is.

Messrs. Backhouse, of York, exhibited Lithospermum petræum with beautiful heads of cobalt-blue flowers; also Linum salsoloides with white flowers. Both of these had first-class certificates. Mr. Bull had a first-class certificate for Asophila Shepherdii, a graceful tree Fern on a dwarf stem, and one of the second class for Lobelia Erinus Omen, purple and white, a pretty variety. He also sent Musas and other plants with fine foliage. Mr. Croucher, gardener to T. Peacock, Esq., Hammersmith, had a first-class certificate for a variegated form of Agave Verschaffeltii. Mr. Green, gardener to W. W. Saunders, Esq., had a similar award for Houlletia odoratissima antioquensis, a singular Orchid with brown sepals and petals. Mr. Hepper, gardener to P. Millard, Esq., The Elms, Acton, sent some beautiful specimens of the flowers of Passiflora quadrangularis, and two grafted plants of Coleus, the one exhibiting three the other four varieties.

From Mr. George, Putney Heath, came several seedling bedding Pelargoniums, of which Charming Rose, a Nosegay, appeared to be very free-flowering. Mr. Walker, nurseryman, Thame, sent a collection of Auricula-eyed Sweet Williams; Mr. Chater, Gonville Nurseries, Cambridge, a variegated-leaved Horse Chestnut, together with seedling Roses of no merit, and a hybrid Pelargonium, said to be sweet-scented, but with that quality not pronounced. G. F. Wilson, Esq., sent some of the Lilies he exhibited at Nottingham, and drawings of others, and Mr. Fraser, Lea Bridge Road, Ixora floribunda, very dwarf and remarkably free-flowering, forming quite a bouquet. Mr. Stevens, Ealing, had a fine collection of Balsams, for which he received a first-class certificate.

The exhibitions in connection with the permanent International Exhibition since we last noticed them (and they have received less notice than they deserve), have undergone several changes. The space at the principal entrance in Exhibition Road has been cleared, and devoted, as it should be, to plants. Here Messrs. Standish & Co., of Ascot, and Messrs. Lane, of Berkhampstead, exhibit fine collections of Conifers, &c. Messrs. Standish have at present a specimen of Begonia Sedeni, the most splendid in colour we have yet seen, and covered with flowers. Mr. W. Paul has a grand display of cut Roses, besides a charming mixed collection. Mr. Wills maintains his room decorations in as excellent order and taste as ever.

THE LOQUAT—FRUIT CROPS—MIDSUMMER FROST.

Having been travelling in Italy lately, in the vicinity of Naples, I frequently met with a fruit called there "Nespoli di Japone," or Japan Apple. It is pear-shaped, flesh in colour and somewhat in taste resembling an Apricot, sometimes containing only one, and sometimes as many as four stones in each fruit; the stones solid throughout—that is to say, not having a shell and kernel like other stone fruit. I cannot find it under the name of "Nespoli" anywhere. Can you give me the proper name for it? [Eriobotrya japonica, or Loquat. It has fruited in this country.]

Your correspondent, "L. Roscorla," speaks of self-sown Geraniums. Here (Oakham), notwithstanding the severity of the past winter, not only seedling Geraniums, but also Asters, Nasturtiums, and Mignonette have sprung up abundantly wherever those plants were grown last summer.

In this district I think our fruit prospects are not over-good, with the exception of Gooseberries, which are certainly above an average crop. Currants are much blighted. Apricots turn yellow prematurely and fall off, in consequence of the harsh easterly winds and the absence of sunshine. Strawberries are a very variable crop—in some gardens abundant, in others

none. In almost every instance that I have heard of, that usually best of all Strawberries, Keens' Seedling, has this year less fruit than almost any other variety.

On the night of the 24th ult. the aurora borealis was very brilliant for a short time, and during the night the thermometer registered as low as 35°.—E. C. [At Rugby, on the same night, we are informed by Mr. Harris, gardener at Naseby Woolleys, there was a frost so severe as to turn the Potato leaves quite black.—Eds.]

THE ROYAL HORTICULTURAL SOCIETY'S EXHIBITION AT NOTTINGHAM.

JUNE 27TH—JULY 1ST.

In continuation of our report of this Show—the most successful of any of the country exhibitions which the Society has yet held—we now take up the

VEGETABLES.

These were not shown so numerously as at some of the Society's previous country shows, but the quality was excellent. Messrs. Carter and Co. offered a silver cup, or £10, and a second prize of £2, for the best collection, including Carter's Hundredfold, Laxton's Quality, Dwarf Waterloo, and two other varieties of Peas. The cup was taken by Mr. Garland, gardener to Sir Thomas Dyke Ackland, Bart., Killerton, with the above-named Peas, fifty heads of Asparagus, averaging 8 inches in length, and weighing altogether 7½ lbs., excellent Cabbages, Lettuces, Broad Beans, Celery, Onions, Carrots, Parsnips, Turnips, and Beet. The whole of these, we understand, were produced from Messrs. Carter's seeds. The second prize went to Mr. D. Lumsden, gardener to Lady M. Nisbet Hamilton, Bloxholm Hall, Sleaford, for excellent Globe Artichokes, Broad Beans, Cabbages, Leeks, Onions, Potatoes, Radishes, &c. Mr. Gilbert, gardener to the Marquis of Exeter, Burghley, also competed, but unsuccessfully, though taking the gardeners' prize, with £5 added by the Marquis of Exeter, for eight kinds of vegetables and four kinds of salads—a prize first proposed by himself. Second, third, and fourth prizes were also offered in the same class; the fourth, by Mr. Chapman, of Gloucester, being his patent exhibiting case. Mr. Gilbert exhibited his vegetables in a box neatly bordered with fine Curled Parsley, and it contained very fine Telegraph Cucumbers, Mushrooms, Cauliflowers, Orangefield Tomatoes, Dwarf Kidney Beans, William I. Peas, Lettuces, Beet, and Mustard and Cress. An excellent collection from the Rev. C. C. Ellison, Bracebridge Vicarage, Lincoln, was second; Mr. Miles, gardener to Lord Carrington, Wycombe Abbey, being third; and Mr. G. Craddock, gardener to Lord Willoughby de Broke, Compton Verney, fourth. Messrs. Lumsden, Frisby, Meikle, Holah, Peachey, and others also sent very fine-grown vegetables. The Loughborough Horticultural Society's prizes for six kinds of vegetables, exclusive of Potatoes, shown on trays not exceeding 30 inches square, were taken by Messrs. G. Heafford & Son, Loughborough; Mr. Draper, Dorrington; and Mr. Nicholson, Collingham. In the artisans' class for the same, Messrs. Basford, Biddle, and Clarke, of Loughborough, and Mr. Lacy, Bloxholm, were prizetakers in the order in which they are named.

Potatoes, very clean and good, were shown by Mr. Taylor, of Malpas; Mr. Craddock, Compton Verney; Mr. Biddle, Loughborough; and in the class for four dishes, in which prizes were offered by the Loughborough Horticultural Society, Messrs. Pickworth, Biddle, Nicholson, Montiney, and Heafford & Son had excellent samples.

Cucumbers were numerously shown in the class in which prizes were offered by T. R. Starey, Esq., and the Local Committee. The Rev. C. C. Ellison was first with a white-spined variety, called Lick-'em-all; Telegraph, from Mr. Bolton, gardener to W. Worswick, Esq., Birstall Hall, was second; Berkshire Challenge, from Mr. Mitchell, gardener to T. Cross, Esq., Ruddington Hall, third. From Mr. Lumsden came a brace of the Sooly Qua Cucumber, which is probably a variety of Luffs.

GARDEN STRUCTURES, IMPLEMENTS, &C.

Of these strictly speaking the Show was not very extensive; fully one-half of the articles exhibited were such as pertained but very little to horticulture. They attracted some little attention, no doubt, but perambulators, beds and bedding, grates and fire irons, carriages and leather, which formed the major part, have very little claims to notice at a horticultural show.

Of hothouses there were several, although nothing very special, and chiefly confined to local talent. The most commanding and substantial, a perfect model of a plain, substantial, span-roofed house, was that exhibited by Mr. Forster, of Beeston, the builder of Mr. Pearson's world-famous orchard houses. This was after the same style, and is specially worthy of commendation, light and airy, yet firm and strong. The patent ventilating system of Mr. Forster, by means of cog-wheels, is likewise very admirable. A small moveable pit also was deserving of special commendation, being exceedingly well adapted for amateurs. Messrs. Wheeler & Humphreys, of Nottingham, also exhibited a very substantial span-roofed house with patent ventilating gear. Messrs. Dennis & Co., of Chelmsford, exhibited several erections of galvanised iron, which, although light and airy, and no doubt durable, had not by any means a neat appearance. We cannot say we like them. Mr. Messenger, of Loughborough, exhibited a large range of houses on his principle of construction, which had a very light and airy appearance—just a little too slim, if one might say so; the bracing and tying together of the various parts being well contrived, so as to avoid centre supports.

Mr. W. P. Ayres exhibited one of his imperishable hothouses, which are certainly deserving of especial notice. As far as iron and glass are concerned they may lay some claim to the title assumed. The whole of the outside of the roof is glass laid down like the slates or tiles on the roof of a house, no putty being used, so that nothing but the glass is exposed. The glass is held in its place by little zinc or tin laps. The shelves also are made of some hard material like terra cotta. We like many of the principles exceedingly. Mr. Bickley, of Birmingham, exhibits a small house showing an ingenious mode of glazing. The bars run transversely across the house about 18 inches apart; on these the glass is laid and supported by little strips of zinc nailed to a piece of wood. We liked this very much. Mr. Voice, of Harcross, Sussex, also exhibits another novelty in ventilation. The house is furnished with a centre cap or lantern, which can be elevated at pleasure to one side or the other. By this means ventilation can always be provided on the leeward side, and cold draughts of air may be in a great measure prevented.

Messrs. Green & Sons exhibited a number of their patent lawn mowers, rollers, &c. Messrs. Fellows & Bates had also on show Ransome's Automaton lawn mower. The Climax lawn mower is a very ingenious handy little machine, the grass box being placed behind instead of in front, and the cut grass being jerked backwards. By this means the knives can cut quite close up to any object. We look upon this as one of the best of late novelties.

Mr. Ormson, of Chelsea, and Messrs. Weeks, exhibited examples of their boilers, which are well known, and require no special notice. Messrs. Jones & Rowe had on view also Mr. Westland's Witley Court boiler, with furnace-door and everything complete. This seems to be a very powerful boiler, but rather complex in construction.

Mr. Matthews, of the Potteries, Weston-super-Mare, had on show a great stock of flower pots, ornamental vases, flower stands, &c., which were specially worthy of commendation. There has been a great want for cheap, handsome flower pots, which Mr. Matthews seems now likely to supply. Mr. Sankey, Bulwell Potteries, Nottingham, had also a goodly stand of flower pots, &c., of admirable make.

A rather ingenious apparatus for the application of the liquid compositions for the destruction of aphides, &c., on plants, named Frettingham's vaporiser was shown. A small portion of the liquid is placed in the vaporiser—a bottle which is filled with some tubes like a soda-water bottle, and by blowing through these tubes, the material is distributed in thin spray over any part of the plant, with scarcely any waste.

Mr. Rendle had on view a great number of his patent plant protectors, and in great variety, giving the protection of a single flower pot to that of a good-sized house. Many of Mr. Rendle's appliances will be found extremely useful, especially to amateurs. The most of the other subjects were of a very miscellaneous character, and call for no special remark.

A DINNER of horticulturists was held at the Exchange Rooms at Nottingham on the 27th ult. The Rev. S. R. Hole presided. We need only give a few extracts from the records of the "doings of that day."

The CHAIRMAN said he had never said grace with more satisfaction than he had done that day. He was not an epicure, but he felt somewhat, as the poet expressed it, "Fate cannot harm me, I have dined to-day" [laughter]. Englishmen used to have no difficulty about dining; but somehow or other there had been some difficulty previously in holding a gardeners' dinner at these annual meetings. They had previously wanted the presence of those who were at the head of the Society, but here they were to-night [cheers]. They had the best show to-day that ever the Society had had in the provinces [cheers], and there had been no want of harmony in making it a happy one throughout [cheers]. In reply to the question which had been put as to why they were so anxious about the dinner, he said the gardeners who came to these meetings had great sympathy and fellowship for each other; they wanted to cement their old friendships, and to meet men they had heard about all their lives. Did not young painters wish to know a Millais, or a young soldier a Napier? He had known the time when he would have gone forty miles to meet Thomas Rivers, of Sawbridgeworth [cheers]. What they wanted was unity, and they had it to-day more than they ever had it before. He saw many around him who had talked about it, and it was a matter of congratulation that the wind had gone from the north into the west [cheers and laughter]. He would tell them who had been one of the greatest advocates and promoters of this union—that was the chief magistrate of Nottingham, who sat on his right hand [cheers]. The Mayor told him that he had astonished him in making that remark, but he (the speaker) had attended every meeting of the Committee, and had found his Worship working in the most generous way to forward the interests of the Society, and with the greatest energy and goodwill that any man could show [cheers]. His Worship offered to take the chair when this dinner was proposed, but he was anxious for anyone to take it who knew more of gardening than himself [cheers]. He gave them "The health of the Chief Magistrate of the town," and

he might congratulate him on the happy day this had been for Nottingham and the grand Exhibition over which he had, so to speak, presided [cheers].

The Mayor returned thanks, and proposed "The Council of the Royal Horticultural Society."

Colonel Scott, in reply, said it was a great honour to reply to the toast, and went on to observe that the Society had done much to humanise mankind [cheers]. Mr. Hole had made some comments upon the difficulties in connection with the dinner. He did not know the ins and outs of the question, but he reminded them that the Society had a great many difficulties to contend with. It was made up of heterogeneous elements. There was first the florist, who looked at a flower in relation to its regularity; then they had the horticulturist proper, who delighted in looking at everything in the light of colour or beauty of form; then there was the botanist, who thought that it was the most important thing that a flower should have its right name given to it; and also the physiological horticulturist, who thought of nothing but the scientific point of the question [hear, hear]. Besides these classes, however, they had the outside public to consider. Horticulture was like painting, there was wanted not only the artists, but the people to admire the works that were produced. Many of those present were men of business, and they were pretty well aware that, in a mundane point of view, the absence of the public would be the worst thing that could befall them [hear, hear]. Still, he did not think the Horticultural Society needed any apology; they were doing their duty manfully and well. He dwelt on the progress the Society was making, and said the Show in Nottingham was one which would bring thousands to see it. He could not help referring to the Local Committee, who had worked so hard to secure a success, and he wished also to acknowledge the efforts of those who had brought together so large a number of plants, also to those who had judged them so well, but who, for the next three or four days, would not have a very happy life of it [cheers]. Last, but not least, they returned their thanks to the Mayor for the honour he had done them, and also for the courtesy and geniality and all those qualities for which they had been indebted to so great an extent for the success of the Exhibition [cheers]. He thanked them from his heart for the way in which they had been received, and hoped this would be one of a series of meetings at which they would meet together [cheers].

In reply after his health being drunk with great *eclat*, the Chairman said his heart was that of a gardener. He must not make a pun on the Mayor's name, but he certainly was the right *Man-ning* (in) the right place wherever he went [cheers]. He (the Chairman) should look back upon this day as one of the happiest in his life [cheers]. This was the first day in which they had bridged over a little chasm which had existed between science and practical gardening [cheers]. He did not pretend to be anything but a lover of flowers. He loved every flower that was grown—that was his idea. The man who could not admire every flower in a wood as well as any Orchid, was not a true gardener. If he did so, however, he was a true florist [cheers]. The Chairman then told a very droll anecdote, and told it well. In a village nine miles from Nottingham there lived a clergyman, and there also used to live a clerk. We were getting rather tired in this age of the conversational duet between the parson and the clerk, and so the latter race was not quite so flourishing. But there lived in this village a clerk, and he did not think he was offending against propriety when he stated that his name was Kemp. Kemp was a tailor and he played on the violin [laughter]. All things went very happily, the clergyman employing the clerk to make clothes for himself and livery for his man, and he (Mr. Hole) thought it right that native talent should be thus encouraged. Unfortunately, one day there came to the clergyman a new groom, who declared that he would not have his clothes made by Kemp. The clergyman weakly and thoughtlessly listened to the council of the groom, and allowed him to go to a very excellent man and tailor, whom they all liked—Mr. Finn [cheers and laughter]. The man went to Mr. Finn, and the next Sunday when the clergyman gave out the hymn the fiddle of Kemp made no sign [laughter]. Again the clergyman gave out the hymn, repeating the first verse, but the fiddle made no sign. There was consternation in the heart and countenance of the parson, and he turned to that part of the church from which the music proceeded for an explanation, and after a pause there was a messenger sent, and the reply was, "If you please, sir, Kemp says as Finn may fiddle" [laughter]. He hoped that in the same way working gardeners would not be put on one side for science, or they might reply, "Science may fiddle" [cheers]. He said to the Council of the Royal Horticultural Society, "Come to us, as you have done to-night, in a kind and friendly way, and be friends with the British gardener" [cheers]. He then warmly thanked the company for the way in which they had drunk his health [cheers].

Major Trevor Clarke and Colonel Scott both denied that the Council of the Royal Horticultural Society was in any way inimical to the practical gardener.

Phytosmegma.—This is a new insecticide, brought out by Mr. Pooley. We have had it tried on the red spider, and also upon the green aphides which infest the Plum and the Rose, and the black variety which curls up the leaves of the Cherry. It killed all the insects it touched, and a Cherry leaf encrusted with the bodies of the slain formed an interesting object under a magnifying glass. The inventor states that the liquid will not injure tender foliage. We tried it on a young Melon leaf, which is rather a susceptible subject, and it produced no injury whatever. The only thing which showed the slightest injury was the tender top of an Apricot shoot growing under glass. Few things are so tender as this; even water at times affects it. When, however, the Apricot leaf has expanded, the phytosmegma does it no harm.

FRUIT GROWING COMMERCIALLY.

(*Concluded from page* 440.)

Prospects of Fruit-Growers.—Being asked to add some further remarks on the future prospects of the fruit-grower, it will be easily perceived that speculation that way must be liable to the many vicissitudes which befall, more or less, all conjectures. Nevertheless, there are some rules or laws on which a theory may be based, that is not likely to be affected by any but extraordinary changes, and with the first of these may be classed the certainty that the British fruit-grower must in future make up his mind to compete with the continental grower, for the consumer will not willingly surrender an iota of free trade which has already brought such quantities of foreign fruit into the English market. On the contrary, fruit from districts that have never yet sent any may be expected hereafter to reach our shores. The great and increasing accommodation afforded by the railway system on the Continent, if backed by a wise and liberal government, will afford means of transporting to England fruits from a greater distance than has ever yet been dreamed of, the probability being that earlier Cherries than the south of France produces may reach us from Africa, the sea voyage from the French possessions in that country to Marseilles not being a long one, or it may be Turkey, or some other countries bordering on the Mediterranean, may turn their attention to the supplying of the English market. The cheapness of land and labour, aided by a more congenial climate, may enable him to successfully compete with the home grower, whose conditions are just the reverse of these, only he is on the spot, and avoids those heavy expenses and delays incident to a long journey, besides the injuries inflicted on fruit gathered so long before they are ripe, as fruit must of necessity be that is brought all the way from Algeria. But we shall not be surprised at its being sent this distance, or even further, for the spirit of adventure is abroad, and in these days every nation having an article to sell is anxious to dispose of it to the best bidder, so that in future we must not expect merely the competition at present existing between our home-grown fruits and those of some of the countries nearest our shores; for the area our fruits are drawn from is increasing, and the only apparent bar that is likely to be imposed hereafter on the fruits of other countries reaching our markets is the time required on the journey, but that may be lessened more than many are aware of. The opening of the Mont Cenis Railway will enable the journey from the sunny plains of Italy to London to be reckoned by hours, and early fruits may pour in from that quarter in unexpected quantities, travelling by rail being so much more expeditious than by water, and, assuming a good understanding to be come to between the governments of France and Italy, it seems not unlikely but the choicest products of the latter country may find their way here; the journey, far as it may seem, is not more than half that of the great American railway which crosses that continent between New York and San Francisco, and short as the time has been since that undertaking was first opened to the public, the consignments of fruit from the Californian to the Atlantic States, have already told on the markets of the latter, the fine climate of the far west enabling it to compete successfully with the older colonies, although its produce has to be sent over upwards of 3000 miles of rail. With that example before us, we need not be surprised on hearing of fruit being sent long distances to us, the only impediment would seem to be the unavoidable delay in crossing the Channel, and for a time, no doubt, the governments of countries nearest to us, as France or Belgium, might impose some restrictions on goods passing through their territories not being of their own production, but it is likely these difficulties will eventually give way, and the London market be thrown open to and of easy access to the fruit-growers of southern Europe. The intending planter had therefore better keep this in mind, for it is possible the very article he thinks he can send to market at a moderately early period in the season, may have already been there a month from some more favoured land,

and the novelty which always attends the introduction of every kind of produce to table for the first time will have worn off, and high prices will be no longer likely to be realised.

For the reasons given as above, against planting early fruits with the hopes of profit, I would say there is a good one for planting for the late season, for there is less likelihood of competition here. An English Apple in March, when good, far exceeds those of any other country I am acquainted with, although those from abroad look better, but the hot summer of the Continent would seem unfavourable to the Apple attaining that juicy condition which renders it palatable at table as a dessert fruit, or a favourite in the kitchen for its cooking qualities, and I am of opinion we must in future depend on those of home growth for all that is useful in this fruit. Buyers who like an article to look at may be tempted by the more showy appearance of Apples of foreign growth, and it is possible a better class of fruit from the north of Europe may eventually find their way here in quantity, as I have seen very fine samples of Apples from Sweden and Norway at a fruit exhibition, but of their quality I have no knowledge. If they be good, and obtainable in quantity, I see no reason why they should not be sent here as well as fish and other perishable articles from these countries. Once let it be shown that a profit can be made, and the merchant will furnish the article required, be it from the antipodes or the interior of the largest continent, yet I somehow think the home grower will always have the late market season in his own hands, and I would advise his plantations to be regulated to meet that requirement.

It will be easily perceived, that what I have said on the propriety of aiming at the growth of the best keeping Apples in preference to early ones in future, relates to other fruits. Only in the matter of Pears it is likely France and the Channel Islands will compete with us in the late kinds, as well as those in the middle of the season. Plums seem already to have been too extensively planted of late years. The glut of last year will, no doubt, check further increase that way. Damsons, especially, will, I think, be more than are necessary to meet the demand half a dozen years hence; but it is difficult to foresee the public requirements; and were I called upon to plant a large area at the present time, I would certainly have a large portion of it in soft fruits, as not likely to have to compete so seriously with the foreigner, and, if the soil and situation suited, I would plant early Pears and late Apples, omitting altogether both Plums and Cherries, the latter fruit being, in my opinion, likely to be superseded by a superior article from the south of Europe. Of Plums there seem to be plantations enough already. Further, I would again say here, what I commenced with, that I would not recommend the planting of an orchard on any but the best of soils and sites, for, although it is quite possible to make a soil, it is another thing to make a purse, and in the growth of an article where there are so many chances of a failure, it is prudent to make them as few as possible, by selecting only the best sites for an orchard, and if it does not pay on these it will not pay at all; certainly it will not do so on one of an adverse kind.

One more remark may be made on the subject of making orchards pay, and that is one of some delicacy, but it ought not to be omitted, as a remedy may perhaps be found. Cannot the middle man, or men, who stand between the grower and the consumer, afford to live with a less profit than at present received? For the difference between what the consumer has to pay and what the grower receives is certainly out of all proportion to what it ought to be. True, the article is a perishable one, and must be used-up in some way, but it is not more perishable than the carcase of a sheep or bullock, and yet the difference between what the producer receives and the consumer pays in this trade is but a fraction of what is the case in the fruit trade. Why this should be the case I am at a loss to know, unless it be that a reformation in the fruit trade is wanted; for, unless I be wrongly informed, it is in the late-keeping kinds of Apples that these discrepancies are the greatest, and not in the soft fruit. This matter requires explanation at other hands, as well as some other apparently unaccountable transactions in the fruit trade; for, however good the crop of Apples may have been in the country, and the prices accordingly low, it is a notorious fact that an Orange can be bought cheaper in the streets of London after January than an Apple can. The one has to brought some 2000 or 3000 miles, the other 20 or 30, or more, rarely 100, and at the time alluded to the one seems about as perishable an article as the other. One thing must be considered by the home-grower, and that is, if it will pay to import Oranges such a distance to sell in the streets as cheaply as Apples grown in Kent are sold there, what may not competition do when it more especially settles into the Apple trade? Perhaps the best answer to this is, that the trade in Oranges is in a more healthy state; the various parties through which they find their way from the grower to the consumer are each satisfied with a moderate profit, hence the reasonable rate they are retailed at. Why the same cannot be done with home-grown fruits is a question I should like some one else to solve, for upon it depends more of the success or failure of fruit-growing as a profitable calling than on any especial mode of culture, and the sooner the poor householder in London and elsewhere can buy the fruit he wants at a rate not exceeding 50 per cent. more than what the grower receives, the better it will be for all concerned. The butcher receives nothing like this, yet he lives, and the article he deals in is quite as perishable as fruit.

NOTES AND GLEANINGS.

It is most gratifying to state, that the Royal Horticultural Society's Exhibition at Nottingham has been, in a financial as well as in a horticultural sense, the most successful of the Society's country shows. The receipts were as follows:—

	£	s.	d.
Tuesday, June 27th	150	7	6
Wednesday, ,, 28th	395	2	0
Thursday, ,, 29th	624	0	7
Friday, ,, 30th	343	17	10
Saturday, July 1st	393	13	3
	1907	1	2
Season Tickets	600	0	0
Total	2507	1	2

To this amount is to be added the rent of spaces for miscellaneous exhibitions, &c.

—— Lapageria rosea has in most gardens been only cultivated in a greenhouse temperature, and so far from being kept cool, this lovely climber is frequently exposed to a temperature more nearly approaching that of the stove, or of what is called an intermediate house. At Colston Bassett, Nottinghamshire, in the garden of G. F. Davie, Esq., it has stood out of doors four winters not remarkable for their mildness, and it was only in that of 1870-71 that it suffered. It was then killed down to the ground, but is again springing up, and will doubtless be as vigorous as ever. The experiment of planting the Lapageria out of doors in the warm climates of Devonshire, Cornwall, and other southern counties is well worthy of trial, but near London we fear it would fare worse than in Notts.

—— At the dinner given to the Judges of the Crystal Palace Rose Show on the 24th ult., the Rev. H. H. Dombrain, as Chairman, presented to Mr. Wilkinson, who has for many years superintended the flower shows, on behalf of exhibitors and Judges, a very beautiful silver claret jug and cup, and in doing so expressed his thanks on behalf of the subscribers, to Mr. Wilkinson, for his unvarying kindness and courtesy, and his regret that owing to the increased duties devolving on him since Mr. Bowly's death, that he would not be brought into such close contact with them as formerly. Mr. Wilkinson replied in suitable terms.

—— Upwards of fifty of the *employées* of Mr. B. S. Williams, of the Victoria and Paradise Nurseries, Upper Holloway, held their usual summer festival on the 23rd ult., at the Rye House. The toast of the day was their worthy employer, received with hearty cheers and musical honours; this was responded to most appropriately by Mr. Williams, senior, who is a very old and much-respected resident in the neighbourhood, who was of the party by their special request.

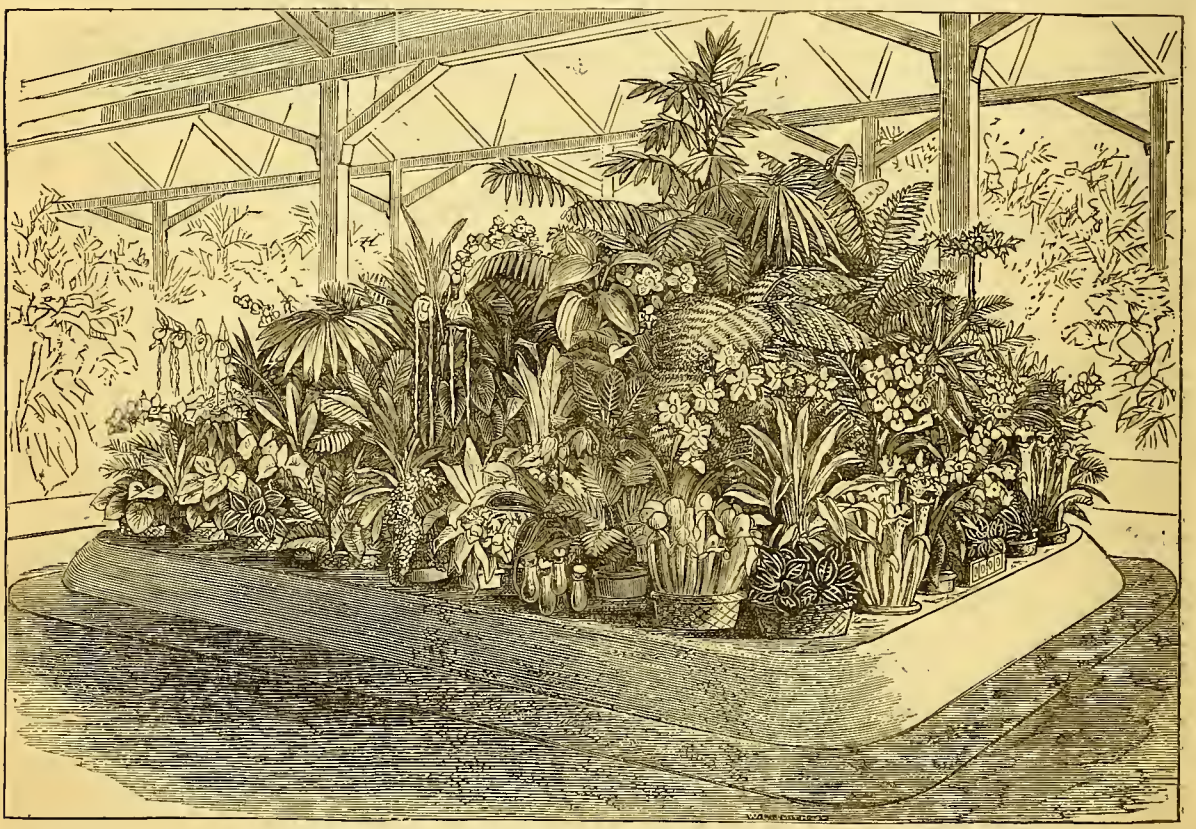
—— In compliance with a requisition numerously and respectably signed by the inhabitants of Chippenham, a public meeting was held at the New Hall, on the 26th ult., for the purpose of considering the advisability of establishing a Horticultural and Cottage Garden Improvement Society. The Mayor presided.

Mr. James Stone, who first brought the matter before the public, said he had been actuated by two motives in asking his Worship to convene the meeting. First, that such a Society would be the means of attracting the inhabitants of neighbouring towns and villages to come and circulate some money in the town. Secondly, that such a Society possessed claims of a much higher and nobler character—viz., the moral and material improvement of the cottagers, and his experi-

ence as secretary of such societies at Lyme Regis and at Calne, for a period of twelve years, had convinced him that such objects might be attained if properly conducted, and if careful vigilance be exercised to prevent any infringement of the rules. They all knew with what different feelings the inmates of a cottage were regarded—those whose gardens are well kept, and those where, to use a Wiltshire phrase, all is in a "muggle." The Rev. J. Rich (vicar), endorsed all that Mr. Stone had said, and proposed that a Horticultural and Cottagers' Garden Improvement Society should be established. The Rev. A. Headley, who for a long time past has been connected with our Journal, expressed himself in favourable terms of the formation of such a society. He considered such societies did great good, and if a show took place he should like to see plenty of bunting displayed in the streets, bell-ringing, and so on, to draw the people out. There was no lack of cash in the neighbourhood, and also a large number of gentry who would be able to contribute largely to the show by sending their choice flowers and plants. He had great pleasure in seconding the proposition, and should be happy to render any assistance that lay in his power. The Mayor put the proposition to the meeting, and it was carried unanimously. He expressed his willingness to allow the show to be held in that portion of Mouckton Park occupied by him, if agreeable to Mr. West Awdry.

MESSRS. VEITCH'S GROUP OF NEW AND RARE PLANTS AT THE NOTTINGHAM SHOW.

The accompanying is a representation of the beautiful group of plants exhibited by Messrs. Veitch at the Royal Horticultural Society's Show at Nottingham—a group not merely remarkable for the beauty of its arrangement, but equally remarkable for the beauty of the plants composing it, and the perfection of culture which they displayed. Last week we gave a meagre list of the plants of which it consisted, and figured one of the most prominent, the Darlingtonia californica, and we then remarked that as regards arrangement, rarity, and quality it was the most perfect group we had ever seen. As such we have thought its appearance deserved to be preserved as a *souvenir* of the great exhibition which has just closed, and as such we present it to those of our readers who were there present; while to those who were not so fortunate we would remark that though no effort of the artist, without the aid of colours, could give a just idea of the effect of the group, the engraving, being truthful and admirably executed, will afford at least some idea of its beauty as a whole.



SOME PREDATORY INSECTS OF OUR GARDENS.—No. 11.

Of all the butterflies which haunt the woodland spaces, perhaps the most charming in appearance, and not far below others in the gracefulness of their movements, are the species known popularly as the Fritillaries. This, perhaps, may seem an irrelevant observation, so let me explain. Undoubtedly there are some sincere lovers of Nature to be found now amongst gardeners as well as agriculturists; yet the admiration with which an individual regards a beautiful object is likely enough to be lessened when he finds, or is told, that the thing in question is, in some way, injurious, and interferes with his particular pursuit; therefore I was sorry to see what I must regard as an unfair accusation brought against the fair Euphrosyne, otherwise called the Pearl-bordered Fritillary. The author of a well-known and excellent book upon gardening classes this amongst the enemies of the horticulturist while it is in the larval state. It devours, so he says, the cultivated Violet, and he recommends hand-picking as the remedy. But the butterfly is so exceedingly partial to woods and shady places, and usually so very restricted in its flight, that it rarely visits gardens, and certainly might deposit eggs there, yet I am inclined to think the instances of this are so few as to be quite exceptional. Mr. Newman, in his remarks upon the species, says that it is a very difficult caterpillar to find, dropping from its food-plant at the slightest touch; therefore hand-picking would not be of much service were any remedy needful. Nor are there two broods each year, as stated in the book in question; the young caterpillar hybernating and becoming adult in April. So that, by misapprehension doubtless, this elegant butterfly has been placed in the list of destructive insects, from which it should surely be erased.

The numerous species of the genus Salix, which are so interesting (or so teasing) to the incipient botanist, have their claims upon the attention of the gardener too. For the purpose of scientific study, or for curiosity merely, the Willows have been occasionally cultivated to some extent, originating, in fact, a name, "Salicetum," which has been applied to a nursery or plantation of these trees and shrubs. In such a place at Vienna three hundred kinds were reported to have been distinguished, and at Woburn, in our own land, 160 species, in the Duke of Bedford's grounds, of which an account with figures appeared in 1828. But in what a variety of ways do we find Willows and Osiers, after they are cut down, brought into everyday use by the gardener! As poles for fencing, as handles for various implements, and as props, the longer shoots and branches are often handy. The slimmer twigs are used freely, as every frequenter of our London vegetable markets knows, for tying up in bundles a variety of garden produce; and in the garden itself these same shoots bind trees and shrubs to walls or supports. Nor are the growing Willows without their uses too. Employed in hedges, these plants answer well in both dry and moist soils, and consideriog their rapid growth, I have wondered that gardeners in our suburbs do not more frequently make Willow hedges. The White Willow (S. alba) has been especially commended as an admirable screen for plantations of young timber trees. Dispersed here and there in a garden, be it flower, fruit, or kitchen, it is unquestionable that Willows or Sallows are an improvement, looking at the spot from an artistic point of view; and if S. caprea, the Goat Willow, be introduced, the flowers, which are very beautiful, will benefit the bee hives, should the gardener be an apiarian too. The Weeping Willow (S. babylonica) is familiar to most of us, as seen in pleasure grounds and cemeteries. About the west and south of London I have seen with regret the grubbing-up of some, which I thought might well have been spared; and one of the pleas put forth in favour of their removal has been that they harbour much blight—insects, especially, I presume, being thereby intended. And it must be granted that few trees could be indicated which are more exposed to the attacks of different species belonging to almost every order of insects, and infesting, in turn, every part of the Willow, from the topmost twigs down to the root. Possibly, too, some of these, being first attracted to a garden by the presence of Willows, might afterwards distribute themselves over other plants or trees. This would hardly be likely, however, to be a very frequent occurrence, and the greater proportion of the Willow-feeders are confined to that, or to allied species, such as the Poplar. But the inroads made upon it by these marauders tend sadly to mar the appearance of Willow hedges, and the trees grown for ornament frequently display denuded branches or a decaying trunk, from whose wounds exudes decomposing sap, and around which lie fragments of bark and wood, trophies of the execution done by insect jaws. Only a few days since, passing through some market gardens near Putney, I noticed a hedge, composed of Salix alba and fragilis, which had been nearly stripped of its leaves. The individuals which had done the work had departed, but from the appearances I conjecture that some species of Saw-fly was responsible for it. The pseudo-caterpillars, as they are called, of the Saw-flies are to be seen more or less plentifully upon Willows and Osiers most years, and along the banks of the Thames they do some damage to the Osier beds, for they will gnaw the shoots as well as the leaves. Unpleasant-looking creatures are they, with their globular shiny heads and flabby bodies, the anal extremity of which is usually lifted in the air. These feed in parties, and so exposed that one would expect they would become frequently a prey to birds; though some do, I do not think many are thus disposed of. These Saw-flies belong to the family of the Tenthredinidæ; the females being provided with a peculiar instrument by which the eggs are deposited on the plants they selected, the leaf or twig being usually slightly punctured, though in a different manner to that produced by the auger of the Gall-flies. The caterpillars of these flies (and though called flies, we must remember they have four wings, and are next-of-kin to bees, yet stingless, however formidable their taile may appear), can be easily picked or swept off the trees when of some size, but then they have often done a good part of their injurious work upon the leaves. The digging-up of the earth round the trees has been recommended, if it be done at the time the insects are in the pupa or chrysalis state, when they generally enter the ground.—J. R. S. C.

Militæa Euphrosyne.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Take advantage of dry weather to eradicate any weeds that may have sprung up during the late rains; and when the soil is not sufficiently dry for hoeing, hand-weeding should be adopted. As the production of strong *Asparagus* next spring will mainly depend on the culture in the summer, let the beds, after being cleaned, be mulched with short grass or half-rotten manure. Liquid manure, in which a portion of salt has been dissolved, should then be applied freely for the next month or six weeks, or the salt may be spread over the beds, to be washed in by the rains or waterings. *Globe Artichokes* and *Sea-kale* will be improved by similar treatment. Should the weather become suddenly dry, water freely *Cauliflowers*, *Lettuces*, *Radishes*, and other vegetables which require to be grown quickly to have them crisp and tender. We need scarcely add that in all cases vegetables will be improved in size by giving manure water, if it can be obtained in sufficient quantities for all purposes. Continue planting out Celery as required, and the early crop may have a slight earthing-up, having previously taken off any lateral buds and well watered the rows. Sow a good supply of the earlier *Cabbages* or Chappel's *Colewort* for autumn and winter supply. *Endive* should now be planted out and another sowing made. A crop of *Parsley*, to stand over the winter, should now be sown in a dry sheltered spot. Every yard of ground that can be spared should be prepared and planted with winter vegetables. Stir the surface of the soil amongst all growing crops where practicable; it will enable the rain to percolate through it with greater equality, as well as check vegetation.

FRUIT GARDEN.

Most kinds of fruit now ripe or ripening will require the protection of nets to preserve them from birds, which in most country places are troublesome neighbours. As the early Cherries are gathered, shift the netting to other kinds yet to ripen. Peaches and Nectarines should have their final thinning when the stones in the fruit become firm and hard, as all the risk of their dropping during the stoning process will then be over. Vines against walls should be closely nailed to the wall to obtain what benefit of the little heat that can be had this cloudy summer. Figs must be treated the same, pinching out the point of the current year's wood, except the leaders, when they have made five or six joints. The breastwood may now be removed from Pears and Plums against walls, cutting away only a portion, say the upper part, of the tree first, then after an interval of two or three weeks another portion, and finally finishing by a third cutting of the lower part. By this plan there will be less danger of the cut-back shoots starting again, and the lower shoots, which are generally the weakest, will gain additional strength by being allowed a few weeks longer to grow. When Strawberry plants have ceased to bear for the season, and have borne on the same ground for three successive years, they ought to be trenched down, and the succession kept up by making fresh plantations of those that have been forced, taking care that the soil is trenched and well manured at least 2 feet in depth. Currants that are growing against walls or other fences ought now to be matted over to protect the fruit for use in autumn and winter. See that the shoots of young grafts are nailed or tied up as they advance, to prevent them being broken by the wind.

FLOWER GARDEN.

The recently planted beds will still require watching to get the plants in them fairly on the start. The heavy rains have chilled the ground, and some of the more tender or badly rooted subjects look sickly. The surface soil in some situations will have become hard and crusty after the late heavy rains, in which case the crust should be broken and neatly raked over when dry weather sets in. Proceed with pegging and otherwise training growing plants as they advance till they occupy their allotted space, when more freedom of growth may be permitted; but in flower gardens laid out in the French or geometrical style the utmost symmetry should be preserved, if not in all the beds, yet in those that may be termed counterpart beds. As the grounds and shrubberies are much more frequented by company at this season, pay the more attention to keeping the

greatest neatness and order in every part where there are hands to admit of it. Flowering shrubs as they go out of bloom should have the dead flowers, &c., removed and slightly cut back. For the same reasons remove the seed-pods from Rhododendrons, tree Pæonies, &c. These little attentions will be followed by an increased growth of the plants and with the greater certainty of their blooming next season. The propagation of Carnations, Picotees, Cloves, &c., should no longer be delayed. Hedges should be cut with the shears, unless when formed of large-leaved plants, as Laurel, Turkey Oak, &c., where the knife only should be employed, as the leaves look badly when clipped with the shears. As a deciduous plant for hedges nothing is better than the Turkey or hybrid Lucombe Oak; and the Taxodium sempervirens will be found a most eligible plant for making evergreen hedges, as it grows quickly, bears the knife well, and has an agreeable appearance. Tulips may now be taken up. Allow the skin and roots, after carefully removing the soil, to remain; these can be better taken off when the bulb is dry. Store them away either in cabinets with the drawers properly numbered, or put them in thin paper, allowing them to dry gradually in an airy shady place.

GREENHOUSE AND CONSERVATORY.

Hardwooded plants, including most of the genera from New Holland, which bloom early in the spring, and which, after blooming, received the necessary pruning, &c., will now be so far advanced in their growth, that any requiring to be repotted should at once have a shift. After turning them out loosen the outside roots before replacing them in their new pots, to enable them to take to the fresh soil the more readily. Keep them close for a few days, especially if the roots have been much disturbed, and damp them once or twice daily overhead; water carefully at first, taking pains to insure the old ball having its proper share, until the roots become established in the new soil. Attention at this season should be directed to the stock of plants intended to furnish the supply of bloom during the next winter, as it is requisite plants should complete their growth early for this purpose. Among Heaths, those which flower through the winter should be encouraged to complete their growth, as they are great favourites in most places; a considerable number of such kinds as E. hyemalis, Willmoreana, gracilis, vernix, regerminans, &c., should be grown. Continue Epacrises under glass till their growth is complete, but more air and light should be allowed them, increasing it as the wood becomes firmer; towards the end of the month they may be placed out of doors in any open situation, but where they can be protected from heavy rains. Balsams, Thunbergias, and other annuals intended to decorate the conservatory and show house for the next two months should be finally potted, using soil of a light and rich description. Keep down red spider with the syringe, and maintain the plants in good health. Thunbergias and other climbers should be neatly trained to their respective trellises as they advance. Kalosanthes and Calceolarias are now in full beauty. Watch the green fly, and fumigate on its first appearance. A few of the more forward Gladioli and other Cape bulbs, Lilium eximium, auratum, and lancifolium should be introduced to supply the places of Pelargoniums now on the wane. Brugmansias and similar plants of vigorous habit should be frequently assisted with manure water; as they are often troubled with the red spider, the engine or syringe must be constantly at work to keep it down, taking care, however, not to injure their fine foliage.

STOVE.

Besides the above, such stove plants as are intended to flower at the same time, including Justicias, Eranthemum pulchellum, Euphorbias, Jasminums, &c., should be looked at. Many of these plants, for reasons formerly stated, require to be kept in small pots, and such should be watered with liquid manure to grow them on without potting them into too-large pots. Others may have a shift, but they will bloom more freely by being kept rather under-potted. Several kinds of Gesneras are valuable for the same use, and should be grown for winter flowering. The last batch of Achimenes may now be potted and kept in a close frame for a late show of bloom. Encourage plants now established by liquid manure. Young plants growing into specimens will require constant stopping and tying-in to get them into proper form.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

The morning of June 25th was one of the most trying of the season, the frost having browned some of the best leaves of the Coleus, which we had exposed fully to harden off before filling the beds and lines at once with good-sized plants. Dwarf Kidney Beans also suffered a little, but nothing else seemed to do so, with the exception of a few leaves of Iresine Herbstii. We have done nothing in the kitchen garden, except routine work, providing for successions, and gathering abundance of Peas, and dwarf and Mazagan Broad Beans. We planted out some beds of large Celery plants in fine condition, raising them with large balls, and planting them in well-aired decayed dung and soil, the heavy showers enabling us to dispense with all waterings. The rains have done wonders for Peas, Cauliflowers, Cabbages, Lettuces, and Onions, the last of which, as well as Carrots, Parsnips, and Potatoes, seem as yet promising for the season.

FRUIT GARDEN.

Owing to a press of work we have not got on so far as is desirable with shortening and nipping the points out of the shoots of fruit trees. We netted Strawberries, as the birds are bad enough now, and will attack them more when dry weather comes. We have seen comparatively few blackbirds and thrushes since the rains, soft food in the shape of worms and molluscs being so plentiful in the meadows. Late Cherries had also to be netted, or the chance of gathering would have been small. The crop on walls has been very heavy. The crop on some dwarf standards, which used to bear heavily, has been next to a failure. For almost the whole time the trees were in bloom the flowers were either wet or slightly frosted, and in consequence most of the bloom, footstalks and all, dropped off. There was not enough of frost to injure them if the bloom had been dry. We find, too, that on some Apple trees which set their fruit very thickly, a good many little fruit have dropped, owing to the wet and cold. Melons have been very good after the change from the dull drizzling weather. A few hours of bright sunshine afford to fruit what no artificial heat can supply, though that and fresh warmed air judiciously applied can do wonders.

Peach trees with their fruit swelling have been rather freely watered with manure water or sewage. Peach trees ripening have had less water, but those from which the fruit has been gathered have had a watering, as it is desirable to have the wood more plump and well swelled out before submitting it to a drier more maturing process. There is a slight mistake near the bottom of the third paragraph, col. 1, page 463; the words "sound fruit" should be "thinned-out fruit." We had pretty well the scores named of ripe fruit at a gathering. The scores alluded to were those thinned-out previously, and they were few in number, as the imperfect setting in the dull weather rendered much thinning unnecessary. The improvement in the weather has told on the setting and swelling more freely of the Vines in the orchard house.

Unheated Glass Cases for Orchard Houses.—If not particular as to the time of the fruit ripening, provided you give plenty of water to the roots, and keep the shoots and leaves healthy and free from insects, you may leave air on night and day, and the fruit will ripen about the same time as, or just a little earlier than, it would do on the open wall, and with little extra trouble in management. We are now speaking chiefly as to Peaches, Nectarines, Plums, &c. If you wish to have very late fruit of these and the later Plums—that is, to come in after the fruit is gathered from the wall, then, after the fruit is set and swelling, not only leave on air when safe night and day, but slightly shade the house or have a double glass roof. We have not done so much in this way as we could wish, but that little convinces us that with a slightly shaded or double roof in the warmest months of summer, and a free circulation of air, we should find little difficulty in gathering Peaches and Plums a month or more later than we could have them from the open walls, and being defended from autumn rains, &c, the flavour would be vastly superior. When we wish to use our unheated glass case in order to forward our fruit, we must take a little more pains in regulating air, so as to take advantage of the sun heat. In sunny days most likely all the air-ventilators may require to be open from 9 A.M. to 3 P.M. in June, July, and August. If early rising cannot be depended on, it is safest to leave a little air all night; but then the house may be damped and shut up early in the afternoon, and a little air at top may be given in the evening. It is less the regular heat than the high temperature from sun heat that brings the fruit forward. Still, if the air can be given early, however little, in a morning, before the sun tells much on the house, the fruit will swell faster, if after the house is shut up, say between three and four o'clock, with sun heat, it remains shut until morning, as there is genc-

rally a considerable amount of air that will find its way into orchard houses independently of air-giving. There is no cause to be alarmed at a high temperature during the day from sun heat, if air is given early, to prevent the chance of the accumulation of heated, confined, scalding vapour. Providing the temperature rises gradually, fluctuates, and falls gradually, and there is no chance of confined heated vapour, there will be no danger. There is no heat so cheap as sun heat, and if you wish to hasten maturation by its aid alone you must make the most of it by giving less air morning and afternoon. Orchard houses that fall to 45° or 55° at night in June and the beginning of July, would rise with air given early, though not in abundance, to above 90° by midday; but other things, as moisture, attended to, there would be no harm done, and such a house damped and shut up before 4 P.M. would retain a good deal of warmth in the first hours of the evening. No inconvenience, but quite the reverse, is experienced in consequence of the plants having a great but safe difference of night and day temperature. The comparatively cool temperature at night relieves them, and presents them with more of their natural condition than if, as used to be in forcing houses, the night and day temperature were more uniform.

For the early ripening of Grapes in unheated glass cases, even when such early kinds as Hamburghs, Muscadines, and Sweetwaters are grown, it is best to make the most of the sun heat early in the summer. It is judicious to keep the houses as cool as possible in spring, with abundance of air, until the Vines have broken freely, but after that the more they are assisted with sun heat the sooner and better the Grapes will ripen, and the sooner they are ripened the better they will hang, if that should be desirable. Making the most of the sun heat in July would be of much more advantage than it would be to do so in September and later.

Where there are two orchard houses, and one with Vines as well as Peaches, it is best to make the latter the earlier of the two, as the shutting-in sun heat to forward the Peaches will be just what is wanted to forward and mature the Grapes.

In late vineries, where the fruit is intended to hang throughout the winter, it is now better to give fire heat in cold weather, so as to hasten maturity, instead of giving such artificial heat in the autumn when the sun is losing its power. The sooner such late Vines mature their fruit the better it will hang if a somewhat dry atmosphere be then maintained.

ORNAMENTAL DEPARTMENT.

We have now planted out our beds of Coleus, &c. We have already stated how some of the finest leaves were browned on a number of plants on June 25th. We question if they would have suffered so much if they had been planted out, instead of standing in pots to be thoroughly hardened-off. We have frequently referred to the fact that plants standing in pots are more likely to be affected by the extremes of heat and cold than those planted out. Hence, even on the outside of a cottage window, plants will thrive better and require much less attention, if planted out in a box—ornamental or otherwise—than they would do standing singly in pots. These Coleuses furnish a case in point. Wishing to have enough and to spare, we struck a good many late, four or five in a common 60-sized pot. Not wishing to be troubled potting them, we planted them out in a bed when struck, at about 7 inches apart, and placed some sashes over them for a few weeks; thus treated they soon made fine, bushy, dwarf plants. These have been fully exposed for more than three weeks—rather more exposed, in fact, than those in pots, but they suffered so little in comparison with the pot plants that we have left many of the latter alone, and supplied their places with some scores, we might say a few hundreds, of these rather smaller but better-coloured plants, raising them with good balls, as for this purpose they make masses of fibres as freely as a Calceolaria.

This simple fact also points to the importance of defending the pots of tender, and especially hardwooded fibrous-rooted plants—as Heaths, Epacrises, and Rhododendrons, alike from bright sun and low temperatures. A pit will thus be better than the open ground. Any simple material which will protect the pots, if not plunged, will also be of advantage. We have known some fine Rhododendrons in pots greatly injured by a bright sun beating on red pots, and thus burning-up the fine roots close to the sides of the pots. When such pots are left too long unprotected out of doors, much injury is often caused by the burning of the roots. Azaleas and Camellias often suffer from the roots being frosted, from the plants in pots standing out of doors too late in the autumn, and then there are endless inquiries as to the cause, when flower-buds fall or shrivel-up.

But to return to the Coleus. What beds we made we filled-up at once with strong bushy plants, and we hope they will be all right for the season. Four are edged with the white-leaved Centaurea, and four with Polemonium cæruleum variegatum. We do not like to do, and undo, and do again, but we did so in the case of the Polemoniums. They had been planted five weeks, but unfortunately, too far—15 or 18 inches—from the grass edging, and they were also planted quite high enough. Our general distance of edgings from grass is 1 foot, and this brings the plants quite close enough to the grass long before the season is over. Thinking it over, and finding no plan better, we raised these Polemoniums and planted them deeper and nearer to the grass lawn. Besides the labour, there was no other difficulty, as the plants had rooted well, and could be lifted with large balls, and when watered showed no signs of their being moved. Such things must be done at times, however undesirable, as, if these Polemoniums had been let alone, the autumn would have come before the fine foliage had covered the earth between them and the grass, and half the beauty of the beds would, therefore, have been destroyed. These beds lend a great charm at once to a composition group, as before they were introduced the masses of yellow Calceolaria were rather too obtrusive. We shall even now have too much of yellow and orange until we have more bloom on masses of scarlet, and pink, and various-coloured Geraniums, which will not be what they ought to be until we have a little more bright weather. The rains have done much in exciting free growth in Geraniums, but as we plant rather thickly, what we want is more massive bloom. The rains have just suited the Calceolaria, and though many blooms were washed off, there are still fine masses and plenty of bloom-heads showing. To our eye there is nothing that makes-up for the want of Calceolarias in a composition group. There would be fewer failures if it were borne in mind that no amount of bright sun will injure them if the roots are kept damp and cool.

As soon as the ground shall be a little warmer we shall endeavour to mulch our Calceolarias, as by this means with the least, or a minimum amount of watering we shall secure comparative coolness and moisture at the roots. Our plants did well all through the dread dryness of last summer when much watering was with us out of the question, and we attribute their flourishing almost entirely to the mulching and the frequent breaking of the surface of the mulching with a hoe. The mulching was chiefly half-rotten dung and leaves broken rather fine with the points of a fork. This does very well for the middle part of beds, but for the outsides the material should be more decayed and be sifted through a coarse sieve for neatness, and if a little lime and soot be added birds will not care so much to scratch it about in search of worms.

We went on with potting, regulating, changing, cutting-making, &c., as indicated in previous notices. The frost made sad blanks among established plants of Cloves, and Carnations so useful to cut in armfuls, but Pinks well established have been very useful. We must put-in a lot of pipings or cuttings. Large pieces with a space of the old wood will strike in a shady place if time be given. Small pieces with a joint or two from the top will strike freely in sandy soil under a hand-light. Oiled paper as a cover does well. For such cuttings we save labour and time by rarely using a knife. Take hold of the shoot of the Pink or Clove, near its base, with one hand, so as to hold it steadily, catch the upper part about the second joint firmly with the other hand, give a sharp pull, and out comes the cutting clean from the joint or node, wanting nothing in general but to be dibbled in and receive a little protection. The cuttings, cleaner at the bottom than made with a knife, can thus be taken in as short a time as the process is described.—R. F.

TRADE CATALOGUES RECEIVED.

James Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, London, S.W.—*Catalogue of New and Beautiful Plants.*

Joseph Meredith, The Vineyard, Garston, Liverpool.—*Catalogue of Stove and Greenhouse Plants, Bedding and Ornamental Plants, &c.*

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All

communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Abnormal Mimulus (*J. R. G. G.*).—We never saw one similar. If propagated from, the progeny would probably revert to the normal form.

Herbal (*Cheshire*).—There is no herbal with coloured plates such as you name.

Who is a Cottager? (*Gorm's House*).—"What is a cottager? Does any person living in a cottage, and occasionally employing skilled labour, come under this head?" Certainly not. When a committee of a local horticultural society offer a prize or prizes for cottagers to compete for, they mean those who are not gardeners, and who earn their living by manual labour, and cultivate their gardens by the aid of their own families only.

Seedling Roses (*H. Curtis & Co.*).—Your blush Hybrid Perpetual Rose, Bessie Johnson, is very fine, very vigorous in growth, and certainly is well scented. We much admire also the seedling from Charles Lefebvre; in colour it equals Général Jacqueminot, in doubleness surpasses it. Whether it equals it in other excellencies, of course we cannot say.

Crystal Palace Rose Show.—Three of the first prizes for amateurs were won by R. N. G. Baker, Esq., Salutary Mount, Heavitree.

Petals of Roses (*J. F. K*).—See what we said last week about the Pot-pourri.

Variegated Ash (*W. French*).—Your specimens are nicely variegated, but we have seen the leaves of the Ash tree even more variegated—almost white—after a severe winter. There is already a permanent variegated variety to be had in the nurseries.

Replacing Picea Nordmanniana Leader (*Sigma*).—We should train one of the side shoots erect, choosing the strongest and most likely to form side shoots. It is probable that the tree would in a year or two form another leader, which is far preferable to a lateral or side branch, which at best is little more than a branch, and does not put out side shoots all round like a leader, but on two sides only. However, train up a side shoot, and if another leader be formed you can remove the branch, while if no leader be formed you will gain time.

Pelargonium Treatment (*J. B. S.*).—Place the plants out of doors in an open but sheltered situation, and water sparingly. In the second week of August cut back all the shoots to within two or three eyes of their base, and the second week in September shake the plants out of the pots, and place them in others a size less. Place them in a cold frame with a moderate amount of air, and shade for a few hours if the weather be bright. Remove them to your house at the close of September, and place them near the glass, giving abundance of air. For flowering at the end of May they should not be stopped after the last week in April. You will find full particulars in "Florists' Flowers for the Many," free by post from our office for five stamps.

Select Double-flowered Pelargoniums (*T.*). — Camelliæflora, Victor, Wilhelm Pfitzer, Victor Lemoine, Madame Lemoine, Cottingham or Double Tom Thumb, Abundance, Vanguard, C. Glym, Grenadier, Dauntless, and Cavalier.

Sowing Seeds of the Fir Tribe (*Idem*).—Sow them in March in good rich loam, sandy rather than heavy, and in pans well drained, covering the seeds with fine soil to a depth equal to their diameter. Set the pots or pans in a cold frame in a shady place, but not under trees, or the position may be sunny if the lights are brushed over on the inside with whitening and milk. Keep them just moist, and when up admit plenty of air. The hardier and common kinds are best sown out of doors in sandy soil in a sheltered position.

Wintering Plants in a Cold Pit (*F. G.*).—Of the plants you name, Camellias, Begonia Veitchii (probably quite hardy), Daphne Fortuni (also hardy), may be wintered safely in a cold pit, and the Grevilleas, Daphne indica, and Mesembryanthemums of the hardier kinds, may be wintered there with protection in severe weather. The Paulownia imperialis does not flower either from the wood not being sufficiently ripened, or your climate being too cold. Perhaps if it were planted in warm, well-drained soil the wood would be sufficiently ripened for flowering. If you were to take it up and plant it in a tub, that would probably induce flowering. Roses of the Hybrid Perpetual class are best struck without heat, taking ripe shoots just after flowering, or early in July, when the flowering is over, placing them singly in small pots, and setting them in a cold frame, where they should be kept close, shaded, and sprinkled with water every morning. These will be rooted in about six weeks; then admit air, gradually harden off, and transfer to larger pots in September.

Plant Habitats (*R. G.*)—Croton variegatum, nat. ord. Euporbiaceæ, East Indies. Chamærops humilis, nat. ord. Palmaceæ, South of Europe. Phœnix reclinata, nat ord. Palmaceæ, Cape of Good Hope. Sabal Adansonii, nat. ord. Palmaceæ, Florida. Cissus discolor, nat. ord. Vitaceæ, Java. Maranta zebrina, nat. ord. Marantaceæ, Brazil. Anthurium cordifolium, nat. ord. Orontiaceæ, Brazil. Musa Cavendishii, nat. ord. Musaceæ, China. Phœnicophorium sechellarum, nat. ord. Palmaceæ. The Musa is probably vittata, having white stripes or bands on the leaves. It is very fine. It is from tropical Africa.

Acorn Growing over Water (*J. W.*).—We presume the radicle or root is already in the water, and that it is the shoot that nearly reaches the cork of the bottle. If so, remove the cork and allow the shoot to grow upwards, placing some charcoal in the water to keep it sweet. If you wish to keep the plant any length of time, it will be necessary to take it out and pot it in loam.

Woodlice in Garden (*J. R.*).—We do not know of anything that will so effectually clear a garden of these pests as a few bantam fowls. It is necessary to have them with their claws in "boots" of leather, so as to keep them from scratching. Toads are the next best destroyers of woodlice. We know no wholesale mode of destruction.

Vine Leaf Yellow (*B. H. Margetts*).—On the leaf enclosed to us there is no trace of mildew or insect pests, and we think the leaf has simply assumed its sere condition by the stopping of the channels of the leaf-stalk. It is not uncommon, and you have nothing to fear on that account. From the size of the leaf we think your Vines are very healthy and have good treatment.

Pinus austriaca Seedlings Damping-off (*Somerset*).—The plant sent to us is "black-legged," or damped-off, from want of air and too much water, and probably the plants are crowded. Remove them at once to a cold frame, and in a few days place them outside. It is the hardiest of all Conifers, thriving where no other will. The leaf of Gloire de Nancy Geranium is perforated in consequence of some injury which it has sustained in a young state, and the hole becomes larger from the growth of the parts surrounding. The beetles are not of a kind injurious to garden plants, and we only name such.

Grub on Asparagus Stems (*D. H.*).—It is the grub of the Asparagus beetle (Crioceris asparagi). The stems of Asparagus are robbed of their bark, and the future produce of the plants proportionately weakened, by this small, brightly-marked beetle, of which we give a drawing, showing it of its natural size and magnified. The Asparagus beetle is rather more than a quarter of an inch long; prevailing colour blue-black, upper surface of thorax red, antennæ black, wing-cases edged with orange and varied with cream-coloured and blue-black marks. This beetle is found upon the stems of Asparagus during the summer and until September. The eggs, which are oval and slate-coloured, are fixed by one of their ends to the young spray of the Asparagus. The grubs are soon hatched from these, and are fleshy, greyish green, gradually thickening towards the tail, marked with black spots, and having black legs. They feed on the bark of the spray. As soon as full-grown, after shedding their skin several times, they bury themselves in the earth of the Asparagus bed, forming a parchment-like cocoon, in which they remain, for the most part, throughout the winter, and the beetle comes forth from the cocoon in June. We say "for the most part," because we incline to Mr. Westwood's opinion, that some of the beetles live through the winter. One was found in our garden during May, long before any Asparagus shoots appeared. Dusting the grubs with white hellebore powder destroys them; but it should be applied very early in the morning, whilst they are moistened with dew.

Fruit of Cydonia japonica (*K. L.*).—It is eatable and not injurious, but very unpalatable.

Size of Savoys and Borecole for Planting (*Idem*).—We should not like them more than 6 or 8 inches high before planting out, but if you cannot plant them for some time yet, we would take them up and replant at twice their present distance apart, and the check consequent on removal, with the increased distance, would do much to keep them stiff. It is well to move them with balls wherever it can be practised.

Lapageoia rosea and Ficus elastica Propagation (*C. M. Major*).—The Lapageria rosea is very difficult to strike from cuttings, and is best raised from seed; indeed, plants from layers or cuttings are too uncertain in growth to be of value. Sow the seed in spring in peat, in a hotbed, keep the soil wet, and when the young plants are well-established remove them to a warm greenhouse. Ficus elastica cuttings root freely, also layers, but cuttings are preferable. We usually cut our plants down in spring, and make the shoots into cuttings, taking off the growing point with about three leaves, remove the lowest leaf, cut transversely below that, and then insert the cuttings in two parts sandy loam, one part sandy peat, and one part silver sand, in small pots, tying the leaves together with a view to taking-up less room. The remainder of the shoot cut into lengths of two joints each, remove the leaf from the lowest, and insert singly in 3-inch pots. Place the cuttings in a bottom heat of from 75° to 80°, cover them with a hand-glass, and keep close, moist, and shaded until rooted, which they will be in about three weeks. When the pots are filled with roots shift the plants into a larger size, and in a short time you will have good plants. Now is a good time to put in the cuttings. They strike best with a leaf attached. Eyes strike freely enough if put in like Vine eyes, and placed in brisk heat. They are longer in making plants than cuttings.

Aspidistra lurida variegata Treatment (*A Subscriber*).—It is a greenhouse plant, and does well in a compost of equal parts of light loam, leaf-soil, and sandy peat, with good drainage. Afford it a rather shady position, a good supply of water when growing, and keep it rather dry in winter.

Parsley Fern Culture (*Idem*).—The cause of your not succeeding appears to be the soil. Provide for it a somewhat elevated position in the rockwork, forming it of limestone, and give a compost of two parts peaty soil, limestone, and one part of yellow loam, with one part of limestone broken and intermixed. Water freely in summer, and afford shade from sun. If you grow it in a pot, use the compost above named, keep the plant in a shady part of a cold house, and admit air constantly.

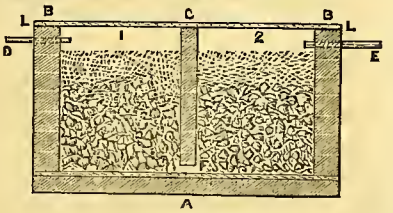
Brine of Pickled Pork (*H.*).—It will be an excellent application to your Asparagus and Sea-kale beds, but as it is saturated with salt you had better put four gallons of water to each gallon of the brine.

Taking Water from a Stream (*W. K.*).—As the stream after passing through your field turns the wheel of a flour mill, you cannot legally interrupt the flow of water so as to prejudice it as a motive power for that mill. There is no equitable objection to your taking water from the stream to water your plants, if not taken in such quantities as to diminish the stream.

Plants' Leaves Turning Yellow (*L. L.*).—We should be better able to answer if we knew the aspect of the greenhouse, whether the sun has free access to the roof or front between the two dwelling-houses. If there

is not a pretty free admission of sunlight, we think your thick-rolled non-transparent glass for the roof was a mistake, and if so, you will have to be satisfied with fine-foliaged plants, Ferns, &c., instead of flowering plants. If the aspect is good, is there nothing wrong in the paint, heating, or early air-giving?

Tanks and Filters (*H. F. M.*).—For your tank under ground, 10 feet long, 5 feet wide, and 5 feet deep, we would not advise you to have less than a 9-inch brick wall, and laid in cement, as well as plastered over with cement, having a portion of clean rough sand mixed with it. If water were a great object we would make the tank larger. You will not be so secure unless you lay the bricks in cement, but the joints may be as thin as you please. The great point in such work is to use hard-burned bricks, and not to lay any of them until they have been soaked in a tub of water for a few minutes after every air-bubble has been spent. Before cement plastering the inside let the bricks be damped again, so that the cement may catch the bricks firmly at once. After being finished it is as well that the tank should stand a few days before the water is admitted. From its being underground there will be no danger of frost injuring the tank; the water will be very clear if filtered, but if it be shut out from all atmospheric influences it will for a time be rather hard for domestic purposes. The filtering is entirely for securing purity and clearness; and for tank purposes and rain water from buildings two filters are better than one. It is no disadvantage to have a large filter, except that the water must stand in it before it goes to the tank. For your tank we should say that from 20 to 24 inches each would be enough, but the larger the filters the more seldom will they want cleaning. The filter thus made is just a little tank divided in two. A would be the base of the filter, laid one brick and tile thick in cement. B would be the end and side walls, at least faced with cement; we would prefer laying and facing in it. C would be the division, brick-on-bed, and there would be little use in laying that in cement. At the base of this cross wall, if from 20 to 30 inches across, there should be three openings at the bottom, say of 4 or 5 inches each, so that the water should pass freely from No. 1 to No. 2. Place these filters in the handiest position as respects the tank. Having finished the walls, commence with No. 1 division, and place some clean pebbles and stones at the bottom, piling them up, but lessening in size as they come near the surface, and at the surface use only clean-washed pebbles and gravel. One reason for having these fine is, that by lifting the stone or slate covering—best if there is a cover for each division—you can remove and renew this fine surface without disturbing the rest of the filter. The water entering from the roofs of the houses by the pipe D, discharges itself into filter 1, and passing down rises again to its level through the openings in the dividing wall, C, into filter 2. This filter 2 should have the clean stones smaller, and for a third of its depth near the top should consist chiefly of finely-washed shingle and clean charcoal free from dust. Lumpy clean charcoal should at least equal the quantity of stones and pebbles in this second division. All this is easily done when the well-washed materials are handy. But for the desire expressed we should not have deemed such details necessary, yet we know of many cases where tanks have been made, and great complaints have also been made of the dinginess of the water from sooty roofs. A little additional expense for a double filter would have saved all such complaints. If in the course of time the filters become dirty, there would be no great labour in taking out all the filtering materials, washing them, and replacing them, with the addition of a little more clean charcoal lumps. It will at once be seen that in a brisk shower the water pours into division I, passes through the openings at the bottom in the dividing wall, C, rises through the stones, shingle, and charcoal in division 2, and passes clear and pure by the pipe, E, into the tank. As to the size of the tanks, we generally under-estimate the water that falls on roofs. In the generality of cases, if it could be saved, it would suffice for the wants of the inmates of the house. (*An Amateur*).—See the preceding answer. Of course that applies to filtering roof water for a rather large tank. For smaller reservoirs smaller filters would answer. We do not know exactly what you want. For mere domestic purposes, where only a small quantity of clear water would be required, a large earthenware vessel, with a cover to it and a tap near the bottom, or even a nice clean barrel, would suffice; but in either case the packing of the interior must be done on the same principle as that recommended for larger filters—the rougher materials at the bottom, and the smaller, clean shingle and washed charcoal near the surface. Unless the water is very sooty or muddy, such will act a good time without requiring cleaning. For a larger affair, where brick would be cumbersome, strong wood lined with zinc or lead might be used. Many underground filters are made with brick and good mortar, and then lined with cement. The plan recommended is, however, the best.



L, L, surface level.

Vines Infested with Red Spider (*E. S.*).—The Vines being much infested we advise you to heat the flue to a temperature of 160°, and then paint it with a composition of sulphur brought to the consistency of thin paint with a solution of 2 ozs. of soft soap to the gallon of water. Choose a calm evening, shut up the house, apply the composition with a brush, doing it well, and two or three times over, so that fumes of the sulphur may be given off, and unless they be so offensive to the lungs as to drive the operator out of the house, they will not destroy red spider. It is well to let the flue gradually cool after keeping it for an hour or two at the temperature named, and in the following morning give a thorough syringing. We should continue the syringing until the Grapes show colour for ripening. Syringe, therefore, forcibly with clear rain water every evening. The best mode of lessening the drying influences of hot air or flues is to have the cover of fire-tiles dished in the centre about an inch to hold water, and that mostly gives off moist heat sufficient to keep down red spider and thrips. You might have galvanised troughs made to be on the flue, and keep them full of water. If 3 feet long, the width of the flue, and 2 or 3 inches deep, they would be sufficient for the purpose if placed 6 feet apart.

Melon Blossoms (*T. M.*).—The female flowers will require your aid to be fertilised.

Nectarine Leaf Discoloured (*G. S.*).—The shining whiteness of the leaf enclosed seems to be a result of the cold sunless weather we have so long had. We have seen several such leaves, and consider the cause to be their development in very dull weather and a moist atmosphere, and the sun breaking forth and changing their colour. Had they been directly opposed to the sun's rays they would probably have been browned—in fact, they generally assume a brown appearance afterwards. Nectarine leaves are more subject to this loss of colour than those of Peach trees. It is not injurious to the trees.

Camellias and Azaleas not Flowering (*H. L. B.*).—The dry heat in winter, unless excessive, would not cause the Camellias to cast their buds, but this evil may have been a result of too little or too much water at the roots, and not unlikely of an inactive state of the roots. The Azaleas could not flower as they had no flower-buds, owing to the non-ripening of the wood. Continue both in the cool house, and afford abundance of air. They will ripen the wood better and be more likely to flower than if they were placed out of doors this cold wet season. The Eugenia Ugni should be kept in a light airy position in a cool house, and have a moderate amount of pot room; indeed, it should be under rather than over-potted. The main point is to secure the ripening of the wood, and for that an abundance of air and light are necessary. The petals of the Roses had all fallen, but we cannot name florists' varieties. They are too numerous.

Tacsonia Van-Volxemi Seedlings Torpid (*E. T. M.*).—The cause of the seedlings not growing is evidently their not being potted-off from the seed-pans until they were 6 inches high, and then into 5-inch pots. They have received a check. Place them in a bottom heat of 70° to 75°, and continue them there with but little water until they begin to grow, and then water so as to keep the soil moist, but let it be dry before giving any, and then afford a good supply. After they have roots reaching the sides of the pots and are growing freely, gradually withdraw them from the hotbed, and harden them off, removing them to the conservatory again, and plant-out in a well-prepared border.

Various Plants (*Idem*).—*Dipladenia amabilis* is a stove twiner, and requires a compost of three parts turfy peat, one part light fibrous loam, half a part each of charcoal, in pieces from the size of a pea to that of a hazel nut, and silver sand, the whole well mixed. Good drainage is necessary. Water the plant abundantly in summer when growing, but in winter keep dry. *Spiræa japonica*, after flowering, should be planted out in good rich soil in an open position, and be well supplied with water in dry weather until the foliage turns yellow, or plunge the plants in the pots in an open situation, and water abundantly in dry weather. *Ixora coccinea* is a stove plant, and does well in a compost of equal parts of sandy fibrous peat and fibrous loam, and one-sixth each pieces of charcoal, broken pots or crocks, and silver sand. Water freely when growing, but keep rather dry in winter. No plants are more benefited by a gentle heat when commencing to grow than are these plants. *Lasiandra macrantha* is a greenhouse or cool stove plant, doing well in an intermediate house. It needs a compost of peat two parts, and one of sandy loam, good drainage, and a good supply of water when growing, and to be kept moist at all times. It is a tall leggy subject, and inferior in every way to Lasiandra macrantha floribunda, one of the finest and freest-flowering of greenhouse plants.

Plant Leaves Mottled (*W. C. H.*).—The Camellia leaf is variegated, a not uncommon occurrence when the roots are in an unhealthy state. It is due to bad drainage or too much water. The other leaves are probably mottled from the plants being kept in a very close atmosphere and very moist, and the sun shining upon them whilst wet causes the discoloration. It may, however, be a result of the late cold weather; it being very dull and cold for weeks, the juices of the plants are ill-elaborated, and are not able to withstand the fierce rays of the sun. Perhaps a little more air, and especially in the early part of the day, would afford a remedy.

Extra Working (*B. B. D.*).—With only one man you must have been worked off your legs to manage such an increasing place, and if you did all that extra work without extra remuneration you are both to be pitied and blamed; to be pitied because you became such a slave to your own enthusiasm, and to be blamed because you did the labour that ought to have devolved on two or three more. We do not think that such long hours of continuous labour as you have had benefit anyone in the end. There are plenty of proprietors who will put up a little extra glass, or enlarge pleasure grounds, if the addition cost them no more to keep up during the year. The gardener who under such circumstances doubles his work, acts with his eyes open. Before he recommends such improvements and additions he should first count the cost to himself, instead of grumbling at being killed with work afterwards. You erred in not seeking help, and we should not be at all surprised if the person who succeeds you do not obtain much, if not all, the help you asked for. If you laboured so hard, and for so many hours, you were doing an injustice to yourself and your brother workmen. With regard to your furnishing most of the plants in the houses, conservatory, &c., the recent decision of a police magistrate will make many think seriously on the whole question of borrowing and lending cuttings, &c., among gardeners, but it will be a sad thing when a neighbourly feeling among gardeners is lessened, even in this respect. However, the tendencies of the times seem to point to the propriety of this giving and receiving being done more sparingly. It, to a certain extent, interferes with the work and trade of the regular dealer. What costs a proprietor little is too often little valued. Whatever is thus obtained becomes at once the property of the proprietor. We have met with instances of men who, like our correspondent, had to leave collections of their own gathering without a word of acknowledgement, and whilst many sympathised, there were not wanting others who roughly muttered. We cannot but come to the conclusion, that for the bulk of plants wanted in a garden, it will be most satisfactory to all parties to go to the market, and more especially as from the severe competition everything, except novelties can be obtained on such cheap terms. We hope our correspondent will be more fortunate in his next place.

Manure from Earth Closets (*R. H.*).—It is not necessary to keep the manure, but it is well to mix it with four or five times its bulk of soil or ashes, and then apply it to the ground, digging it in before planting. The preferable plan is to apply it to the ground before digging, then dig it in, and before planting turn over the ground with a fork. The maggot you

speak of is not produced by the manure, nor is this more insect-favouring than any other kind of manure. The maggots are, no doubt, those which occur in smbury, so destructive to the Cabbage tribe. The best remedy is salt at the rate of about 1 lb. per square yard applied a few days before cropping. For sowing and pricking-out Broccoli, Cauliflowers, &c., the ground should not be rich from recent manuring, as it is apt to cause damping of the stem, or "black-legging," and undue luxuriance instead of a stiff sturdy growth.

Ants on Lawns (*Constant Reader, J. S.*).—To drive away the ants we advise you to give the lawn a dressing with guano at the rate of 2 cwt. per acre, and on the hillock sprinkle a little of the same, as much as can be held between the thumb and two forefingers, and if the hillock is large twice that quantity. They may be destroyed by pouring into the hillocks spirit of turpentine diluted with six times its volume of water.

Caterpillars on Gooseberry and Currant Bushes (*Mary*).—Dust over them fresh white hellebore powder, and next day syringe the trees. Two or three applications will be needed to subdue them.

Name of Plant (*D. M.*).—Bougainvillea spectabilis.

POULTRY, BEE, AND PIGEON CHRONICLE.

POULTRY-KEEPING UNDER DIFFICULTIES.

No. 2.

In recounting my earlier poultry experience, as I did the other day, it is strange even to myself how vividly bygone times and scenes revive upon the mind, and how even the individual birds that at various times stocked the yard of my brother and myself, live their short lives over again, and take me back to be once more a schoolboy with my fowls. I mention it chiefly, because I am inclined to think that if I know anything or care anything about poultry now, it is greatly owing to the fact that I have hitherto always had to be my own poultryman, and have all my life known my birds almost as I have known my friends. I do not undervalue the help of experienced poultry-managers, many of whom it is a real pleasure to me to know and talk with, and whose assistance I would gladly avail myself of were it possible; but I think sometimes that the individual who is compelled to do without such aid, has an indescribable pleasure connected with his fowls which the more fortunate proprietor does not possess. They become almost dear to him, and there is a higher kind of pleasure in having birds perfect of their kind, when year after year you have bred them yourself, mated them yourself, fed them yourself, and, in fine, stamped your own views and individuality upon them. Perhaps from want of means or knowledge you began with only middling stock; then there is a rare fascination in looking over the broods year after year, and seeing how your care and skill are rewarded by the perfecting of beauties, and the banishment of defects, till at last your yard becomes one of the recognised sources for obtaining the best stock in the kingdom. It is in the true sense *your work*, and it may be carried on, and may become known and acknowledged entirely apart from exhibition; for it is a well-known fact that some of the best birds are never shown. It is this spirit I would, if I could, seek to cultivate. I care little about getting more people to try to win prizes, but I care a great deal about getting more to keep and love fowls, and my object in the present two or three papers is to prove that anyone may keep them.

Some of the birds in my schoolboy days were pets indeed. There was one, in particular, which somehow got stunted while with the hen, and never grew much larger than a Bantam. I have never in all my life seen another bird so tame. Some of the elder branches of the family looked upon our poultry-keeping in general as rather a nuisance; but everyone had a kind word for little "Brownie." She would jump up on anyone's finger to be fed, and, indeed, rarely fed in any other way; but for myself her affection was unbounded. Being small she could fly like a bird, and she always did fly whenever I came in sight, making a "dead shot" at me wherever I was, and always alighting on my shoulder. She was an exemplary mother to her own chicks, but a regular little vixen to all besides, and to her sister fowls as well, whom I believe she thought were trying to supplant her in her monopoly of affection. At last she got drowned, which saved us the pain of deciding what to do with her; for it is the worst of having individual pet fowls—no one can bear to kill them. They may become old and unprofitable—no matter, you cannot kill a thing that comes every day to eat out of your hand. For this reason, while I would hae study, and personal interest, and always kindness, I would strongly advise everyone not to make especial pets of his fowls. Pets and profit, in limited space at least, rarely go together.

The limited space, however, brings me back to my small garden, in which my poultry-keeping has now been six years carried on to my benefit both in mind and body. Before that, myself and "Mrs. Nemo" kept our fowls, as in my boyish experience, in a stone-paved yard, and I may say with the same success. They cost us almost nothing, for the potato peelings and kitchen scraps, with a very little sprinkling of meal, were all they needed, and even the chickens cost little more. But I soon became tired of the mongrels we commenced with. I had once had pure-bred Cochins, and the fancy revived again, so we tried first Hamburghs, and then Spanish. The Hamburghs did not do well on account of the confinement, and the Spanish I had not patience for, their faces were such a never-ending trouble and anxiety. So I sold off both at pretty fair prices, and, having been many months studying, and daily more admiring the breed, I determined directly after our removal to keep Dark Brahmas. Had I then had any conception of the celebrity my strain would attain, I would have endeavoured to have secured a house with more ground, but my object at that time was simply in the first place eggs for the table at a low price, and in the second, an out-door recreation, which should benefit my very indifferent health without, if possible, costing money.

I thought at first half our garden might do, and I am sure "Mrs. Nemo" hoped so, but our first success at exhibiting spoilt us, and next season we took up literally every inch of ground. The consequence was, that with really much better birds, for some time I could never win again, the birds being overcrowded, and having no chance to get into condition. For instance, one of the best hens I ever had was hatched from my first stock the first breeding season; but I never could get more than a high commendation for her, though she bred all my best chickens for three years; but when I sold her last year, though then four years old, she won a first prize within six weeks. This has repeatedly been my experience, and I would impress, therefore, on all who may be in similar circumstances, that in such limited space prizes can only be secured by rearing comparatively few chickens. Higher excellence and greater real reputation amongst fanciers may be obtained by rearing more; but unless some friend in the country will co-operate, most of the honours of exhibition must be foregone. An exception may, perhaps, be made in favour of red, brown, or black fowls, such as Spanish, or Partridge Cochins; but as regards any breeds in which white forms a part of the plumage, I do not think more than a dozen or so can be reared to be shown with credit. Competition now is closer than it used to be, and birds that would have won even ten years ago, will not win now. Not only perfection in points, but faultless condition are now necessary, and it is in these small yards chiefly fail. In actual quality I believe they usually surpass the larger ones, perhaps for the reason that the confined space allows of closer study and more careful mating; but in show condition they can rarely compare. For this nothing is equal to grass, and the shade of living trees.

I say all this because I would by no means raise false hopes in anyone. If I were asked, What can be done in such a space as I named the other day? I certainly do not pretend that the leviathan breeders and exhibitors can be competed with in all respects; but with care and study, one of two things generally may be done. By keeping only one first-class breeding pen, and devoting all the other space to grass and chickens, and setting all your own selected eggs, a few birds may be annually reared, which shall carry off honours at the best shows with any competitors; or, on the other hand, by giving up exhibiting, except in rare cases, and devoting the space exclusively to the greatest possible amount of produce, a strain may be speedily established of such a quality that the best breeders shall be glad to secure stock from it for their own yards at high and remunerative prices; and one or two shows annually shall give sufficient honours to dispose of all surplus eggs and stock to general purchasers. I say either of these may be done; it does not of course follow they will be, for there is a natural "faculty" in breeding fowls, and some people do not seem to "have it in them" to really learn the secrets of any breed at all. But a love for the pursuit—a fondness that can survive disappointment and disaster, will generally command success, and will produce better specimens in a few years from very ordinary stock than mere money can do from the very best birds that are to be procured. The hobby, therefore, need not be an expensive one as some imagine, even at the commencement; whilst judgment will almost always make it remunerative in

the end. But I have again reached the end of my tether for this week.—L. Wright.

ELY POULTRY SHOW.

A very liberal prize schedule of this Show called for a response from most of the principal breeders, both of poultry and Pigeons, in the kingdom. The arrangements of the Honorary Secretary, Mr. Holden, were complete, and it would be a difficult task to name a show that was carried out more satisfactorily; the tent afforded ample space and light, and what was of far greater importance, complete protection from the rain that fell in torrents early in the morning; still every pen was perfectly dry, and as there was bright sunshine long before midday, this year's Show will be one of the most successful ever yet held by the Society. The attendance of visitors was remarkably good. Lady Adeane very kindly gave an additional prize for the best pen of any description of poultry exhibited, and no less than fifteen of the first-prize pens competed very closely for it. The trial between the best four pens, respectively Duckwing Game fowls, Black Spanish, Golden-spangled Hamburghs, and Golden-pencilled Hamburghs, was unusually close. As will be seen, the pen of Duckwings was the successful one; it was shown in faultless condition by Mr. Matthew, of Stowmarket. Mr. Russell Hall, of Cambridge, and Mr. Jeffries, of Ipswich, were respectively exhibiting Game fowls and Game Bantams that might serve as examples of condition to any of even the most practised breeders. In the *Hamburgh* and *Poland* classes Messrs. Beldon and Pickles proved the closest of antagonists, adding much to the public interest of the meeting, as so perfect specimens of these breeds seemed but little known in the district. The result was, the prizes thus severely fought for were pretty closely divided. Strange to say, the Grey *Dorkings* were exceedingly poor, but a few pens of White ones made ample amends. Some capital *Crève-Cœurs* were on view, and were here evidently regarded as novelties. The Cambridge *Turkeys* were grand as a class, but the water fowls, particularly the "Fancies," were, as might be expected, in the worst of show trim.

The *Pigeons* showed to great advantage in Billott's well-known exhibition pens; all the highest classes were well filled, and a few very well-shown Toy, Ice, Hyacinth, and Spot Pigeons added greatly to the attractions of this division of the Show.

Although no prizes were offered for *Rabbits*, Himalayan and Angoras could not be better represented.

Dorkings.—*Coloured.*—1, E. W. Southwood, Fakenham. 2, H. Yardley, Birmingham. *c*, G. S. Hall, Ely. *Any variety except Coloured.*—1, W. J. Woodhouse, West Winch, Lynn. 2, Rev. F. Tearle, Gazeley Vicarage, Newmarket.

Game.—*Black-breasted or other Red.*—1 and 2, S. Matthew, Stowmarket. *hc*, F. R. Hall, Cambridge; H. E. Martin, Fakenham. *Any other Variety.*—1 and 2, S. Matthew.

Cochin-China (Buff).—1, H. Yardley. 2, No competition.

Crève-Cœurs.—1, J. J. Malden, Biggleswade. 2, Rev. N. J. Ridley, Newbury.

Game Bantams (Any variety).—1 and 2, W. B. Jeffries, Ipswich. *c*, F. Richardson, Chatteris; W. J. Reader, Ely; W. J. Woodhouse.

Bantams.—*Sebrights, Golden or Silver.*—1, G. F. Hodson, North Petherton. 2, H. Yardley. *White.*—1, H. Beldon, Goitstock. 2, Rev. F. Tearle. *Any other Variety.*—1, S. & R. Ashton, Mottram. 2, H. Beldon. *hc*, H. Pickles, jun., Earby; C. Reed, Cambridge; A. Storrar, Peterborough; Rev. F. Tearle.

Hamburghs.—*Golden-spangled.*—1, H. Beldon. 2, H. Pickles, jun. *c*, Miss C. E. Palmer, Farnborough. *Silver-spangled.*—1 and *hc*, H. Pickles, jun. 2, H. Beldon. *Golden-pencilled.*—1, H. Pickles, jun. 2, W. K. Tickner, Ipswich. *Silver-pencilled.*—1 and 2, H. Pickles, jun. *hc*, H. Beldon. *Black.*—1, H. Beldon. 2, No competition.

Polands (Golden or Silver).—1 and 2, H. Beldon. *hc*, H. Pickles, jun.; W. K. Patrick, West Winch (2).

Spanish.—1, H. Beldon. 2, C. Howard, Peckham. *hc*, J. Woodhouse.

Brahma Pootra.—*Dark.*—1, H. Beldon. 2, J. S. Dew, Gamlingay Mills. *hc*, W. Mansfield, Cambridge. *Light.*—1, H. M. Maynard, Holmewood, Ryde. 2, Rev. N. J. Ridley.

Any other Variety.—1, T. Nash, Carlton (Silks). 2, H. Yardley (Cuckoo Polands). *hc*, C. Howard.

Selling Class.—1, R. W. Smith, March (Partridge Cochin). 2, W. King, jun., Bottisham (Coloured Dorkings).

Turkeys (Cambridgeshire).—1, G. S. Hall, Ely. 2, Rev. N. J. Ridley. *hc*, H. Dey, Waterdon, Ely.

Ducks.—*Rouen.*—1, J. Goodliffe, Stilton. 2, T. F. Upsher, Sutton. *Aylesbury*—1, C. Tunnrall, Whittlesford. 2, H. Taylor, Soham. *Any other Variety.*—1, S. & R. Ashton, Mottram (Garganeys). 2, G. S. Hall (Mandarin). *hc*, J. Goodliffe (Black East Indian). *c*, J. Goodliffe (Carolina); G. S. Hall (Mandarin).

Geese (Any variety).—1, Withheld. 2, H. Bultitaft, Bedwellhay Grange.

Special prize given by Lady Adeane for best pen of Poultry exhibited.—S. Matthew, Stowmarket (Duckwing Game).

PIGEONS.

Carriers.—1, H. Yardley. 2, F. W. Metcalfe, Cambridge. *hc*, H. M. Maynard; F. W. Metcalfe; A. Storrar, Peterborough.

Tumblers.—1 and 2, J. M. Braid.

Owls.—1, H. Yardley. 2, G. S. Hall.

Pouters.—1 and *c*, G. S. Hall. 2, H. Yardley.

Barbs.—1 and 2, H. M. Maynard. *hc*, H. Yardley.

Fantails.—1, H. Yardley. 2, H. M. Maynard. *hc*, A. Baker.

Jacobins.—1, G. Roper, Croydon. 2, H. Yardley. *hc*, H. M. Maynard. *c*, A. Storrar.

Turbits.—1, G. Roper. 2, H. Yardley *hc*, R. Ruston, Chatteris.

Runts.—1 and 2, H. Yardley.

Any other Variety.—1, H. Yardley (Spots). 2, F. W. Metcalfe (Ice Pigeons). *hc*, T. C. Marshall, Peterborough (Hyacinths).

Selling Class.—1, H. Yardley. 2, T. F. Upsher (Barbs). *hc*, G. S. Hall (Nuns and Runts).

Rabbits.—*hc*, S. H. Fisher, Wimblington; F. Richardson, Chatteris.

Judge.—Mr. Edward Hewitt, Sparkbrook, Birmingham.

Warrington Poultry Show.—The undermentioned subscriptions towards the £10 cup for Partridge Cochins, and the five-guinea cup for White Cochins, have been received by the Secretary, Mr. C. Layland:—For the Partridge Cochin cup: Warrington Agricultural, &c., Society, £2 2*s.*; Richard Teebay, Esq., £1 1*s.*; J. H. Dawes, Esq., £1 1*s.*; Edward Tudman, Esq., £1 1*s*; Edward Leech, Esq., £1 1*s.*; J. K. Fowler, Esq., 10*s.* 6*d.*; Horace Lingwood, Esq., 10*s.* 6*d.*; Thomas Stretch, Esq., 10*s.* 6*d.*; Julius Sichel, Esq., 10*s.* 6*d.*; R. B. Wood, Esq., 10*s.* 6*d.*; James Watts, Esq., 5*s.* For the White Cochin cup: Mrs. Agnes Williamson, £1 1*s.*; Richard Smalley, Esq., 10*s.* 6*d.*; Allan J. E. Swindell, Esq., 10*s.* 6*d.*; Reginald S. S. Woodgate, Esq., 10*s.* 6*d.*; A. D. Cochrane, Esq., 10*s.*; Edward Fearon, Esq., 5*s.*; Julius Sichel, Esq., 10*s.* 6*d.*

LARGE FOWLS WITH BANTAMS.

In his interesting remarks upon Bantams, "Wiltshire Rector" says that breeders of large fowls can keep Bantams without any fear of a *mésalliance*, and in your answers to correspondents of last week I notice a similar statement. As I have ocular proof to the contrary, as the following facts will show, I should like to ask readers of "our Journal" if they have had any similar occurrences, and how far it is possible to estimate the probabilities of such crosses? I allowed a monster Dark Brahma cock, weighing 14 lbs., to run with my White Game Bantams, who revel in a small vinery as a residence. After waiting three weeks I gave a sitting of eggs to a friend who was very desirous of obtaining White Game Bantams pure and simple. But, lo! the chicks had tolerably good pea combs, and were moderately feathered on the legs. They are now six weeks old, with fast-growing tails, pencilled necks, wings and tail black and white, breast white, as large as the maternal parent, and bidding fair to rival the paternal. The Brahma cock was removed after the hatch, and in fourteen days eggs were saved. These were hatched a few days ago, but every chick among seven is as true as could be desired.—James Long, *Vine Cottage, Plymouth.*

VALUABLE PIGEONS STOLEN FROM EXHIBITIONS.

Recently a very valuable Carrier Pigeon belonging to Mr. While, of Birmingham, the bird having taken a first prize there, and many previous prizes, was stolen from Belle Vue Gardens, Manchester. An action was commenced by the owner to recover his loss, and I regret to learn that he was nonsuited with heavy costs. Subsequently another valuable and noted prize Carrier belonging to Mr. Yardley was stolen from Romford Poultry Show, having taken a first prize there. It is strange that such a misfortune should happen to two men of Birmingham. It is high time something be done to protect valuable birds, as no redress can be obtained as the law now stands. These continued losses will deter many who have good birds from showing them, unless committees of shows can offer better security to exhibitors. I would suggest that directly a prize is awarded at any show, the door of the pen should be made secure by a small padlock. This could easily be done, as wire pens are now generally used. Two or three keys could be made to pass any number of locks, and at a nominal cost.—F. Waitt.

THE OWL PIGEON.

The Birmingham Columbarian Society, having given their ideas respecting the properties the various breeds of domestic Pigeons should possess, deserve the thanks of the would-be fanciers, yet in some instances I have differed with them as have others, though in no case so much as in the description of the Owl Pigeon. With respect to this bird the Society say, that "From near the end of the lower beak should fall in nearly a straight line a loosely-hanging feather-covered skin or 'dewlap,' terminating at its lower extremity in the gullet, from which should protrude evenly on either side a large and full-feathered frill or ruffle." This ought *not* to be in the Owl, but in the Turbit. The Owl ought *not* to have what is termed the gullet nor a frill, but the head set on an evenly-rounded neck with no frill but a circular patch of feathers on the breast, that is called the rose. These properties were carefully bred for by the old fanciers, notably amongst whom were Messrs. Bowler and Matthew Wicking, who was without doubt one of the best breeders of Toy Pigeons of his day. Also Mr. Jones Percivall, Mr. Carrol, Mr. Bellamy, and several others too numerous to mention, also myself.

With regard to the colour called the powdered blue mentioned in the article, the Society do not seem to know much

about them, and in this I can also enlighten them. This breed was produced by the late Mr. Matthew Wicking and myself many years ago (at least neither of us ever saw any until we bred them), and they were got from a light blue and a mealy and selected, and bred on. We called them powdered blues because the necks of the birds being of a bright blue, and the tips of the hackle-feathers nearly white, it gave them a powdered look; hence the term powdered blue.

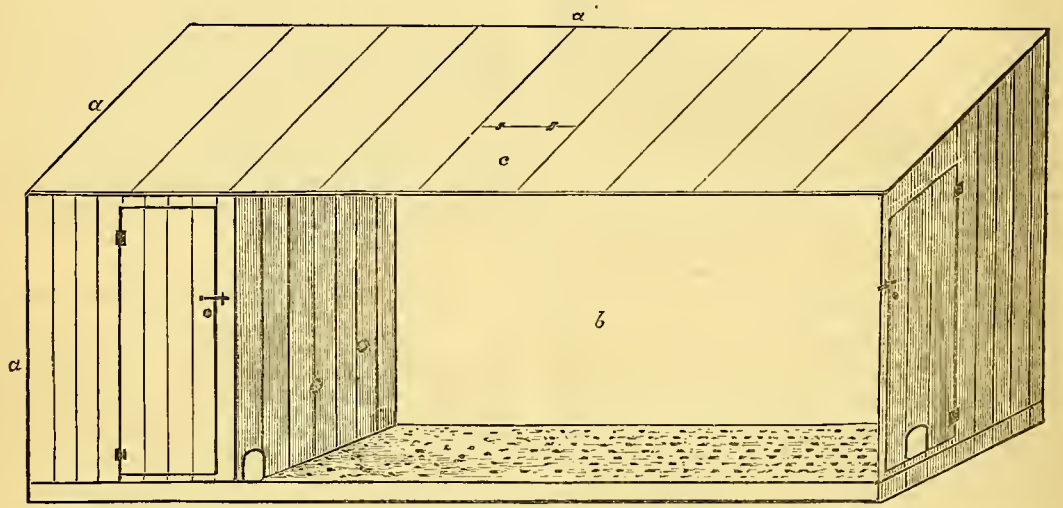
As to the quality of the birds I kept, I may mention that I refused twelve guineas for a pair in those times, long before Pigeons were selling at the absurd prices that they are now realising, and which to my thinking they are not worth, some of the breeds not now being so good as they used to be. Take the Fantail for instance, which is far too large and coarse in neck and body for what it ought to be and was. Then, again, one scarcely ever sees a good Jacobin now—I mean like those we used to have with the frill hiding the eye of the bird as they stood.

But to return to my subject, the Owl. The question of gullet or no gullet, frill or rose, was discussed at the last Pigeon Show at the Crystal Palace, when all the old fanciers were of one opinion, and that was—no gullet, no frill, but a rose on the breast.

With regard to black not having been obtained, I can only say that I have seen Owls of the deepest jet black, and good in other respects.—Harrison Weir, *Weirleigh, Kent.*

BANTAMS IN CONFINEMENT.

Mr. Blakston some time ago was chiefly the cause of my having Canary fever; before that I was smitten with Bee fever, which is chronic, through reading your Journal; and now "Wiltshire Rector" has been the cause of a severe attack of Bantams on the brain. I have never recovered from the effects of the former two, although this trying season tests my patience sorely, and now I write seeking your advice under the last-named malady.



a, *a*, Park palings.
b, Galvanised wire netting, sparrow-proof. *c*, Food-flap.
Height, about 4 feet 6 inches. Width, 4 feet. Length, 15 feet.
Aspect, facing south-west.

I enclose a plan of a small house and run in which I purpose keeping not more than a dozen Bantams, probably half that number at present. I should be very glad to make them both of shorter dimensions if possible, as I am extremely fond of my garden, which is but 60 feet by 25 feet. Would you also kindly tell me what kind of Bantams are most suitable to my case (I may mention, also, that my purse resembles my garden in smallness), and what kind and quantity of food to give my proposed new pets? My garden is enclosed by what are called, I believe, "park palings." Must the house be lined inside with anything to exclude draught? I wish to avoid expense as much as possible, for, being no carpenter myself, I must employ one to make the house. I give no dimensions of the length of the house and run separately, as I want you to tell me how much smaller they each may be. I would allow the fowls a run on the lawn now and then, but am afraid to give them complete liberty, as I have chiefly to depend upon annuals for the borders. Is it necessary to clip one wing of each bird, as my palings are only 5 feet high, or had I better enclose them in a wire run when on the lawn? I am fairly successful with bees and Canaries, so may I hope to make my new pets pay their expenses by proper attention? Does the house require any other ventilation than that afforded by the palings? The spaces are not large enough to see through when facing the palings. It is simply the space between where these overlap each other that I inquire about. Would a window be requisite for the house? if so, under the eaves of the roof would be the best place, I imagine.

Kindly give me also some hints about nest-boxes—of what materials they should be composed, how situated, &c. I wish I knew where to obtain the American nest-box, of which perhaps you may not have heard. I only know that it is said to consist of a box with a false bottom fixed by a delicate spring, which, when the hen lays an egg, gives way by the weight of the egg, and, depositing the egg gently in a nest of hay underneath, the spring, relieved of the egg's weight, closes up the box again. All this is done very quickly, and the poor hen getting up to have a fond look at her egg sees nothing there, so she sorrowfully sits down again and lays another, only to be again disappointed, and so on *ad infinitum*. Perhaps the editor of one of the American journals will say where to obtain these nests, and, I may add, the fowls as well, which are so accommodating, as, of course, they must be an American invention (I mean breed) as well!

An early reply to the above queries will greatly relieve my feelings, and at the same time much oblige—C. A. J.

[I am very glad that I have given you an attack of "Bantams on the brain," but to benefit you thoroughly the complaint must develope itself well; it is just like measles, the more it comes out the better for the patient. I advise you to obtain a sitting of Black Bantams' eggs; it is well to begin from the egg; then the birds become thoroughly your own, tame, and used to their home. The Blacks are more patient of confinement than the Game, also less fond of roving and flying. Your sketch is very good, but capable of slight improvements—thus, have the opening from the roosting place to the wired enclosure at the front of the partition, not at the back. It will be more handy for you to enclose with a sliding door when cleaning the larger part out, or in winter, or when wanting to catch a bird. Have a similar opening, as marked, in the door at the end for letting the birds out into your garden, or this might be in the door of the roosting place. The nests should be just to the left of the door in the roosting place, and on the floor. Any little odd boxes a foot square or less, and 5 or 6 inches high,

will do. Set a brick in front of each for the hen to walk to her nest easily. The boxes should be moveable, so that the whole place could be more readily cleaned out. Two perches, one lower and the other higher, the lower 2 feet from the ground, the higher 3 feet, should be as marked. Take care that the higher one is not so near the back as to touch the cock's tail, and cause a bent tail. Let the perches be straight, slightly rounded, and wide enough for the birds to rest on, not mere sticks. Let the night place be 4 feet square, the door 2 feet wide. No window is needed; the hole into the day part will give light enough, and fowls like to be snug, and not peeped at while laying. I hope you will give them the range of your garden under the conditions I mentioned in my former paper; they will greatly benefit your garden, and you need not raise your palings until you see whether the birds fly over, then add wire—the widest pattern and cheapest will do, inclining it a little inwards, and the birds will not get over. A little ventilator high up, covered by a slide, would be an advantage in summer, but eggs and warmth go together in winter. Buy our "Poultry Book," price 6*d.*, for other hints and chicken management. The park palings do not certainly make a warm wall. I should give them a couple of coats of gas tar outside, and a good mortar plastering inside; remember, a cold roost makes the eggs the fewer. Feed with barley, sometimes barleymeal or Indian corn, giving only just as much as they eat readily. Most fowls are over-fed, and then comes disease. After the morning's meal, dinner-plate scrapings and remains of vegetables will do—indeed, with a family, half a dozen Bantams cost next to nothing. When pastry is made, any odd bits are greedily eaten, and anything that in a larger establishment would be kept for the pig, all kinds of house scraps, &c. When your lawn is mown throw part of the grass in, and almost daily give some green food. Dry road dust in a heap will make them a dust-bath, which is an absolute necessity, and the floor of both parts must be dry.

As to the American nest-box, it must have been invented by some cruel as well as 'cute Yankee, who said, with a grin, "Guess I do that ere hen." Fancy depriving a poor hen of her cackling glory at the sight of her egg. I love to see the new-laid eggs in the neat straw-lined nest, from which some of my little children delight to take them and carry them in to mamma, a pleasure only second to the hen's on seeing the fruit of her care and pains.—Wiltshire Rector.]

RABBITS AT THE STROUD SHOW.

In reply to "J. Hume's" remarks, I cannot see that he has any cause of complaint, for, according to his own admission, he entered his Rabbit to compete for the cup under a misapprehension of the conditions according to which it was to be awarded. Surely that was no fault of the Committee. Why should he endeavour to detract from the merits of the cup-winner, by stating it was awarded to Mr. King for a lot of second and third-class Rabbits? This is a perversion of the facts. Mr. King took two first prizes, two second prizes, and one third. How can it be said that those Rabbits in a show confessedly very superior were second and third-class, being good enough to win from such competitors?—R. Barrett, *Hon. Sec., Stroud.*

A Negro Discussion about Eggs.—We are indebted to an exchange for the following:—"In the fairest village of Western New York the 'culled pussons,' in emulation of their white brethren, formed a debating society for the purpose of improving their minds by the discussion of instructive and entertaining topics. The deliberations of the society were presided over by a venerable darkey, who performed the duties with the utmost dignity peculiar to his colour. The subject for discussion on the occasion of which we write was—'Which am de mudder of de chicken—de hen wot lay de egg, or de hen wot hatches de chick?' The question was warmly debated, and many reasons *pro* and *con.* were urged and combated by the excited disputants. Those in favour of the latter proposition were evidently in the majority, and the president made no attempt to conceal that his sympathies were with the dominant party. At length an intelligent darkey arose from the minority side, and begged leave to state a proposition to this effect: 'Spose,' said he, 'dat you set one dozen Duck's eggs under a hen, and dey hatch, which am de mudder, de Duck or de hen?' This was a poser, was well put, and nonplussed the other side, even staggering the president, who plainly saw the force of the argument, but had committed himself too far to yield without a struggle; so, after cogitating, and scratching his wool a few minutes, a bright idea struck him. Rising from his chair in all the pride of conscious superiority, he announced, 'Ducks am not before de house; chickens am de question: before I rule de Ducks out!' and do it he did, to the complete overthrow of his opponents."—(*Canadian Poultry Chronicle.*)

FOUL BROOD.

I finn a hive of pure Ligurian bees contains no ripe brood, all the sealed brood being in a putrid state. I also find eggs and grubs which look healthy. I fancy it must be a case of foul brood, and if so, would it not be better to destroy it at once—combs, honey, and bees? I have a very prosperous apiary, consisting of eleven hives, which I am afraid may become infected should I let it remain.—J. B.

[We have no doubt that this is a case of foul brood, and should advise that the bees be at once destroyed, with the exception, perhaps, of the queen, which, being apparently a pure Ligurian, may be worth preserving, and is moreover not likely to convey infection to the stock to which she may be transferred. The combs should be drained and melted down, but kept all the while out of the reach of bees, and the honey may then be used for any purpose other than bee-food. The hive, after being thoroughly cleaned and scraped, should be washed over both inside and out with a saturated solution of chloride of lime, and it will be safer to let it lay by for a couple of seasons before again using it.—A Devonshire Bee-keeper]

OUR LETTER BOX.

Mr. W. Jackson, Blakedown, Kidderminster.—"The week before last I saw in your Journal a complaint from Mr. Hall, Cheltenham, that he had sent to Mr. W. Jackson, Blakedown, near Kidderminster, stamps for Spanish eggs, and that he could not obtain the eggs or any reply to his letters. I wrote you stating that I had been served in just the same way by this Mr. Jackson, the exception being, that the eggs I wanted were 'White-crested Black Polish' You publish Mr. Jackson's reply, that he sent the Spanish eggs to Mr. Hall on the 30th May. Although more than six weeks ago I sent the money, I have received neither eggs nor cash from Mr. Jackson, and numerous letters remained unanswered, until I put the matter in the hands of the Kidderminster Police, when Mr. Jackson wrote to say he would send the money, but he has not done so. He cannot urge the excuse he has in Mr. Hall's case, as 'Brighton' is quite sufficient to find me, even if he had not my full address. The eggs I ordered, mind, were 'White-crested Black Polish.' Mr Hall's eggs and mine I should think are confused, in the letter I have received from the police. I enclose copy, and the date you will observe is (not the 30th of May, when Mr. Jackson says he sent the eggs to Mr. Hall, but) the 24th of June.

[Copy.]

"'County Police Station, Wolverley, near Kidderminster,

"'26th June, 1871.

"'Sir,—The Superintendent of Kidderminster Borough Police handed me a letter on Saturday last, respecting Mr. Jackson, of Blakedown, and some Spanish eggs. I beg to inform you that I called at Mr. Jackson's on Saturday, the 24th inst., he was not at home, his mother told me that the eggs were sent that morning to your address at Brighton. Please let me know if you have received them.—Yours, &c., Thomas Matthew, Wolverley.'"

"'Mansel Bayly, Esq.'"

I never ordered any Spanish eggs, nor have any Spanish or any other eggs been sent to me at all, by Mr. Jackson's own admission in stating he would return the money, which up to the present time he has not returned. Query, were the Spanish eggs sent on the 24th June those for Mr. Hall? At any rate I have received neither eggs nor money.—M. Bayly."

Brahma Crosses (*B. T.*).—The object of the cross is to make a hardy breed. It is sought to combine the vigour of the Brahma and the quality of the Dorking. As a rule, in a cross the produce takes more after the female than the male. The Dorking is deservedly more esteemed than any other fowl for the quality of its meat, and for the quantity of choice over the offal parts. The only charge ever brought against it is that in some climates it is delicate. It is for this cause a remedy is sought in crossing with the Brahma, and that it is effected by putting a cock of that breed with Dorking hens.

Brahmae Dying (*J. L.*).—The symptoms you describe are consistent with those that follow poison, especially the crop full of water. Internal heat causes inordinate thirst, and the poison causes the heat. It would not show itself in the crop or trachea, but you would find the intestines partially honey-combed, and showing large red blotches. They may easily find something unwholesome in a conservatory. If they do not, it is an unhealthy place for them. Let them live entirely out of doors with the hen, the latter under a rip in a dry, sunny place. Feed on ground oats, barleymeal, bread and milk, and chopped scraps, no buckwheat nor sharps. If you do this we believe the disease will disappear. Your chickens have been killed by kindness.

Woodbridge Bird Show (*W. Barnes*).—Proceed in the County Court against the Secretary forthwith.

Partridge Eggs not Hatching (*Bubo*).—"We'll have a starling which shall be taught to speak, and nothing shall it say but 'moisten your eggs.'" Every week we say the same. We fancy it would be well for the world if all people confined themselves to their own business in all things, as they do "*in re*" poultry queries. The Partridge whose nest was disturbed, left her eggs every morning at early dawn in search of food; at that time the grass, or corn, or clover reeked with dew, and she returned to her nest with breast feathers dripping wet. This kept the eggs moist, and the young would have had no difficulty in emerging from

the shell. When the nest was cut out, and the eggs were put under a hen, she was allowed to leave them once a-day in a dry place; the eggs were not moistened, and the membrane inside the shell became of the colour and substance of gutta percha. All the strength of the poor little fellows was expended in chipping the egg, and they died of exhaustion. Had you wetted the eggs for a few days before hatching all would have lived. Young Partridges are hatched a month old in vigour and "gumption."

Vermin in Fowl-house (*Mrs. B. & W.*).—Thoroughly lime-white the whole of your house. Mix the lime very strong, and let it be laid on thickly. No hole nor corner may be missed. It is often thought that if the bricks are faced with limewash, all is done that is necessary. In truth nothing is done till every hole and corner are not only found but thoroughly cleansed. As a rule, the poultry-house, instead of a "thorough turn out," gets only "a lick and a promise."

Eggs Unproductive (*A. A. C. H.*).—You will not be more successful with an incubator. You do not wet your eggs enough. The cannibal hen is a rare monstrosity, kill her. The other failures must arise from some mismanagement. Try again. Let your hens be shut in their sitting places, moisten the eggs daily for ten or twelve days before hatching. On the twentieth day put them all in a pail of warm water. Leave them there ten minutes or a quarter of an hour. As soon as the hen has hatched part remove the shells carefully. Leave the chickens twelve or fifteen hours under the hen, and then put her under a rip in a dry sunny place with her chickens.

Hen Paralysed (*Rhos*).—We know of no large show till Birmingham where there is such a class. It is probable she is injured in the back, or she has a stoppage. She may be injured in the way you mention. It frequently happens. You can do no wrong by giving an ample tablespoonful of castor oil every other day for a week. This will give some relief, and if she still show a disposition to sit, indulge her with seven eggs, and let her sit next the wall.

Brahma Hen Breathing with Difficulty (*H. F. H.*).—You cannot do better than give some strongly camphorated water, also some camphor pills, each the size of a garden pea. Dose, two every night till the bird be relieved. Time must show the cause of the red cross. It savours of Malay blood.

Crêve-Cœurs' Feathers White (*J. B.*).—It is very difficult to keep Crêve-Cœurs for two or three years without some white feathers creeping up in the top-knots. We speak of the very best of their breed, and those which for the first twelve months of their lives had not a suspicion of white. They would seem to be among Crêve-Cœurs like grey hairs in the human subject. They are, therefore, not a disqualification, but rather a grave disadvantage, if such are shown against birds that have no white feathers. We should not consider fowls with white throats and blue wings Crêve-Cœurs, and they would, beyond doubt, be disqualified anywhere.

Toulouse Goose (*Toulouse*).—We imagine there is an internal rupture, and the bird is incurable.

Breeding Geese (*F. G.*).—For breeding, not more than three Geese to one gander must be kept, and their breeding powers continue undiminished until more than twenty years old. They require a wide range, affording plenty of grass and still water. The Goose-house for the four should not be less than 8 feet long by 6 feet wide, and high enough for a man to stand in upright. A smooth floor of brick and good ventilation are necessary. Over the floor a little clean straw should be spread every second day, after removing that previously used, and washing down the floor. A compartment about 2½ feet square should be assigned to each Goose for laying and sitting, and when one is hatching the gander and other Geese must be shut out from her. Wherever a Goose lays her first egg she is very pertinacious in there depositing the remainder.

Bantam Hen Blind in One Eye (*I. W. B.*).—The loss of an eye by accident is only a disadvantage; blindness from disease should be a disqualification. Where the eye is discoloured, as in your case, it is a disqualification. Ground oats, kitchen scraps, bread and milk, chopped egg, curd, and bruised wheat or barley are all good for chickens. Sue the secretary of the show in the County Court.

Canker in Young Pigeons (*A Reader of the Journal of Horticulture*).—Apply a strong solution of alum with a feather twice a-day. You will probably find that soon the substance gets loose; then remove it, and apply the alum and water for the last time. This will do if you discover the disease in time; but if it has gone down the throat to the crop it is too late for any remedy. Feed the birds very sparingly if they are old enough to feed themselves; bread crumbs are soft and suitable. Pull out some of the feathers of the tail.

Pigeons and Cherry Trees (*C.*).—The Pigeons would not injure the trees. They do not roost.

Stocking a Dovecote (*E. B. T.*).—You had better advertise, stating exactly what you require. You will be able to select from the replies.

Belgian Pigeons (*H. J. R. L.*).—Write to Mr. Sutherland, Coombe, Croydon.

Blue Egg in an Aviary (*J. S.*).—Neither the Linnet, Canary, Chaffinch, nor Redpole lays a "blue egg like a Hedge Sparrow's;" but eggs occasionally appear to lose their distinctive characteristics. Some Canaries lay an almost colourless egg, others one decidedly inclining to blue. It may possibly belong to the Canary or the Redpole. The Bramblefinch's egg I know nothing of.—W. A. Blakston.

Goldfinch with Canary (*F. S. S.*).—The young ones cannot do without their mother. That is certain, she must remain with them. You cannot, therefore, do wrong, if you suspect the Goldfinch of infanticide, by putting him in solitary confinement. You will, at least, discover who is the delinquent. Some Canaries appear to enjoy eating the extremities of the young ones. The Greenfinch and Canary produce a very common-place-looking Mule. Greenfinch and Goldfinch is better.—W. A. Blakston.

Canary's Eggs Clear (*C. R.*).—Cause: The cock is useless. Remedy: Proceedings in the Divorce Court.—W. A. Blakston.

Cross-breeding Rabbits (*A. E.*).—The Belgian Hare Rabbit is now introduced into warrens for the purpose of increasing the size of the common variety, and if not turned out until say five or six months old, all the better, to insure their doing well. We know a large breeder who is sending thirty to a nobleman for his warrens. The Silver-Grey also may be introduced into the warren to advantage for the sake of its superior fur.—C. R.

Fertilising Queens in Confinement (*G. C.*).—Mr. Woodbury made an experiment in this direction last year, and failed completely. He intended to try the Hungarian process this season, but has, unfortunately, been debarred by ill-health from giving any attention to apiarian pursuits.

METEOROLOGICAL OBSERVATIONS,

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. June.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 28	29.681	61.4	59.4	S.W.	57.0	71.0	51.8	116.9	50.3	—
Th. 29	29.839	64.7	58.3	N.W.	57.5	71.0	51.7	118.9	50.4	0.015
Fri. 30	29.769	62.2	59.4	S.W.	58.3	73.2	51.4	122.5	53.8	—
Sat. 1	29.945	62.7	57.3	S.W.	58.8	72.1	47.0	121.8	47.8	—
Sun. 2	29.796	61.6	55.0	S.E.	59.0	64.4	48.2	85.2	49.3	0.345
Mo. 3	29.553	59.9	57.4	W.	58.2	70.0	55.2	118.2	53.7	0.090
Tu. 4	29.746	59.1	56.8	S.W.	58.5	66.9	52.9	103.4	51.6	0.128
Means	29.766	61.7	57.7		58.2	69.8	51.6	111.7	51.0	0.678

REMARKS.

28th.—Generally bright and fine, cool in evening.

29th.—Warmer during the forenoon, fair evening.

30th.—Slight rain from 7.30 A.M. to 9 A.M., rather dull in the morning and occasionally during the day, alternating with very bright sunshine, and much warmer.

July 1st.—Heavy rain in the morning, and at intervals all day.

2nd.—Fine morning, heavy rain at noon and early afternoon, fine evening, heavy rain about 10 30 P.M., and during the night.

3rd.—Windy with heavy showers, alternating with sunshine all day.

4th.—Fine early morning, heavy showers and bright sun by turns all day, very heavy rain between 2.45 and 2.47.30 P.M., 0.089 inch falling in those 2½ minutes.

The week similar to many of its predecessors, very cool for the season and damp.—G. J. Symons.

COVENT GARDEN MARKET.—July 5.

Owing to the unsettled state of the weather the markets here have not been so well attended, neither has there been the quantity of goods offered by the growers which there usually is at this season; good descriptions of fruit, however, obtain fair prices, and are likely to do so for a few weeks to come. Potatoes of every description are heavily supplied, and continental produce also.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	6	to 4	0	Mulberries lb.	0	0	to 0	0
Apricots doz.	2	0	8	0	Nectarines doz.	10	0	20	0
Cherries lb.	1	0	2	0	Oranges ℔ 100	6	0	10	0
Chestnuts bushel	0	0	0	0	Peaches doz.	12	0	24	0
Currants ½ sieve	5	0	0	0	Pears, kitchen doz.	0	0	0	0
Black do.	0	0	0	0	dessert doz.	0	0	0	0
Figs doz.	4	0	8	0	Pine Apples lb.	5	0	8	0
Filberts lb.	0	0	2	0	Plums ½ sieve	0	0	0	0
Cobs lb.	2	0	2	6	Quinces doz.	0	0	0	0
Gooseberries quart	0	6	0	8	Raspberries lb.	0	8	1	0
Grapes, Hothouse lb.	3	0	8	0	Strawberries lb.	0	6	3	0
Lemons ℔ 100	8	0	10	0	Walnuts bushel	10	0	18	0
Melons each	3	6	6	0	ditto ℔ 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	4	0	to 6	0	Leeks bunch	0	4	to 0	6
Asparagus ℔ 100	4	0	8	0	Lettuce doz.	0	3	1	0
Beans, Kidney ℔ 100	1	6	2	6	Mushrooms pottle	1	0	2	6
Broad bushel	0	0	0	0	Mustard & Cress punnet	0	2	0	0
Beet, Red doz.	2	0	3	0	Onions bushel	5	0	8	0
Broccoli bundle	0	0	0	0	pickling quart	0	0	0	0
Brussels Sprouts ½ sieve	0	0	0	0	Parsley sieve	3	0	6	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	3	1	0
Capsicums ℔ 100	0	0	0	0	Peas quart	0	6	1	0
Carrots bunch	0	6	1	0	Potatoes bushel	3	0	6	0
Cauliflower doz.	4	0	8	0	Kidney do.	3	0	3	0
Celery bundle	1	3	2	0	Radishes doz. bunches	0	3	1	0
Coleworts doz. bunches	3	0	6	0	Rhubarb bundle	0	4	0	6
Cucumbers each	0	6	1	0	Savoys doz.	0	0	0	0
pickling doz.	0	0	0	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	3	0	Shallots lb.	0	0	0	9
Fennel bunch	0	3	0	0	Spinach bushel	2	6	3	0
Garlic lb.	0	3	0	0	Tomatoes doz.	2	0	3	0
Herbs bunch	0	3	0	0	Turnips bunch	0	2	1	0
Horseradish bundle	3	0	6	0	Vegetable Marrows doz.	0	0	0	0

POULTRY MARKET.—July 5.

The supply of our market increases, while the trade falls off. Prices are in consequence somewhat lower.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls	3	0	to 3	6	Pigeons	0	2	to 0	10
Smaller ditto	2	0	2	6	Rabbits	1	5	1	6
Chickens	1	6	1	9	Wild ditto	0	9	0	10
Ducklings	1	9	2	0	Hares	0	0	0	0
Goslings	6	0	0	6	Guinea Fowl	0	0	0	0
Pheasants	3	0	0	0	Grouse	0	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 13—19, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
13	Th	Royal Botanic Society's Show closes.	76.1	51.4	63.7	15	0 af 4	11 af 8	59 af 0	39 af 4	26	5 23	194
14	F		74.5	50.5	62.5	15	1 4	10 8	25 1	42 5	27	5 30	195
15	S	St. Swithin.	76.6	50.7	63.7	22	2 4	9 8	57 1	43 6	28	5 36	196
16	Sun	6 Sunday after Trinity.	76.0	50.1	63.0	17	3 4	8 8	37 2	36 7	29	5 43	197
17	M		74 3	51.3	62.8	16	4 4	7 8	27 3	20 8	●	5 48	198
18	Tu		74.7	50.2	62.5	21	5 4	6 8	26 4	56 8	1	5 53	199
19	W	Royal Horticultural Society, Fruit, Floral, [and General Meeting.	73.2	49.9	61.1	22	6 4	5 8	32 5	25 9	2	5 58	200

From observations taken near London during forty-three years, the average day temperature of the week is 75.1°, and its night temperature 50.6°. The greatest heat was 94°, on the 17th, 1834; and the lowest cold 33°, on the 17th, 1863. The greatest fall of rain was 1.60 inch.

AZALEA CULTURE.

THERE are few flowers so highly appreciated as the Indian Azalea, or more generally cultivated for the decoration of the greenhouse and conservatory, as well as for exhibition purposes. It can be had in flower from January until midsummer, or later; the early-forced flowers having the advantage over those produced later, inasmuch as they continue longer fresh. Bright sunshine and dry east winds in May and June cause the brightest colours to fade quickly, even under shade. The Azalea is also one of the easiest cultivated of what are called hardwooded greenhouse plants; added to this the exceeding beauty and varied colours of the flowers, with their innumerable shades and stripes, are at all times welcome.

The Azalea is a native of China, and the original colour is said to have been scarlet. The culture of this plant is very generally understood by practical gardeners, but there are, I have no doubt, numerous readers of the Journal to whom a few cultural remarks would be useful. The Azalea is propagated by grafting and by cuttings, the new varieties being raised from seeds and from sports of other varieties. Grafting is the most usual method of propagation, a strong-growing purple-flowered variety being much used for stocks. Side-grafting is the method to be preferred, and is best performed when the plants are in strong heat in July and August. The graft should be inserted at from 6 inches to a foot above the surface of the soil, thus allowing a clear stem below the graft. If plants are raised from cuttings they should be trained in the same way, allowing no shoots to grow out from the main stem at a less distance than 6 inches from the surface; indeed, the most handsome and symmetrical specimens which I have seen have had a clear stem of from 1 to 2 feet in height. Grafting is also sometimes performed in the following manner:—When it is desirable to obtain a large plant of a new or choice variety, a plant of some common strong-growing sort must be placed in heat in July; the temperature should be about 70° at night, with a proportionate rise by day, and any number of grafts that can be obtained may be inserted in the previous year's wood. All that is required is a close moist atmosphere and shade.

The Azalea can be raised from cuttings as freely as Verbenas. I struck a number in this way some years ago in the orchard house, at that time unheated. A number of 5-inch pots were nearly filled with sandy peat, allowing space for a surfacing of silver sand. From nine to a dozen cuttings were inserted in each pot, and the whole of them placed under hand-glasses. This was about the first week of August, and nearly all of them were potted off singly, and they made neat little plants the same season.

As soon as flowering is over all decayed blooms and seed pods should be picked off, and the plants placed in a house by themselves, if it is convenient; and where artificial heat can be applied to them the house in which they make their growth should be kept close and moist, and the plants freely supplied with water at the roots, as well as syringed overhead at least twice a day. The plants will not flower satisfactorily if they be allowed to remain in the greenhouse during the growing period, most likely smothered with Geraniums and the usual occupants of such houses in the early part of July.

Training the plants into a proper shape should be attended to at an early stage of their growth. At the metropolitan exhibitions the pyramidal form is that which is most frequently seen, and in many cases the plants have presented a very formal and unnatural appearance; yet in some instances where the shoots have not been too closely tied-in, and the trellis to which the plants have been trained has not come to an abrupt termination at the apex, but has been more rounded, the plants have been decidedly effective. I have seen very handsome specimens of Azaleas in the neighbourhood of Paris; these were trained to a single stem, with umbrella-like heads, and as they stood in a position where the eye of the spectator was above them the effect was good. The Azalea is also well adapted for specimens in the ordinary bush form, the plants rather wider at the top. Small standard specimens with neat round heads, and grown in 6-inch pots, are unsurpassed when in flower for table decoration, and if kept in cool rooms will continue in beauty for a long period.

Whatever form of training be adopted, much depends on the skill and judgment of the cultivator being directed towards making the plants look natural. Much tying and twisting of the shoots will be found objectionable, and if a plant is well set with flower buds, doing so causes the flowers to look crowded, and hinders them from being seen to the best advantage when the plant is in bloom; in most cases it is highly desirable to thin the flower buds shortly after they are set, in order to obtain larger as well as more perfectly-developed flowers. Very vigorous shoots do not ordinarily form flower buds; they can, however, be made to do so by pinching them during growth, when they will throw out a number of weaker shoots, which will doubtless form flower buds on each shoot.

During growth I have found occasional waterings with weak guano water very beneficial, especially to those plants which have not been repotted. After growth has been completed, and the buds are formed, a much drier atmosphere and more air are desirable, and when the plants are sufficiently hardened it is much the best plan to turn them out of doors for a time, removing them to their winter quarters before the soil in which they are growing is too much saturated with the autumn rains. In winter, when the plants are at rest, they will continue in the best health in a comparatively low temperature; rather allow the thermometer to fall to the freezing-point than apply too much artificial heat. It is also the custom with some to allow the plants to become quite dry at the roots in winter. I think this a great mistake; large numbers of the young hair-like roots are killed, and the plants shed their leaves prematurely and to a much larger extent than is desirable. I never allow Azaleas nor any plant of similar constitution to be overdry in winter, and it is highly important that sufficient water

should be given to thoroughly saturate the ball of roots at each watering.

Those plants which set their buds earliest should be selected for early flowering. Nearly all the varieties are adapted for forcing, but those with white flowers—such as the old white and Fielderi, are peculiarly well adapted for early blooming. I obtain flowers in abundance at Christmas from the above, by placing the plants in October in a Pine house, where the night temperature is 65°. A succession of flowers may be obtained by placing fresh lots of plants in the forcing house at intervals of three weeks. It is undesirable to bring Azaleas into a high temperature directly, a night temperature of 45° being quite high enough to start with. An early vinery or Peach house is a capital place for them, where they can be started with the Vines or Peach trees, as they require exactly similar treatment; the Azaleas will be showing flower and may be removed to the greenhouse before the leaves are fully expanded on the fruit trees; remove them to the greenhouse as soon as the first flower or two open their petals, as the flowers which expand in a high temperature are flimsy, and do not continue fresh nearly so long as those produced in a cooler and drier atmosphere.

The varieties are now very numerous, and fresh candidates for popular favour continue to present themselves; doubtless, the very best varieties are exhibited at South Kensington, and those of the highest merit are duly reported on in this Journal. I will add a list of the very best proved varieties—Alba, the best white for forcing; Chelsoni, Criterion, Duc de Nassau, Duchesse Adelaide de Nassau, Etoile de Gand, Extranei, Fielderi, Flower of the Day, Iveryana, Madame Ambroise Verschaffelt, Madame de Cannart de Hamale, Madame Miellez, Magnificent, Mrs. Turner, President Humann, Stella, and the deciduous variety with deep yellow flowers—Sinensis.—J. Douglas.

AN EXPERIMENT WITH THE CALCEOLARIA.

Last autumn at propagating time it occurred to me to try an experiment with the bedding Calceolaria. My object was to select a course of treatment during the winter and spring months, which, if successful, would have the effect of retarding the growth of the plants so as to have them in a better state for bedding-out at planting time, and also to prove if such treatment would ensure or promote a more regular course of flowering than is generally the case during summer. I have for some time thought that bedding Calceolarias are often too liberally treated, and I know that in many parts of the country the spring months have almost passed away before it is considered safe to trust the bedding stock in the flower garden. Such generous treatment induces a too early development of wood and flowers, or, in other words, the plants are before the gardener's time. The plants flower very soon after planting out, but in an imperfect form; but during all this time fresh growth for future flowering has been so checked, that before the second or best lot of bloom can show itself the cool nights of autumn come on, favouring the growth of wood rather than of flowers, and the result is no more bloom on the Calceolaria. It is, perhaps, useless to talk of early planting, as I do not think the plants would be any better of that, and in very few places, if any, could that be practised so as to meet all requirements in a design.

I therefore resolved to try an experiment at once—the most simple and least troublesome experiment I could think of. Accordingly, last October, I cleared a strip of ground 3 feet wide along a Strawberry bed; the surface had a gentle slope towards the south, and was elevated about 6 inches above the garden walk, but was fully exposed to the east and north as well as other points. The soil had not been dug up for a year or more, nor was it dug then, for I merely cleaned and levelled the surface, raking it fine. It was common garden soil, with a large portion of road grit in it. Along the centre I put in several hundreds of cuttings 3 or 4 inches apart. I watered them but did not shade them, and allowed them to take their chance, except that they were slightly protected from the frosts by sticks bent over them and canvas laid on; and during that severe frost when the thermometer fell to 4°, or 28° below freezing, they had only the addition of some short litter. They remained covered up except at suitable intervals, when light was let in for an hour or two, but they were frozen through again and again for weeks. There were none of them rooted just before the severe frost, though most were callussed; but after the thaw roots sprang out quickly, and the foliage assumed a healthier colour, but apparently the plants did not grow till March. After that the centre shoot was pinched out of every plant and they began to make side shoots, but so dwarf and compact were the plants that they looked pretty and were admired by most people. They had no protection after March, but were exposed to all weather, and several times were covered with snow; the earth about them was very hard and never loosened, but merely kept clean; it was also very poor. The growth of these plants was so slow that they were no further forward in the first week of June than those growing in frames were in the first week of March; consequently at planting-out time they were just in a fit state for the flower garden, being dwarf and compact plants with only one flowering shoot, yet their growth was a lot of nice wood that will produce a blaze of bloom at the proper time. The object in placing them in poor soil was to secure slow growth, also that they might grow the more vigorously when transferred to the flower garden.

It will be seen, that from the time the cuttings were put in till planting, they were never moved. If at the end of the season I am only able to say that the plants have succeeded as well as the others, I shall have the satisfaction of knowing that even then the experiments would be a success, in so far that the results were obtained with far less trouble and with means that are so simple and inexpensive as to be within the reach of all.—Thomas Record.

ROSES THIS YEAR.

I am again tempted to give you my notes on the Roses with me this year. The four that have given me the most unmixed pleasure have been La France, Marie Baumann, Baroness de Rothschild, and Xavier Olibo. Of these, La France has bloomed continuously, every bloom good, with the finest perfume of any Rose I know. Last week I had two perfect blooms over 5 inches in diameter, well filled up to the centre. This is, indeed, a first-class Rose. The other three have bloomed continuously and well. Duke of Edinburgh is very fine, but hard to keep in colour. Louis Van Houtte, good grower, a splendid Rose, bloomed well for a young plant. Madame Eugénie Verdier, Marquise de Mortemart, fine flower, but shy grower. Dupuy-Jamin, lovely Rose, fair growth, and a good bloomer. Princess Christian, an honour to its raiser, will, I think, be equal to Baroness Rothschild. Thyra Hammerick, very profuse in bloom, but very hard to get a perfect flower. Clémence Raoux, more peculiar than beautiful, not one in twenty-four fit to put in a stand. Edouard Morren, the same fault, but when a perfect bloom is obtained it is splendid; both these, with Pierre Notting, are very prone to mildew. Reine Blanche, very rough, but at times fine. So much for my experience of the new Perpetuals. Of old favourites, I have had magnificent blooms of John Hopper, Victor Verdier, Jules Margottin (always ready and always good), Duke of Wellington, and Lord Macaulay; in fact, of all my stock of old favourites I have had a fine supply.

Of my particular friends, the Teas, it is yet too early to say much, as I always pinch them back so as to have my chief blooms in autumn. I am more and more delighted each season with Rubens and Souvenir d'Elise. Of these two I have blooms now which will go in a stand of twelve which will be grand; they are, I am certain, among the best of the Teas. Maréchal Niel, owing to cold east wind, has not been up to the mark of past seasons. Many of my friends, when I have mentioned Madame Falcot, have replied, "Oh! it is very well in the bud." I find in early spring and late autumn that it is only second to Maréchal Niel. Any who were at the Bath May Show must have remarked the splendid examples of that Rose shown there.

Of the new Teas, Unique is much more inclined to make wood than bloom, but it is certainly beautiful when in its perfection. Adrienne Christophle cannot fail to become a favourite, it is so very distinct. I am more favourably inclined to Monplaisir than I was, but it will never equal its parent Gloire de Dijon nor yet its sister Belle Lyonnaise.

Your correspondent thinks it strange to find seedling Geraniums that have stood the winter. I have now taken up three hundred of the most promising self-sown Geraniums that have stood the winter in the borders, and have had to throw away as many more for want of room to keep them. There are several already showing for Tricolors and Bronzes.

There are no Apples in the orchards here this year, but I have a fair amount on pyramidal trees. Pears, Plums, Strawberries, Gooseberries, and Currants are in great abundance; but it has taken much labour and abundance of soft soap and

quassia to save them from the extraordinary blight of this spring.—Stiff Soil, *Somerset.*

COVENT GARDEN MONOPOLISTS.

Mr. Pearson's letter, with which your Journal of the 6th inst. commences, relates to a crying evil, and the only way to strike at its root is co-operation. Let an association be formed to start a co-operative store for the sale of flowers, fruit, and vegetables. There will be no occasion to look for purchasers. The only fear would be that the manager would at first be unable to cope with the enormous supply that would be proferred him.

If you, sir, would start the affair by getting a number of names to form a guarantee fund, I have no doubt the thing might be easily managed.

The Horticultural Co-operative Society (limited), for the establishment of a store for the reception of fruit, vegetables, and flowers grown by the members of the Society, with the object of obtaining fair prices for amateurs and gardeners for their productions, which the monopoly of Covent Garden at present prevents, and also to enable members to procure garden produce at the lowest possible prices.

The produce to be sold at such prices as may be found advisable, the profits being shared amongst the members (both growers and purchasers), after payment of expenses.

A capital of £2000, in £2 shares, to be held by members only, £1 being paid-up, would give a fair start to the concern, and if a few hundred pounds were guaranteed to secure the preliminary expenses, there could be no reasonable doubt of success. The management would have to be settled in committee, and the price of members' tickets.

I shall be glad to be a shareholder, and if you take the affair in hand shall thank you to place my name on the list for £25 for the guarantee fund.—J. P., *of York.*

In the middle of May this year I sent to a most respectable person, highly recommended, in Covent Garden, 12 lbs. of Grapes. He would take, I believe, 24 lbs. a-week from me. I thought I would try half that number first. They were selling in London for from 12*s.* to 18*s.* per lb. As your correspondent says, "I thought half that price will do for me." After waiting some weeks, I thought at last I had better ask for the "account sale." The answer was, that the fruit was nearly useless to him, or not marketable, or something of the kind, that he had it still by him, and scarcely expected to sell it; but yet notwithstanding, good self-denying man, he actually sent me 2*s.* 6*d.* per lb. However, I have not since put his charity to a test, as I get, or rather got then, 5*s.* per lb. at home. I shall not try Covent Garden again.—F. G.

[We have other letters for which we hope to find space next week.—Eds.]

EARTHING versus NOT EARTHING POTATOES.

Having some experience, I may be allowed to report progress. By way of preface I may say that I have to keep up a supply of new Potatoes from as early a period as it is possible to have them firm and full-flavoured, and not watery and insipid. That usually is the first week of March, and the supply is continued daily up to the middle of June either from pots or frames. I will first speak of Potatoes in pots, depending as I do on them for the earlier supplies; indeed I do not reckon on them from frames until the middle of April, and these are planted in November.

For pots I employ a form of Ashleaf known, I think, in some parts as the "Creeper," probably from the Potatoes being formed at a considerably further distance from the stem than is the case with many other early kinds, and it produces them very even in size, few being small. I grow one large set in a 9 inch and three good sets in an 11-inch pot, and sometimes two in a 10-inch pot. I also grow Myatt's Prolific in pots in about equal proportions with the Ashleaf. Myatt's Prolific is also an excellent variety for pots. I grow an equal proportion of both. The pots are half filled with soil, the sets introduced and just covered with soil. That is one part. In another lot of pots the sets are placed about 5 inches deep, or are covered with that depth of soil. Those just covered with soil are up the height of the pots and earthed by the time those earthed at planting are appearing. They are placed under like conditions of treatment, and the result is precisely the same.

Again, I plant a three-light frame—I use no other for Potatoes—on a good sweet bed of dung and leaves, in November, just covering the sets with soil, and I earth-up when the plants are 6 inches high. Another frame is planted with the sets covered from 4 to 5 inches deep. There is no material difference in the produce as to size, quantity, or quality. One method is as good as the other.

I must, however, observe that if non-earthing be intended, the sets must be placed so deep in the first instance that there will be sufficient room or depth of soil in which to form tubers; if they are planted shallow the produce will be useless from greening. I once planted in a frame Early Oxford, a round sort of excellent properties, placing the sets about 3 inches deep. They were not earthed, and the whole was a loss, more than half the tubers being greened, and the rest so small as to be of no practical value. On the other hand, a frame planted with sets at the same depth, and earthed about 3 inches deep with light loam and leaf soil, afforded an excellent crop. For frames, however, Early Oxford has too large a haulm.

We now come to out-door crops. I planted four rows of Myatt's Prolific, each about 80 yards long, on a south border, all the sets being about 6 inches deep; and of the four rows three have had the earth drawn to them, and one was left as planted. The row not earthed-up is about 1 foot from the wall, and at the present time (July 1st), the tubers are small and unfit for use, but those of the other three rows are fit for use, and are in every respect good. I have also another row of the same variety under a west wall and not earthed; these are not fit for use. The crop, however, promises to be good, and the tubers will not green.

Finally, I have about 80 yards of row of Ashleaf under a south wall, planted so as not to require earthing-up, and these are as yet too small. In the open ground I have several rows of the same variety, planted about 4 inches deep, that have been earthed-up; the crop is good—in fact we have been using them for several days.

The conclusions I draw are—1, That deep planting to save earthing-up must be resorted to, otherwise the tubers will green. 2, That planting 4 inches deep and subsequently earthing-up, are favourable to an earlier and better crop, and prevent greening. 3, That for most of the round kinds, which form tubers near the stem and surface, earthing-up is absolutely necessary, otherwise the crop will be very much damaged from greening. 4, That drawing the earth to the stem tends to render the soil drier, warmer, and affords a stiffer shorter haulm, a superior crop, and encourages earlier ripening, a point of consequence in our climate.

In taking up the Ashleaf on July 1st I found diseased tubers. In a season like this the shallower Potatoes have been planted the better. They will be all haulm if the present wet continue. They are now fine in appearance, being very even.

Whilst writing on Potatoes I may say that Red-skinned Flourball has come up very irregularly, and so have the American varieties. I have under trial about twenty roots each of Red-skinned Flourball and Pink-eyed Lapstone. They are both the produce of one tuber each of last year, and they differ widely in the haulm, the one having the Lapstone foliage but more stiff, and the other is more slender. In habit and hardiness they seem all right. As regards flavour I can tell better after August.—G. Abbey.

I had twenty or thirty varieties or samples of Potatoes to grow for trial last summer, and among them the Early Rose, which was to be thoroughly tested in all its points. For that purpose I planted one-half the sample on a piece of heavily-manured ground, forking between the rows when the plants appeared, and later in the season I earthed them up to a good height, hand-weeding them, &c., till they were ripe. They yielded an enormous crop, in about equal quantities of large and small tubers, and, speaking of them as a stock, they had degenerated very much from the original. The other half sample I planted at the same time on ridged ground, placing the sets in the hollows with a good dressing of manure, and forked the ridges down level, so that the Potato sets would be about 6 inches below the level at the time of planting. They had nothing whatever done to them till ripe, with the exception of occasional hand-weeding, when they proved all that could be desired. In the first place they exceeded in weight the half sample first noticed, and were much better in quality, being well-shaped, well-developed specimens, with few small ones among them, and equal, if not superior, to the original stock. Secondly, they were from a week to ten days earlier, which is

a great consideration where the tubers are wanted for table, and the ground the Potatoes are occupying is required for other purposes. With regard to the above trial, therefore, the non-earthing system was the more satisfactory.

I am of opinion that in general the non-earthing system is preferable for all early varieties, both as regards quality and productiveness, with the additional merit of being fit for table a week or ten days earlier as a rule, and, of course, a certain amount of labour is saved, which to market-growers is a consideration; but for all main crops, which are supposed to remain in the ground till late in the autumn, I should consider it advisable to earth-up, as the Potatoes which would form in the ridges would lie much drier than on the level. This, in a wet season, would act as a preventive against disease, second growth, &c., without mentioning the conveniences at lifting time.—P. D.

NOTES ON ROSES: HEREFORD, NEWARK, AND MANCHESTER.

Having, after judging at Nottingham, been to judge also at Hereford, Newark, and Manchester, I send you a few notes on the Roses, which may prove of some interest to your readers.

The Show at Hereford was good, especially among the amateurs, who came out in great force, especially Mr. R. N. Baker, who has already been so successful at the Crystal Palace and elsewhere. The Rev. G. Arkwright, the Rev. J. B. M. Camm, Mr. C. N. Newdegate, and the Rev. J. M. Smythe were also exhibitors of very good stands of Roses, though Mr. Baker was *facile princeps*, taking first honours in each class he exhibited in. Among the nurserymen, Messrs. Paul & Son were first, Mr. J. Keynes second, and Mr. G. Davison, of Hereford, third. Mr. Cranston was not able to exhibit for competition, but staged some very fine blooms at the orchestra end of the room. Noticeable among the older Roses were Annie Wood, Marie Baumann, Beauty of Waltham, Triomphe de Rennes, Xavier Olibo, François Louvat, and La France. These were shown by Messrs. Paul & Son, who also exhibited the very best Miss Ingram I have ever seen. Mr. J. Keynes exhibited very good examples of Maurice Bernardin, Madame Vigneron, Mrs. Charles Wood, Souvenir d'un Ami, Madame Willermoz, La France, and Mdlle. Eugénie Verdier. In Mr. Baker's stand were very fine specimens of Paul Verdier, Dr. Andry, Mdlle. Marie Rady, President Willermoz, and Antoine Ducher. Mr. Camm had very fine ones of Vicomtesse de Vezins, Paul Neron, Centifolia rosea, Abel Grand, and Lord Napier.

Among the new Roses were good examples of M. Liabaud, Louis Van Houtte, Prince of Wales, Ferdinand de Lesseps, Marquise de Ligneris, Annie Laxton, Auguste Neumann, Madame Creyton, Nardy Frères, and Edward Morren.

A very noticeable feature in the exhibition were two boxes of twenty-four blooms—one of Centifolia rosea, exhibited by Paul & Son, another of La France by Mr. Keynes; they were so evenly balanced in point of merit that they were awarded equal first.

The competition at Newark was chiefly confined to local nurserymen and amateurs, but very good blooms were exhibited by Messrs. Merryweather, of Southwell, and Mr. Frettingham, of Beeston. The Rev. S. R. Hole exhibited a good stand of thirty-six, though, owing to the weather, not quite up to his usual mark. The same may be said of the Roses shown by the Rev. N. Pochin, and it was an exceedingly close contest between Mr. Hole and Mr. Pochin for the first prize in thirty-six, Mr. Hole eventually winning by the superior merit of some of the first blooms, especially Madame Furtado, Souvenir d'un Ami, and Marquise de Mortemart. Mr. Pochin's stand was so good that, as there was no third prize awarded, the Judges recommended the Committee to add the value of the third prize to the second. Many of the Roses exhibited showed signs of the severity of the spring frosts, which have been very prevalent in Nottinghamshire.

The competition among amateurs, especially in twelves and sixes, was very close; and the Rev. C. C. Ellison, of Bracebridge, showed an exceedingly good stand of eighteen blooms, very fresh both in colour and foliage. I will not attempt to enumerate the sorts exhibited, as it is only a repetition of names.

From Newark I went to judge at the first Rose Show at Manchester, which, considering the season, may be put down as a great success, although there were very few exhibitors from the north. Mr. George Paul (Paul & Son) carried everything before him in the nurserymen's classes, and I have seldom seen better blooms. Mr. Mitchell also showed some very good blooms, one of John Hopper being the best of that sort I have ever seen in any stand. There was a close competition among the amateurs in the thirty-sixes, the Rev. G. Arkwright being placed first, and the Rev. S. R. Hole third. The Rev. S. R. Hole was first for twenty-foure and twelves.

There were some very nice ball-room bouquets and bridal bouquets of Roses exhibited, although some showed the common failure of being too large. The first-prize bridal bouquet was exceedingly good, made up with great taste, and not too large, although some might object to the use of pink Moss Rose buds; but a slight amount of colour helps, in my opinion, to relieve the dead white of ordinary bridal bouquets.

The collection of new Roses exhibited by Messrs. Paul & Son was especially good; and a stand of twenty-four blooms of Comtesse d'Oxford shows that it will be a great acquisition. On the whole, the best new Roses of the last two years I have seen are Mdlle. Eugénie Verdier, Comtesse d'Oxford, Marquise de Mortemart, Marquise de Castellane, Augnste Neumann, very dark; Nardy Frères, the best purplish-crimson I have yet seen; Ferdinand de Lesseps, Edward Morren, Dupny-Jamin, a very fine-shaped Rose, large, with smooth petals, something like Alfred Colomb, but with more violet; Princess Christian; Madame Liabaud, an improved Virginal; La Motte Sanguine, fine in colour, but rather irregular in outline; and Louis Van Houtte, nearly the colour of the old Duc de Cazes, but a finer Rose. Of these I no hesitation in recommending the first four—Nardy Frères, Dupuy-Jamin, Madame Liabaud, and Louis Van Houtte.

Of older Roses which have been particularly good this year La France stands first, then John Hopper, Baroness Rothschild, Alfred Colomb, Charles Lefebvre, Madame Thérèse Levet, Maréchal Vaillant, Paul Verdier, Centifolia roses, Abel Grand, Duke of Edinburgh, fine in colour, but rather irregular, nearly always quartered this year; and Dr. Andry. Messrs. Paul exhibited some very fine blooms of Marie Baumann at Manchester, but otherwise I have not seen it so often exhibited as last year.—C. P. Peach.

HORTICULTURAL IMPLEMENTS AT THE NOTTINGHAM EXHIBITION.

"The true epic of our time is, not arms and the man, but tools and the man, an infinitely wider kind of epic."—*T. Carlyle.*

The great success which has attended the Royal Horticultural Society's Show at Nottingham induces me to ask, through your valuable Journal, whether the Council would adopt on the next occasion some better method in the arrangement of goods in that portion of the ground set apart for trade? It is scarcely in keeping with the high purposes for which the Royal Horticultural Show is held, that the visitor on entering finds himself in the midst of a fancy bazaar, and that the principal approaches to the grand marquee are lined with booths, similar to those we see on fair days in market towns. None but the most persevering of sight-seers would be likely to see anything beyond this in the trade ground. The manufacturers of implements, tools, and apparatus used in horticulture ought to be recognised by the Council, as having a claim to a constant and prominent place at the Show. There is no need to exclude other trades, but it is by no means necessary that dealers and manufacturers of goods having no special interest to the horticultural world, should monopolise the best places. Next in point of attraction to the show of plants and fruit, come the implements and apparatus used in the garden. They have contributed some share, however humble, to the great triumphs of the horticulturist. It would but be in agreement with the proper fitness of things, if the principal avenue to the marquee were set apart for the use of manufacturers and their representatives; then let the sellers of agricultural implements and miscellaneous goods take the second and third places. Of course, if it is absolutely necessary to the prosperity of the Royal Horticultural Society that the vendors of toys and the retailers of beer should have the most prominent positions in the trade ground, by all means let them have it. No one, however, who saw the thousands that poured into the Park on each day of the Show would suppose that it stood in need of any such support.

A manufacturer does not attend the Show merely to make sales. That branch of trade is now permanently established, and there is always ample stock in the hands of agents to meet the wants of the public. It is the only time during the year, and for that district in several years, that he has the oppor-

tunity of meeting both professional and amateur gardeners, who have always some inquiries to make or who wish to test the merits of some novelty in garden requisites. By the present arrangements that opportunity is not given them. Therefore, let the Council institute a new organisation of the trade-yard, which will give the visitors convenience of access to the manufacturers of implements and apparatus, concentrate their attention on the special purposes for which the Show is held, and add to its completeness.—GEORGE BAINES, *Lightcliffe*.

BIRMINGHAM ROSE SHOW.

JULY 6TH AND 7TH.

THE tenth annual Rose Show was held in the Town Hall, Birmingham, on Thursday and Friday last, and notwithstanding all the drawbacks of this wet and variable summer, there was an excellent exhibition. Had all those who gave notice of their intention to compete come forward, the Exhibition would have been the largest yet held at Birmingham, but owing to the lateness of the season and the bad weather the withdrawals were extremely numerous, and the competition open to all England, especially in the nurserymen's classes, was chiefly confined to southern growers.

In the nurserymen's open classes Mr. Keynes, of Salisbury, carried all before him, being first in every case. The varieties which he exhibited in the greatest perfection in his stands of seventy-two singles, forty-eight and twenty-four triples, were Xavier Olibo, Baroness Rothschild, Ferdinand de Lesseps, Duke of Edinburgh, François Lacharme, Dupuy-Jamin, La Motte Sanguine, Elie Morel, Marie Baumann, Comtesse d'Oxford, Marquise de Castellane, La France, Exposition de Brie, Madame Sertot, Abel Grand, Victor Verdier, Sénateur Vaisse, Madame Willermoz, Madame Charles Wood, Pitord, Ville de Lyon, Alfred Colomb, Prince Camille de Rohan, John Hopper, Paul Néron, Antoine Ducher, Madame Vigneron, Clémence Raoux, blush with coppery-rose spots; Louis Van Houtte, shaded crimson and scarlet; Emilie Hausburg, Mdlle. Engénie Verdier, Nardy Frères, Abbé Giraudier, Fisher Holmes, and Charles Lefebvre. Mr. Cranston, King's Acre, Hereford, was second for seventy-two single trusses; Mr. Durbin, Englishcombe, Bath, third; and Messrs. Perkins & Son, Coventry, fourth. Mr. Durbin was second for forty-eight, and third for twenty-four triples; while Mr. Cranston was second for twenty-four. Mr. Turner, of Slough, was unfortunately too late for competition, but exhibited splendid trusses of Madame Victor Verdier, Centifolia rosea, Général Jacqueminot, Climbing Devoniensis, Victor Verdier, Miss Ingram, Princess Mary of Cambridge, Triomphe de Rennes, Monsieur Woolfield, Caroline de Sansal, Duke of Edinburgh, Paul Verdier, Abel Grand, Marie Baumann, Horace Vernet, Beauty of Waltham, and Baroness Rothschild. In other stands we noticed good examples of Impératrice Charlotte, Souvenir de Malmaison, Marguerite de St. Amand, and the varieties already named.

In the nurserymen's classes, in which competition was restricted to residents in the counties of Warwick, Worcester, and Stafford, Mr. F. Perkins, Regent Street, Leamington, was first both for twenty-four singles and twelves triples, while Mr. J. F. Smith was second; Mr. E. Holmes, Whittington Nursery, Lichfield, third; and Mr. C. Kimberley, Stoke, Coventry, fourth.

In the amateurs' classes there was a much better show than we expected, but here, again, many of the successful stands came from the southern counties, but many very excellent trusses were from the outskirts of Birmingham itself.

For thirty-six single trusses Mr. R. Draycott, gardener to E. Studd, Esq., Uppingham, was first with Beauty of Waltham, splendid; Duc de Rohan, Maurice Bernardin, Fisher Holmes, Gloire de Dijon, and Exposition de Brie. The second place was taken by Mr. Joseph Davis, gardener to Mrs. King, Wilton, Salisbury; the third by Mr. C. J. Perry, The Cedars, Castle Bromwich; and the fourth by Mr. Parnell, Rugby. In the different stands were good examples of Horace Vernet, Marie Baumann, Mdlle. Annie Wood, Alfred Colomb, Senateur Vaisse, and Fisher Holmes.

For twenty-four Mr. Moore, gardener to Thomas Lloyd, Esq., The Priory, Warwick, was awarded the first prize, the second going to the Rev. P. M. Smythe, Solihull, for fine trusses of Madame Charles Crapelet, Charles Lefebvre, Leopold I., Exposition de Brie, Elie Morel, and Abel Grand. Mr. Draycott, Hallaton Hall, was third; Mr. S. Evans, Arbury, Nuneaton, fourth; and equal fifth prizes were given to J. H. Arkwright, Esq., Hampton Court, Leominster, and Mr. Brown, gardener to Mrs. Alston, Elmdon Hall. Several good stands were shown by unsuccessful competitors. For three trusses of eighteen varieties, the prizetakers were Mr. S. Evans, Mr. C. J. Perry, J. H. Arkwright, Esq., and R. N. G. Baker, Esq., Heavitree, Devon. La France, Charles Lefebvre, Marie Baumann, Paul Verdier, Dr. Andry, Gloire de Dijon, Charles Lawson, and Mdlle. Marie Rady were well represented in this class. In the next, that for twelve single trusses, Mr. J. E. Cavell, Oxford, was first with splendid trusses of Duke of Edinburgh, La France, Madame Clémence Joigneaux, and Lord Suffield. Mr. Whittle, Leicester, was second; Mr. Moore, gardener to T. Lloyd, Esq., third; Mr. C. J. Perry, fourth; and Mr. Choyce, Penwall Grange, Atherstone, fifth.

The next four classes were confined to amateurs residing in the counties of Warwick, Worcester, or Stafford. The best stands of twenty-four came from Captain Webb, Elford House, Tamworth; Mr. C. J. Perry; the Rev. P. M. Smythe, Solihull; and Mr. Brown, Elmdon Hall. Among these were excellent blooms of Cœur de Lion, Centifolia rosea, Beauty of Waltham, Marquise de Mortemart, Le Rhone, Charles Lefebvre, Felix Genero, &c. For twelve, Capt. Webb was again first, Mr. Smallman being second, and Mr. S. Smith, Broom House, Stourbridge, third. An extra prize was awarded to Mr. C. Cooper, Moseley. There were excellent trusses in all these stands, as well as in some others which did not find a place in the prize list. For eighteen and twelve, single trusses, open only to exhibitors from the counties named not showing in any other class, both first prizes went to Mr. C. Butler, Castle Bromwich.

There were also, as usual, classes confined to exhibitors resident within four miles of Stephenson Place, Birmingham, and in these were very creditable stands from Mr. Cooper, gardener to Misses Anderton, Moseley; Mr. T. Hopkins, Ussley Brook, Acock's Green; and J. E. Mapplebeck, Esq., Moseley. Mr. Smallman was first in the maiden class.

Of new Roses sent out in 1869-70-71, Mr. Keynes and Mr. Durbin were the only two exhibitors, and they took positions in the prize list in the order in which they are named. The best were Louis Van Houtte, Comtesse d'Oxford, Clémence Raoux, large but somewhat variable; Emilie Hausburg, Marquise de Castellane, Marquise de Mortemart, Mdlle. Eugénie Verdier, Ferdinand de Lesseps, Paul Néron, La Motte Sanguine, Nardy Frères, and Dupuy-Jamin.

The best twelve trusses of a yellow Rose were Triomphe de Rennes, from Mr. Keynes; Mr. C. J. Perry was second with Gloire de Dijon, as good as we have seen it this year; and Mr. Durbin third with Triomphe de Rennes. For the best twelve trusses of any dark crimson or rose-coloured variety, Mr. Keynes was again first, showing splendid trusses of Marquise de Castellane, also Madame Charles Wood. In the corresponding class for blush Roses, Baroness Rothschild from Mr. Cranston and Mr. Keynes was first and second.

There was a good show of bouquets. Miss Pope, King's Norton, sent two which were very prettily arranged; one was formed of Lilium lancifolium in the centre, surrounded by successive rings of Forget-me-not, double rose Pelargoniums, Stephanotis, double scarlet Pelargoniums, with a bordering of Maiden-hair Fern. The other bouquet, less formally arranged, was even more beautiful. Mr. Perkins, Mr. H. Pope, Miss Cole, Birchfields; Mr. R. Vertegans, of the Chad Valley Nurseries, Edgbaston; and Mr. C. H. Harrison contributed tastefully arranged bouquets; and in dinner-table decorations Mr. Perkins, Miss Cole, Mr. Vertegans, and others furnished well-filled stands. One from Miss Mort, chiefly of Lycopods and Ferns, if contrasted with gay-coloured flowers placed elsewhere in the room, would be an agreeable relief. It was pretty and quiet.

Mr. Vertegans sent several stands of cut Roses, but could not compete as his collection is only now coming into good bloom. Mr. Keynes sent vases. Messrs. F. & A. Dickson, of Chester, also sent stands. Mr. Perry contributed stands of fine cut Verbenas, of which Minnie, with a lilac eye; and the Rev. R. C. Carter, pale blush with a crimson eye, received first-class certificates. Messrs. Mapplebeck & Lowe exhibited a large assortment of garden chairs, garden engines, syringes, swing water-barrows, tools, &c.; Mr. Harris, seats with awning to wind up, lawn-mowers, rollers, &c.; and Mr. Kaye, Didsbury, cases of beautifully skeletonised leaves, &c.

CHILDREN'S FLOWER SHOW AT VICTORIA DOCKS.

THE first annual show in connection with the children of St. Mark's church and schools, Victoria Docks, was held in the infant school-room, Nelson Street, on Friday, the 23rd ult. The idea was originated at the commencement of the present year of organising a children's window plant show, under a parochial committee, and rapidly the matter has been brought to a practical and successful issue.

There is something worthy of especial commendation in the idea of training the little ones to acquire a love for the beautiful in nature. Residing in a region where little else is heard by day but the din of hammers, the shrieking of engines, and the whirling of machinery, and little else at night but the shouts of noisy, drunken revellers—as the records of the local police courts can too often testify—there is nothing in the surroundings of the district, nor the moral atmosphere which pervades it, calculated to elevate the children above a very low standard of mental culture. True, at the present day, the arduous labours of the ministers of the district are producing a beneficial effec' on the masses who reside in the Dock districts; and the newly-elected School Board gives great promise of effecting real good among the juveniles; but in the absence of the latter valuable adjunct, all honour is due to those gentlemen who, by dint of assiduity and patience, have successfully inaugurated what will doubtless prove a great aid towards the amelioration of the lower and humbler classes.

The system pursued by the committee is a capital one, although from the large number of plants, a large amount of trouble is necessarily entailed. In March or April, the whole of the plants which are to compete for the prizes are registered with a seal and ticket, and some idea may be gained of the extent of the show when we mention that there were no less than three hundred plants thus registered for the present exhibition. The infant school-room had been tastefully

decorated with flags of all nations, which was done under the personal supervision and through the kindness of Mr. Linch, dock-master at the Victoria Docks. The flowers were arranged on tables down the centre of the room, and had a very pretty appearance. For the embellishment of the show, some choice cut flowers were kindly contributed by Sir Antonio Brady, Mr. Christopher Boyd, of Cheshunt, Mrs. Adams, of Plaistow, and Mr. Bidder, of Mitcham. The competitors exhibited some fine specimens of Petunias, Mignonette, Fuchsias, Calceolarias, Musk Plants, and Geraniums.

The attendance during the afternoon was very satisfactory. The proceedings were enlivened by the performances of the drum and fife band, in connection with the Bishopsgate Schools. At half-past five o'clock the prizes, thirty-one in number, and consisting of writing cases, desks, books, pictures, games, &c., were distributed to the successful competitors by the Rev. H. J. Bodily, president of the committee, who in the course of a few appropriate remarks to the children, said there seemed to be a determination on the part of the committee to carry the show on for another year. He expressed the great regret he felt at the absence of Mr. Boyd, as he knew how much that gentleman would have liked to have been present. Before his departure for America he expressed his great sympathy with the scheme, and was very desirous that it should succeed. Mr. Gatty, the Honorary Secretary, also addressed the meeting, urging on the children the necessity for cultivating cleanliness and neatness of growth in their plants. He stated that upwards of £20 had been raised towards expenses, from friends in the country and a few local gentlemen, and after meeting all demands there would be a substantial balance. This announcement was received with applause. Each recipient of a prize was loudly cheered on stepping forward, and a little fellow named Taylor received a very large share of applause.

Tea was now provided in the adjoining school-room, when about one hundred sat down. After tea a social meeting was held, when there was a large audience. Several glees were given by the choir of the iron church; Mr. and Mrs. Everett gave some excellent specimens of vocalisation; pianoforte and vocal selections were performed by Miss Adams and Miss Brown, of Plaistow; while some excellent recitations were given by Mr. Hernaman, and one of the boys in the band. With such attractions the proceedings could not fail to be pleasant.

[I was remarking a short time ago to a London city man, that not only had profane swearing ceased among gentlemen, but it was happily much less heard among the poor. He replied, "You should hear how they swear at the Docks. If you ask a man to lend a hand and he is willing, he adds an oath to convince you that he is; if angry and unwilling he swears at you; in working they swear, in idling they swear. Oh! how they swear at the Docks." I remarked with a shudder, "What an atmosphere to bring up children in!"

Such was my connecting idea with the Docks of London, and when the foregoing report came into my hands, as I sat here, in leafy west of England, amid the trees and flowers, and the smell of the new-made hay, borne through my window, mingling its sweetness with that of the Roses before me, and when I read its title, "Children's Flower Show at Victoria Docks," I added, "Ah! and how they swear at the Docks!" but having read the article how much better an association of ideas shall I now have with those Docks. This is, indeed, the age for giving advantages to children. What cheap, and pretty, and interesting books are now issued for them, instead of the dear, dull, didactic ones of our childhood! Now, there is education to raise the poorest, hospitals to nurse them if sick, days in the country for town children, clergymen and ladies working for them and with them, so many means and appliances are there to train them for future usefulness and respectability. And I have the greatest possible pleasure in recording yet another means of doing heart-good to the poor town children—viz., the starting a children's flower show at the Victoria Docks. If children cannot be brought up in the country, the next best thing is to endeavour to bring the country to them, and this is most readily done by giving them an opportunity of gratifying that taste for flowers which all children have naturally. How strong an instinct or taste this is! Each little one as soon as it walks among the Daisies, stops, and stoops to pluck them, gathering a posy of them in its warm plump hand. I have sometimes thought that this arose in part from the nearness of the children to the flowers; their eyes look straight and close into them, and the flowers look straight up to them, the two are so near; whereas we, tall grown-up folks, are high above them, and look not so closely into the world of flower beauty at our feet. But the poor town children cannot get to the flowers, they make attempts and get hold of dying cast-away nosegays, and play with, and pet, and caress them, sitting in their rags on door-steps, up courts and back streets, but they seldom get near flowers in their bloom and beauty. Surely, then, it was one of man's best thoughts which prompted the good people at Victoria Docks to have a children's flower show in their infant school-room. What pure pleasure was given to the little Sarahs, and Eilens, and Fannys, and Williams, and Georges who gained a prize, pleasure for their mothers too. What a world of happiness to very many must that show have caused! I commend the account of it to our readers generally, but particularly to town clergy and other town dwellers. I hope this good example may find many imitators, and so a pure taste will be nourished, and it may be both heart and life raised to a higher standard, for contact with purity always benefits, and nothing on earth is so pure as its flowers, for truly and sweetly thus sings of them John Keble—

"Relics ye are of Eden's bowers,
As pure, as fragrant, and as fair
As when ye crowned the sunshine hours
Of happy wanderers there.
Fallen all beside—the world of life,
How is it stained with fear and strife!
What passions rage and glare!
But cheerful and unchanged the while
Your first and perfect form ye show,
The same that won Eve's matron smile
In the world's opening glow."

I wish all success to the good endeavours of the good people at Victoria Docks.—Wiltshire Rector.]

POTATO DISEASE.

I have a plot of ground 30 yards square, planted with American Early Rose Potato, the greater part of which is very much affected with the Potato blight. I have dug-up several of the affected roots and find the tubers very much diseased. I have also some Bovinia and Red-skinned Flourball, similarly affected, but not to such an extent as the former. I believe all the above to be American varieties. I have some of Paterson's Victoria planted alongside the Americans, and they are at present free from disease. I believe the disease to be at present confined to the Americans, as I have not heard of its appearance amongst any of the English varieties.—T. J. Harrison, *Farnden, Cheshire.*

ROYAL BOTANIC SOCIETY'S SHOW.

July 12th and 13th.

This has proved one of the best of the shows held by the Society this summer, although the weather on the first day was by no means favourable; but the absence of many of the large specimens seen at the earlier shows is compensated for by a very good exhibition of fruit, which is always an attraction at London shows, especially as there has been of late so little of it. Of table decorations, epergnes, *et hoc genus omne*, there is a large display, exciting among the ladies a great amount of interest, though it may be questioned whether such objects would not be better relegated to a place by themselves, instead of forming a part of the contents of the great tent. The attendance of visitors was very good.

Among the exhibitions of stove and greenhouse plants in flower, those from Mr. Ward, gardener to F. G. Wilkins, Esq., Leyton, both of twenty in 12-inch pots, and of six in pots of any size, deserve particular notice, especially the latter, although they come second to a collection from Mr. Baines, gardener to H. Micholls, Esq. Mr. Ward has a splendid specimen of the richly coloured Erica Parmentieriana rosea, and of Pleroma elegans one of the finest specimens we have ever seen, being covered with its large violet flowers, which render it so effective when "well done," which it seldom is. Allamanda grandiflora in the same collection is also fine; Statice profusa, very good though beginning to pass; and Erica obbata. Mr. Baines, however, well deserved the first position, having a magnificent Erica obbata; Anthurium Scherzerianum, very fine, with twelve spathes, and in fruit; Allamanda Aubletii; Hedaroma tulipiferum, very fine; Dipladenia amabilis, and Erica Parmentieriana rosea, splendid. Mr. Wheeler, gardener to J. Philpott, Esq., has also good specimens, as also have Messrs. Jackson & Son, of Kingston, and Mr. Kemp, gardener, Albury Park, in the class for plants in 12-inch pots.

Of fine-foliaged plants, Mr. Baines sends a magnificent pan of Sarracenia purpurea, Phœnicophorium sechellarum, Croton pictum large and beautifully coloured, and Theophasta imperialis. Messrs. Burley and Wright take the remaining prizes.

In Orchids, of which there are but few, Messrs. Ward, Wright, and J. Wheeler among amateurs, and Messrs. Williams, Rolliesen, and Bull are the successful exhibitors.

Palms and Exotic Ferns are freely contributed, the best coming from Mr. Williams, of Holloway, Messrs. Burley, Baines, Carr, and Wright; we noticed among the Palms fine specimens of Latania borbonica, Sabal Blackburniana, &c.

Of British Ferns Messrs. Ivery, as usual, have a large assemblage.

Tricolor Pelargoniums from Messrs. Stevens, Carter & Co., E. G. Henderson, and F. & A. Smith are, as usual, excellent; and among

amateurs they are well represented in collections from Messrs. Goddard, Thomas, and Welsh. Of Zonal kinds in flower, Mr. Catlin, gardener to Mrs. Lermitte, Finchley, has truly grand specimens.

New plants are shown in large groups by Mr. Williams, Messrs. Veitch, Mr. Bull, and Messrs. E. G. Henderson. Mr. W. Paul has a fine group of new Pelargoniums not for competition, also Lilium auratum beautifully flowered, as well as splendid cut blooms of Roses. Messrs. Cranston, Paul & Son, Cant, Fraser, and Kimberley, have also stands of cut blooms in fine condition; whilst among amateurs, Mr. Ingle, Mr. Farren, and Mr. Chard stand conspicuous. Mr. Hooper, of Bath, has, as usual, very fine Carnations, Picotees, and Cloves, as well as fancy Pansies; and Messrs. Downie, Laird, and Laing's Phloxes and Bronze Pelargoniums deserve more than a word of praise.

In dinner-table decorations, &c., we did not notice much above the ordinary run, though some of the arrangements are tasteful enough. There is in general still a great tendency to overload with flowers, to render the arrangements too elaborate. Our leaning is towards simplicity. Miss Hassard, St. Ronans, Norwood, is first for a dinner-table decoration; Miss Harris, Clarendon Park, Salisbury, second, and she is also second for an epergne with growing plants, no first being awarded, and first for the same with cut flowers and fruit, Miss Hassard being second in this case. For a table bouquet Miss Annie Williams is first, Miss Harris second. Miss Buster and Miss Hassard are equal second for hand bouquets tied. Mr. Wills, Sussex Place, Brompton, is first for a bridal bouquet, Mrs. R. Tanton and Mr. J. W. Chard being second and third; Mr. Perkins, Leamington, being first, Mr. Tanton second, and Mr. Cranston third for hall-room bouquets. In rustic standing baskets, the prettiest in our opinion comes from Mrs. Cole & Sons, and consists of Panicum variegatum, Dracæna Cooperi, and blue Lobelia. Several other prizes were awarded.

First-class certificates were awarded to Mr. Parker, Tooting, for Izora amabilis; to Mr. Bull for Bignonia Roezliana, Amorphophallus spectabilis, Alocasia Marshalli, Philodendron hybridum, Dioscorea spectabilis, Pteris serrulata cristata, and Goniophlebium glaucophyllum; to Messrs. E. G. Henderson & Son for Hydrangea japonica speciosa; to Mr. B. S. Williams for Rhopala granatensis; to Mr. H. Wendland, Inspector of the Royal Gardens, Herrenhausen, for Æchmea Mariæ-Reginæ; to Messrs. Ivery & Son for Polystichum angulare pulchrum Bellairsiæ, P. angulare Marshalli, and P. angulare vulgare Whytei; to Messrs. Standish for Bouvardia leiantha grandiflora; and to Messrs. Rollisson for Davallia clavata. The following floral certificates were given—viz., to Messrs. Perkins, Leamington, for Coleus Lady Leigh, and to Mr. C. Kimberley for Tricolor Pelargonium Gem of Tricolors.

FRUIT.

Of collections of fruit only two are shown; the one comes from Mr. Lynn, gardener to Lord Boston, Hedsor, the other from Mr. A. Johnson, gardener to the Marquis of Aileshury, Savernake Forest. Both are remarkably good. That from Mr. Lynn, to which the first prize was awarded, consisted of large bunches of Black Hamburgh Grapes, General de la Marmora, a Queen Pine, Victory of Bath Melon, splendid Grosse Mignonne Peaches, Elruge Nectarines finely coloured, Bigarreau Napoléon Cherries, and Sir Joseph Paxton Strawberry, very large and fine. Mr. Johnson sends two good Pines, excellent Black and White Grapes, good Peaches, Nectarines, Strawberries, Cherries, and a Melon. Collections of six dishes of out-door fruit come from Mr. Lynn, Hedsor, Mr. Bones, gardener to D. McIntosh, Esq., Havering Park, Mr. Kemp, and Mr. Pizzey, and consist of Red, White, and Black Currants, Raspberries, Gooseberries, Strawberries, Cherries, and Winter Greening Apples.

Grapes are very numerously shown, and for the most part very good. The best 12-lb. basket of Black Grapes comes from Mr. Berry, gardener to J. Da Silva, Esq., Burntwood House, Wandsworth Common; the berries beautifully coloured, and, though not large, very even in size. Mr. A. Johnson is second, and Mr. G. Osborne, Kaye's Nursery, Finchley, third, both with fine berries as regards size, colour, and bloom. Mr. Sage, gardener to Earl Brownlow, Atherstone, and Mr. Wallis, gardener to J. Dixon, Esq., Astle Park, also send fine baskets.

The best basket of White Grapes is Muscat of Alexandria well ripened, from Mr. Feist, gardener to R. Ashby, Esq., Staines. The second best, not so fully ripened, comes from Mr. Osborne; and third, is Mr. Davies, Friern Barnet.

In single dishes of Black Hamburgh, Mr. Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, takes the lead with good-sized, finely-coloured bunches. The second-prize dish, from Mr. Walker, gardener to H. J. Atkinson, Esq., Acton, consists of good, compact bunches, well coloured; Mr. Lane, gardener to J. Miles, Esq., Friern Barnet, is third, with large, fine bunches, but not well coloured. Large bunches come also from Mr. Reid, Possingworth, and Messrs. Wright, Lee.

In Black Grapes of any other kind, Madresfield Court, black as night, from Messrs. Standish, of Ascot, is first; the same firm also sends Royal Ascot. Mr. Hicks, gardener to C. Scholfield, Esq., is second with Black Prince, moderately good. Third comes from Mr. Barham, gardener to Lord Ormanthwaite, Warfield Park, with good bunches of Black Muscat of Alexandria.

In Muscats Mr. Ritchie, gardener to R. H. Prance, Esq., Frognal, Hampstead, is first with large-berried symmetrical bunches of Bowood Muscat; Mr. Barham is second with Muscat of Alexandria, fine bunches, tolerably ripe; and Mr. Kemp, gardener to the Duke of Northumberland, Albury Park, third with good, compact, but not large bunches. Very large bunches of the same kind, but not sufficiently ripe, come from Mr. A. Wright, gardener to C. H. Roberts, Esq., Regent's Park, and Mr. Davies, Friern Barnet, the three weighing 13 lbs., and Mr. Walker, Acton.

Of other white kinds, Buckland Sweetwater, finely ripened, from Mr. Cole, gardener to E. S. Budgett, Esq., Ealing Park, is first; Ascot Citronelle, a deliciously-flavoured long-hanging Grape, from Messrs. Standish & Co., of Ascot, being second. This, though not large in berry, is one of the most delicious Grapes we have tasted. Third comes Mr. Pizzey, gardener to Sir E. Perry, Fulmer, Slough, with White Muscadine.

Of Pines there are twenty-one shown. The best Queen is one of 6 lbs., from Mr. Jaques, gardener to J. C. P. Cunliffe, Esq., Hooley House, Croydon, small-crowned and well-swelled. Second is Mr. Akehurst, gardener to J. Copestake, Esq., Highgate, with a fruit having by far too large a crown; third, Mr. J. Deaville, gardener to Lady Edwards, Wooton Hall, Ashbourne. Messrs. Godfrey, Wheeler, and Cole also send good fruit. For any other variety Mr. Bertram, gardener to R. T. Crawshay, Esq., is first with a Providence not fully ripe of 9¼ lbs.; second comes Mr. Ward, gardener to T. N. Miller, Esq., Bishop Stortford, with a fine Smooth Cayenne of 7 lbs.; the same kind from Mr. Rochford, market gardener, Page Green, Tottenham, is third.

Of Melons there is a fair show. The green-fleshed kinds principally shown are Queen Emma, Golden Gem, and Bailey's, but there are several hybrids; as usual, Gem is the chief scarlet-fleshed kind.

Of Peaches, splendid dishes of Royal George and Violette Hâtive, come from Mr. W. Birse, gardener to J. F. Lermitte, Esq., Finchley; of Barrington and Grosse Mignonne from Mr. Reid, gardener to L. Huth, Esq., Possingworth; of Royal George and Violette Hâtive from Mr. Bones; of Grosse Mignonne and Violette Hâtive from Mr. Lynn, gardener to Lord Boston, Maidenhead; and these kinds, as well as Noblesse, are well shown by other exhibitors.

Nectarines comprise fine specimens of Violette Hâtive, Balgowan, Elruge, Hunt's Tawny, and Newington from Messrs. Davey, Birse and Kemp.

Of Cherries, Messrs. Cole, Walker, and Godbold sent fine dishes of, Bigarreau Napoléon, Black Tartarian, and Mr. Smith the Elton.

In Strawberries, four dishes, Mr. Douglas, gardener to F. Whitbourn, Esq., has remarkably fine fruit of the Frogmore Late Pine, Lucas, Admiral Dundas, and British Queen. Mr. Clarke, gardener to J. C. Browne, Esq., Horsham, has Empress Eugénie, very fine. Large fruit of President, Lucas, and Sir C. Napier come from Mr. Smith, gardener to the Earl of Gainsborough, Exton Park; and of Frogmore Late Pine, Sir C. Napier, and British Queen, from Mr. Pizzey.

Mr. Harvey, gardener to P. Wroughton, Esq., Worsley Park, Wantage, sends four good Pines, grown on the Hamiltonian system, being the third crop in two years and seven months. Mr. Akehurst, gardener to S. Copestake, Esq., has three good, ripe-fruited Pines in pots; and of Vines in pots. Mr. Wisker, gardener to J. A. Rose, Esq., Wandsworth Common, has two plants with well-ripened bunches. Messrs. Lane have also good examples, though the bunches are not so well coloured; and from Mr. Cole, gardener to E. Budgett, Esq., Ealing Park, come two fine Vines trained with 3-feet stems, and forming a circular table-head, from each of which are suspended eight good bunches. These were grown in 12-inch pots and afterwards repotted.

Of other fruit, Mr. Osman, gardener to F. R. Holland, Esq., Stanmore, has very fine Brown Turkey Figs; Mr. Harvey, Wooley Park, Wantage, two fruit of Stephanotis floribunda; Mr. Osman has also excellent French Crab Apples; and Mr. Deaville sends Bedfordshire Seedling, plump, and in fine preservation.

BALSAM CULTURE.

As it is necessary to make two or three sowings for sake of succession, we think it useless to fix any date; the seeds may be sown in almost any soil (if it be of a light nature), and plunged in a mild hotbed. In a few days the young seedlings will appear. Great care must be taken to have them near the glass. As soon as they are fit to be handled, select a number of deep thumb pots, and a quantity of soil consisting of leaf mould and loam—the same temperature as that from which they were taken. They should be potted as deeply as possible, not to cover the leaves. Now is the most critical period of their growth. The best plan will be to have a small hotbed prepared for them; there is then no difficulty in treating them as they should be. Little shading is necessary—the less the better, as they are so inclined to run upwards. As before remarked, they cannot be too near the glass, if they do not come in actual contact with it. A little air is necessary on all occasions, as it tends to stubby and substantial growth. By the next shift the grower will see if he is to have nice plants; as soon as the bottom shoots are got hold of, there is no diffi-

culty in growing fair plants. When long enough they must be pegged down, and every after-shoot must be kept down by means of pegs, or ties of Japan flax. The Balsam is even more brittle than the young shoots of Vines, and the trainer must exercise considerable caution in tying or pegging. Some people feel satisfied with an 8-inch pot for their largest plant, and we believe this to be the most economical and most useful system. Very nice plants, loaded with bloom, can be grown in 8-inch pots with very little trouble; but to grow specimens is a very different consideration—an 11 or 12-inch pot will grow a specimen 3½ feet in diameter, and this we consider a fair specimen. If plunged in a spent hotbed, with the sashes tilted to admit as much air as possible, and every bloom picked off as it appears, they will grow like Willows; and when the roots have thoroughly searched through the soil and exhausted it, they will stand any reasonable amount of feeding. The best Balsams we ever saw grown were at Cullen House by Mr. Milne in 1868; and being one of Mr. Milne's assistants, we had the advantage of seeing their treatment. The plants alluded to were trained as we generally see show Pelargoniums. A trellis was formed of green-painted sticks and dark cord, so that every shoot could be pulled down by means of soft flax ties, at the same time hidden from the eye. By the month of August the plants were all that could be desired; certainly their appearance in the show-room at Cullen could not but satisfy Mr. Milne for all his trouble as regards the training. Will you, Mr. Editor, or any of your correspondents, be good enough to state which is the proper mode of training? We saw Balsams at different shows in Lancashire last summer trained as Chrysanthemums are in Scotland, and we think the system highly objectionable, as they look unsightly unless they are shouldered up by a Geranium or two to hide their bare legs. —Wm. Hinds, *Childwall Lodge, Liverpool.*—(*The Gardener.*)

THE NIGHT-BLOOMING CEREUS.

Of this, Cereus grandiflorus, there is one large old plant here which I have heard several gardeners and gentlemen say is the largest of its kind in England. It flowers here every year, and in 1869 there were 131 flowers opened from May 29th to June 28th, and as many as sixty-seven open in one night. This year it has just finished blooming; the greatest number open at one time being thirty-one, when we had the plant photographed by the magnesium light. The size of the plant is as follows—5½ feet high, 9 feet across, and 1½ foot through. It is trained on a strong iron trellis, and every year's fresh growth is laid on the top and closely tied-in on the sides.—R. Maitland, *Pendyffryn Gardens, Conway.*

[This is the finest specimen bloomed in this country of which we have any information. We have more than once been taken to see, by lantern light, one or two blooms on small specimens. The finest we ever saw was trained over the trellised arcade admitting from the Ganges to the house of the Curator of the Botanic Gardens at Calcutta. Its hundreds of blooms and the fire-flies darting among them are vividly remembered.—Eds.]

WINDOW GARDENING.

We are glad to see that societies for the encouragement of this very desirable object continue to find promoters in the metropolis. Lately an exhibition of plants was held in the front court of the Royal Hospital, under the auspices of a Society lately formed in Upper Chelsea, under the presidency of Lord Cadogan, and the vice-presidency of the parochial clergy. In spite of the prevalence of adverse weather, the plants which had been registered six weeks previously, did credit to their owners, and prizes were awarded to about sixty competitors. The noble President, who distributed these prizes, had a kind word of encouragement both for successful and unsuccessful exhibitors. A band of the corps of commissionaires played a selection of popular music during the afternoon. The result of this first attempt to promote window gardening in the parish was very satisfactory, and gave abundant promise of greater success in the future.

Lord Shaftesbury presided over a meeting in the well-known Dean's-yard, Westminster Abbey, for the promotion of window gardening, a purpose supported by the Lord Chancellor, the Dean of Westminster, Canon Conway, and others of the clergy and laity of the surrounding districts. A spacious tent in the enclosure held the flower show, the result of the spring and summer cultivation by dwellers in the neighbouring nooks and corners. Of three hundred exhibitors, sixty were awarded prizes, which were duly distributed before a very fashionable assembly to the winners, who were chiefly of the lower class in the labouring population. Lord Shaftesbury, after giving all the prizes awarded, told the other exhibitors, amid great cheering, that though they had not won prizes, yet it had been determined to give them some "crumbs of comfort" in adding something for each. He assured them, however, that it was well to begin in most things with a failure, for success in starting made people "priggish" and "cocky," while a breakdown often led to renewed effort and to a more certain and continuous success. He then spoke of the benefits arising to the poor and lowly from the cultivation of flowers, even though it might be in a tiny pot on a narrow ledge. In that cultivation the dullest mind was expanded, for the man, woman, or child who cultivated a flower saw the benefit of air, water, and light to the growing plant, and the blooms which followed care, and they naturally would have their thoughts directed to the Providence who bestowed all these gifts on His creatures, and to the advantages of ventilation and cleanliness. He dwelt particularly upon the existing need for some of the exhibitors and dwellers in these corners to use water, with soap, on themselves—an admonition not uncalled for as regarded some present. After a jesting comment on the combination of pleasant names, as Rosemary, Sweet Apple, Cherry Tree, and Paradise, with most unpleasant places in London, he congratulated his old friend, Old Pye Street, upon taking prizes at this Show, and said that whatever education the London School Board decided upon giving the street Arabs, he should not be satisfied unless a knowledge of Nature's beauties was imparted, and with this they would find sermons in babbling brooks, open books in the green fields, and God in everything. The Dean of Westminster and Canon Conway spoke, and the meeting concluded with cheers for the noble Chairman and for the Dean, who is the President of the Society.

SHOULD ONE EXHIBITOR RECEIVE ALL THE PRIZES?

At the leading exhibitions there are, now, restrictions in the size of pots in large collections of plants, so as to allow young exhibitors a chance for competing, and I think the time is opportune for drawing attention to a practice that prevails at small local exhibitions, and which in my opinion equally needs reforming. The question I would like to ask and see discussed in your columns is this—Is it fair, or not, that an exhibitor should be allowed to carry off all the prizes in a single class? The practice prevails in this locality as well as in others, and what I am surprised at is, that in the open classes or in collections of plants or fruits it is disallowed, but with single specimens and single dishes of fruit or vegetables it is the rule. Why the line is drawn I cannot understand. One reason I have heard urged is, that better exhibitions are obtained by permitting this; but I greatly doubt if such is the case, as in small districts it is well known where there is an exhibitor who excels in any particular thing, and his productions in that class are soon left to compete amongst themselves. It may be the right way to get a good exhibition, but it is not the right way to create a competition. I always understood that the first and proper aim of flower shows is the advancement of horticulture, by causing an emulation amongst gardeners or amateurs, and when an exhibitor showed the best he had, and took the first prize, it showed his superior skill; he should then be content with the honour he achieved, and allow the next best exhibitors to take the other prizes. It would appear as if the relative merits of the exhibitions are not considered at all according to this rule, that one might bring all his produce in any class, stage it in single specimens or dishes, and let the judges pick out which they might think proper, thus setting up his own produce to compete against itself.

My motive in bringing this question forward is entirely in the interest of fair play to small growers. I believe that many are deterred from exhibiting, knowing that they have no chance with a few of the local lions who go in and devour the lion's share, while they must stand back aghast until the noble animal is overgorged; then they may go in and pick up a few crumbs here and there. Of course there is no blame attached to the exhibitors; they receive the schedule, and are bound to accept its conditions, right or wrong. I have conversed with several gardeners on the subject, and nearly all were of my opinion. It is the committees who draw up the schedules to whom we must look for reformation; all that the exhibitors can do is to protest against such conditions. I shall be glad to see the matter discussed.—A Yorkey.

ON THE PROTECTION OF FRUIT TREES FROM LATE FROST.

A very large number of gardeners deem protection of some sort necessary; a few declare against protective measures in any degree, and not very fairly comparing small things with great, class them in the same category with corn laws and pro-

tective tariffs. The differences of individual experience are sufficient, no doubt, to account for some divergence of opinion as to the extent of protection necessary; but the almost universal prevalence of frost, or equally destructive winds, up till a late period in spring, should leave little room for doubt as to the expediency of the practice to some extent. Perhaps too much protection is as bad in its results as no protection; and thus the non-protectionists may find some justification of their views in the failures of those that coddle their trees, under the impression that they are retarding them, till they become unnaturally sensitive of every change that occurs in our fitful spring weather. It is quite possible to protect overmuch as it is possible to clothe ourselves overmuch. The Hibernian gentleman who put on his entire wardrobe, consisting of three suits and an overcoat, and yet felt cold, neither succeeded in making himself more comfortable nor in bracing himself up to a better state for enduring cold. So with our fruit trees; we may clothe them to the extent of frustrating our own object, and weakening their powers of endurance.

Much ingenuity has been displayed in devising fabrics for the purpose of protecting fruit trees. Some of these fabrics are well, others ill, adapted for the purpose; yet each has its advocates. Some prefer a dense or heavy covering, such as canvas or frigi domo, along with the attendant labour and trouble of daily removing in the morning and putting it on at night. Others think the lighter kinds of protecting materials, such as Haythorn's hexagon netting and the thinner kinds of tiffany, the most effective protectors for either blossom or fruit. Perhaps no kind of material in use for the purpose meets all the requirements. Haythorn's netting, the least dense and most elegant of all, is, I believe, too thick, too obstructive of light, and too bad a conductor. The object of protection should not be to increase artificially the temperature around our trees, but to prevent excessive loss of heat by means of radiation or blasting winds. A much slighter covering than any in use is sufficient to effect this. It is no uncommon thing to find a tender Peach or Apricot under an overhanging leaf quite safe, while those exposed directly to the action of radiation are destroyed. The thin leaf, with its tissues charged with moisture, is a pretty good conductor, yet it is quite sufficient protection for the fruit it shelters, and the fact is suggestive.

Some apply their protection long before their trees are in any danger, and believe they are retarding them. The use of this it is difficult to see; for supposing that it is possible with safety to retard trees that are stirred into activity, say in February or early March, by the slight increase of the mean temperature of day and night that takes place so early in the year, is the application of protection, as soon as they are suspected to be on the move, the proper means to adopt in order to accomplish this object? I am not satisfied that it is so, for having had some experience of most of the materials commonly used, I have observed that they all tend to increase the mean temperature of the day by raising the actual temperature of the night, while they have much less influence in depressing that of the day than is generally supposed. The weather itself is perhaps the most effectual retarding agent we could wish in spring, north of the Tweed at least.

But granting that the application of the most approved protecting fabric acted so as to retard the activity of the trees, what, it may be asked, is the good gained by the practice? Not much, that is very apparent. Could we retard them for a month, which is impossible, we should not then be able to pronounce them past danger; for there are not any grounds for assuring ourselves that the more tender kinds of fruit—such as the Peach and Apricot—are safe till the middle or end of May. It is from March till the middle of May that danger to our fruit crops is most to be apprehended from frost; and it is pretty clear, I think, that it is impracticable to retard the action of the trees to any considerable extent, so as to tide them over the critical period in greater safety. Any covering, be it light or heavy, if it is composed of non-conducting material, will have the effect of surrounding the subject protected by it with a more equable atmosphere, less liable to fluctuations of temperature than the outer air. Every cultivator knows that such a condition is the most favourable for steady progress in vegetable activity, and that plants accustomed to such a condition are much more susceptible to injury from any sudden decrease of temperature than those that are subject to greater variations. Those, therefore, that practise that system which is named retarding, practically extend the period of danger by hastening its commencement, for there is no possibility of correspondingly shortening it at the other end, and they also increase the danger by rendering their trees more susceptible of cold when extreme occasions arise.

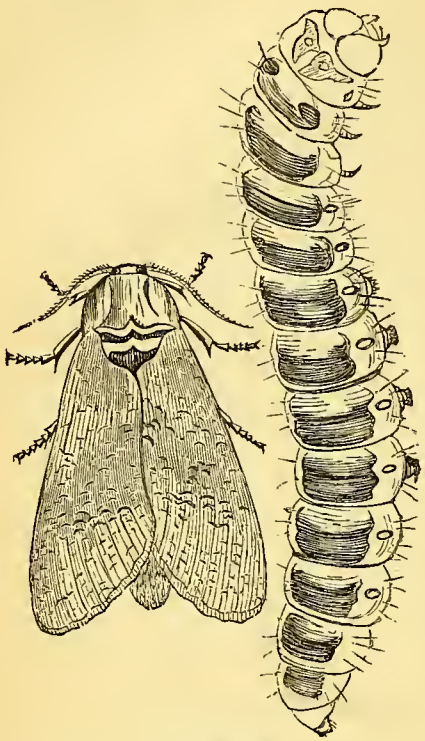
My own experience is all in favour of the thinnest possible protection, to be put on only when it is no longer safe to postpone doing so, and to be kept permanently fixed as long as protection is thought necessary. In my own case circumstances leave me no choice between old herring-nets and nothing. During the past three years they have been used only in part for the purpose, there not being sufficient of other fabrics to cover all subjects deemed worthy of, or in need of, protection, but during the present year nothing has been used except old herring-nets. We use them twofold; and scanty protection though they may appear to be, we have proved them quite capable of carrying safely through as good crops as there are going this year of Apricots, Peaches, and the better kinds of Plums, &c. Yet we were not exempt from the exceptionally severe weather that prevailed from March till the beginning of the second week of June; on the 15th March we had 17° of frost; on the 7th, 8th, and 9th April we experienced 6°, 9°, and 12° of frost each night respectively; and again on the 16th of May we had 10° of frost. On these very severe mornings, and others less severe, but still frosty, which preceded and followed them, we, in addition to our preventive measures, employed also restorative means in the shape of cold water from the garden engine; the trees were kept drenched from peep of day till the sun had warmed the atmosphere. I believe this did much good; I am persuaded, at least, that it did no harm. Our thinnings of Apricots would have furnished the trees twice over with fair crops. Peaches will not bear thinning, but there is a respectable sprinkling on most trees. Plums are fair crops, and Cherries also are fair; Apples and Pears, neither of them protected, are exceedingly thin crops.

This subject of the protection of fruit in spring is interesitng as well as important, and to many, I have no doubt, it would be acceptable to see it fairly discussed from various points of view.—W. Sutherland, *Minto Gardens.*—(*The Gardener.*)

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 12.

About this time of the year the sombre-looking Goat Moth (Cossus ligniperda), may be detected in the day extending itself on the tree trunks. At night it flies about rather languidly, the females depositing their eggs in the crevices of the bark. The unscientific human individual who has been accustomed to associate the word "moth" with a tiny creature destructive to cloth or to seeds, is considerably puzzled when informed that this large-winged insect is also a moth. In some counties, nevertheless, we find that the name, "Moth-owlet," is applied to this, and to other dull-coloured species, such as the Old Lady, indiscriminately. Common as is the Goat Moth near the metropolis, and in various localities, there are some parts of England where it does not occur at all. Doubtless, on the principle of compensation, other species make up there for its absence, and help to bring to the ground many a goodly tree. For the caterpillar of the Goat is an internal feeder in the wood of many of the Ulmaceæ, though particularly frequent in the Willow. From the circumstance that in the same trees are generally to be found hosts of small beetles, also wood-borers in their larval condition, a fierce controversy was waged as to whether they worked simultaneously, or whether the first transgressor was the moth, and the beetle merely came-in at the finish, though the latter are certainly to be found sometimes at trees uninfected by the Goat. In my opinion, which I give with hesitation, the beetles in question, which are of the Weevil family, and of the genus Scolytus, and allied genera, follow the caterpillars, or other and larger wood-eaters, and do not attack trees healthy and sound. The peculiar odour of the Goat caterpillar gives one a clue to its presence, and is so persistent that several washings are needful to remove it from the hands should the creature have been taken hold of. A story has been passed from author to author, which is to the effect that the Romans in their age of epicurism devoured a fleshy grub they called Cossus, and which was this odoriferous and repulsive caterpillar. The first half may be true, the second is exceedingly doubtful. It is not at all easy to find the young caterpillar of the species before us, and yet it is in the early stage that one would wish to operate upon it were it possible. My own supposition is grounded on what I have observed in the case of the Leopard Moth, another wood-feeder, that for a time, at least, it lives between the bark and the wood

before it constructs a mine. The mines, or tunnels, are extensive and cross each other in various directions, very slender at first, while those tenanted by the full-grown caterpillar will almost admit a finger. We find on examination that tracks of



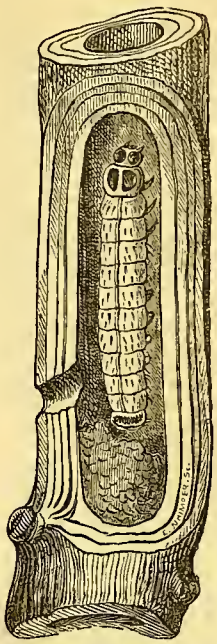
Cossus ligniperda.

different sizes are to be found in various parts of the tree, and that the caterpillar does not, as was thought, bore towards the centre as it becomes large. In cutting down trees the Goat caterpillar, as it reposes without eating during the winter, has been discovered in a habitation specially prepared, and this has been thought its usual practice. Some entomologists, however, report having discovered it then in a partially active condition. The chrysalis is placed very ingeniously in such a position that when the moth makes its exit there is only a

Wood-Leopard Moth—Zeuzera Æsculi.

thin film of wood between it and the outer world, which film is easily pushed aside ; the tail of the pupa-case remaining imbedded serves as a sort of lever to assist the moth to escape. The most effectual way of dealing with this species is by the extirpation of the moth. It is one of those sometimes attracted to any sweet compound spread upon trees, and it may also be caught just after emergence, by enclosing in gauze bags trees which have been attacked. We may reckon that each female moth killed is equivalent to the destruction of several hundred young caterpillars. A full and interesting account of the economy of the Goat caterpillar has been given by Mr. Newman.

A species which, compared with the preceding, is but a pigmy —namely, the Red-tipped Clearwing (Sesia formicæformis), is found plentifully in the twigs of the Osiers and shrubby



Wood-Leopard Moth—Caterpillar.

Wood-Leopard Moth—Skin of Chrysalis.

Willows, rarely or never touching trees. This caterpillar, which is white and fleshy, proceeds very much in the manner of the Currant Clearwing already described. The moth flies about flowers in the sunshine, or basks on the Willow leaves. Another Sesia, known as the Osier Clearwing (bembeciformis), feeds similarly, and is larger, yet not sufficiently abundant to do much injury. It is partial to the stumps of Salix capres, in which collectors seek for it as an entomological prize, obtaining it, if possible, when nearly full-grown. Some think that while very young this caterpillar feeds on the bark of the root. A long list of moth caterpillars might be given, all of which are frequenters of the Willow, and disfigure the foliage. Some years ago I noticed multitudes of the hairy caterpillars of the Satin Moth (Liparis salicis) on some trees in Batterses Park ; the species is now scarce near London. In various places along the Thames and Lea I have found the brown caterpillars of the appropriately-named moth, the Dismal (Orthosia upsilon). They sally forth at night in some seasons by hundreds, feeding in the spring. Throughout the day they conceal themselves under loose bark. That very peculiar caterpillar, called the Puss, is also a Willow-feeder, but not to an extent to be at all injurious. Various small moths belonging to the Tortrix family also help to disfigure considerably both Willows and Osiers, and one of these, which I have seen in abundance near London, is that of Earis chlorana. It binds the leaves together very ingeniously while in the caterpillar state, living in the centre of the bundle, and when of full size spins a snug cocoon of a boat shape. The moth flutters about the Willows in the daytime.

We find in the works of the old herbalists that a curious account is given of what was called the "Rose Willow," and to which various virtues were attributed. Mr. Bind exhibited at the Entomological Society, in 1865, a number of these, which had been taken from lofty Willow trees. The grub, for which they form an abode, produces a fly, Cecidomyia rosaria. Another species, C. marginemtorquens, does considerable harm in some districts, forming red and yellow rolls. Of another of these midges or gall-flies (C. salicis) Mr. Müller gives an interesting account. This seems to be most partial to the White Willow (Salix alba) when growing in hedgerows. He observes that "it makes havoc through the summer in the tips of the leading shoots. These attacks cause the young terminal leaflets to wither, and to form a small bird-shaped nidus, within which the larvæ, to the number of from three to eight, pass their metamorphosis. When the perfect insects have left the shoots

this rapidly withers away, turns brown, and at last drops." By hymenopterous insects of the Cynips family are also produced galls of various forms upon the leaves, occurring sometimes in close clusters.

Other beetles, too, besides those already mentioned, are found infesting the Willow. The large grub of the Musk Beetle (Aromia moschata) bores into the wood, not going very far in. The scent of this species is perceptible a long way off. Some are external feeders, as is the larva of Cryptorhynchus Lapathi. Very common in some places on the S. babylonica and other Willows is the pretty Chrysomela, called vulgatissima. The eggs are deposited in order by the parent beetles, and the larvæ feed together in little parties, going methodically from leaf to leaf. By means of a net the blnish green beetles may be swept off the foliage by hundreds in the early summer.—J. R. S. C.

EARLY RIVERS CHERRY.

It is now many years since the Early Purple Guigne Cherry was distributed by the Horticultural Society among its Fellows. I have had it more than twenty years, and always noticed with interest its earliness and excellence; but its delicate habit, it being liable to canker and gum, prevented its extensive cultivation. It is but a few years since it occurred to me to improve it by raising seedlings from it, and then again I found difficulty in procuring fruit thoroughly ripe, for the stones from unripe fruit would not vegetate. This is a common thing with early fruits; the pulpy covering ripens, but not the seeds. At last the orchard house came to my aid, and in the hot summer of 1865 some stones from very fine ripe fruit were sown. In 1866 they made plants from 1 to 2 feet high. In that summer their tops were cut off, and their buds placed in some Mahaleb stocks. In 1867 they made a fine growth of some 4 to 5 feet. In the autumn of the same year they were potted; in 1868, in the orchard house, they formed blossom buds; in 1869 Early Rivers bore its first crop; in 1870 and 1871 the tree bore abundantly, and its fruit were as large as those of its parent, a trifle later, but very rich and good, and the tree luxuriant and healthy.

Early Rivers Cherry.

There are other seedling trees of the same race; all have given fine fruit, and one of them is remarkable for its earliness. Early Rivers in 1870 ripened with its parent; in 1871 it was three or four days later.—Thos. Rivers.

[This very excellent Cherry, which we figure to-day from a cluster sent us by Mr. Rivers, has been very appropriately named. It possesses merits of a high order, and, we feel satisfied, will become one of our most popular varieties. The fruit is produced in large clusters of ten to twelve, two to four on a very short common peduncle. Fruit 9-10ths of an inch in diameter, roundish heart-shaped, and somewhat uneven and "hammered" on the surface, slightly pitted on the apex, and with a distinct style point; suture not well defined. Skin black. Stalk 1¼ inch long, rather slender, green, with a small, rather deeply-embedded disk. Flesh very tender, sweet, and agreeably flavoured. Stone extremely small, perhaps the smallest in any Cherry.]

NOTES AND GLEANINGS.

The Ruling Passion.—During his stirring recital of the suffering and destruction endured at Chatillon by the useless cross-fire of the insurgents (*e.g.*, 2400 shells putting only six men *hors de combat*) and Versaillais, M. Amédée Latour thus deplores one of his grievances:—"What a suffering for a lover of the garden like I am! Here I have under my eyes my magnificent Pear tree covered with blossom and devoured by caterpillars. I can count sixteen frightful clusters of them. To destroy them the tree must be climbed, and that is an impossibility; for being in sight of the forts at Issy and Vanves, the instant the artillerymen perceive any object in the garden or at the windows, they throw a shell. Woe to anyone who ventures to light a candle in any of the upper rooms."—(*Times.*)

—— A gentleman near Enstone, Oxfordshire, had a Mushroom (Agaricus campestris) brought to him this week which

measured 2 feet 10 inches round, and was perfectly sound and fresh.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Asparagus beds during the present month can hardly have too much manure water from the stable or farmyard tank. On dry friable soils salt may be applied with advantage, but it should not be used on strong adhesive ground, as it keeps the soil wet in winter and decays the roots. Finish planting out the principal crops of *Broccoli* and *Winter Greens* with as little delay as possible. Proceed with planting *Celery* as ground can be spared, using plenty of manure, and afford a liberal supply of water. Let it not be forgotten that good kinds of *Cabbage* sown immediately on ground previously saturated with water will produce abundance of nice young Cabbages throughout the ensuing winter. Attend to the staking of late *Peas*, and keep the ground moist about those in a forward state, giving them a good soaking occasionally. This will be the best preventive of mildew. See to keeping up a supply of *Salads*, *Spinach*, &c.

FRUIT GARDEN.

Many inquiries continue to be made by persons occupying small gardens, as to the principles of disbudding and stopping trained trees. Trees thus situated, it may be readily perceived, are placed under circumstances of a highly artificial character, and the sure consequences of confining them to a wall or a trellis will be the production of a vast amount of useless spray, and a considerable increase of labour, by which the cost of the fruit is much enhanced, even when success is obtained. However, since many of our improved Pears for the dessert, as well as some other fruits, cannot be produced in proper flavour without an increase of warmth and light, more especially the latter, they will, no doubt, continue to be grown by individuals who esteem horticultural productions, not by their mere marketable value, irrespective of flavour, but chiefly on account of the latter quality. Limitation of the roots, then, I would urge is the only sure foundation of a dwarfing system, which is, or ought to be, in varied degrees, the guiding principle in all artificial training. If the trees are gross, entirely take away as many shoots as will permit the solar rays to reach the organising bud for a future blossom; the rest may be left as safety valves to decoy any undue amount of sap in a temporary way, taking care, however, to pinch off their terminal shoots. The process here recommended is applicable to nearly all our fruit-bearing trees. The late showery weather has been very favourable for the growth of Strawberry runners, and a sufficient stock for forcing next season should be potted at once and placed in a close shady frame until they become established, which will soon be the case. Prepare ground for fresh plantations by heavy manuring and trenching, or, if ground cannot be obtained, at once select the strongest runners and plant them on a shady border in rich soil, to be transplanted with balls of earth next month.

FLOWER GARDEN.

Go over the beds frequently, and keep the young shoots of Verbenas, &c., neatly regulated and pegged down until the ground be fairly covered, after which the shoots may be allowed to grow more at liberty. On poor, dry soils two or three applications of weak manure water, given at intervals of a few days, and when the ground is moist, will greatly assist in getting the beds covered without loss of time. See that Dahlias and Hollyhocks are securely staked and kept properly tied as they advance in growth. Remove dead flowers and seed from Roses, and give the autumn-flowering varieties plenty of manure water, in order to keep them in vigorous health, and secure plenty of wood for blooming in autumn. Those budded on the Dog Rose must be kept clear of suckers, which, when allowed to grow, weaken the head, besides having an unsightly appearance. Budding should be proceeded with during cloudy weather. Give plants infested with green fly a liberal watering with the engine, or syringe them with tobacco water. Mildew is sometimes very troublesome after this season, and no time should be lost in dusting the infested plant with sulphur, for the enemy will soon spread and destroy the foliage, and ruin the plant for blooming in autumn. Proceed with the propagation of herbaceous plants as expeditiously as possible, in order to have the work out of hand and the glasses, &c., at liberty. Take advantage of showery weather to give the walks and lawns a good rolling, and endeavour to keep the grass short and neatly mown, for nothing looks worse than badly-kept grass. The amateur's interest is kept up by the progressive development of the Carnation and Picotee, which will speedily reward all his care and attention by the development of their beauties; the Tulip, Ranunculus, Auricula, and Polyanthus have passed away for the season, and the especial favourites previously named will for a time fill the void. Take care that the ligatures are occasionally eased, or the stem in its growth is apt to become contracted and deformed: the buds, also, if perfect flowers are desired, must be carefully bound round. Some florists tie with shreds of matting, others recommend indiarubber bands, but hitherto I have found nothing better than thread rubbed with bees' wax. When the shoots are sufficiently long, layering may be commenced; this is performed by cutting through the second or third joint, bringing the knife out on the lower side, making a "tongue;" the small portion of stem beyond the joint is cut back to it, and when pegged down in the soil, which should be fine and friable, it will there emit roots. The amateur, after a few trials, will be enabled to perform this operation with facility. Seedling Polyanthuses should be carefully shaded from the sun's rays and watered with a fine rose. This will prevent the ravages of the red spider. Ranunculuses will be better out of the ground as soon as the foliage is withered; they must be gradually dried; when this is done too rapidly it is detrimental to those which happen to be in a weak state.

GREENHOUSE AND CONSERVATORY.

Shading should be used sparingly here except on bright days, for during unsettled weather plants require all the light afforded by conservatories, the roofs of which are partially shaded by twiners, and are greatly benefited by an occasional gleam of sunshine. The beauty of most softwooded plants will be considerably prolonged by the use of weak manure water, which should be given frequently. Indeed, such plants as Achimenes, Clerodendrons, &c., may be had in full beauty from June to October through being liberally supplied with manure water, but this must not be given too strong at first. Keep the atmosphere as moist as can be done, but avoid damp or cold nights, by leaving sufficient air to cause a gentle circulation, and spare no attention to keep the plants clear of insects. Stock for autumn and winter flowering will require careful attention to bring it sufficiently forward, for, so far, the season has been unusually cold, with comparatively little sunshine. Chinese Primroses, especially the double varieties, if at all backward, should be placed in a cold frame and shaded from the sun, where they will make rapid progress, particularly if the pots stand on a slight bottom heat. Cinerarias for early flowering should also be potted and started at once, choosing the strongest suckers and placing them in a close shady frame till rooted. These are sometimes very subject to the attacks of thrips at this season; but if they are kept cool and moist, and smoked occasionally, there is no danger of their not being clean and growing vigorously.

COLD PITS.

The stock here will be growing freely, and should be frequently examined individually to see that all is going right; for plants when growing rapidly very speedily suffer through any neglect in watering, or from the attacks of insects. Examine young specimens which were potted early in the season, and shift at once such as require more pot room, so as to have the pots moderately well filled with roots before winter, in which state they are much more easily carried over the winter than when either over or under-potted. Leschenaultias should be carefully examined for green fly, and smoked at once if at all infested, and the flowers should be regularly picked off young plants of these as they appear. Chorozemas, Bossiæas, &c., must also be frequently examined for red spider, and should be laid on their sides on a clean mat and thoroughly washed with the syringe, repeating this as often as may be necessary to thoroughly eradicate the insect. Young specimens of valuable hardwooded plants should be carefully trained, keeping the shoots neatly tied-out or pegged down, in order to secure close compact foundations, upon which the future success very largely depends.—W. Keane.

DOINGS OF THE LAST WEEK.

A very trying week for those who had hay cut and almost made, and yet not in, owing to the frequent and heavy showers. The 7th was one of the best drying days of the season, but the 8th has brought a falling barometer and frequent showers. Never did Turnips look better, and where thinned early they are not likely to suffer from mildew as those unthinned and

crowded are very likely to do if the weather do not become drier. Some of these drenching close days made us look to Potatoes rather closely, but as yet we see no signs of the disease, though the crop is all the heavier on account of the moisture. Though we have had many downpours that have greatly assisted in filling our reservoirs, we have been surprised how short a distance the rains have penetrated, owing to the great dryness of two summers in succession. The rains in filling ponds and pools will be of great service, as the water in most deep wells is getting very shallow. Much grass for hay in this quarter is still uncut, and if fine weather come to dry it, the yield will be very heavy.

Dutch Barns.—Since we first alluded in these pages to Dutch barns—that is, large buildings roofed, but open at the sides, except for a certain height, and plated with zinc or tin to exclude vermin, these buildings are becoming more common in well-managed establishments, as the trouble and expense of thatching are avoided, and the straw used for thatching can be turned to better purposes. We cannot recollect just now what a gentleman told us as to the economy of such houses, and how few years of the expense of straw and labour in thatching sufficed to pay all the expenses of the open barn. There are just two ideas well worthy the attention of those contemplating having such a building for holding their hay and corn crops. First, whatever the floor—wood, asphalt, or consolidated concrete washed in with a little cement, it is advisable that it should be above the surrounding ground level, and that air-drains should pass beneath it, with gratings to prevent vermin going in from the outside, and fine-pierced gratings or sheets of iron with small holes over openings inside. Then, again, if over these openings tubes or air-shafts similarly pierced with holes are placed, all crops stored will be kept in a sweet healthy condition, and in bad damp seasons the crops will be housed with more safety than when built in stacks in the usual manner. It often seems a marvel to us how corn-growing can pay when the cornstacks are built on the ground, merely with some faggots and old straw beneath them in which mice and rats may do as they like, destroying often a good per-centage of the crop, and deteriorating the whole with their noxious excreta and effluvia. In such open-sided, roofed barns, if the side walls are from 24 to 30 inches in height, and there is a band of zinc or tin some 12 inches deep all round, no mouse nor rat will ever pass it, and there can be no loss from such vermin, unless they pass in concealed in a sheaf or a large forkful of hay. Times are coming when a first-outlay will be of less consequence, as thus the yearly saving will soon make up for the outlay. This is a matter to be thought of by gardeners, who are often the haymakers; but even in gardening proper the question is now gaining in importance, "How can the greatest amount of enjoyment be realised with the smallest possible outlay?" and regular annual outlays are in general more to be avoided than a good sum spent at once so as to secure future economy. Makeshifts are all very well, and most of us must be content with them, but for proprietors and holders of long leases these makeshifts are often very dear shifts in the end.

Makeshifts.—Perhaps there is no class so guilty of resorting to makeshifts as gardeners. The most successful are often those who are most ready to devise temporary means to meet temporary difficulties. In the light of true economy, though such schemes suit the purpose, they can scarcely be defended, as the labour, as well as the thought and reflection and continual mental strain, are considerable. For instance, we have a lingering love for the old hotbeds, small and large, both for temporary and more lasting purposes, and where plenty of such heat can be obtained, except in a few of the darkest months of winter, the bed and the frame will pretty well rival the pit or the house heated by hot water. We do not like to give up for another serious consideration, and that is the fine lot of the most valuable manure for a garden these decayed hotbeds of dung and leaves supply, all grass cuttings for linings adding just so much more valuable nitrogenous material to the mixture. For sweet vegetables and flourishing flower beds nothing beats such material from hotbeds, and we often fear that when gardeners have no hotbeds they may feel the great difficulty of the manure question, for few gardens will bear continuous and close cropping merely with the help of artificial manures, unless muck from such manures as the above be also supplied. But with all this we are not blind to the fact that now the beds are more independent of such considerations as the above mere makeshifts; and if the manure is to be purchased every year, and the time of preparing it, &c., taken into consideration, it would on the whole be the cheapest in the end to have a pit, or rather little house, heated by fire heat.

Then, again, as respects cold pits and frames, they require great care in protecting them in severe weather in winter, and the protecting material, however cheap, costs money, and with the greatest care there is still a liability of breaking glass, so that we are fully convinced it would be the most economical in the end to run a couple of 3 or 4-inch pipes for hot water to keep out ordinary frosts, and reserve a covering of a mat or a little dry litter for some very extreme weather.

Heating Small Houses.—We have read Mr. Pearson's remarks on the monopoly of fruit-selling with much pleasure, and we have no hesitation in saying that there are hundreds and thousands of little unheated houses, &c., and therefore yielding only a small part of the pleasure and the profit they otherwise would do, because so many of our first-rate hot-water men think it beneath them to have anything to do with such little jobs, or they make such a marvel and a secret of what, after all, is a very simple matter, or speak of a price which is quite alarming. Such simple heating is now becoming a little more common, because country tradesmen are seeing the importance of not despising little jobs. Mind, we say nothing of large jobs; these, on the whole, are generally done economically, with a suitable remunerative profit, and we do not see how a little job cannot be done on the same principle. We had a little house which we wished to heat to keep out frost, and we consulted several, but all went far beyond our calculations, and in the end we took a small flue beneath the tiled floor, and it answered admirably, and cost little more in shillings than we had been asked pounds for hot water. For medium-sized houses, merely to be kept temperate and look neat, nothing in our opinion will beat the small flue beneath the floor, the tile of the floor forming the top of the flue, and the flue being under the pathway.

Even for glass cases, or orchard houses, a small stove would often be a great convenience, for in such a case covering would be troublesome and expensive. Let us, then, do our best with makeshifts, but not lose sight of the fact, that more outlay in heating at first would often prove true economy before many years were over. These matters, however, will bear alluding to again, as being of great importance to proprietors as well as their servants. For instance, it is not uncommon to find a large flower garden well filled on the present fashionable grouping or massing system, and yet after the plants were turned out it would puzzle an experienced person to say where or whence they could come. But doing things in such a way involves a great amount of time and labour in moving from place to place, which might have been in a great measure saved if there had been more glass room in the first instance.

KITCHEN GARDEN.

In the kitchen garden, besides attending to successions, the chief work has been hoeing and forking the surface soil among all growing crops where it had been crusted and baked by the rains. It is often amazing how this *surface-stirring* acts upon such plants from merely letting the air into the soil. Plants that looked as if they would stand still, grew rapidly after the forking. Where rapid growth is the object, we do not think that our less-experienced readers are yet quite aware of the importance of this surface-stirring. They are sometimes nonplussed by what they consider the contradictory practice of gardeners in this respect. For instance, some time ago a keen young enthusiast could not make out why we stirred the ground amongst Calceolarias, and passed over beds of Scarlet Geraniums, though the ground was crusted in the one case as well as the other. Well, the first were flowering pretty freely, and we wished them to grow freely, and thus furnish successions; the Geraniums had grown freely, but the ground was cool, and they had not bloomed so freely as we wished. There had been two or three days of bright sun that would heat the crusted ground sooner than the stirred ground. The caked surface would so far lessen growth, and just in proportion would prompt the plant in self-defence to do what it could in the production of flowers. We like to see free growth, but very free growth does not generally accompany free blooming and fruiting. We have no occasion to go to flowers for an example, however, though it just came in our way. Let us go to the Cabbage plant. If we wish to have as soon as possible a compact nice head we must surface-stir, &c. If we wished a Cabbage plant to throw up its flower-stem as soon as possible, then we would plant firm, keep the ground firm about it, and never think of watering with slops or anything else. Ere long, most likely, a tiny flower-stem will come from a tiny plant.

Just so in the case of a Cauliflower, even though in this case it is the massive incipient flower we eat. If we wished a Cauliflower plant to produce its button of a base, and bloom and seed as soon as possible, we would treat it on the solid hard principle, just as some do who never find any difficulty in securing a saucepan or pot large enough to get a head of Cauliflower into it—not that we are lovers of huge heads, we like them the size of two folded fists, though fine, white, compact heads, uniform all over, from 12 and more inches in diameter, are not by any means to be despised where there are children round the board. But to get heads of such a size we must think nothing of button heads, and early blooming and seeding, further than to avoid them. We must try by surface-stirring, mulching, manure-watering, &c., to bring the plant to a good size before the base of the bloom-head is formed, and then we may expect a large symmetrical head to come from a strong well-developed plant.

Several times when we have been anxious to secure even a few early Peas and garden Beans, we have acted on the solid comparatively starving system. When we wished to have large gatherings though later, we stirred the soil, &c., to encourage growth before the blooms and buds appeared. We have rows of Peas just now quite strong enough not to need any encouragement to growth, as less of vigour in the growth would render them less liable to the attacks of mildew, which would be very apt to appear if the earth underneath the roots were becoming dry whilst there were so many showers. The only signs of mildew we see at present among all our thick plantings, &c., is on a row of late Peas, a few inches in height. The ground was well prepared, and we should think there was no stagnant moisture, but a number of the leaflets are affected. We have strewed over them a little lime and soot; a little sulphur might have been added. Both sulphur and lime, when the latter is at all fresh, are great enemies to all kinds of mildew.

As Peas have been abundant, we have let our Asparagus all grow for a fortnight, it having yielded wonderfully this season, all the more desirable, as spring vegetables were scarce. We could still, if we wished, gather sprouts of the Asparagus Kale, and the little shoots are exceedingly sweet, but as Cabbages, Cauliflowers, and Peas have been plentiful, there is little use for them now. We lately alluded to the summer management of Asparagus and Sea-kale.

FRUIT AND ORNAMENTAL DEPARTMENTS.

Were it not like harping at one time too much on one string we might have gone to any length for illustrations of the importance of *keeping the soil open, and keeping the soil compressed*, just in proportion as the object aimed at was free growth or free fruiting. A young fruit tree planted in the ground need not be planted very firmly at first, as free growth is wanted. The same rule holds good in the case of a fruiting plant in a pot, but when we wish to secure abundance of healthy flower-buds, we cannot make the potting too firm. As it is not too late to give young fruit trees in pots their last potting if deemed necessary, the soil round the ball can scarcely be made too firm. To prevent cracking on the surface, and allow the free passage of water, the surface may be left loose to the depth of half an inch or so. With such a pricked-over surface to secure these objects, the soil in Peach houses where the trees are established can hardly be too consolidated. The digging or forking them over deeply is worse than labour thrown away. The same principle applies to all dwarf fruit trees out of doors. To keep them fruitful in little space, the ground about them must be firm; but it may often be necessary to prick over the surface soil with the points of a fork, and even to mulch, to allow water to enter, for if the soil is much drier above, the roots in self defence will go downwards after moisture, and the deeper they go the less likelihood will there be for wood and buds being thoroughly matured. This, too, explains what has seemed to be a mystery to many of our readers, how a Peach, an Apricot, or a Pear will often fruit much better against the wall of a cottage, with a hard or pitched path over the roots, than on the wall of a gentleman's garden, with a rich border in front of it. It is not the position, but it is the digging and constant cropping of the border that do the mischief. Either the roots are encouraged to grow too freely, or forced, to escape the digging, to go deeper down, and in either case the wood produced is apt to be spongy and less matured than in the case of a tree forced to make shorter and stumpier wood, and therefore better ripened, and more able to withstand the severest frosts. The tree against the cottage wall, when fully established, may go on bearing for years, producing its stumpy well-ripened wood without receiving assistance at the roots, even though mostly covered by a pitched pebble or a hard gravel walk; but if the wood should begin to show signs of weakness it will be strengthened by loosening the surface in places, and supplying the soil with manure-waterings. Much of the mystery would be removed if the simple fact were clearly noted and understood, that where free early blooming and fruiting are the chief objects, then much will depend on having roots near the surface, and in a compact firm soil. Years ago we were much struck with the difference in the appearance of fruit trees planted widely apart in lines in a large orchard. Part of the orchard, after a few years, had been laid down in grass, and part was yearly cropped between the trees with Potatoes, Turnips, Cabbageworts, &c. In the latter part the trees grew far more freely and luxuriantly, but they did not fruit in proportion to those that had the grass pasturage over the roots. We did not see then, as we think we see now, that the greeter fruitfolness was mainly owing to the lessened luxuriance, and that again was chiefly owing to the greater compactness of the soil from not being stirred up at all.

Something would be gained were it clearly understood that free rooting in open soil, though tending to luxuriance of growth, does not equally tend to early and abundant blooming and fruit-bearing. As a case in point, it is time to prepare Strawberry runners for forcing. The mode adopted is of less consequence, and free rooting may be encouraged at first in loose soil, but during the bright days of autumn the soil can hardly be too much consolidated, so as to secure the greatest amount of fertility next spring. The compactness of the soil by the resistance given forces the roots to divide into countless numbers of small healthy fibres instead of a less number of larger rootlets and larger-mouthed spongelets.

In the ornamental department the same rule holds good. To make young plants grow freely they need not be potted firmly. For free blooming the reverse should be the case. In all hair-rooted plants, as Heaths and Rhododendrons, this is highly necessary; but, as stated the other week, when such plants in pots are set out of doors the pots should be protected from extreme heat and cold. Where flowering shrubs and trees are established, the less they are dug about the better. A slight surface-stirring and even mulching, are different affairs altogether. The same principle is of importance in the case of shrubs, &c., at all tender. It is wise, by elevated planting and compact soil, to be satisfied with less luxuriance of growth, so as to secure the ripening of the wood.

Besides routine as adverted to lately, and getting on with fresh arrangements, we pricked-off and potted Primulas, Poinsettias, Euphorbias, Justicias, Eranthemums, &c., keeping the latter in rather small pots for securing abundance of bloom in little space. When our window gardeners keep their plants in pots we advise them to have more plants and smallish pots for securing the greatest amount of continuous bloom. We shall presently pot a lot of Geraniums, &c., left over from bedding. Part we shall put under glass to give us neat flowering plants for the autumn, part we shall place out of doors and nip off all flowers, so as to bloom them in winter.—R. F.

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

GRAPES DISEASED (*Bertram*).—They are severely ulcerated, or, as gardeners term the disease, "spotted." The roots being outside the house probably causes the disease. They do not supply a sufficiency of sap to maintain healthy growth. Mulching over the border, and watering with tepid weak liquid manure might check the disease.

ROSES (*Patelin*).—The two are different.

ROSE PRINCESS CHRISTIAN (*G. C.*).—It died in my garden in the spring. Last year was too trying for infants. I thought it a promising

Rose, it was not quite full, nor can we expect Roses to be full on such weak stocks. I have observed that Roses which are not full enough on weak stocks often become full on strong stocks, and that Roses which appear to be the very thing on weak stocks, become stuffy and hesitating bloomers on strong stocks. Buy Marie Rady, Edward Morren, Perfection de Lyon, and Madame Chirard. Baroness Rothschild is a beautiful Rose. In the delicate line, Marquise de Mortemart is extra beautiful, but not a strong grower.—W. F. Radclyffe.

Budding Roses (*Amateur*).—I am not aware that there is any difference in the growth of Roses budded in July and August. Roses may be budded on the Manetti stock any time between May and September. In fact, success depends greatly on the sappiness of the stock and slice. July is probably the best month in the year for budding. Briar Roses may be budded as soon as the bark of the stocks will run, until the end of August. After budding the stocks, if the sun is strong, put a leaf over the bud. If the weather be dry, water the stocks well before budding.—W. F. Radclyffe.

Pansies (*Mrs. B.*).—If our correspondent will furnish us with some details as to how she loses her Pansies and when, we will endeavour to assist her. There are various causes from which they sometimes fail, and unless we have something more definite, our advice might be utterly useless. Are they cultivated as directed in our "Florists' Flowers," which can be had free by post from our office for five postage stamps?

Bedding-out Plans (*X. Y. Z.*).—Our "Flower-Garden Plans" will suit you exactly. You can have it free by post if you enclose 5*s.* 4*d.* with your address.

Melons not Setting (*A Young Gardener*).—It is a very common cause of failure, and chiefly arises from imperfect root action, often occasioned by a deficiency of bottom heat. Let that be kept at 70° to 75°, and when the fruit is setting maintain a rather dry atmosphere, but have the soil in a moist condition; indeed we water plants in houses or pits just the same whether they are in or out of flower, only when in flower we do not water overhead. The main points are to keep the flowers dry when open, to give abundance of air, to impregnate the flowers on a fine day, and after the corollas close to syringe or maintain a moist atmosphere. You do not say your soil is good strong loam, and that you make it very firm. We tread ours hard, and we have short-jointed wood, the plants not growing so freely nor going so much to wood. Your treatment we should consider good.

Charles Lefebvre Rose Buds not Opening (*A Friend*).—We think the cause is the cold spring and the removal last winter. You can only mulch with short manure, and water copiously both overhead and at root in dry weather.

Select Scarlet and Salmon-flowering Zonal Pelargoniums (*Idem*).—*Scarlet*—Coleshill, Thunderbolt, and Phœbus. *Salmon.*—Sunnyside, Renown, and Herald. Lime water applied frequently to Geraniums would injure them. It is of no value as a liquid manure.

Mr. Radclyffe's Strawberries and Roses (——).—I have not measured nor weighed any Strawberries this season. Cockscomb is not in crop this year at all, I have just planted out (July 6th) runners of it; and Eliza, Dr. Hogg, and Mr. Radclyffe have been extra fine. They are first-class fruits. The finest crop of all—all being good—is on Wonderful. La France is a strong grower and a good conservatory Rose; it is very hardy, but soils in bad weather. Occasionally a bloom is grand. I greatly prefer Baroness Rothschild, Marguerite de St. Amand, Marquise de Mortemart, and Madame Emile Bevan. Alfred Colomb is a free grower, but has limp wood. It is one of the finest Roses. Marie Baumann is also one of the very finest-shaped Roses, quite perfect, but it is a shy grower. I have never till now proved Madame Fillion; it is a good grower, distinct, beautiful, and a free bloomer.—W. F. Radclyffe.

Geranium Leaves Red (*W. E. W.*).—The Geranium leaves are not, as you suppose, infested with a red fungus; they are sound, and the powder on them is the pollen (orange-coloured) of some plant, probably some overhanging flower. The leavee have the edges destroyed owing to the sun's rays falling on them whilst wet, or from syringing the edges are kept constantly wet.

Tulip Bulbs with Split Skins (*H. G. M.*).—The Tulip bulbs will not be any worse. Allow the skins to remain, and place the bulbs on shelves in a cool dry place. The salt sprinkled over the Cabbages so as to destroy the young heart leaves will, we should say, have destroyed them, and we do not think they will recover. The haulm of the Potatoes blackened by the same cause will not, we fear, be reproduced in time for the formation of a good crop of tubers. Without haulms the tubers will not swell.

Urceolina Culture (*T. C.*).—It is the same as U. pendula, and is a beautiful, half-hardy, bulbous plant, bearing an umbel of drooping yellow flowers tipped with green. It requires to be kept dry in winter and in a cold pit. Our correspondent says, "I have had Lilium giganteum in the open border three years, the last two winters without protection. This spring it sent up a flower-stalk, and is now beautifully in bloom. Vallota purpurea flowers with me year after year in the open air, with no other favour shown it than being planted rather deeply just outside the 9-inch wall of a cool house."

Camellias after their Buds are Set (*G. H. H.*).—Keep them in a cool airy house, and water them as required so as to keep the soil moist. A house with an east aspect is best from the present time up to October; but if you have not that, afford a slight shade from bright sun. We are unable to account for the Currant bushes dropping the fruit before ripening, but should attribute it to attacks of aphis, for which there is no better remedy than syringing with 1 oz. of soft soap to the gallon of water. The seeds for sowing in the greenhouse to bloom next winter and spring are Primulas, Cinerarias, Calceolarias (herbaceous), and Mignonette.

Vine Leaves Yellow (*E. R. P.*).—The yellow leaves on the Buckland Sweetwater, in a cool house where no artificial heat is given, we attribute chiefly to a stoppage of circulation in the footstalk of the leaf, which might partly be the result of a sudden check or too much shade. We have frequently seen a few leaves on a Vine thus affected, and, as we judged, from similar causes; but when the leaves are generally healthy this may give no more uneasiness than finding a few yellow leaves drop from a deciduous tree out of doors in June. There are marks on the leaves that show signs of blotching before they became yellow; and as you say these yellow leaves are found at the top of the house, we would exercise greater particularity in early air-giving. See notes at page 12. No means, however, will make these yellow leaves green again.

Vine Leaf Wanted (*Inquirer*).—The eruptions on the lower side of the Vine leaf are a sort of warts, which are apt to make their appearance when the atmosphere is close and moist, or when there is a want of free reciprocal action between the roots and leaves. Your repotting the plant lately might be the cause. We once knew half a dozen Vines in pots begin to show this warty appearance after potting and being otherwise well attended to; but on some plants being turned out it was found the plants had been potted with the ball dry, and the moisture escaped through the new soil without soaking the roots. If this is not the case with you give more air, and keep the atmosphere less moist.

Early Cabbage (*Cabbage Seed*).—Little Pixie is a nice early little Cabbage. For thrift, however, where you do not mind the heads being small, provided you obtain a great return in little room, nothing we think beats Veitch's Matchless. This kind will do well in rows 16 inches apart and some 10 or 12 inches in the row. As we lost so many of our Cabbages last winter we sowed this under glass in March, pricked out and planted out, and towards the end of June we cut fine-hearted little Cabbages, green, and just showing blanching at the heart. Larger, really when up to the mark regular fillbasket kinds, raised at the same time, we have cut few from at the beginning of July. This Matchless was first brought out by Mr. Atkins when he was a nurseryman at Northampton. We think the Messrs. Veitch have improved upon it. The heads are more compact and upright, and therefore perfect themselves in little room, and there is no waste of large parasol-like leaves where there is nothing to eat them. In favourable winters this little hardy kind yields nice heads early in spring.

Gardener's Cottage (*B.*).—You will find good examples of lodges and gardeners' cottages in Loudon's "Encyclopædia of Architecture." Very good plans of cottages have been given in our pages, as the gardener's house at Trentham, at Lough Crew, Ireland, and that of Mr. Robson at Linton Park. A gardener's house should, to be comfortable, have at least six rooms—three bedrooms above, and a parlour, sitting-room, and kitchen below, with an outbuilding for scullery, wash-house, &c. It is often desirable to keep lodges low—all the rooms on one floor, and in that case it is desirable that the walls should be dry, with plenty of ventilation given. It is very undesirable to use soft porous bricks, however desirable in colour, for such a building. It is often advisable in such cases to consult a good tradesman in the neighbourhood.

Panes of Glass in 100 Feet (*G. W. S.*).—Cut into sizes of 20 inches by 14, the number we think could easily be found by multiplying 20 by 14 together, and making the product the divisor of the number of square inches in 100 square feet. We make the number of panes fifty-one and three-seventhe of a pane. Fifty-one panes would be near enough.

Wireworms in Strawberries (*C. Z.*).—They are not wireworms but snake millipedes, Julus pulchellus. In beds of long-bearing Strawberries they often abound. We know of no remedy but paring off and burning the top spit of the soil.

Insects (*W. H. M.*).—Your Rose insect was completely smashed in the post. It was evidently the larva of one of the Saw-flies, probably Cladius difformis. Powder the leaves with fine lime powder.—I. O. W.

Name of Fungus (*M. C., Salterbridge*).—The fungus is Scleroderma vulgare, certainly not edible.

Names of Plants (*George*).—Corydalis lutea, Yellow Fumitory. (*A. C.*).—Hemerocallis flava, Yellow Day Lily. (*R. H. W.*).—Elæagnus angustifolia, the Oleaster. It is, so far as we know, quite innocuous, and we see no reason why you should not plant it as proposed. It has no affinity whatever with Cotoneaster. (*A. F. E.*).—1, Dictamnus Fraxinella; 2, Campanula persicifolia alba. (*Thos. Pearson*).—1, Polystichum angulare, var. lineare; 2, Adiantum bispidulum; 3 and 4, Selaginella Kranssiana (S. hortensis); 5, Microlepia novæ-zelandiæ. (*Truro*).—3, Linaria Cymbalaria; 4, Sedum aizoideum variegatum; 5, Leptospermum bullatum. (*H. J.*).—1, Fabiana imbricata; 4, Tradescantia virginica; 5, Liatris squarrosa; 6, Astrantia major. (*R. C.*).—Your Fern most decidedly is not A. Farleyense. It is A. tenerum. (*Lilium*).—Perhaps Lilium candidum, but the scent is quite strong enough for L. auratum. No one could tell the name precisely from such a specimen.

POULTRY, BEE, AND PIGEON CHRONICLE.

VALUABLE PIGEONS STOLEN FROM EXHIBITIONS.

It has now become imperative on all true and honest poultry amateurs to aid the authorities in exposing, and, if possible, placing in the hands of justice those mean and dishonest individuals, be they who they may, who would personally in the first instance either literally steal, or who afterwards would knowingly receive when stolen, a Pigeon of great original cost, and one that perchance, in some cases at least, the defrauded owner could not replace, even if anxious to do so, by an outlay however liberal. I allude, of course, to the absolute theft of choice and valuable Pigeons at public shows as brought by Mr. F. Waitt before your readers in last week's Journal. Such practices appear now to be sadly on the increase, although most poultry committees are at the present hour making use of an amount of vigilance that would augur well for future prevention. There are amateurs who express their decided belief that these thefts are carried on by persons having no especial predilection as amateurs, but "who steal for stealing's sake," or, as they style it, from simply a spirit of "kleptomania." I confess my liking is to call such practices by their well-known appellations. Theft is theft. I believe every person can be honest if he is inclined to be so, and I also regard the selection of the best birds as a cogent and decisive proof there is at

least "much method in their madness." Let this practice arise, then, from whatever causes it may, I feel deeply that the best interests of exhibitors, and all who feel pleasure in our exhibitions, are enlisted not only in its prevention, but equally in the thorough exposure of the guilty parties, or otherwise few owners will entrust valuable Pigeons to the hazards of a public show-pen.

Admittedly there is much solid truth in the old adage, that "prevention is better than cure," but I know there are many like myself who would much rather detect the depredator than simply prevent his repetition of conduct so unworthy and disgraceful. I quite agree with Mr. F. Waitt, that padlocks might be placed on the pens when judging is completed, and Mr. Waitt continues, "two or three keys could be made to pass any number of locks, and at a nominal cost." So far as this plan goes it has its merits, but unquestionably an extra key might possibly get into other hands besides those of the committee, for the man who by preconcert would steal a first-class Pigeon, would not hesitate much if a lock only stood as a bar between himself and the bird coveted.

I feel assured watchful eyes can do more to prevent the continuance of this practice than locks however carefully constructed; and in the hope it may enliven others to a sharp look-out for the offender, I hereby promise that I will myself give a reward of a guinea to the party who by his evidence is the first to bring to conviction the person who has been lately criminating himself. In common justice my impression is this, that as most conflicting reports are now afloat, at least some of the accused must be unjustly suspected. It would be well, therefore, if any other amateur choose to aid by a subscription, to do so at once, and thus if more than one person is implicated, let us try to promote a split and exposure, that will be hailed with delight by all save the guilty ones.—Edward Hewitt, *Sparkbrook*.

I quite agree with Mr. F. Waitt that some steps should be taken by exhibitors to protect their birds when at exhibitions, and it appears to me the most desirable course will be to call upon the managers of shows to be responsible for the birds' safety whilst in their custody. It is all very well for the law to be that negligence must be proved before exhibitors can recover, but it appears to me that such is already done when the birds are stolen, as if sufficient and honest attendants were employed to watch the birds could not be removed without detection.

I think I may safely assert that in the majority of cases poultry exhibitions are carried out for the purposes of profit, therefore the least the managers can do is to recoup exhibitors for any loss sustained by reason of theft; and if owners of valuable birds will combine together and exhibit only at those places where the management gives an indemnity against theft, it will, in my opinion, lead not only to better protection, but be an assurance to exhibitors that they will receive the value in the event of their property being unfortunately stolen.—Columba.

HALIFAX POULTRY SHOW.

The following is a list of the awards made at this Show, which was held on the 1st inst.:—

Game.—*Black-breasted and other Reds.*—1, J. Hodgson, Bradford. 2, C. W. Brierley. *hc*, J. & W. Harker, Bingley. *Duckwings.*—1, J. F. M. Fitton, Holmfield, Ovenden. 2, W. Sugden. *Any colour.—Cock.*—1, W. Fell, Adwalton. 2, C. W. Brierley, Middleton. *hc*, T. Denton, Southowram; J. Sunderland, Hipperholme. *Hen* or *Pullet.*—1, C. W. Brierley. 2, W. Sugden, Holly Bank, Rastrick. *hc*, W. Fell. *c*, J. Dyson, Halifax. *Any other Variety.*—1, C. W. Brierley. 2, R. & H. Walker, Gomersal. *hc*, J. Sunderland.

Spanish.—1, C. W. Brierley. 2, J. Powell, Bradford. *hc*, H. Beldon, Goitstock, Bingley; J. Thresh, Bradford.

Dorkings.—1, W. H. King, Rochdale. 2, T. Braden, Earby, Skipton. *hc*, J. White, Warlaby, Northallerton.

Cochins.—1 and 2, H. Lacy, Hebden Bridge. *hc*, H. C. & W. J. Mason, Drighlington.

Brahmas.—1, H. Lacy. 2, H. Beldon. *hc*, E. A. Bennett, Marsden Hall, Burnley.

Hamburghs.—*Golden-spangled.*—1, H. Beldon. 2, F. Greenwood, Rochdale. *hc*, H. Pickles, jun., Earby, Skipton. *Golden-pencilled.*—1, H. Beldon. 2, H. Pickles, jun. *hc*, S. Smith, Northowram, Halifax. *Silver-spangled.*—1, H. Beldon. 2, H. Pickles, jun. *Silver-pencilled.*—1, H. Pickles, jun. 2, H. Beldon. *Black.*—1, C. Sidgwick, Keighley. 2, C. W. Brierley. *hc*, H. Beldon.

Polands and French Fowls.—1 and *hc*, H. Beldon. 2, H. Pickles, jun.

Game Bantams (Any other variety).—1, J. Dyson, Halifax. 2 and *c*, F. Steel.

Bantams.—*Black Red.*—1, F. Steel, Marsden Hall, Burnley. 2, J. R. Robinson, Sunderland. *hc*, A. Smith, Southowram. *Black Rose-combed.*—1, J. Walker, Halifax. 2, S. & R. Ashton, Roe Cross, Mottram. *hc*, H. Pickles, jun.; W. Moor, Keighley; Miss E. Cannan, Bradford. *Any other Variety.*—1 and 2, H. Beldon.

Selling Class.—1, W. Firth, Birkenhead (Spanish). 2, H. Frankland, Church (Cuckoo Creel Cochins).

PIGEONS.

Carriers.—1, T. Waddington, Feniscowles, Blackburn. 2, E. Horner, Harewood; J. Holden, Wibsey Slack, Low Moor; E. Horner, Harewood.

Pouters.—1, J. Hawley, Bingley. 2 and *hc*, E. Horner.

Tumblers.—*Short-faced.*—1, J. Fielding, jun., Rochdale. 2, E. Horner. *hc*, H. Yardley, Birmingham; T. Waddington; W. Hughes, Leeds. *Any other Variety*, —1, J. Hawley, Bingley. 2, E. Horner. *hc*, W. Lund, Shipley; W. Lishman, Girlington, Bradford.

Owls.—*English.*—1, W. Hughes. 2, J. Shackleton, Halifax. *hc*, J. Thresh; E. Lee, Birchenly, Colne. *Foreign.*—1 and 2, J. Fielding, jun. *hc*, H. Yardley; T. Waddington.

Trumpeters.—1 and 2, E. Horner. *hc*, R. Wade, Halifax.

Fantails.—1, T. Waddington. 2, H. Beldon. *hc*, H. Yardley; E. Horner.

Jacobins.—1, F. Waitt, King's Heath, Birmingham. 2, T. Waddington. *hc*, T. Waddington; A. H. Jubb, Halifax; E. Horner.

Dragoons.—1, T. Waddington. 2, E. Horner. *hc*, T. Waddington; H. Beldon; W. Whitworth, Kirby Lees, Halifax.

Antwerps.—1, E. Horner. 2, W. Lund. *hc*, J. W. Collinson, Halifax; W. Lund.

Barbs.—1, E. Horner. 2, J. Fielding, jun. *hc*, J. Holden; E. Horner.

Turbits.—1, J. Fielding, jun. 2, W. Lishman, Girlington, Bradford. *hc*, H. Yardley; E. Horner; W. Lund.

Any other Variety.—1, W. Lishman. 2, H. Beldon. *hc*, H. Yardley; T. Waddington (2); E. Horner.

Selling Class.—1, H. Beldon. 2, R. Wade. *hc*, E. Horner; W. Lund.

Judges.—*Poultry and Pigeons:* Mr. J. W. Thompson, Southowram, and Mr. J. Dixon, North Park, Bradford.

NEWARK POULTRY SHOW.

This well-regulated Exhibition was held on the 6th inst. in a tent erected for the purpose. A large amount of rain fell in the earlier part of the day, and this interfered to some extent with the receipts. Turner's pens were used, and the arrangements permitted an easy inspection of the stock. Although several other exhibitions took place at the same time, the entries were good, and most of the birds were in nice order.

Dorkings were of fair quality, but there was only one pen of *Spanish*, it was, however, very good. The *Cochins* were a very good class, Buffs being first and third, and Partridge second; and the *Brahmas* were also of fair quality; but in the above two classes, as also in those for *Hamburghs*, there were several empty pens, the birds having been, no doubt, delayed in their transit from one show to another. In Red *Game* Black Reds were first and Brown Reds second, but in several other pens the birds were wrong in colour of eye, several Brown Red cocks having red eyes, and Black Red hens dark eyes. There were two good pens of Duckwings in the Variety class, but the rest were very poor. Goldens won all the prizes in the Spangled *Hamburgh* class, but in the Pencilled class a nice pen of Silvers was first and Goldens second. In *French Fowls* Crêve-Cœurs were first and Houdans second and third, and in the Any other variety Sultans of rare excellence were first and Buff Polands second, but the third was withheld. The Red Game *Bantams* were not good as a class, although some of the birds were of great merit; but the Piles in the next class were the gems of that section. In Bantams "Black or White" the birds were all of the former colour, and the class much better than we have seen of late; and in the Variety class a very good pen of Silver Sebrights was first, Chinese Booted second, and Japanese third. The Selling classes were well filled, and several lots changed hands.

In point of quality the *Pigeons* were superior to the poultry, and though the classes were few they were well supported. In Carriers the winners were all Blacks, the two first pens beating in form of wattle only two capital pairs shown by Mr. Mitchel, of Birmingham, running close for the primary honours. The first-prize Pouters were Reds, and the second and third Whites; and in Tumblers the first were a correct pair of Almonds, the second Black Mottles, and the third Almonds. The winning Barbs were good, the first being Dark Duns, the second Blacks, and the third Reds. Jacobins were very good throughout, and Reds won all the prizes, Mr. Tomlinson's first-prize pair being remarkably long and close in hood and chain. Trumpeters were poor, but the Fantails were a much better lot of birds, and in Turbits Yellows were first, Reds second, and Blues third. Many more prizes might have been given in that judges' puzzle, the Variety class, as almost every pen was worthy. A perfect pair of Yellow Dragoons was placed first, Foreign Owls second, and Ural Ice Pigeons third. In the Selling class we observed several cheap and useful pairs of birds, most of which would no doubt be claimed. Almond Tumblers were first, Blue Pouters second, and White third.

Dorkings.—1, Miss J. Milward, Newton St. Loe. 2, W. Bearpark, Ainderby Steeple. 3, H. Eyre, Newark.

Spanish.—1, T. C. & E. Newbitt, Epworth.

Cochins.—1 and 2, H. Lacy, Hebden Bridge. 3, J. H. Bradwell, Southwell. *hc*, W. A. Burnell, Southwell; W. F. Checkley, Moulton.

Brahmas.—1 and 2, H. Lacy. 3, Dr. Holmes, Whitecoats, Chesterfield. *hc*, J. S. Dew, St. Neots.

Game.—*Black-breasted and other Reds.*—1, C. Chaloner, Steetly, Whitwell. 2, W. Bearpark. 3, B. Jarvis, Mansfield. *hc*, J. Tyler, Loughborough; G. Doubleday, Upton; G. H. Branston, Newark; S. Beighton, Farnsfield. *c*, J. H. Bradwell. *Any other Variety.*—1, C. Chaloner. 2, J. H. Bradwell. 3, B. Jarvis. *hc*, G. Henfrey, Mappleback.

Hamburghs.—*Gold or Silver-spangled.*—1, J. Rollinson, Lindley. 2, W. H. Tomlinson, Newark. 3, W. Bearpark. *hc*, W. Beecroft, Nottingham; R. D. Borne, Boston. *Gold or Silver-pencilled.*—1, W. Bearpark. 2, W. Howarth, Burton-on-Trent.

French Varieties.—1 and 2, Mrs. J. Cross, Brigg. 3, J. Elgar, Newark.

Game Bantams.—*Black-breasted and other Reds.*—1, S. Beighton. 2, T. C. and E. Newbitt. 3, Pickering & Dugglehy, Great Driffield. *hc*, H. Shumach, Southwell. *Any other Variety.*—1 and 2, T. C. & E. Newbitt. 3, H. Shumach.

Bantams.—*Black or White.*—2, Mrs. Proctor, Hull. 3, G. Holmes, Great Driffield. *hc*, A. Storrar, Peterborough. *c*, J. H. Bradwell. *Any other Variety* 1, Rev. G. F. Hudson, North Petherton. 2, H. Draycott, Humberstone. 3, Mrs A. Woodcock, Leicester.

Any other Variety.—1 and 2, W. H. Tomlinson.

Selling Class.—*Cock.*—1, W. Roe, jun., North Scarle Field. 2, T. J. Harrison, Westmoreland. 3, J. H. Bradwell. *hc*, J. Tyler; J. Elgar; J. F. Loversidge, Newark; Miss J. Milward. *Hens.*—1, W. Boulton, Sheffield. 2, W. Sunday, Radcliffe-on-Trent. 3, T. F. A. Burnaby. *hc*, W. F. Checkley; J. Thomson, Sheffield.

Local Class.—*Cock.*—1, T. Payne, Winkburn. 2, G. Henfrey. 3, J. Johnson, Newark. *Hens.*—1, G. Jackson, Newark. 2, Mrs. Easter, Stubton. 3, H. Hallam, Kirklington. *hc*, J. M. Otter, Newark. *c*, J. Savage, Southwell.

PIGEONS.

Carriers.—1 and 2, E. Horner, Harewood, Leeds. 3, F. W. Metcalfe, Cambridge. *hc*, T. Waddington, Feniscoles; W. H. Mitchell, Moseley.

Pouters.—1 and 3, E. Horner. 2, W. Nottage, Northampton. *hc*, T. Waddington; H. Draycott.

Tumblers.—1 and 2, E. Horner. 3 and *hc*, T. Waddington.

Barbs.—1 and 3, E. Horner. 2, T. Waddington.

Jacobins.—1, W. H. Tomlinson. 2, T. C. & E. Newbitt. 3, F. Waitt. *hc*, T. Waddington; F. Waitt, King's Heath; E. Horner (2).

Trumpeters.—1, E. Horner. 2, T. Waddington. 3, J. Elgar.

Fantails.—1, T. Waddington. 2, 3, and *hc*, W. H. Tomlinson.

Turbits.—1 and *hc*, T. Waddington. 2, O. E. Cresswell, Hanworth. 3, E. Horner.

Antwerps.—1, E. Horner. 2, W. H. Mitchell. 3 and *hc*, W. H. Tomlinson.

Any other Variety.—1, A. W. Wren, Lowestoft. 2, E. Horner. 3, T. Waddington. *hc*, T. Waddington; T. Chambers, jun., Northampton; E. Horner; T. C. Marshall, Peterborough.

Selling Class.—1, G. Brendnell, Nottingham. 2, J. F. Loversidge. 3, S. Robson, Ferrybridge. *hc*, F. Waitt; W. Nottage; E. Horner; T. C. Marshall.

The Judge was Mr. E. Hutton, Pudsey, Leeds.

BECCLES POULTRY SHOW.

July 5th and 6th.

This Exhibition was, we are informed, carried out in all its details by the sole efforts of Mr. Wm. Groom, of the London Road, Ipswich, under a very distinguished list of patrons, and certainly all the arrangements were complete and most satisfactory. The poultry was shown under a tent 140 feet by 30 feet, and four other tents contained a large horticultural exhibition. The Show was kept open till dusk, and was exceedingly well attended, the band of the Fusileer Guards adding to the general attractions. After the Show was closed for the evening, a gala of fireworks and balloon ascents took place. About £200 offered in prizes, with the novelties just alluded to, caused Beccles to assume an unwonted gaiety of appearance, for all the principal parts of the town were profusely decorated with evergreens and banners.

Grey *Dorkings*, as a class, were sadly wanting in condition, and there were many cases of diseased feet prevalent. A pen of birds in this class that were suffering from confirmed roup, were very properly at once returned to the owner. All three of the winning pens of *Spanish* fowls were excellent, but the remainder were as certainly indifferent. The *Cochins* were first-rate, and every breed was well shown, the cup falling to a pen of White. *Brahmas*, both Light and Dark, were good, but the generality of the hens sadly out of plumage. The cup was awarded to the Dark variety. When we mention that Mr. Pickles was exhibiting his best pens of *Hamburghs*, little more need be said in praise of these varieties. In *Game*, Mr. Matthews, of Stowmarket, had it pretty well his own way, but Mr. Julian's two pens that had travelled from Beverley were also prizetakers. *Crève-Cœurs* were the best of the French fowls, but some superior *La Flèche* were also on the prize list. The "Variety" class was much beyond mediocrity, Golden Polands standing first, Silver Polands second, and Silky fowls third. In *Game Bantams* the Show was good. Pekins, Silver-laced, and Black Bantams stood in the prize list in the order in which they are named, the whole class being good.

The classes for fowls hatched in 1871 were better than any hitherto together this season, most of the birds shown being in capital condition, and remarkably forward when the unfavourable character of the spring for early hatches is considered.

The selling classes were so good that it would have well repaid any amateur his travelling expenses to have obtained such good specimens at so trifling an expenditure.

We cannot refrain from drawing the especial attention of our readers to pen 90, in the printed catalogue, described as exhibited by Miss Newson. "Cock (Mule bird), by Brown Red Game cock and Guinea fowl, aged two years." It was, indeed, a most singular bird, and was accompanied by its maternal parent, a good specimen of the common Guinea fowl. The size of the "Mule" was remarkable, being greater by far than that of any Game cock in the Show. The wings and sides were bright chestnut spotted with white; the head betrayed neither the crown of the Guinea fowl nor the comb and wattles of the Game cock, but was feathered-up closely to the base of the bill, the plumage of this part being of a most singular character, whilst the conformation of skull was different to anything that has ever appeared at an exhibition of poultry. The tail was tolerably long, and beautifully and very closely striped with black and white. The legs, though heavy and coarse, were more like those of the mother's than the cock parent. It was very restless and noisy, its voice being most peculiar. We regret to find that a large entry of Mr. Fowler's birds, from Aylesbury, came to hand long after the awards were completed. So much for trusting to the last available train. The promptitude of Mr. Groom, the Manager, is worthy of all praise, all prize-winners who applied being paid on the spot, and we find the poultry was returned with punctuality.

(*From a Correspondent.*)

Notwithstanding a very liberal schedule, there were only 185 entries; this, I think, was in a great measure owing to the fact that, although many of our largest exhibitors reside in the district, none of their names appeared in connection with the management; and exhibitors, when they find brother exhibitors associated with the direction, look upon it as a guarantee that their birds will be well cared for and their interests justly considered.

In the *Cochin* class some fine birds were to be seen, but I much preferred the second-prize pen, belonging to Lady Gwydyr, to Mr. Lingwood's first; I should have given them the cup. The most noticeable feature in the Cochin class for Any variety was the paucity of feathers in the cocks' tails. I heard some time back of an exhibitor being disqualified for artificially inserting a feather in a cock's tail, is it not equally dishonest to remove objectionable once? I hope this will not escape the disapprobation of the Judge in future. In this class a pen of Mr. Fowler's arrived too late for competition, or otherwise they would have been in the prize list. In the *Brahma* class the cup justly fell to the Darks; the first and second were good birds, the third being faulty in comb. The first-prize Light Brahma was very small, the second a much finer bird, but shown with a poor companion. In the *Game* classes Mr. Matthews carried almost all before him, winning in the "Any Reds" with a very neat Black, and being second with a slashing Brown; he was also first and second in the Any other variety of Game with some Duckwings. The *French* class was good and some remarkably superior Polands appeared in the Any variety class. The Game *Bantams* appeared in great force, and some nice birds were to be seen. I much preferred two highly-commended pens to the prize-winners.

Dorkings (Any variety).—1 and Cup, Henry Lingwood. 2, F. Parlett. 3 and *hc*, J. Frost.

Spanish (Any variety).—1, J. F. Sillitoe. 2, Nichols Bros. 3, W. Saunders.

Cochin-China.—*Cinnamon or Buff.*—1, Henry Lingwood. 2, Lady Gwydyr. 3, H. Lloyd, jun. *vhc*, H. Lloyd, jun.; Lady Gwydyr. *hc*, J. Sichel; Henry Lingwood; H. D. Dent. *Any other Variety.*—1 and Cup, J. N. Whitehead. 2 and 3, Horace Lingwood.

Brahma Pootra.—*Dark.*—1, Cup, and 3, Horace Lingwood. 2, H. Dowsett. *hc*, J. Sichel. *Light.*—1, Dr. D. C. Campbell. 2, J. Parea. 3, Rev. N. J. Ridley. *hc*, H. M. Maynard; H. Dowsett.

Hamburghs.—*Gold or Silver-pencilled.*—1 and 3, H. Pickles, jun. 2 and *hc*, W. K. Tickner. *Gold or Silver-spangled.*—1, H. Pickles, jun. 2, L. Wren. 3, H. Pickles, jun. *vhc*, R. Wilkinson.

Game.—*Black-breasted and other Reds.*—1 and 2, S. Matthew, Stowmarket. 3, H. M. Julian, Hull. *vhc*, G. Barton; R. Postle. *hc*, H. E. Malin. *Any Variety.*—1, Cup, and 2, S. Matthew (Duckwing). 3, H. H. Julian (Duckwing Game).

French (Any variety).—1, J. Sichel, Timperley (Crève-Cœur). 2, Rev. N. J. Ridley (La Flèche). 3, W. Tippler (Houdans). *hc*, T. C. Hawken.

Game Bantams (Any variety).—1, Cup, and 2, W. B. Jeffries (Black Red Game). 3, W. Adams (Duckwing Game). *vhc*, J. Dutton (Black-breasted) *hc*, H. W. Wallace (Black-breasted Red Game); W. Adams (Black Red Game) (2); C. H. Webb (Duckwing Game); J. Drake; J. Robinson. *c*, Rev. W. F. Dixon; T. Fenn (Black-breasted Red Game); J. Robinson.

Bantams (Any other variety).—1, J. Sichel (Pekin). 2 and *vhc*, M. Leno, Markyate Street (Laced). 3, S. & R. Ashton, Mottram (Black). *hc*, Miss M. Jodrell (Japanese); Rev. F. Tearle (White). *c*, Mrs. Bishop; G. B. Francis (Black, Rose-combed).

Any other Variety.—1 and Cup, W. K. Patrick (Polands). 2, H. Pickles, jun., Skipton (Silver Polands). 3, Rev. F. Tearle. *vhc*, W. K. Patrick; Miss Newson. *hc*, R. Wilkinson; T. H. Readman; T. Harwood; Lady Gwydyr. *Cockerel.*—1, Horace Lingwood (Partridge Cochin). 2, S. Matthew (Black-breasted Red Game). 3, F. Parlett, Great Baddow, Chelmsford (Coloured Dorking). *vhc*, J. R. Rodbard (Dorking). *hc*, W. Dring (Houdan); Lady Gwydyr; J. F. Loversidge, Newark-on-Trent. *c*, J. Dutton (Coloured Dorking). *Pullets.*—1, S. Matthew (Black-breasted Red Game). 2, T. A. Dean (Light Brahma). 3, J. R. Rodbard (Spanish). *vhc*, J. R. Rodbard (Dorking); J. Jeken (Black-breasted Red Game); Lady Gwydyr. *c*, E. Brown (Dorking); W. Dring (Houdans); H. D. Dent (Cochins).

Selling Class.—*Cock.*—1, T. H. Readman (Golden-pencilled Hamburgh). 2, H. Dowsett (Brahmas). 3, A. Bowman (Brown-breasted Red Game). *hc* Rev. F. Tearle (White Dorking); W. Tippler (Houdan). *c*, Rev G. Gilbert. *Hens.*—1, Nichols Bros. (Spanish). 2, J. Dutton (Buff Cochins). 3, H. Dowsett (Brahma). *hc*, W. White (Spanish); Lady Gwydyr; Rev. G. Gilbert; J. F. S. L. Barber (Black-breasted Red Game). *c*, H. H. Tippler (Dark Brahma). *Miscellaneous.*—1, Lady Gwydyr. 2, Rev. G. Gilbert (Aylesbury Duck). 3, Mrs. J. Mayhew (Cambridge Turkey). *hc*, Rev. W. F. Dixon (Rouen Duck).

Prize to exhibitor who received the highest number of marks without obtaining any prize, Mr. Nicholls.

Mr. Edward Hewitt, of Sparkbrook, Birmingham, was the Judge.

THE BOSTON POULTRY SHOW.

Very few shows have improved with the rapidity of the Boston Exhibition. In general quality almost every class was well represented and the arrangements were, unquestionably, of the highest character the whole of the poultry, &c., being shown under an excellent tent of 150 feet by 40 feet. The band of the Coldstream Guards was in attendance, and the number of visitors was satisfactory, although a heavy shower about mid-day was, no doubt, detrimental to the receipts at the gates.

The Buff cup *Cochins* were very excellent birds, the hen in the cup pen being far superior to those generally met with. The prize pens of both Dark and Light-feathered *Brahmas* were superior, but the remainder in these classes were very weak. Black *Spanish* were especially good, and the *Hamburghs* comprised many of the most noted pens in the kingdom; Mr. Pickles, with these and Silver-spangled *Polands*, being a chief prizetaker. Although the prize *Game* fowls were very perfect, a number of otherwise excellent pens were, by some oversight of the owner, shown though they were "duck-footed." A grand pen of Black Reds were the cup-winners. Most of the best pens of Game *Bantams* were overshown. Silver-laced Sebrights and Blacks were respectively the winners in the extra Bantam class. The Local class (confined to twelve miles from Boston) contained some birds of very good character. The Selling class was comparatively a failure. In a general *Duck* class Aylesburys were first and Rouens second. Silver Chinese Pheasants and French Partridges received the prizes in a "fancy class." The Almonds, Pouters, and the Carriers were admirable among the *Pigeons*, and the *Rabbits* were both good and

weighty. The show of *Cage Birds* was not very large in numbers, but they were good in quality.

DORKINGS.—*Coloured.*—1, R. Wood. 2, T. Fox. *hc*, H. Lingwood. *c*, W. J. Woodhouse. *Any variety.*—1, W. J. Woodhouse. 2, No Competition.
COCHIN-CHINAS.—*Buff.*—1 and Cup, H. Lacy. 2, H. Lingwood. *Any variety.*—1, H. Lacy. 2, H. Bletsoe, Barnwell, Oundle.
BRAHMAS.—*Dark.*—1 and 2, H. Lacy. *Light.*—1, J. Pares, Postford, Guildford. 2, H. Whiteley. *hc*, E. Smith.
SPANISH (Black).—1, Newbitt & Co. 2 and *hc*, J. F. Dixon.
HAMBURGHS.—*Golden-spangled.*—1 and 2, J. Rollinson. *hc*, R. D. Borne, Boston. *Golden-pencilled.*—1, J. Rollinson. 2, H. Pickles. *Silver-spangled.*—1, Cup, and 2, H. Pickles. *Silver-pencilled.*—1 and 2, H. Pickles.
GAME.—*Black-breasted.*—1 and Cup, C. Chaloner, Stectley, Whitwell. 2, W. Boyes, Beverley. *Any other Variety.*—1, C. Chaloner. 2, Miss M. Fletcher.
BANTAMS.—*Black-breasted Game.*—1 and Cup, W. Grice. 2, Newbitt & Co. *hc*, W. J. Cooke, Wainfleet, Boston; S. S. Mossop. *c*, Newbitt & Co.; W. Adams, Boston. *Any other Variety.*—1, M. Leno. 2 and *c*, H. Pickles. *hc*, G. S. R. Cayless; Newbitt & Co. (2).
FRENCH FOWLS.—1, J. J. Maldon. 2, R. Coney, Alford.
ANY OTHER VARIETY.—1, Cup, and 2, H. Pickles. *hc*, G. W. Thomas.
LOCAL CLASS.—1, H. Marriott. 2, E. Smith. *hc*, E. Smith; J. Thorpe. *c*, Mrs. Westmorland.
SELLING CLASS.—1, B. Jarvis. 2, E. Smith.
DUCKS (Any variety).—1, H. B. Bletsoe. 2 and *c*, W. Dudding.
PHEASANTS (or other fancy birds).—1, G. W. Thomas. 2, H. Speller.

PIGEONS.

CARRIERS.—*Black.*—1, Cup, and 2, R. Fulton. *c*, F. Waddington; J. C. Ord. *Dun.*—1, R. Fulton. 2, Withheld.
POUTERS (Any variety).—1 and 2, R. Fulton. *vhc*, T. Hawley.
TUMBLERS.—*Almond.*—1, R. Fulton. 2 and *c*, J. Ford. *hc*, T. Waddington; R. Fulton. *Any other Variety.*—1 and Cup, R. Minnitt. 2, J. Ford. *hc*, W. J. Woodhouse. *c*, R. Fulton.
BARBS.—1, R. Fulton. 2, H. Yardley. *c*, H. Yardley; S. Waddington.
FANTAILS.—1, H. Yardley, Birmingham. 2, S. Waddington.
TURBITS.—1, A. Kitching. 2, H. Yardley. *c*, S. Waddington.
ANTWERPS.—1, H. Yardley. 2, J. Collinson.
ANY OTHER VARIETY.—1, H. Yardley (White Owls). 2, S. Waddington (Ice). *hc*, J. Cross; S. Waddington; H. Boyer; H. Larver. *c*, J. C. Ord; A. M. Adam.

CAGE BIRDS.

PADROT.—*Grey.*—1, V. Ross. 2, Mrs. Ostler. *hc*, T. Spikins. *Variegated.*—1 and *hc*, Miss Jenkins. 2, G. E. Storr.
PARROQUET OR LORRY.—1, Miss C. Dows. 2, No competition.
CANARY.—1, W. Caistor. 2, — Lewis. *hc*, Miss M. Dowsett. *c*, C. Jackson.
CANARY MULE (Any variety).—1, Mrs. Bailey. 2, J. N. Harrison.
LINNET, GOLDFINCH, OR ANY OTHER ENGLISH FINCH.—1, J. N. Harrison. 2, G. W. Thomas. *hc*, P. Keighley.
LARK.—1, J. Eaves. 2, T. Hobster. *hc*, J. N. Harrison.
THRUSH OR BLACKBIRD.—1, J. Brower, Wormgate, Boston. Extra 1, R. D. Borne. 2, J. E. Greenall. *c*, Mrs. Ashby; — Mnschamp.
RABBITS.—*Any Pure Breed.*—1, A. H. Easten. 2, H. Cawood. *hc*, A. H. Easten; A. Reynolds. *Heaviest.*—1, — Taylor. 2, T. Mumby. *hc*, A. Porter.

The Judges were—for *Poultry*, Mr. Edward Hewitt, of Birmingham; for *Pigeons* and *Rabbits*, Mr. W. Massey, of Spalding; and for *Cage Birds*, Mr. J. W. Harrison, of Spalding.

POULTRY SHOW FOR WILTSHIRE.

PERMIT me to draw the attention of your readers to the fact that the principal poultry and Pigeon fanciers of Wiltshire, feeling the need of more shows in the south and west of England, and believing that a county annual exhibition is likely to be better supported and more attractive to exhibitors and visitors than one connected merely with our town, are endeavouring to obtain subscriptions from fanciers generally and from the local gentry for the furtherance of their purpose. Mr. G. Saunders Sainsbury, of Devizes, Mr. Alfred Heath, of Calne, and Mr. W. H. Stagg, of Netheravon, are being active in the matter; and Mr. John Marsh, of the Market Place, Devizes, is the Hon. Secretary. Some money is already promised, but more is needed if the show is to take place. It will be to the interest of fanciers of poultry, Pigeons, and cage birds to have such a show established in a county easily reached on every side, and having the large and well-lighted Devizes Corn Exchange for a place of exhibition.

My own idea, however, is that the show should move each year, and that Salisbury, Chippenham, Warminster, and other towns might be advantageously visited; but money, friends, money, or the dream must remain a dream. If subscriptions flow in in sufficient numbers the show will be duly advertised in this Journal.—WILTSHIRE RECTOR.

THE SEX OF EGGS.

MR. WOODBURY, and most other enlightened apiarians, have had, no doubt, on their minds that the eggs of a queen bee are of both sexes, some female and some male, and cannot be altered by the treatment they may receive in their cells. Some excellent letters on the question, written in an excellent spirit, from the pen of Mr. Woodbury, were inserted in the "Handy Book of Bees," and have been read with great interest. Those letters were written to convince the author of that work that his opinions were erroneous on the question discussed. Though the facts and arguments of Mr. Woodbury were weighty, they did not "fully convince" the author of the correctness of Mr. Woodbury's conclusions: hence he suggested an experiment which, to his mind, would settle the question—viz., to put a bit of drone comb containing eggs into a queenless, eggless hive. Last year several attempts were made to find eggs in drone comb without success. On the 12th or 13th of June of this year I found one hive had lost its queen on her marriage tour; and the bees of that hive were in a state of great commotion and bewilderment, running hither and thither, inside and outside the hive, searching for their lost queen. The commotion and search for lost queens, when there are no eggs in their hives, by the bees, are well known to bee-keepers of experience. Here was an opportunity for the experiment suggested.

A bit of drone comb full of eggs and maggots was cut from a hive yet unswarmed. The bit was cut into three pieces, and fixed separately in the queenless, eggless hive. The reception of the eggs hushed almost instantaneously the roar and rush of the bees into perfect quietness and rest. At once the bees commenced to build some royal cells around some of the grubs in the comb thus imported. Daily were those cells examined, and on every examination the bees were found carefully nursing and tending the grubs in the royal cells. In a few days the cells were sealed up, and then carefully guarded by the bees. Never did a human mother sit more proudly and complacently over the cradle of her child than did the bees apparently over these royal cells. The time for hatching arrived, but no cell yielded a queen. On the sixteenth day I tore the cells out for examination, when I found that their inmates were a mass of putrefaction; only one grub had taken the insect form, it was quite white, and smaller in size than the drones in the adjoining cells. It, too, was apparently becoming foul. The experiment, then, was a complete failure, so far as queen-making goes. Why the bees attempted to make queens from such grubs is a question left for wiser heads than mine to answer. I am thankful for the opportunity of recording the experiment and its results.—A. PETTIGREW.

DO OLD QUEENS LEAVE THEIR HIVES?

IN reference to the article in No. 355, entitled "Queens Leaving their Hives," by "B. & W.," I must admit that if the cases of swarming are correctly reported, they are not only well worth recording, but very exceptional; but in whatever curious circumstances such strange anomalies occurred, I must entirely dissent from the inference drawn by the writer that the swarm issuing from the driven Ligurian stock was headed by the old queen of the removed hybrid hive, and that, therefore, we have here a proof that queens sometimes leave their hives after becoming mothers on other than swarming occasions. Such a statement coming from so accomplished an apiarian as "B. & W." certainly surprises me, and shows that the "mystery" of the bee hive is not confined alone to non-scientific apiculturists. I have been a close observer of the habits of mother queens for many years, and no such occurrence ever took place in my experience, of a mother queen taking a pleasure aërial trip, and, moreover, I believe it never happens.

Presuming that "B. & W." witnessed the issuing of the swarms referred to, and that there is no mistake as to this, I would rather seek a solution of the facts on other grounds. I shall, therefore, suppose that when the Ligurian stock was driven it was on the eve of swarming, that it had nearly matured young princesses, and that having received an immense accession of bees belonging to the removed hybrid hive, the first matured queen went off with the swarm on the third day after the operation—viz., on the 24th of May, and the second swarm issuing from the same stock on the 8th of June, was headed also by a young princess, sister to the former. The swarm issuing from the removed hybrid hive on the 7th of June, on the other hand, would in this way be headed by its own old queen, which "B. & W." conjectures had gone out on a pleasure trip, and went back to its old site, and, consequently, headed the swarm of the 24th of May, from the Ligurian stock.

I venture to make these suggestions to "B. & W.," and he will have it in his power to verify or disprove their correctness by an examination of the hives, if frame hives, or by noticing the progenies of the swarms of the respective Ligurian and hybrid stocks, when, if I am right, the results will correspond to the suggestions now made.—J. LOWE.

FERTILISING QUEENS.—Mr. Doolittle communicates to the *American Bee Journal* a plan of fertilising queens, which he thinks far preferable to any other mode of artificial impregnation. The method was practised by a neighbour, and is as follows:—He selects a stock with plenty of the best drones, and sets it fifteen or twenty rods from any other stock, and as

soon as the queen hatches he clips one wing. He then raises a bed of sawdust 3 or 4 feet square, lays thereon a good broad bottom board, and sets the hive on it, so that the queen can crawl back when she comes out. He has tried queens in this way for three seasons, and they are all very prolific. A queen can be introduced from any stock, and in-and-in breeding thus prevented.

TREATMENT OF SWARMS AND STOCKS.

I DID not carry out my plans towards the hybrid stock, still I am obliged for your advice as stated in page 395 of the Journal of June 1st. I begin to hope I am not quite "so timid withal" as you described me, as I have, I believe, properly hived a fine swarm, which issued on the 27th ult., from the hybrid stock. I had never taken one before, and to add to my difficulty it settled in the midst of a currant bush, the end of the cluster resting on the ground. I left them under the bush, after hiving, until evening, and then transferred them into a frame hive, placing them next to the stock in the bee-house (one of Neighbour's, to hold three hives). The swarm works very feebly, few bees leaving the hive. Is this usual? They hang in a thick cluster inside, down to the frames; the cluster seems smaller than when I took them, and I feared some bees might have been lost by going back to the bush next morning, but if so I could not help it, having been much pressed for time when hiving them. I could not put them on their proper stand at once. I thought, perhaps some also might have gone to their old home again, the entrances being so close together, but the stock does not seem correspondingly stronger. Have I made any mistake? I noticed many drones when hiving the bees, but none leave the hive, and I see no traces of their slaughter. Would they also remain inside? The stock seemed minus drones after the swarm issued; now there are many, but they may of course have been subsequently hatched out.

On the evening of June 28th I found a young queen or princess under the stock; she seemed lively, so next morning, after smearing her with honey, I carefully allowed one bee to pass into the glass which covered her, but they began fighting at once; when they left off I let another one pass up, which behaved very differently, so I introduced about six more, but they worried her instantly, so not knowing what to do, I covered up the glass and left her to her fate, as I did not know but what she was to have been the new queen, and had missed the hive after her flight. Did I do right in this case?

If there is anything more to be done to the swarm and stock I should be obliged if you would kindly tell me, and also if you consider they are going on properly. I put on a bee-dress and gloves when hiving the swarm, but did not "tie down my trousers" as you kindly recommended, and yet I was not stung at all!—C. A. J.

[The recent unfavourable weather was doubtless the cause of the apparent idleness of the old stock as well as of your newly-hived swarm, which latter may even perish from starvation, owing to the same cause, unless succoured by a timely supply of food. The cluster would naturally contract into smaller dimensions than at first, say the morning after hiving, but it ought to extend rapidly as combs are built, which, however, cannot be accomplished if food is short. Some bees have probably been lost owing to the delay in putting the hive in its place, and many more are likely to have returned to their old hive. A Neighbour's bee-house "to hold three hives" should never be occupied by more than two at the outside, and these ought to be placed as far asunder as possible. If three colonies must be placed in it, two ought to work from entrances made at each end, and only the centre one from the front. Drones will show freely enough whenever the weather becomes favourable. The young queen found on the 28th was doubtless a supernumerary princess which had been discarded from the hive, and upon which all your trouble was of course wasted.]

LIGURIAN BEES.—A word for the Italians. I find them very peaceable when compared with the black bees. I can open a hive of Italians at any time when they are raising brood without smoke, and not have one offer to sting me, unless by some mishap I jar them so as to arouse them, which takes considerable. Besides this you can find the queen readily; the young bees do not drop from the comb as the black ones do, and as far as my experience goes, they will make one-third more honey. I have one stock of Italians that gave me one good swarm and 125 lbs. box honey the first season. The Italians, to be pure, should all have three yellow bands, and some will occasionally show the fourth.—G. M. DOOLITTLE (in *National Bee Journal, American*)

HINGES TO BAR-AND-FRAME HIVES.

MAJOR MUNN, in his last communication to "our Journal," says I am "mistaken in thinking that the bar-and-frame hive which he gave to the Apiarian Society was hinged," and concludes with the strange assertion, "the triangular hive, therefore, never was hinged." What I really did say was "his triangular ones were merely devised to enable him to lift his combs into observation frames, and so far was he from considering them truly moveable, that he at first fixed them to the hive by means of hinges."

Now, what are the facts according to the Major's own showing? In his last article we are informed "these triangular bar frames were so arranged on the sides of the enclosing outer box as to have an iron rod run through the whole of the eight frames"—that is, if language has any meaning, they were hinged to the box by means of a continuous pin running through eight or more pivots. In his pamphlet, bearing the date 1851, he describes his frames thus:—"In one of the two ends of the top bar there is a small handle fixed, as at *t*, and at the other a small piece of brass with a hole in it, as at *w*. This forms the eye of the pivot for the bee frame to work upon, and has a brass pin run through it when about to be lifted into the observation frame." It thus appears that every frame on being raised for inspection into the observation frame required to be furnished with a complete hinge, and remained fixed until the pin connecting the eyes of the pivots was withdrawn, or the eyes themselves were unfastened. I do not quarrel with the Major for any improvements that may have been adopted in the way of facilitating the undoing of his hinges, but I adhere to the statement that his triangular frames were at first fixed to the hive by means of hinges. I prefer believing my own eyes to any assertion the Major may make, and to show that the position I have taken up is correct, I call a witness who writes under the *nom de plume* of "SUDBURY," and with whom, perhaps, the Major may be acquainted. That gentleman, in the Journal of July 25th, 1867, page 70, remarks, in reference to Munn's hive, "the only one I ever saw with hinges to the frames is in the Edinburgh Museum." Thanks, Mr. "SUDBURY," for your testimony. You have, then, seen the hive of Munn with hinges, and perhaps others could see it as well as you if they would take the trouble of paying a visit to the Edinburgh Museum, where, if what I called a cranky hive is found to be not worth looking at, a great many other things will be found worthy of study and admiration.

I have no wish to misrepresent the Major's hive as originally constructed, nor to deprive him of the credit of anything to which he is entitled; but I did, and still do think, that his conduct in altering the text of Bevan without distinguishing what belongs to Bevan and what to himself, and making the new edition of the work an advertising medium for his "bar-and-frame hive," deserves the highest censure.—THE WRITER OF THE REVIEW OF MAJOR MUNN'S EDITION OF DR. BEVAN'S "HONEY BEE."

A GIANT OF THE FOREST.—The *New York Times* states that a solid section cut from one of the original "big trees" of Calaveros county, California, is in New York, on its way to a European museum. Five men were employed twenty-five days in cutting down this huge tree; its height was 302 feet, and its largest diameter 32 feet. The specimen was cut at a distance of 20 feet from the base. The stump is covered over, and is now used as a ball-room, being so large that thirty-two persons can dance a double cotillon on it and leave room for the band and spectators. If one has sufficient patience, the age of the tree might be determined by counting the angular rings; but, to save trouble, it has been already ascertained that there are more than 2500 of them, each representing a year.—(*Times.*)

OUR LETTER BOX.

MR. JACKSON, KIDDERMINSTER (*F. H. S. and others*).—You have all similarly suffered; it is needless to publish more relative to him.

STROUD SHOW.—"I deny that I made any perversion when I said that the cup was given to a lot of second and third-class Rabbits; for although,

as Mr Barrett says, Mr. King took two firsts, two seconds, and one third prize, yet one of the firsts was in the selling class, where it is well known to the fancy that, as a rule, only second and third-class or inferior Rabbits are entered to sell at a low price, in consequence of their defects in the best points. I have no wish to depreciate Mr. King's stock, still less to find fault with the committee. I was induced to make the remarks I did more for the interest of the Society in the future than to find fault with the committee for the past.—J. Hume."—[We cannot insert more on this subject.]

Large Fowls with Bantams.—"E. E. F." quite corroborates what Mr. Long says about keeping large fowls and Bantams together. "E. E. F." has Crève-Cœurs and White Bantams, which have been allowed to run together, thinking from the great difference in the size there would be no fear of crossing. Alas! nearly all the Bantam chicks have hatched jet black, only four or five have been pure. The black chicks are considerably larger than the Bantams, but have neither comb nor tufts like the Crève-Cœurs.

Crossing Toulouse and Common Geese (*Another Disheartened*).—There is no doubt, in the first instance, the Toulouse gander was put to his companions too late in the season. The eggs of the second year had been impregnated, or they would not be rotten; they would have remained clear without any change taking place in them. They may have been chilled by exposure to the weather, or by being left too long by the Goose. There is no doubt a change had taken place in the eggs. A germ had been developed, and it had then been suffered to perish, hence the decay. Did the Geese sit on their own eggs? We advise you not to be disheartened, but to try them again, but let them run entirely together. Have no other gander. Scatter your eggs about. Let the cottagers who keep Geese have some of the eggs to sit, and pay them at ten weeks old for all they hatch and rear. It will answer the purpose of both. When you are dealing with the produce you must recollect they will not be as good sitters as the unmixed common birds. The Toulouse do not sit. Do not put more than three Geese to a gander.

Le Pigeon Voyageur (*X. Y. Z.*).—Look on page 20 of our last week's number relative to "Belgian Pigeons."

Pigeons with Flight-feather Shafts Bare (*Yorkshire*).—The sand and the sawdust so industriously supplied by you all over the floor and nests are most likely the cause of your trouble. We never have a grain of sand or sawdust in our loft. Such things at best only cause dust to fly in the eyes of the birds. We have the floor swept clean and clear every morning, and nothing but food trays, water supply, and a low pan containing broken mortar and a little salt mixed with it. We like the floor to be as free from dust as those of our own bedrooms.

Smerle Pigeons (*J. Good*).—We do not know. Some one who has them for sale will advertise perhaps.

Fantail Pigeons not Rearing their Young (——).—It has been the same with our birds; we have only raised one young one this season. First there was the very cold winter injuring the old ones, then their young seemed weak; then first there was the cold spring, and now cold and damp summer; consequently on the least absence from the nest of the parents their young die at once. It is a very bad year both for Pigeons and Canaries. We have lost dozens of young birds, Pigeons and Canaries.

Himalayan Rabbit Points (*F. Sabbage*).—The points of excellence in the Himalayan Rabbit are undoubtedly the darkness of extremities, especially nose and ears, which should be of as deep a shade as possible, and all the same; yet at times one ear will be a little darker than the other, and, perhaps, the hind feet will incline to a grey, which is objectionable. No white foot is allowable. The ears should be erect, rather short, eye clear pink, and the general appearance of the Rabbit well-proportioned, not "stumpy," as is often the case; weight from 6 to 8 lbs.

Warts on Eyelid of Rabbit (*Idem*).—Apply a thin paste of sulphur, sweet oil, and two or three drops of creesote to the parts affected, avoid as much as possible touching the eye in the application, as the pain will be acute. If it be merely an attack of scurf, tobacco water should be made by putting half an ounce of Limerick roll tobacco in a small teacupful of warm water, and allowing it to stand three hours; then apply with caution to the parts affected. If used in the early stage of the attack once or twice will probably be sufficient to effect a cure.

Swarm Returning (*Alpha*).—We should remove the super forthwith, as the bees cannot be expected to complete it after throwing-off a maiden swarm. Returning swarms is often so Sisyphean a task, in the absence of the facilities for excising royal cells presented by moveable-comb hives, that we would advise your accepting the swarm, or even swarms, if more issue, and placing it or them in proximity to the parent hive, with the view of uniting them by driving in the autumn.

Autumnal Care of Bees (*Prospero*).—You ask, "Is there anything I can especially attend to now about my bees? they are very strong and active." We cannot do better than extract the following from our "Bee-keeping for the Many:"—"Now, as early swarms appear to be so very desirable, it may be asked, What are the most likely means of insuring them? And, in reply to this question, we would say, Leave the stocks rich in store in the autumn, the contents of each hive weighing, at least, from 20 to 25 lbs., and let the population also of each hive be very numerous; if it be not so, add the bees from weak hives into it. Where second and third swarms have been hived by themselves they will generally be found too poor to live through the winter, even with feeding; and where this has been done, they may be put two or three together. Those persons who have been so fortunate as to get their glasses filled with honey will now be preparing to take them off; but we would recommend everyone to do it with great caution, and not only first to weigh the matter well in their own minds, but also to weigh their hives, and if it can be satisfactorily proved that they will contain 20 lbs. of honey each when the glasses are removed, all well; but if not, let the glass or box remain upon the stock hive until the bees have emptied it of its honey; as soon as this is ascertained let it be removed."

Queens Piping—Uniting Stocks (*A. B.*).—Piping does occasionally, although rarely, occur prior to the issue of a first or prime swarm, but in such a case we should suspect that a young queen had already escaped, and probably committed matricide. Stocks that are intended to be united in autumn should, if possible, be located in close proximity to each other, and the doubled hive may, as soon as the union is effected, be shifted to a position midway between the two; or, if these conditions cannot conveniently be fulfilled, an arrangement might possibly be made to exchange driven bees with some friendly bee-keeper, whose apiary is situated some distance off.

Earwigs.—*G. G. P.* inquires if they can be kept out of a house, and if so, how?

METEOROLOGICAL OBSERVATIONS,

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. July.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 5	29.943	62.3	56.0	S.W.	57.6	70.0	50.2	117.8	49.2	0.300
Th. 6	30.219	62.0	57.0	S.W.	57.9	71.3	49.7	118.8	47.8	—
Fri. 7	30.107	64.8	58.4	S.W.	58.6	77.1	56.8	122.2	55.3	—
Sat. 8	29.965	65.0	56.5	W.	60.2	72.3	57.4	125.0	54.4	—
Sun. 9	29.993	67.4	59.0	S.W.	60.6	79.2	60.6	128.8	55.0	0.180
Mo. 10	29.995	62.9	56.8	N.	60.2	77.0	48.6	120.1	47.8	1.230
Tu. 11	29.579	52.8	52.3	N.E.	59.8	59.2	51.8	87.4	53.0	0.310
Means	29.964	62.5	56.6		59.3	71.4	53.6	116.4	51.8	2.020

REMARKS.

5th.—Very heavy shower at 0.45 P.M., and lesser ones until 4.30 P.M. Morning and evening fine.

6th.—Showery in morning, fine in afternoon and evening.

7th.—Rather dull in morning, but very fine all the rest of the day; sun very hot, but a cool breeze.

8th.—Rather cooler, but a beautiful day.

9th.—Fine morning, rain at noon and at intervals all day; heavy rain at 7 P.M., 0.16 inch falling in ten minutes.

10th.—Fine morning, but showery all day, and heavy rain all night.

11th.—Heavy rain in morning and till 5 P.M., then fine evening.

The rain of Monday and Tuesday was unusually heavy, the total amount being more than 1½ inch. The only fair comparison with previous records is, however, by taking the twenty-four hours ending with 9 A.M., and then the amount is 1.23, which has only been exceeded since 1858 on the following occasions—1859, September 26th, 1.66; 1861, November 13th, 1.42; 1863, June 19th, 1.55; 1867, July 25th, 1.82; 1871, July 10th, 1.23.—G. J. Symons.

COVENT GARDEN MARKET.—July 12.

The supply during the past week has been much lighter and prices fully maintained. Bush fruit has been comparatively scarce, especially Currants, blight having struck them over a large area round London. Importations are large, and comprise Peaches, Nectarines, Apricots, Cherries, Currants, and the usual kinds of vegetables.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples	½ sieve	1	6 to	4	0	Mulberries	lb.	0	0 to	0	0
Apricots	doz.	1	0	3	0	Nectarines	doz.	6	0	20	0
Cherries	lb.	1	0	2	0	Oranges	℔ 100	6	0	10	0
Chestnuts	bushel	0	0	0	0	Peaches	doz.	8	0	24	0
Currants	½ sieve	5	0	0	0	Pears, kitchen	doz.	0	0	0	0
Black	do.	4	0	6	0	dessert	doz.	0	0	0	0
Figs	doz.	4	0	8	0	Pine Apples	lb.	4	0	7	0
Filberts	lb.	0	0	2	0	Plums	½ sieve	0	0	0	0
Cobs	lb.	2	0	2	6	Quinces	doz.	0	0	0	0
Gooseberries	quart	0	6	0	6	Raspberries	lb.	0	6	1	0
Grapes, Hothouse	lb.	3	0	8	0	Strawberries	lb.	0	6	2	0
Lemons	℔ 100	6	0	10	0	Walnuts	bushel	10	0	18	0
Melons	each	2	0	6	0	ditto	℔ 100	1	0	2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	doz.	4	0 to	6	0	Leeks	bunch	0	4 to	0	6
Asparagus	℔ 100	4	0	8	0	Lettuce	doz.	0	3	1	0
Beans, Kidney	℔ 100	1	6	2	6	Mushrooms	pottle	1	0	2	6
Broad	bushel	2	0	3	0	Mustard & Cress	punnet	0	2	0	0
Beet, Red	doz.	2	0	3	0	Onions per doz. bunches		4	8	6	0
Broccoli	bundle	0	0	0	0	pickling	quart	0	0	0	0
Brussels Sprouts	½ sieve	0	0	0	0	Parsley	sieve	3	0	6	0
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	9	1	0
Capsicums	℔ 100	0	0	0	0	Peas	quart	0	6	1	0
Carrots	bunch	0	6	0	0	Potatoes	bushel	3	0	6	0
Cauliflower	doz.	3	0	6	0	Kidney	do.	3	0	8	0
Celery	bundle	1	3	2	0	Radishes	doz. bunches	0	6	1	0
Coleworts	doz. bunches	3	0	6	0	Rhubarb	bundle	0	4	0	6
Cucumbers	each	0	6	1	0	Savoys	doz.	0	0	0	0
pickling	doz.	0	0	0	0	Sea-kale	basket	0	0	0	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	6	0	9
Fennel	bunch	0	3	0	0	Spinach	bushel	2	6	0	0
Garlic	lb.	0	3	0	0	Tomatoes	doz.	2	0	3	0
Herbs	bunch	0	3	0	0	Turnips	bunch	0	9	1	0
Horseradish	bundle	3	0	5	0	Vegetable Marrows	doz.	2	0	3	0

POULTRY MARKET.—July 12.

Prices with us have downward tendency, the supply increases, and the demand falls off.

	s.	d.		s.	d.		s.	d.		s.	d.
Large Fowls	2	6 to	3	0	Pigeons		0	9 to	0	10	
Smaller ditto	2	0	2	0	Rabbits		1	5	1	6	
Chickens	1	6	1	9	Wild ditto		0	9	0	10	
Ducklings	2	0	2	6	Hares		0	0	0	0	
Goslings	5	0	6	0	Guinea Fowl		0	0	0	0	
Pheasants	0	0	0	0	Grouse		0	0	0	0	

WEEKLY CALENDAR.

Day of Month	Day of Week.	JULY 20—26, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
20	Th		73.2	50.2	61.7	23	7 af 4	4 af 8	43 af 6	59 af 9	3	6 2	201
21	F		74.0	50.8	62.4	19	9 4	3 8	56 7	11 10	4	6 6	202
22	S		72.2	51.4	61.8	24	10 4	2 8	9 9	30 10	5	6 9	203
23	Sun	7 Sunday after Trinity.	74.0	51.4	62.7	21	11 4	0 8	24 10	48 10	6	6 11	204
24	M		72.6	51.7	62.1	14	12 4	58 7	41 11	7 11	7	6 13	205
25	Tu	Buckingham Horticultural Show.	73.9	49.4	61.9	13	14 4	56 7	after.	26 11	☽	6 14	206
26	W		73.7	50.3	62.0	22	15 4	54 7	22 2	52 11	9	6 14	207

From observations taken near London during forty-three years, the average day temperature of the week is 73.4°, and its night temperature 50.7°. The greatest heat was 93°, on the 23rd and 24th, 1868; and the lowest cold 32°, on the 23rd, 1863. The greatest fall of rain was 1.48 inch.

EARLY PROLIFIC AND JAMES VEITCH STRAWBERRIES.

THE spring of 1871, as regards England and Belgium, may be set down as unfavourable to the production and ripening of Strawberries in the open ground. Several days in which the temperature was unusually high for March hastened the flowering of the plants, which began in the last fortnight of April, was continued throughout May, and even now (June 10th) is still going on. Despite the bitter northerly winds, especially at night, the first blossoms set. On the nights of May 17th—18th, and May 19th—20th, there were frosts of 3° C. (5½ Fahr.) which destroyed a large number of the flowers and embryo fruit of the least hardy varieties, whilst in others the flowers, and the fruit which had been set, were perfectly uninjured.

Two varieties deserve special mention, not only on account of their marked hardiness but other valuable properties, and I will now endeavour to point out their principal features as observed by myself during three consecutive seasons. Early Prolific, one of Dr. Roden's seedlings, is a masterpiece. It is early, and free bearing, even when propagated from the latest runners of the previous year, no matter what part of the runner is taken. The plant increases at its base or collar by aggregation, and produces a superabundance of runners. Indeed, its tendency to increase itself too early and too rapidly will be considered a fault by those who for thirty years have fixed the points of excellence in the Strawberry. This, however, is not a fault in the opinion of many growers, and is to a great extent compensated for by good properties. These are as follows:—Early ripening; at the present time (June 10th), though it is a late season, out of twenty-eight plants in a bed some 40 feet long by 7 wide I count twenty-three large fruit ripe and ripening, whilst on May 25, 1870, there were several fruit ripe. I have never met with any variety which sets fruit so freely, or ripens it so quickly, as this. Its great productiveness may be judged from the fact that on two three-year-old stock plants there are respectively five and seven trusses of flowers, and one hundred and seven berries set in the one case and ninety-two in the other, neither flowers nor berries having been injured by the late spring frosts. Its hardiness is sufficiently proved by what is stated above.

I am doubtful whether a full description has been published, and therefore give one. The roots are fleshy, and then somewhat woody, stouter than in most other varieties; the crown is narrow, pointed; the leaf-stalk, 5, 6, or 7 inches long, is not so strong as the flower-stalk. The flowers are produced lower than the foliage. The flower-stalk is clothed with horizontal hairs, and those on the pedicels, as well as on the lower lobes of the leaves, are ascending. The leaves are pale green, shining on the upper side, longish heartshaped, narrow and convex rather than broad and flat, the blade deeply cut. The flower has a small corolla like all the varieties of La Constante race. The fruit is large, long-conical. Seeds light brown, not deeply embedded. Colour cerise carmine, shining. Flesh cream-coloured, firm, juicy, with a fine, vinous, and high flavour.

James Veitch Strawberry is a seedling raised by Mr. Ferdinand Gloede, and by a happy thought dedicated to the late Mr. James Veitch, of Chelsea. All who were acquainted with him know his ability as a cultivator, and his devotion to the cause of horticultural progress in all its branches. It is much to be regretted that he was so soon snatched from the exercise of his favourite art, and from affectionate intercourse with his family and numerous friends. If Mr. James Veitch had been alive last summer he would have been the first to admit that the Strawberry which bears his name is a picture of beauty when a two-year-old plant, whether grown in a pot or in the open ground, is loaded with its numerous, large, and fine fruits. The growth of this variety is somewhat too luxuriant, and it increases too rapidly. These are the faults that will be found with it, but when the grower shall have convinced himself of the good qualities of the plant bearing such an abundance of large and handsome fruit that it forms quite a picture, he will be glad to grow it, and will retain it longer in cultivation than any other variety I know, although I cultivate fifty of the best kinds sent out during the last ten years. This is my opinion, and I hope that in less than two years it will be that of all amateur growers of the Strawberry.

I will now add a few words descriptive of the peculiarities of the plant and its fruit.

As already stated, the plant is very vigorous and hardy, whatever the season, and whatever the soil, provided this be well dug. Further, it is hardy in its reproductive characters, withstanding alike the severities of the winter and the late frosts of spring. All the flowers set from the first to the last. The roots are strong and stout, the crown large, doubling or tripling itself in a growing season. The leaf-stalk is from 5 to 6 inches long, and clothed with horizontal hairs. Those on the partial foot-stalks of the flowers are inclined upwards. The leaves are long heart-shaped, not shining much on the upper side, nearly flat, not of a deep green, and are widely and deeply cut. The flowers are middle-sized, borne beneath the foliage. The flower scape rises 2 inches above the crown of the plant, and forms two or three divisions, each producing five or six berries, according to the age of the plant. I have counted on a three-year-old plant five crowns having nine flower scapes bearing 117 fruit, of which the earliest produced were of very large size, and the successional fruit not so large, but all of a tolerably regular conical shape. In 1869 the first fruits were ripe on the 6th of June, in 1870 on the 2nd of June, and in the present year on the 12th of June. From this date to the 28th we have gathered from three beds of this variety (consisting of about three hundred one-year-old plants, fifty two-year-old plants, and six three-year-old plants) from 2¼ to 4½ lbs. of fine berries every day. The berries are generally of a regular conical shape, and in colour of a somewhat glossy dark red. The flesh is white, tinged with rose in the

centre, and with crimson beneath the skin; it is juicy and brisk, with a slight Apricot flavour.

In conclusion, the two varieties which form the subject of this article will, I think, be considered by most Strawberry-growers as being improvements on existing kinds, and, as such, deserving of trial both in the open ground and in pots under glass, whether forcing or mere forwarding be the object in view. Notwithstanding what I have stated, I am far from thinking that no further steps in advance can be made in raising new varieties from seed, with the view of obtaining in the long run a Strawberry which shall to the fullest extent come up to that standard of excellence which competent judges have laid down for many years.—J. De Jonghe, *Brussels*.

P.S.—I have delayed sending this article till the present time in order to assure myself of the accuracy of my observations. I think English growers who have the two Strawberries referred to will confirm, if they have not already proved, the truth of what I have advanced.—J. De J.

TANK-HEATED CUCUMBER AND MELON HOUSES.

Everyone conversant with Cucumber and Melon culture must have noted the greater vigour of the plants in dung-heated beds as compared with plants grown in houses in which hot-water pipes supply the bottom heat. It was suggested some time ago—I believe first by Mr. Rendle—that bottom heat from a tank of heated water was the nearest approach to the genial warmth of fermenting leaves or dung; for whilst it afforded the necessary warmth it was accompanied by vapour, as in the case of fermenting materials, which is essential to successful plant-growth. Though the principle has met with general approval, the tank system of heating has been adopted to only a limited extent; and where it has been tried it has after a time fallen into disuse, owing, in a great measure, to the wearing-out of the material employed and the expense of replacing it.

I am a believer in the system, and see nothing but the expense to hinder its general adoption; and the cost is not after all very much greater than that of the chamber system of furnishing bottom heat, the only difference being making the chamber watertight. I have seen tanks of wood and others of zinc, but they soon wear out, and are more costly at first than one formed of masonry and cement.

Fig. 1 is the ground plan of a span-roofed Cucumber or

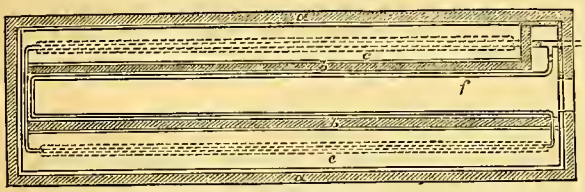


Fig. 1.

Melon house, as shown by the section, *fig.* 2. The external walls, *a*, are 14 inches thick, and the internal walls, *b*, 9 inches, or one brick, thick. These walls should have a good foundation, so that they may remain firm. The tank is shown at *c*; it

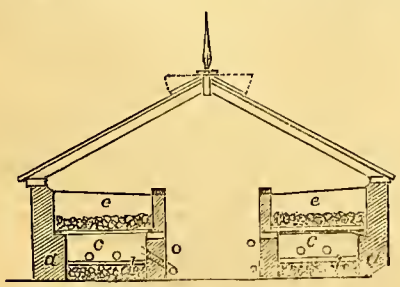


Fig. 2.

should have a good foundation of concrete, 6 inches of rough stone being placed at the bottom and rammed hard, and on that 2 inches of finer material run with lime, it being best to lay it on after it has been mixed with lime riddlings and made soft. This laid on 2 inches thick and level, sprinkled over with gravel thinly, and rammed firm, will, when it dries, form a good bed for the cement. Some, to prevent sinking, lay with bricks and run with cement so as to fill the joints. This is a good plan. When it is dried the tank is cemented about half an inch thick, including the sides, 1 foot up the walls all round as well as at the bottom. In *fig.* 2, *d* is the cemented bottom, *c* the tank with the cemented sides. The concrete and cement is 1 foot deep, and the depth of the tank is the same. The tank is covered with flags, or slates will do, the ends resting on the walls, the joints being left open. On these are laid from 6 to 9 inches of rubble for drainage, and then the soil *e*. For giving vapour to the atmosphere there are slides in the walls of the tank next the path; they are best of iron. Sliding air-bricks answer well; they may be put in at every 2 feet, and they can be opened or shut at will.

Figs. 3 and 4 are respectively the ground plan and section of a lean-to house, with a short light at the back. The house

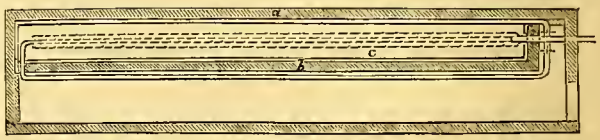


Fig. 3.

is similar in all its arrangements to that represented in *figs.* 1 and 2, therefore the same references apply to all. The top heat in *fig.* 1 is given by four hot-water pipes, two flows and returns, one above the other, in the pathway *f*; whilst in *fig.* 4 there are two in front (*h*), and two in the pathway *i*.

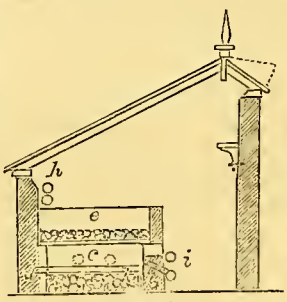


Fig. 4.

Now as to the depth of water in the tank. It need not be more than 3 inches, and if the water is to circulate 2 inches will be sufficient; but as the volume of water is considerable and the circulation in such cases sluggish, it follows that the temperature will vary at times considerably: hence I consider it preferable to have water sufficient to just cover, or barely cover, two 4-inch hot-water pipes, which I would place in each tank, as shown by the dotted lines. The water would of course be deeper than if it were intended to circulate, but then we gain a more uniform temperature and can regulate it to a nicety; whereas, if it circulates, the water must pass into the boiler ere it can become warmed throughout the extent of the tanks.

There must be valves on the flows, so that the water can be made to circulate in the tanks only, or in the pipes in the walks, working them separately or together. Of the boiler I need say nothing. I have had the working of a great many, and have come to the conclusion that there is not much to choose between them; but I still hold to the tubular class, and have come to look on wrought iron with favour. I thought it something to have a boiler not likely soon to wear out, as one of cast iron, but I find such do wear out as soon as a well-made wrought-iron boiler, whilst the latter for heating quickly is vastly superior to a thick cast-iron boiler. There are tubular boilers which will burn any and every kind of fuel, and they take up no more room than a saddle boiler, and are not fettered by a patent. They are made of wrought iron rivetted together, and the tubes are the reverse of those in tubular boilers generally, the fire being where the water is in others; in fact the fire goes straight through enclosed by water, and does not run round tubes of water, which only cause the fire to drive more quickly to the chimney.

Heating by tanks is very important to the horticulturist and but little practised; I should, therefore, be glad if those interested therein would favour us with their views and experience. —G. Abbey.

LAYING DOWN BROCCOLI.

I have given this practice a fair trial, having for the last fourteen years left some plants standing as they grew by way of comparison, and I have found laying the best plan. Out of three hundred Broccoli so treated last winter I did not lose thirty, and out of one hundred left as they grew I lost all but ten. In the winter of 1860-61 I experienced the same result.

Snow's Winter White Broccoli was always killed with me till last winter, when it was all saved in consequence of its being accidentally laid down. The garden is in a very low position, exposed to spring frosts, damp, &c.; in winter frost cuts down the shrubs to the ground.—W. Neave, *Gardener to Rev. C. R. Manning, The Rectory, Diss.*

HOP CULTIVATION FOR ORNAMENT AND USE.—No. 5.

Quantity of Hops Grown.—Until a few years ago Hops were charged with an Excise duty amounting to somewhat less than 2*d.* per pound, and the amount of duty payable being known soon after the crop was secured, buyers and sellers could tell exactly what weight of Hops had been produced. Indeed, speculation as to the probable quantity was so largely entered into while the crop was growing that it has been said as much money was wagered on the Hop duty as would pay it. The Excise returns gave the number of acres under crop, and the yield per acre, as well as the amount in each district of the collection. The number of acres in the kingdom varied from 45,000 to upwards of 60,000, and it is believed that now the duty is abolished there are from 65,000 to 70,000 acres under Hops.

The home-grower, however, has the terror of the foreign producer, and the fact of some of the continental Hops being equal to the best of the home-grown, and the less expense which the foreigner incurs in cultivation, will probably keep prices from ever again attaining the figures they have sometimes done. Amongst Hops of foreign growth those from Bohemia are esteemed the best, next come the Bavarian; the Belgian and American being both inferior. From inquiries made it appears that these countries are not exempt from the misfortunes which the home-grower has so often to contend with, and it does not appear that the Hop crop can be looked upon anywhere as so great a certainty as Wheat and other things. Countries warmer than those named are found not to answer, and the later parts of Great Britain and other countries have not a long-enough season to ripen this precarious crop. Besides, only a certain quantity being wanted, it is not likely that Hops can be grown anywhere with profit, except on such soils and situations as produce them of good quality or in abundance. Trials resulting in failures have been made in other places in England than those where Hops are mostly grown. Not long ago I met a gentleman from Gloucestershire who lamented his bad luck, attributing it to the superabundance of insect life, which he thought might not be so great had there been a large number of Hop plantations in his neighbourhood instead of only one. How far this doctrine may be correct I am unable to say, but I would not advise anyone to embark in the speculation on a large scale without making himself master of its details; while as an ornamental plant of the first class, and for purposes of experiment, I would advise all who have the means to try a Hop plant or two. Its beauty, apart from the interest attaching to a plant of such utility, entitles it to a place in many districts where its name is all that is known of it.

Varieties.—Into the varieties of Hops it is not an easy matter to enter, for a very experienced grower, to whom I put the question a short time ago, assured me there are as many as there are days in the year; but a few of the most popular sorts may be named. That which produces the most valuable Hops is unquestionably the Golding, a variety which I believe originated about Canterbury, a fertile valley a few miles to the south of that city being called the Golding valley, although I believe the kind was named after a grower of the name of Golding, which is a common one in Kent. It is a tall-growing Hop, likes a dry situation, and requires tall poles. It is thought to be more liable to mildew than other kinds, and it never produces such heavy crops as the Grape and Jones's variety, but it commands a much higher price in the market, and is extensively cultivated in the best Hop-growing districts of Kent. There are several varieties of it; one of the most recent is said to be much earlier than the original. The next most popular variety is the Grape Hop, a shorter but more prolific kind, in which the individual Hops, being larger and mostly clustered at the top, present a fine mass to look upon. The produce per acre of this variety has occasionally exceeded 30 cwt. It is extensively grown in the Weald of Kent and in Sussex, and succeeds better on the stiff lands of those counties than the Golding. It is not, however, of such good quality as that famed variety, but far exceeds it in productiveness. There are also several sub-varieties of it, but mostly having local names.

Jones's Hop is an early variety and a great cropper, but its qualities in the brewhouse have been found fault with of late years; nevertheless it is well worth trying as an experiment in gardens and other places, for its earliness might perhaps enable it to perfect itself where some other Hops might not. Many growers have a few of it to enable them to begin picking with, and for a like reason some grow a few of a kind called Colgate Hops, which is later than all the others, and though in some respects resembling the Golding in requiring long poles, it is much inferior to that variety. It is, however, very hardy, but not the best climber—not sticking so closely to the pole as some others, and when it does reach the top and become loaded with Hops, it sometimes slips down; but this can easily be prevented where the plant is grown for ornament by sticking a few nails in the poles, or something of that kind. The plant is perhaps the prettiest of all the varieties of Hop, being more evenly loaded with bearing branches from the bottom upwards, and requiring a 14 or 16-feet pole. It seems to thrive well in the district eastward of Tunbridge Wells, and extraordinary crops have been sometimes produced. In the same neighbourhood the Brenchley Prolific Hops are also much grown, and, in fact, have spread themselves almost everywhere. This variety more resembles the Grape Hop, only it does not confine its growth so much to the head. The poles may be about the same height, and the plant in other respects may be described as resembling that variety in many ways. There are many other varieties of Hops, some with only local names.

Cultivation of the Ground, &c.—The cultivation of the ground is almost invariably effected by hand. Advantage is taken of frosty weather in winter to carry out to the garden what dung is wanted, and this, being spread, is dug when the weather is favourable with a three-pronged fork, locally called a spud. This spud is a formidable tool, and I have often thought it needlessly heavy, generally weighing from 8 to 9 lbs. The prongs are usually square, the points flattened wedge-shaped, and the socket-handle, which contains a considerable weight of iron, is very much bent crane-necked fashion. But heavy and uninviting as the tool seems to be, those accustomed to it look with contempt on the steel digging forks met with in ironmongers' shops; and as their work is all done by the piece we must not criticise their tools too much, since they manage to dig Hop gardens for from 15*s.* to 18*s.* per acre, and sometimes less. Orchards in tillage are also dug with the same tool, and, whatever may be said of its ugliness, there is no question but it is more suitable than a spade. Whether the light steel digging fork of our best factory make is not as good, is a question which I think a future generation will answer in the affirmative

The cultivation of the Hop, however, is not confined to one digging, for no sooner has the bine been tied in May than a sort of scuffler, termed a nidgett, is called into requisition. This implement has six or more teeth, with a sort of flat shoe at the points of each, and is narrow enough to work in the alleys, when a light horse is put to it, and with a boy to lead and a man to guide, the ground is gone over several times to render it as fine as possible; but if it should be too rough or stubborn for this implement to take effect, either a narrow roller is run between, or the large clods are broken by hand, and then the nidgett is applied. Weeds, of course, rarely appear till later in the season when this operation ceases, and as they are generally annual weeds, they are thought not to be of much account, and are left till after the crop is gathered. Sometimes, in fact, a few Turnips are sown broadcast over the ground about the beginning of August, and although they are much trampled upon at Hop-picking time, a useful piece of sheep feed is provided. This practice is not general.

Manures of various kinds are applied, and one of the most popular is night soil, used in summer, a pailful or so being given to every hill; even yard dung is sometimes applied at this season, and very often guano is scattered over the hills. In winter all kinds of manure are used that have not the reputation of being made up, for the Kentish Hop-grower prefers a simple article to a mixed one, suspecting, whether truly or not, that the latter contains but little that is valuable. There are, however, few things that have the reputation of being manure that have not been tried—waste fish, London refuse of all kinds, woollen rags, wool and cotton waste, blood manure, guano, and a hundred other articles have all been tried in turn, and with varied success. The fact of the Hop producing but little manure (although the bine when cut is

crushed up in the farmyard) renders something of the kind all the more necessary, and in this respect there is no lack of enterprise in the Hop-growers, large sums being paid yearly for such manures.

Shelter from high and destructive winds is of great importance, and as the most hurtful are from the south-west, the force of those from that direction must be broken if no natural shelter exists. High hedges are sometimes met with, and I think some trimmed hedgerows in the parish of Loose must be 40 feet high; but it sometimes happen some corner or side of a Hop garden is exposed by the cutting away of a coppice or some other cause; in this case a temporary screen is often erected by setting up a row of tall naked Hop poles, touching each other, and one tied horizontally to them on the leeward side about 8 feet from the ground affords the means of fixing brace poles to keep the whole up. Sometimes a sort of basket-work hurdle, made of hazel rods and tied high up a row of poles, is used, and sometimes a row of a common kind of Hop is planted to serve as a screen, and the poles put in a line about a foot apart. Occasionally, likewise, two rows of poles are placed in a sort of *chevaux de frise* fashion, only instead of each being at an angle of 45°, they are at one of about 80° or so with the ground, and Hops are grown on them. The Colgate Hop, being a tall hardy variety, is often employed in this way, and with good results. As shelter even for the gateway to the garden is often thought necessary, if the gate is to the windward side, some of the means alluded to are adopted.—J. Robson.

ROSES AT THE JERSEY EXHIBITION.

Having just returned from a trip to the Channel Islands, perhaps you will kindly permit me to say a few words upon the Exhibition recently held in Jersey. It appears to have been a great success, much more so than its most sanguine supporters could have hoped. My object, however, is to draw the attention of your readers to what I, as well as many others, consider a glaring omission in the award of the Judges. It appears that this Exhibition was founded on the Summer Rose Show, yet, notwithstanding the fact that the Rose-growers had to keep back their Roses from flowering a month later than their natural time in order to meet the wishes of the Committee, and the Roses shown were of a very superior quality, no medals of any description were given to successful competitors in this department. This could not arise from want of funds, neither could it be from want of merit.—Tourist.

CUCUMBER FAILURES.

I have so often given opinions and tendered advice to the readers of the Journal that I may fairly, I hope, ask for opinions and advice in return, and trust some of the able gardeners who contribute to its columns can solve my difficulties—too late, I fear, to do me any good this year, but not too late to benefit me for another season.

I have grown Cucumbers for a great many years in the same plain homely way—that is, in a common dung frame of two lights, and have never had any difficulty; but this year I am completely floored. I have not deviated in the least from my practice of former years. I had good plants, planted them in good time, and they have grown uncommonly well. There is no symptom of disease of any kind; the leaves are large and perfectly free from thrips and green fly; the fruit sets well, grows to about 3 inches in length, and there remains for a fortnight or ten days. It does not damp off immediately, but ultimately does so. Now why is this? "Perhaps you allow too much bine." Well, I cut it out very hard, and when my neighbour Mr. Woodford had a look at it he said, "Try to let it run as it likes." I did so for a while, but no better success attended this. In fact I am completely bothered, and no one who has seen it can suggest a cause or propose a remedy. If there were disease or unhealthiness I could account for it, but as these do not exist I am quite at sea. Will Mr. Fish, or Mr. Luckhurst, or some other of our friends help me?—D., *Deal.*

["D., *Deal's*," case is by no means a solitary one. I have experienced the same thing frequently, and in a variety of seasons. Look to the soil. I am inclined to think it will be found to have settled down into a close mass, containing a superabundance of moisture, and with the roots in a state of gradual decay. In a wet cold season like the present, care should be taken to maintain a lively heat in dung beds by means of frequent linings, from which the cold chilling showers should be excluded as much as possible by means of straw hurdles, or a thatching of reeds, straw, or heather. If the bed has been exposed to the influence of the extraordinary succession of cold nights and dull showery days peculiar to this season, it is most probably so sodden with moisture as to afford no heat, and, in fact, precisely in the worst possible condition for either promoting healthy root action or maintaining a lively steady temperature in the box itself, both highly important and necessary conditions to successful Cucumber culture.

If upon examination it be found that the plants have some healthy roots, remove as much of the sour soil as it is possible to do without damaging many of the roots, and cover them with a slight layer of rough sweet turf. If there is none partly decayed, which is best, pare some thinly from any well-exposed meadow. Thin out the vine, cutting away all the weaker growth, and retaining only a very few of the strongest shoots, with the tops pinched off; then remove as much as possible of the outside of the dung-bed, and apply a lining of fresh hot dung, taking care to exclude all rank steam from the interior of the box. Shade slightly if the plants droop at all, and exercise caution in watering. So treated, healthy plants will fill the turf with roots in a few days; then add more turf, but not too much at a time, laying it on roughly and unevenly, so that the air may easily penetrate it on all sides, and as the roots increase supply them with liquid manure freely and frequently, giving air as freely as the temperature will admit, and you should have no further difficulties about the crop.

Cucumber failures are more frequently owing to the use of improper soil than is generally supposed. As I stated a short time ago, the plants may flourish for a time, and even produce some fine fruit, but as the soil settles down into a close sodden inert mass, so surely does barrenness ensue, or if some fruit do appear, they are under-sized and misshapen; and what is so tantalising in connection with this state of things is that the plants remain apparently as healthy as at first, and even continue to make fresh growth. All kinds are alike; I have even seen that wonderfully free-cropping variety, Masters's Prolific, almost without fruit, and yet looking as healthy as possible.—Edward Luckhurst.]

ROYAL HORTICULTURAL SOCIETY.

July 19th.

This was only a minor Show, and held in a tent on the croquet ground; still, though it did not attain the dimensions of some of the earlier exhibitions, the quality was good, and the attendance, although on one of the most sultry days of the season, was likewise good.

Of Carnations and Picotees there was a fine show, though the competitors were not numerous. Mr. Turner, of Slough, was first for twelve Carnations with Colonel Wyndham, James Merryweather, William Cowper, King John, Purity, Sarah Payne, Annihilator, Falconbridge, Juno, Antonio, Kentish Volunteer, and a seedling. Mr. Norman, 98, Crescent Road, Plumstead, was second, and Mr. Hooper, Widcombe Hill, Bath, third. The prizes offered by the Metropolitan Floral Society were taken by Mr. Pizzey, gardener to E. Perry, Esq., Slough, and Mr. Norman, the former having Juno, James Merryweather, Sir R. Peel, Count Pauline, Mars, Earl Stamford, Splendour, Sarah Payne, Royal Scarlet, Antonio, Prince Albert, and Eccentric Jack. Mr. Norman had Sir David Wood, Premier, Splendour, Delicata, Dreadnought, Black Diamond, Juno, Falconbridge, Poor Tom, Sarah Payne, Robert Bowles, and James Webb. For twelve Picotees Mr. Norman was first with fine blooms of Master Norman, and seedlings Purity, John Norman, Morning Star, Edith Ingleton, Charles Williams, Esq., Prince Arthur, Miss Davies, John Dixon, Mrs. A. Ingleton, William Ingleton, and Mrs. Garrett. Mr. Turner was second with large and fine blooms of Christie, Mrs. Fisher, Miss Turner, Empress Engénie, Mr. Tutton, Gem of Roses, Admiration, Purity, Lord Valentia, and three seedlings. Third came Mr. Hooper, Bath, also with excellent blooms. The Metropolitan Floral Society's first and second prizes went respectively to Mr. Norman and Mr. Pizzey. The former had among others General Tulloch, Mrs. Brown, Mrs. Delafrore, Prince Arthur, and other seedlings already named.

The only collection of six Phloxes in 8-inch pots came from Messrs. Downie, Laird, & Laing, and were in beautiful bloom for such small-sized pots. The varieties were Monsieur Saison, brilliant crimson; James Mitchell; Pladda, white, purple eye, very fine; George Wyness, lilac, large; Mrs. Taylor, blush; and Captain Speke. A collection in 12-inch pots also came from the same firm, forming magnificent masses of bloom.

Prizes were offered for perennials in 12-inch pots, the plants not to exceed 2 feet in height. There was only one exhibitor, Mr. Parker, of Tooting, who took a well-deserved first prize with specimens beautifully grown and flowered, including Campanula carpatica, forming quite a mass of blue bells; Coreopsis lanceolata, rich deep yellow; Œnothera venusta, sulphur yellow; Calystegia pubescens flore-pleno; Trades-

cantia virginica rubra, splendid colour; Veronica maritima alba, Armeria plantaginea, and Betonica hirsuta.

Of miscellaneous groups Messrs. Veitch had one consisting of several handsome Palms, Dracæna porphyrophylla, and other new kinds; new Crotons, fine specimens of Cypripediums, Saccolabiums, Dendrobium Bensoniæ, Grammatophyllum Ellisianum with an immense spike, Oncidium obryzatum, and other Orchids; Darlingtonia californica, Begonia Sedeni, Lapageria alba, and several pots of Lilium auratum. Mr. Williams sent fine specimens of the variegated New Zealand Flax, Yucca quadricolor, Dasylirion acrotrichum, Alocasia zebrina, Dracænas, and other fine-foliaged plants; Adiantum farleyense, upwards of a yard in diameter; Hymenophyllum demissum, Todea superba, Trichomanes Leschenaultiana; and among Orchids Miltonia spectabilis, very fine; beautiful example of Cattleya Warneri; Thunia alba, remarkably fine; and Cypripedium superbiens. Besides these were several fine specimens of flowering stove and greenhouse plants, including Cochliostema Jacobianum, to the beauty of which we have often before called attention, together with other new plants. Mr. Denning, gardener to Lord Londesborough, sent a collection of Orchids, in which Oncidium macranthum was conspicuous as forming a festoon 10 feet long, bearing twenty-nine of its yellow and crimson flowers, each only a little less than 4 inches in diameter. Of Saccolabium Blumei Mr Denning had also a magnificent specimen with twelve fine racemes. The others were Oncidium Lanceanum and Dendrobium formosum, very fine; Cattleya Schilleriana, beautiful purple; Aërides Huttoni, with spikes of rose-coloured flowers; Stenia fimbriata, and several specimens of Miltonia spectabilis. Messrs. E. G. Henderson contributed a neat group of Palms and fine-foliaged plants; and from M. Jean Verschaffelt, Ghent, came a dozen handsome standard Orange trees.

From Mr. Mann, Brentwood, came a collection of zonal Pelargoniums; from Mr. Turner, of Slough, cut trusses of show Pelargoniums; from Mr. Hooper, Bath, stands of Carnations, Pinks, and Picotees; from Mr. Bragg, Slough, Carnations, Pinks, Pansies, and Sweet Williams; and from Mr. Shenton, Biggleswade, cut blooms of Pansies, also rustic window boxes made of cork.

Several extra prizes were awarded.

Fruit Committee.—G. F. Wilson, Esq., F.R.S., in the chair. Mr. John Hepper, The Elms, Acton, sent good specimens of Veitch's Autumn Giant Cauliflower from plants sown September 7th, 1870, to show that it is not only useful as an autumn variety, but for summer use. Mr. Smith, gardener to the Earl of Gainsborough, Exton Park, Oakham, sent a seedling Cucumber raised between Carter's Champion and Worcester Prize, but it was considered coarse. Mr. J. James, gardener to W. F. Watson, Esq., Redlees, Isleworth, sent a seedling Pea called James's Prolific, producing a large pod and large peas. The Committee recommended that it be sent to the garden to be tried along with other varieties in the collection next year.

Mr. Bland, gardener to Lord Kilmorey, Isleworth, sent two dishes of fine fruit of Grosse Mignonne Peaches, to which a special certificate was awarded. Mr. Tillery, of Welbeck, sent a collection of fruit consisting of one dish of each—Bigarreau Napoléon, large, and very handsome; Lucas Strawberry, also good, Cockscomb; and Elruge Nectarine. A special certificate was awarded to the collection. Mr. William Paul, Waltham Cross, sent fruit of a seedling Strawberry called Waltham Seedling. It is large and handsome, of a good deep colour, which stains the flesh throughout; the flavour was not quite approved, but the Committee were of opinion that in a more favourable season it will prove an excellent variety.

Mr. Bradley, of Littledale, Halam, sent a seedling Strawberry, "The Amateur," which was much admired, both for its size, colour, and flavour. It was awarded a first-class certificate. Messrs. Standish & Co., of Ascot, sent fruit of the Ascot Citronelle Grape, a very early variety of Frontignan, with a high Frontignan flavour, and remarkable piquancy. It was awarded a first-class certificate. A remarkably attractive exhibition of Pines was sent by Mr. Miles, gardener to Lord Carrington, Wycombe Abbey, consisting of Enville, 11 lbs. 4 ozs.; Smooth-leaved Cayenne, 7 lbs. 8 ozs.; Charlotte Rothschild, 6 lbs. 8 ozs.; Queen, 5 lbs. 10 ozs. They were all produced from plants sixteen months old. A special certificate was awarded to them.

Messrs. Rivers & Son, of Sawbridgeworth, sent a dish of a very large and handsome black Cherry called Bigarreau Noir de Schmidt. The flesh was very firm and of excellent flavour. It was awarded a first-class certificate. Mr. Fleming, of Cliveden, sent specimens of a very large round white Fig, without any stain of colour in the flesh. The fruit had been kept too long after being gathered, and had become mouldy. Mr. T. Sampson, Houndstone Nursery, Yeovil, sent a dish of Apples of last year's crop.

Mr. G. Lee, Clevedon, sent, but too late to be submitted to the Committee, fruiting branches of Lee's Prolific Black Currant, which received a first-class certificate last year, and fully maintained the high position then given to the variety.

Messrs. Carter & Co. offered prizes for the best collections of vegetables, including Carter's Imperial Wonder and Laxton's Supreme Peas, and Carter's Improved Garnishing Parsley. There was only one exhibitor—Mr. Miles, gardener to Lord Carrington, Wycombe Abbey, who took the first prize, and had excellent Cabbages, Lettuces, Broad Beans, Peas, Carrots, Student Parsnips, Parsley, Giant Rocca, and White Lisbon Onions, Salsafy, Scorzonera, Celery, Beet, Shallots, Globe Artichokes, Turnips, Potatoes, Vegetable Marrows, Asparagus, and Broccoli.

Floral Committee.—Mr. J. Fraser in the chair. Mr. Z. Steveos, gardener to the Duke of Sutherland, Trentham, received special certificates for fine examples of Barkeria spectabilis and Odontoglossum hastilabium, the latter being a cut specimen. Messrs. Veitch, of Chelsea, sent Dendrobium Griffithianum majus, with a close pendulous raceme of delicate orange yellow flowers with a yellow lip. From Messrs. Jacob-Makoy & Co., Liége, came Tillandsia platystachys complanata, but, when we saw it, without flowers. This received a first-class certificate. M. Jean Verschaffelt, Ghent, exhibited a dozen Agaves, imported from Mexico in 1870 and 1871; first-class certificates were given for A. Mescal foliis variegatis, A. Regeli macrodontha, A. elegantissima, a very handsome kind, and a new unnamed species. Mr. Green, gardener to W. Wilson Saunders, Esq., sent several interesting plants, among which were a new plant from Angola, a South African Rochea and Albuca. M. Jean Verschaffelt also sent a collection of new plants, in which were Encephalartos Broomii, very beautiful, and, if we mistake not, the same as that which Mr. Bull has several times exhibited without a name; a new species of Zamia from New Caledonia; and a species of Dicksonia. Each of these received a first-class certificate. In the same collection were Hechtia sanguinea with purple-tinged leaves, and a Cyathea from St. Catherine's. Mr. Laurence, gardener to Bishop Sumner, Farnham Castle, sent perhaps the finest specimen of Dendrochilum filiforme ever seen, being nearly 2 feet in diameter, and tasselled all over with its peculiar inflorescence. For this he was awarded a special certificate, as also for a specimen of Maxillaria venusta. Mr. Wendland, The Royal Gardens, Herrenhausen, Hanover, exhibited Æchmea Marie Regina, which in splendour yields to no other Bromeliad, magnificent in colour as many of them are. The bracts are of the loveliest and deepest of rose colours, and the flowers will probably be blue.

From Messrs. E. G. Henderson & Son came several new Lobelias, very dwarf, not exceeding 3 inches in height, very compact, and also forming dense masses of flower. First-class certificates were given for Celestial Blue, pale blue, with a white eye, and Brilliant, dark blue, with a white eye. Purple Prince was also fine in colour, free flowering, and, if it will retain its hue, very desirable. Messrs. Carter & Co., High Holborn, sent a basket of Trichinium Manglesii, very fine; a beautiful pan of Dichorisandra musaica, and several Golden Tricolor Pelargoniums, of which Prospero was fine in colour, and Last of the Clan—which would be welcome to some—a well-coloured kind. Mr. Chapman, Earlswood, sent Invincible Blue Sweet Pea, violet, a good kind; Mr. Ley, Croydon, a Begonia, not very attractive; Mr. Chambers, gardener to J. Lawrence, Esq., Beddington, a golden-leaved Geranium called Golden Gift; and Mr. Woods, Claygate, a seedling scarlet Zonal. Mr. Mann, of Brentwood, also sent several scarlet Zonals, but none were judged worthy of a distinction.

Messrs. Paul & Son, Cheshunt, exhibited several boxes of very fine cut Roses, for which they received a special certificate, also taking first-class certificates for Louis Van Houtte and Comtesse d'Oxford; Mr. Cranston, of King's Acre, Hereford, also received a special certificate; Madame Charles Wood was very fine. Messrs. Veitch also sent stands, together with one of Spiræas; for the latter they had a special certificate. S. callosa, S. Douglasii, and S. ariæfolia were very fine. Messrs. Lee, of Hammersmith, exhibited Lobelia White Perfection, which we have favourably noticed before; on this occasion it received a first-class certificate. The panful of it, though grown in the open air, was quite a mass of milk-white blossom. Mr. Hepper, gardener to C. P. Millard, Esq, The Elms, Acton, sent a number of dwarf Cockscombs very even, but not with large heads; Mr. Cunningham, Moor Park, Rickmansworth, Verbena White King, a very promising variety, but the Committee required to see the flowers on the plants; Mr. Macintosh, Hammersmith, Pelargonium lateripes grandiflorum, with larger flowers than the ordinary Ivy-leaved Pelargonium, apart from which the plant would have deserved an award as a specimen. It had a first-class certificate. Mr. Norman, Plumstead, had first-class certificates for Picotees Mrs. Brown and Morning Star, and one of the second class for Lady Holmesdale. Mr. Hooper, Bath, sent Picotee Lady-in-white. Fuchsia Sunray, from Mr. Milner, with the foliage diversified with rose, had a first-class certificate.

G. F. Wilson, Esq., Weybridge, sent a beautifully-flowered group of Lilies—such specimens, in fact, as have rarely been exhibited, but being a member of the Society's Council he could not compete for a prize, and was therefore awarded only a special certificate. They consisted of Lilium longiflorum of the ordinary variety, the large variety of the same, and the variety having the leaves edged with white; L. tigrinum, a giant variety of the same; a Lilium brought by Mr. W. Robinson from the Rocky Mountains; and one whose name is doubtful. Mr. Denning, gardener to Lord Londesborough, had a special certificate for his fine group of Orchids. Mr. Williams, of Holloway, exhibited Miltonia Warscewiczii, a pretty little variegated Ivy, Agave stricta, and a number of other interesting plants.

Red-skinned Lapstone Potato.—I am made to say in last week's Journal, page 23, that "I have under trial about twenty roots each of Red-skinned Flourball, &c.;" it should have been Red-skinned Lapstone, &c.—a kind, I believe, solely in

my hands, and which was raised here. It is more hardy than the old Lapstone, has stronger haulm, but short, and a pale red skin, not unlike Red-skinned Flourball in colour. It is early—much earlier than the Pink-eyed Lapstone, or Red-sprouting Lapstone, a variety raised at the same time as the Red-skinned Lapstone. For hardiness and cropping they will come up to "D., *Deal's*," standard, whilst of their quality I have great expectations. I hold the Lapstone to be the finest quality of Potato, and only wanting in hardiness, and this I think I have secured both in early and late varieties.—G. Abbey.

ENTOMOLOGICAL SOCIETY'S MEETING.

The last meeting for the present season was held on the 3rd inst. at Burlington House, Piccadilly, Mr. A. R. Wallace, the President, being in the chair. An extensive series of entomological publications from various continental and English societies and authors was announced as having been presented since the preceding meeting.

Mr. S. Stevens exhibited various species of insects captured during a recent visit to Ireland, among which was the extremely rare Chlænius holosericeus, taken near Killaloe, on Lough Berg. Erastria Bankiana was flying by hundreds in the same locality. He also saw several collectors who confirmed the capture of Notodonta bicolora, having seen the unique specimen whilst still alive in the hands of its captor.

Mr. Champion exhibited the fine and very rare Emus hirtus (one of the large Staphylinidæ), taken recently in the New Forest under cow dung, and various new species of Hemiptera.

Professor Westwood exhibited the minute-book of the old Entomological Society, founded in 1780, now in the possession of Mr. Drewitt, of Christ Church, Oxford.

Mr. Blackmore exhibited a collection of insects recently made in Fez and Tangiers by himself, including the rare Lucanus Barbarossa and various Locusts, of which L. tataricus had only occurred singly, but L. peregrinus had appeared in great swarms exactly as described by the prophet Joel, their dead bodies lying on the seashore in heaps for miles. Mr. Dunning read the description of a machine invented in America, and used near the Salt Lake, for destroying these insects, consisting of two moveable rollers, and costing 75 dollars.

The Rev. W. H. Wayne sent some specimens of Strawberries destroyed by young Juli, and young Carrots gnawed apparently by the larvæ of a small two winged fly, Psila Rosæ. Mr. Herbert Druce exhibited several boxes of Butterflies of great beauty and rarity from South America; and Mr. Stainton a singular specimen of the small Moth Botys fuscalis, the face of which was still covered by the anterior portion of the shell of the chrysalis, which, however, had not retained in it the antennæ, which were fully developed.

Mr. Sydney Saunders communicated a monograph of the Strepsiptera, a group of parasites within the bodies of bees and other Hymenoptera, which he considered to belong to the order Coleoptera. Mr. Müller exhibited leaves of Vines exhibiting great numbers of yellow spots, caused by exceedingly minute gall-making Acaridæ of the genus Phytoptus.

Professor Westwood communicated descriptions of various new exotic Papilionidæ, in which he drew the distinction between species as originally created and local varieties or sub-species, which he considered might have been produced by modifications in the physical conditions in which certain individuals had been placed; a view which was opposed by Mr. Jenner Weir, who expressed his entire disbelief in an original creation, a term which ought to be discarded from science!!

Mr. Riley, the State Entomologist of Ohio, who was present as a visitor, and whose appearance was warmly greeted, made some observations on the dissimilar form in the clasping organs of certain Butterflies belonging to the Hesperiidæ, which had lately been described by Mr. Scudder, contending that not only in these insects, but also in the Cicadæ, the form of these instruments varied greatly in individuals of the same species. He also presented copies of his State Reports on the insects destructive to crops in Ohio, and exhibited several boxes of such insects.

Mr. W. H. Bates read a paper on the sections of Cicindelidæ, and especially on the genus Oxygonia of Mannerheim.

LARGE PRODUCE.

I have just cut a "monstrous" Lettuce, the length of which is 23 inches, circumference 19 inches, weight 2 lbs. 2 ozs. I have about six more tied up, apparently of the same size, more than one hundred of nearly the same size, and three hundred which have yet to prove themselves, but which are so strong that they promise to rival the one I cut to-day. I may say that, with the exception of quite the outside leaves, the Lettuce is good to eat all through, crisp, delicate, and tender.

With regard to the Kentish Invicta Pea, I bought a quart from Messrs. J. Dickson & Sons, of Chester, in the spring, and sowed in February. I have now gathered seven pecks from the plants it produced. The Peas of Sangster's No. 1 are only just ripe, although sown in the autumn.

Fruit here is generally bad; but by good fortune for a fortnight I have never been without Strawberries; they will not, however, thoroughly ripen. The Currants, Raspberries, &c., are generally wanting. Wall fruit none.—R. F. S., *Stafford*.

SPRING FLOWERS.

At a meeting of the Gardeners' Mutual Improvement Society held at York, Mr. John Russell, gardener and florist of Fulford Road, made the following remarks:—

I want to draw more attention to this class of flowers, as I am satisfied if you could be induced to do it a complete change might be effected in some of the most charming productions of Nature which are now comparatively neglected. How strange, and yet how true, that though everyone seems fond of them, they are so little improved! Improved! Nay, they positively have moved backwards. Take, for instance, one of the loveliest families of them all, the Stock. There was a time when you could see Bromptons growing in many a cottage garden with magnificent spikes of double flowers, such as can be now rarely, if ever, met with, and as to the Intermediate, it seems almost an impossibility to find a good strain for love or money. Why is this? Look at the Polyanthus. Many of the good varieties in the florists' lists now are such as I remember thirty years ago. Go back the same period with Dahlias, since the days of Springfield Rival; and with Geraniums, Garth's Perfection, or Gaines's King; where are they now? Long, long ago, gone. Observe also the Wallflower. Is it better now than when we were boys? Dahlias, Fuchsias, and Geraniums are very beautiful in their way, and it is you who have made them so. But do you not think that if you and others of the same profession had paid as much attention to these old flowers that they would have been long ago improved? It is marvellous to see what a change can be effected in a garden by right management.

Look at that pretty edging of gold now to be seen almost everywhere. One would imagine an army of men had been gilding all the Box-edging. Its forefather, the old green Feverfew, always had a taste for living in a garden, but somehow its presence was not altogether appreciated, and it was ruthlessly pulled-up wherever seen, only to be found again the next hoeing time. What good was it? Certainly old ladies made a decoction of it to cure some kind of complaint, and that was all. Some of the younger branches of the family, I suppose, thinking they had been green long enough, have done what people sometimes do in political matters, changed colour, and now the Golden Feather, or *par excellence*, Pyrethrum parthenifolium aureum is the great gun of the day.

To my subject of spring flowers. I believe no small portion of their value is in the associations connected with them. A gentleman who has spent most of his life in India, not long ago said to me, "Now, I require some plants, but I do not want any of those longifloras or elegantissimas, or that kind of thing; I should like some Wallflowers, Daisies, Pansies, &c. I understand them, but I do not know anything about those other confounded things." What we call rare plants were no novelty to him in a warmer clime. He had seen Nature adorned with everything the most fantastic and beautiful, but old English spring flowers were associated with his earliest recollections of childhood. The Christmas Rose is letting the world see how well a plant can bloom amidst frost and snow; it is a great curiosity. Then comes the Aconite with its welcome yellow blossoms. But, then, the Snowdrop, when it comes causes almost as great a sensation (and at a much less expense) as the first baby; everyone talks of the first Snowdrop, yet no prize flower is this for amateurs to put on their spectacles to judge its merits—a little humble plant, but it tells a tale of spring; though had Nature, under Providence, placed it in autumn after the gorgeous flowers of summer, it would in all probability have been passed unheeded. Now follow in quick succession the Crocus, the single Anemone, the Arabis, the Daisy, the Pansy, and hosts of others, which are old faces. What a fine effect can be produced with the most trifling expense the whole of winter with these few sorts:—The Golden Feather, Red Spinach, and Stachys lanata; the Gold-edge Daisy, and Cerastium! With just these either in beds or in cones, or hillocks thrown up, you may make a very gay appearance. But you must have good plants ready to put out when they are wanted. For this purpose the first two should be sown in July, and of the latter cuttings or divisions should be put in a few weeks beforehand. Of flowering plants you should grow in large quantities Aubrietia græca. I have seen patches of it this spring rivalling the blue Lobelia in its palmiest time.

A lovely plant which everyone should get is Myosotis rupicola; in masses it must be grand. Alyssum saxatile compactum, too, is most effective in beds. Of this and the Aubrietia you may grow hundreds from a shilling packet of seed, and with these and the Imperial Gold-finder, Trentham Blue, Yellow, and White Pansies, the different Daisies, Polyanthuses, Wallflowers, a few dozen Tulips, and other well-known things you make a very gay show, but this only as a beginning. I do not expect all gardens to be made like Trentham at once. In our own neighbourhood, I am told at Escrick Park the beds of Tulips and Pansies this spring were worth going a long way to see. You should walk round these places where new spring flowers can be obtained, and, perhaps, nowhere can you have such an opportunity as Messrs. Backhouse's. Pick up any little gem that you think may be made effective in masses, and do your best with it to get up a stock. There are many others which are very beautiful—the Hepaticas, the Gentian, Alpine Auriculas, Phlox frondosa, Nelsoni, and others, but

which you cannot get a stock of at once without expense. If you have none get an odd plant or some seeds of each.

I think, too, if you had your beds looking gayer in spring your employers would not be so anxious to start bedding-out so early; and, though I do not wish to touch upon this subject, I may remark by the way, that in small places particularly, you would have more time to collect your stock of plants together and to get them of a more uniform size, which is a very important matter in bedding-out.

A very effective plant I omitted to mention is Omphalodes verna; I noticed some grand clumps of it at Heslington Hall in early spring, of a much brighter hue than the Forget-me-not. Ah! I think I have not mentioned that before; but if ten thousand more beautiful plants bloom at the same time, we cannot do without that. Shakespeare says, "What's in a name." Who dares to say there is nothing in the name of this Forget-me-not! How many thousands of these flowers are annually sent on their mission of love!—more than the Postmaster-General knows of—they tell their own tale. It is an old flower, and it is an old tale, and I venture to say both will be in existence as long as this world lasts. Will your Gold and Bronze Geraniums last so long?

Now, take as much care about your strain of Wallflowers, &c., as you do about your Primula and Cineraria; grow the other spring flowers as assiduously as you do your Geraniums and your Verbenas; study their arrangement as tastefully as you do your bedding-out plants, and I most unhesitatingly assert that before long you will realise a display for three or four months in early spring little, if anything, inferior to your best show in summer.

In conclusion, I have no doubt to many of you, perhaps to most of you, all I have said is like an old song. You know books are not in a general way written for schoolmasters, though they may refresh their memory from them. A parson does not expect to reclaim a whole congregation; he will tell you if he has done one good he has succeeded in his mission, and allow me to add, if any one remark I have made, or any hint I have thrown out be of the slightest service to anyone, my time will not have been spent in vain.

COVENT GARDEN MONOPOLISTS.

What we require to open the eyes of both buyers and sellers of fruit in the London market is positive information as to the prices paid and received for fruit, &c., at certain dates. I have given the price charged in Covent Garden in May. A gentleman, whose letter I enclose, sends me a list of prices he received. You will see he says for very superior fruit carried by hand he received in March 16*s.* a-pound; in April 8*s.*, except once, when he obtained 12*s.*; in May 6*s.* to 7*s.* I think you will find, judging from information I receive, that producers who get about one-fourth of the retail price are not considered badly paid. It is when they get less than this that they begin to grumble.—J. R. Pearson, *Chilwell.*

"July 7th, 1871.

"Dear Sir,—Having read your article on 'Covent Garden Monopolists,' and being, like yourself, disgusted with the prices allowed to the producer, I have sent you a copy of the account for forced Strawberries which I have sent to what is supposed to be salesman A1. The fruit was fine, and in market two hours after having been picked, as I sent my man up with each lot required. I also give the price in the main avenue of the market each morning. The fruit not being so fine as mine, and partly stale, I fully expected to see half these prices in my return. Those entered as seconds were nothing but refuse, for which I have received more than half the price of fine fruit. I am an amateur, and not depending on the produce. How those get on who have to make a living by forcing I cannot tell. I have only been at it two years, and have had good crops, but this has nearly given me a sickener. No doubt there are hundreds like myself who will be greatly obliged if this evil can be removed, and a fair price allowed to the producer.—I remain, &c., George Lee."

"The following is the statement of prices:"—

1871.		My price.	Price in the Avenue.
March 29	10 ozs. best	1*s.* per oz.	3*s.* per oz.
April 1	1 lb. best	1*s.* per oz.	
„ 3	4 lbs. best	12*s.* per lb.	44*s.* per lb.
„ 5	2½ lbs. best	8*s.* per lb.	36*s.* per lb.
„ 10	5 lbs. best	8*s.* per lb.	32*s.* per lb.
	1 lb. small	4*s.* per lb.	
„ 12	1½ lb. best	8*s.* per lb.	32*s.* per lb.
	½ lb. seconds	2*s.* per lb.	
„ 17	2¾ lbs. best	8*s.* per lb.	20*s.* per lb.
„ 24	4 lbs. best	8*s.* per lb.	12*s.* to 20*s.*
	3½ lbs. best	8*s.* per lb.	
	1 lb. small	5*s.* per lb.	
May 1	3 lbs. best	6*s.* per lb.	12*s.* to 20*s.*
„ 5	4½ lbs. best	7*s.* per lb.	For these lots I did not get prices in the Avenue.
	¾ lb. small	3*s.* per lb.	
„ 8	3 lbs. best	6*s.* per lb.	
„ 12	3 lbs. best	7*s.* per lb.	
„ 17	1½ lb. best	7*s.* per lb.	

One's first idea in connection with an attempt to quash such a monopoly is to endeavour to start one or more establishments of a similar character, which, by means of the powerful and wide-spread agency of The Journal of Horticulture, shall challenge and fix the attention of all persons interested in such matters, or who are desirous to occasionally dispose of their superfluous garden produce. As this would, doubtless, be a very costly and speculative undertaking, could not something be done by the Royal Horticultural Society?

So many gentlemen now dispose of the choicest productions of their gardens, that surely the Society would not consider it derogatory to its dignity to afford them and others greater facilities for doing so than now exist.

Do not the permanent exhibitions of horticultural implements in the arcades at South Kensington, and the nurserymen's stands in the International Exhibition, point the way? If some such plan were adopted I think it should not be confined to the Fellows of the Society, but garden produce of a superior quality should be received from all, as, otherwise, it might prove hurtful to the market gardeners.

Moreover, for such a plan to be successful there must be as full and constant a supply as the nature of the season will admit of, so that purchasers when going to the market might always be able to obtain what they wanted.

If a suitable building were provided, good taste would produce such an arrangement of the goods offered for sale as would always form an attractive sight. We should thus have a market without the filth or clamour of Covent Garden; for, if costermongers were admitted, both they and greengrocers should, I think, be compelled to make their purchases and remove them by a stated hour every morning, after which no wholesale business should be done. Respectable persons would thus be able to inspect the goods, and make purchases, free from annoyance, or to enjoy a stroll through what must be a pretty and animated scene.—Edward Luckhurst.

VILLAGE HORTICULTURAL SOCIETIES.

[We are so frequently asked to furnish approved rules for these societies, that we reprint those which follow. They were the result of the long and successful experience of the late Rev. Abner Brown, founder and manager of the prosperous "Village Horticultural Society," at Pytchley, Northamptonshire.—Eds.]

Why should not thousands of similar villages have their little societies? Most parishes contain some active young people who take delight in their gardens, and can afford a day or two now and then, and a few shillings yearly (a very few are needed) to promote such innocent and healthful enjoyment, such advantageous means of good, to themselves and others?

It is evident that the rules suited to one locality will usually require some modification to adapt them to another. But if such societies are fully to exert the beneficial influence of which they are capable, a few broad and fundamental principles, such as the following, must not be overlooked, whatever be the minor details adopted.

The circle of neighbourhood should be so restricted, as that each member may know with whom he will probably have to compete, and that the distance of the show-room from each cottage member's home will not require him to lose any part of his day's work in bringing his specimens, or seeing the show. The expressions, "our parish,"—"our village,"—comprise so many old-English and home ideas, that the expression "our society," may advantageously be made to correspond with them. Whatever be the limits fixed they should be steadily adhered to; for the advantage of doing so will eventually overbalance any temporary advantage resulting from breaking through them.

The exhibitors and specimens should be classified, in order that those who have small or poor gardens should not feel success hopeless, by being required to compete with such as have necessarily much better means of gardening. By classification, also, an opening is made for members who have no other garden than a cottage window for a few flower-pots, and even for school-children, who have nothing beyond the wild flowers from the lanes and hedges.

In order to prevent general discouragement, professional gardeners who may be members should be restricted as to the number and amount of their prizes. Their prizes should be for such specimens as require unusual skill and opportunity to bring to excellence, and for which, therefore, there will be necessarily few competitors. The profits of such members

should result chiefly from the general stimulus given by the society to gardening and flower-buying.

The judges, especially of cottage specimens, must be entirely raised above the reach of suspicion; and that not only by personal character, but by such regulations as make partiality impossible, or altogether unlikely. The object sought to be gained by village societies is not so much the absolute excellence of specimens, as a relative and growing improvement in the quantity and quality of food raised by cottagers, and in the beauty and variety of their flowers, and the tastefulness of their nosegays. There should, therefore, be some means provided for rewarding evident efforts at improvement, even where the actual quality of the specimens will not allow them to be compared with those of members who have tried longer, or with more tact and ability, and which deserve and receive prizes for their intrinsic excellence.

The subscriptions of cottagers should be small; both because their income is very scanty, and in order that the unsuccessful should not feel the loss of their subscription very material. Yet some subscription should be required, lest the feeling of independence and self-respect, that jewel of English character, should be injured by the prizes being felt to be alms.

A large number of small prizes is more efficacious than a few of larger amount; for a small sum of money can thus be spread influentially over a larger number of persons, and be made to encourage improvement among a larger variety of produce.

A part of each year's regular subscriptions should be laid aside as a fund, which, with the aid of occasional donations, may gradually enable the Society to provide an ample stock of materials for the shows. Fourteen dozen of plates and dishes, with the Pytchley Society's name printed on them at the potteries, cost £3 9*s*. A set of stages, consisting of long, green-painted shelves, and benches and frames, fitting into each other, and forming, when piled up, several platforms, commodious, and yet easily removed, cost £9 15*s*. Chain festoons, crowns, loyal devices and letters, the Society's name, arches, ornaments, &c. (nearly all of iron), for decorating with flowers; frames to hold nosegays, and cases to preserve choice blossoms in water, were accumulated from time to time. The expense of these, and of printing, for the use of members, repeated editions of the rules, circulars, handbills, prize cards, &c., has been, in all, almost £30. Had it been necessary, the efficiency of the Society, though not its attractiveness, might have been preserved at even a smaller outlay.

The specimen tickets used are pieces of pasteboard, 1½ inch square, on each side of which is printed a number in large figures; and the prize cards are similar pieces, about 3 inches square, with the words "first prize," or "second prize," or "extra prize," &c., printed on each side. As there are three classes of members, and competition must be avoided between specimens belonging to different classes, there are tickets and prize cards of three colours: some of white pasteboard, appropriated to the ordinary members; some of red, for cottagers, and some of green, for children; each class of tickets being further distinguished by having a different series of numbers—viz., Nos. 1 to 49; Nos. 50 to 99, and Nos. 100 to 149. The tickets are in parcels of twenty-five, each ticket of a parcel bearing the same figures.

The show-book is a quire of foolscap paper, stitched into a pasteboard cover, and renewed every year. It is so ruled on each page as to have one column for the number, one for the exhibitor's name, one for the kind of specimen brought, and one where the prizes are afterwards entered opposite the successful specimens. The whole of a member's specimens are entered consecutively in the same place, under his number for that show; and his number depends on the order in which he happens to arrive in the morning among the exhibitors. Separate pages are kept for the white, red, or green ticketed specimens.

Immediately after school on the evening of the day before a show, the stages are raised, and the festoons, devices, arches, &c., decorated with flowers, and fixed in their places. The show day, is, of course, a holiday to the scholars. In the morning after the show day, the stages, &c., are removed and stowed away, and the room is ready again for school at its usual hour.

On the show day, after all the specimens have been brought in and registered in the show book, they are arranged on the stages; specimens of the same sort and class being placed side by side, and each bearing a ticket with its owner's number and colour. When this is completed, the show book is removed, and the judges are admitted and left entirely by themselves, ignorant of who are the owners of any of the specimens. Comparing each specimen with those only which bear the same coloured ticket, the judge affixes a prize card of the same colour to the best and second best of the sort; and finally examines the variety of specimens bearing the same number, to reward with some extra prize (if possible) evident efforts to do well, where the specimens have not attained sufficient excellence to deserve the prize competed for. After the judging is over, the secretary brings the show book; the prizes are entered, by means of the number, in the proper column opposite the specimen; and the judges learn, for the first time, who have gained the prizes. The doors are then opened to visitors.

The prizes given are small, that they may be numerous; and the largest are adjudged to those articles which are most useful and most troublesome to rear. The highest prize for specimens is 1*s*., the lowest 3*d*.; but those for allotments and gardens are from 4*s*. to 2*s*.

It would greatly increase the efficiency of such a village society, could it be made to bear upon larger and better gardens as strongly as it does upon cottage gardening: This would be the result of its funds being sufficiently ample to allow a higher scale of prizes among the white ticket specimens than among the others; and to remove the necessity which many of the ordinary members kindly feel and act upon, of returning their prizes. It is also evident that if the cottage members in a parish are very numerous, the prizes must be few, unless the cottage subscriptions are higher than 6*d*., which, however, might have a discouraging effect in founding a new society.

Expenditure.—The outlay for each show consists of the prizes paid; and the necessary allowances and trifling expenses for those who give their time to preparing the show-room, managing the laborious part of the show, and clearing the room after. The greater the number of specimens, the more prizes must be given, and the more hands will be required to do the necessary work. The amount of allowance and expenses has ranged from 2*s*. in the autumn show of 1837, to 11*s*. 6*d*. in the autumn show of 1848. The sum which can be devoted in prizes depends upon the general funds of the year, and the money received at the door on the show-day. Sometimes an unexpected donation, not wanted that year for the purchase of stock, has allowed a large sum to be given in prizes; or, on the other hand, a call for printing or other extra outlay, has reduced the sum to be divided below the average. In the spring show of 1837, sixteen prizes to ordinary members cost 2*s*. 3*d*., and seven to cottagers and children cost 4*s*. 9*d*.; in the spring show of 1848, twenty-five prizes to ordinary members cost 10*s*. 3*d*; eighty to cottagers cost £1 19*s* 3*d*.; and twenty-nine to children cost 9*s*. In the summer shows the number and amount have been on the whole a trifle less. In the autumn show of 1837, the ordinary members received thirty-four prizes, costing 13*s*.; the cottagers and children twenty, costing 15*s*. 9*d*. In that of 1848, the ordinary members received forty prizes, costing £1 0*s*. 5*d*.; the cottagers eighty-four, costing £3 8*s*. (including £1 for six prizes among the allotments and gardens), and the children thirty-one, costing 9*s*. 3*d*. The whole yearly outlay for prizes and show expenses in 1837 (three shows), was £2 7*s*. 6*d*.; and in 1841 (three shows), £6 13*s*. 6*d*.; in 1846 (two shows), it was £7 16*s*. 7*d*.; and in 1848 (two shows), £8 19*s*. 1*d*. The sums expended in purchase of stock, &c., were made to depend on the funds; the amount so employed in 1837, was £2 5*s*. 11*d*.; in 1839, was £10 11*s*. 1*d*.; in 1842, was 3*s*. 6*d*.; and in 1846, was £10 10*s*. 6*d*.

Rules of the Pytchley Horticultural Society.

1. Objects and Funds.—To encourage useful and ornamental gardening, good culture of cottage allotments, and the keeping of bees; by giving prizes for horticultural efforts made and specimens raised in the parish. It is supported by the subscriptions of members, the donations of friends, and the money received at the doors for admission on show days.

2. The Society.—It consists of such inhabitants of the parish as subscribe to its funds and agree to be bound by its rules; and is managed by a committee of three or four members, along with the clergyman (being a subscriber). A general meeting may be held in the fall of the year, for accounts or other business, should the majority of adult members wish.

3. The Members.—Any inhabitant of the parish may become a member; but persons not living in the parish cannot be members. Members who disregard the rules, annoy their fellow members, refuse to abide by the judges' decision, or act unfairly in regard of specimens or otherwise, may be expelled from the Society by the committee.

Subscriptions are payable in advance, and for the whole year at once. Members are of three classes:—

Ordinary subscribers, called also *White Ticket Members*, paying not less than 2*s.* 6*d.* yearly: unless they be small tradesmen, whom the commitee may admit at 1*s.* yearly.

Cottagers, called also *Red Ticket Members*, paying 6*d.* yearly, or if in the Provident Society, 4*d.*

Children, called also *Green Ticket Members*, paying yearly, if in the parish Sunday School, 1*d.*; if not, 3*d.*, or 2*d.* according as their parents are, or are not, in the Provident Society.

Young persons, above the age of children, living at home with their parents, pay, on becoming members, half of what their parents do or would pay, but never above 1*s.* each; and their specimens will be judged along with those of the class to which their parents do or would belong.

4. The Show Days.—The Spring show is on, or as near, Royal Oak day (29th May) as it can be conveniently fixed. A Summer show is occasionally held in July or August. The Autumn show is in the middle of September, or as soon after as the harvest of the season will allow. The day of each show is fixed by the committee according to the forwardness of the season, and so as not to interfere with the neighbouring markets or fairs, nor to fall on Saturday or Monday. The village crier goes round the parish with notice a week before, and a few circulars are sent beforehand to the neighbouring towns and villages. The doors of the show are opened to the public at three o'clock.

5. The Specimens.—All specimens shown for any purpose must really belong to the member showing them. If shown for prizes, they must have been raised in the parish by the member, or must have been growing for three months before in the member's own garden, house, allotment, or field, in the parish. Mushrooms, wild flowers, wild fruits, wild pot-herbs, shown for prizes, must have been gathered wild in the parish by the member showing them. Flowers or plants which cannot be shown for prize, may be shown for ornament or sale, providing they really belong to the member showing them; and have the owner's name, or the words, "not shown for prize," distinctly marked upon them. The quantity sent as a specimen must be sufficient for fairly judging the general quality, but need not be more—for instance, eight of common fruits, roots, Seakale, Rhubarb, &c.; four of fine fruits, Celery, Lettuce, Artichoke, &c.; two of Cauliflower, Cabbage, Cucumbers, Gourds, Mangel-Wurtzel, &c; fifty Asparagus; a pound or pint of small fruits, early Peas, early Potatoes, &c.; half a gallon, or a Society's plateful, of Potatoes, Peas, Beans, &c.

The same specimen cannot gain more than one prize in a year, and, if shown again, should have the owner's name. (For children's specimens, see the list of prizes which follow these rules.) No member can have two prizes for two different specimens of the same article. A certain amount or number of prizes will be fixed, beyond which the specimens of any professed gardener cannot gain.

6. Judging the Specimens.—The judge or judges are appointed by the committee. No specimen belonging to any judge can be shown for prizes in that show for which he is judge. If shown at all it must bear his name. The room shall be ready for the judges at twelve o'clock; but, whether or not, the judge shall not enter it until the specimens are all finally arranged, and no person but the judges shall be in the room at the time of judging. No specimen which has the owner's name upon it, or the owner of which is or has been in any way made known to any of the judges, or which has upon it no ticket, can gain a prize under any circumstances. The specimens with white tickets, those with red tickets, and those with green tickets, shall be judged as three separate classes; each specimen against the others bearing its own colour of ticket, and not against specimens bearing any other colour than its own.

7. Admission to the Shows.—The door is opened to the public at three o'clock. Every member has free admission to each show of the year, for himself and his wife; but cannot send any other person instead, nor take in, without payment, either a friend or child of any age. No person, except a member or his wife, can come into the room at any time of the day or evening without paying.

Visitors pay not less than 6*d.* each for admission to each show. Cottagers, whether of the parish or not, pay 1*d.* each. Children, whether in arms or not, half-price.

A box or bag is at the door to receive the donations of any visitor who may be willing to aid the funds.

No one is permitted to touch the specimens. The man in charge of the room is directed to turn out any person, whether member or visitor, who injures the specimens or acts improperly. Dogs are not allowed in the show-room.

At night, when the specimens are about to be removed, no more visitors, nor members who have not specimens in the show, will be admitted; and visitors already in, or members not having specimens there, must leave the room.

8. Rules for Preventing Confusion.—The show-room is open to receive specimens at eight o'clock in the morning, and specimens not brought into the room before a quarter-past ten will be refused; or if shown, must have the owner's name on them without a ticket, and cannot gain a prize.

Each specimen as it is brought is entered in the show book (on the white, red, or green page, according as it belongs to an ordinary member, a cottager, or a child) along with the owner's name and his number for that show; and a separate ticket, answering in colour and number to the entry in the show book, is fixed to every specimen brought by that member.

Every member must bring in all his specimens at one time, and must see that a ticket with his own number is put upon each of his specimens. Not more than two members with specimens are allowed in the room at the same time.

At the End of the Show.—No member must move or take away his own specimens until some person appointed by the committee give each specimen to its owner.

Children's prizes will be first paid and their specimens removed, and the room cleared of all children; nor after this, will children be allowed to come in again.

Cottagers' prizes are next paid, and their specimens given out, and those who have received their specimens, or have none in the show, must leave the room entirely. In coming at the last to take away their specimens, it is desirable, in order to avoid crowding, that members should come as much as possible in turns, or only a few at once. If a member wish friends or relations who have not paid for admission to help in removing specimens, those friends or relations must stay outside of the show-room outer gate.

The white ticket members will receive their prizes and specimens after the cottage members are done with.

Specimens of fruits, roots, or vegetables unclaimed at the end of the show will be sold for the benefit of the Society.

List of the Prizes offered.

Class I.—*For Fruits and Vegetables usually Grown for Food.*

The best specimens in their seasons of fruits, vegetables, roots, Mushrooms, salads, pot-herbs, or Beet and Mangel-Wurtzel leaves for use as Spinach.

The best specimens at the Spring show, of old Apples, old Onions, and old Potatoes.

The best collection of six or more various sorts of the same fruit, root, or vegetable.

Class II.—*For Open-air Flowers.*

The best single blossom of flower or shrub grown wholly in the open air.

The best mixed garden nosegay (without wild flowers.)

The best mixed nosegay of choice open-air flowers.

The best bunch, plate, or collection, of different sorts of the same open-air flower. According to the competition, there will be one prize among all the collections, or one for the best Roses, another for the best Pansies, &c.

Class III.—*For Greenhouse (or tender) Flowers.*

The best greenhouse (or tender) plant in blossom.

The best collection (in flower-pots) of six or more different sorts of the same such plant in blossom.

The best collection of different sorts of the same greenhouse (or tender) flower.

The best mixed nosegay of such flowers.

Class IV.—*For Bees; provided three or more Members are Bee-keepers.*

The earliest thriving swarm of bees.

The heaviest hive of honey (not less than 20 lbs.).

The greatest number of thriving swarms (not fewer than four), in one year.

The greatest weight of honey (not less than 50 lbs.), taken in one year.

The greatest weight of honey (not less than 1 lb. from one hive), taken in one year without destroying the bees.

Class V.—*For Allotments, Gardens, and Samples of Grain, &c.*

The Churchclose allotment which the churchwardens, after examination at three seasons, shall declare to be the cleanest, best-farmed, and best-cropped. [A first and second prize among allotments of members, and a first among allotments not occupied by members.] The prizes will be agricultural or gardening tools.

The best-farmed, best-cropped, and cleanest allotment in any other field in the parish, constantly let out in cottage allotments. [One prize.] A tool, as above.

The best samples of white grain (fifty ears each), grown on the allotments of members.

The best samples of Mangel-Wurtzel, Turnips, Peas, and Beans, being part of a real crop of at least one pole in extent, on a member's allotment.

The best crop of Turnips, not less than ten poles, grown after some other crop the same year, in any allotment.

The cottage garden of a member, which after inspection in summer and winter, shall have been found on the whole cleanest, neatest, best-stocked, and best-cropped. [One or two prizes, according to competition.]

Class VI.—*For Cottages.*

The cottage of a member (who has occupied it a full year, and is not above one quarter behind in his rent), which shall, during the previous six months, be found the cleanest, neatest, and most respectable-looking, inside and outside. [A first and second prize.] The prize will be some useful domestic article, chosen by the wife.

The cottage of one who is not a member, which answers the above conditions. [One prize, of the above kind.]

CLASS VII.—*For Children's Specimens.*

The best nosegay of wild-flowers only ; bunch of useful wild pot-herbs; plate of Brambles, Nuts, or other useful wild fruit; plate of Mushrooms; plate of Watercresses. These must have been gathered in the parish, by the children's own hands, and put together by themselves. N.B.—No prize will be given to grown-up members for any such specimens, except for Mushrooms.

The best single blossom of an open-air flower; mixed garden nosegay, without any wild flowers ; nosegay of different sorts of one flower; tender or house flower in a flower-pot; plate of small fruit. [All these, and the trees or plants on which they grew, must be really the children's own property, reared by their own hands, or grown three months in their own possession, or on their own spot of garden-ground. What is grown in the family garden, or should properly belong to a family garden, cannot be shown as children's specimens.]

Any member may offer for sale at the show any specimen which is really his own, by marking on it the words "for sale," and the lowest price intended to be taken. If it is not shown also for a prize, he shall mark on it his name. Specimens sold shall have the purchaser's name marked on them, but must not be removed, without leave of the managers, until after the show. Specimens not belonging to members cannot be shown for any purpose whatever.

White ticket members, who return their prizes, may choose at the Society's cost, from among the flower plants shown for sale, a plant, in testimony of their prizes, and of the obligation they confer on the Society by relieving its funds.

Cottagers and children—that is, red ticket and green ticket members, who shall gain at any one show, six or more first prizes, shall, if the funds allow, receive a small order, according to the value of their prizes, to buy at the Society's cost, a plant from any other member.

Plants or flowers, granted as above, may be shown for prizes at the next show, provided they have not already gained their former owner a prize in the same year.

Cottage members, who leave their prizes towards purchasing bees, shall receive 2*s.* beyond their prizes, when they amount to within that sum of the price of a stock.

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

ERIA EXTINCTORIA (Extinguisher-spurred Eria). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—A pigmy, leafless Orchid. Native of Burmah. Flowers white with pink blotch. —(*Bot. Mag.*, *t.* 5910.)

PASSIFLORA CINNABARINA (Scarlet Passion-Flower). *Nat. ord.*, Passifloreæ. *Linn.*, Monadelphia Pentandria.—Native of Australia. Greenhouse scarlet-flowered climber.—(*Ibid.*, *t.* 5911.)

MILLA CAPITATA (Capitate Milla). *Nat. ord.*, Liliaceæ. *Linn.*, Hexandria Monogynia.—Native of California. Flowers purplish blue.—(*Ibid.*, *t.* 5912)

RHYNCHOSIA CHRYSOCIAS (Golden-flowered Rhynchosia). *Nat. ord.*, Leguminosæ. *Linn.*, Diadelphia Decandria.—Native of the Cape of Good Hope. A beautiful yellow-flowered climber. (*Ibid.*, *t.* 5913).

ARISÆMA CONCINNUM (Handsome Arisæma). *Nat. ord.*, Aroideæ. *Linn.*, Monœcia Polyandria.—Native of the Sikkim Himalaya. Female spathe green; male white and purple streaked.—(*Ibid.*, *t.* 5914.)

GREVILLEA MACROSTYLIS (Long-styled Grevillea). *Nat. ord.*, Proteaceæ. *Linn.*, Tetrandria Monogynia.—A valuable compact addition to our hardwooded Australian plants. Flowers crimson.—(*Ibid.*, *t.* 5915.)

DENDROBIUM CHRYSOTIS.—"This beautiful plant was flowered by Messrs. Brooke & Co., of Manchester, for the first time in this country in September last. It is a beautiful stove epiphyte, somewhat resembling Dendrobium fimbriatum oculatum (the so-called D. Paxtoni of gardens), but differing in the much more deeply-cut fringe of the lip, in having on the disc of the lip two dark blotches instead of one, and more particularly in bearing its flowers on the yet leafy stems, the flowers of D. fimbriatum appearing on stems which have become ripened and leafless. It was imported from Assam. The stems are slender, rod-like, 3 feet to 4 feet long, bearing thin, oblong-acute, sessile leaves, while the large showy flowers form drooping spikes 6 inches to 9 inches long, and are of a bright orange-yellow colour, with two dark spots on the disc of the lip. The sepals and petals are ligulate, narrower than in D. fimbriatum, while the lip is more rhomboid, edged with a beautiful deep moss-like fringe. When exhibited in September last, at South Kensington, it obtained the award of a first-class certificate."—(*Florist and Pomologist*, 3 s., iv., 145.)

LARGE MUSHROOM.—The growth of Mushrooms has been remarkable here (Bromsgrove), and doubtless elsewhere too. The first large one I gathered I had the curiosity to measure; it was 10½ inches in diameter, 5½ inches high, and weighed 1 lb. 2 ozs. I have since gathered many as large and larger.—ARTHUR RYLAND.

NEW EDIBLE ROOTS.

BOTANICALLY speaking, the term root, as applied to many of our esculents, is incorrect. That most common and indispensable of our so-called root crops, the Potato, is really a tuber, or fleshy underground stem, the "eyes" being the buds from whence spring the branches or young plants. We have, however, elected to include under the above head of roots all those underground productions botanically known as tubers, and of these there are many that would appear worthy of persevering efforts at cultivation in this country as articles of food. When we consider what the Potato is like in its native country of Chili—a waxy tuber not larger than a Walnut, and when we see what a system of culture has done, and that in comparatively modern times, to bring this little tuber to its present perfection, we are led to think that a similar agency, if properly and patiently conducted, might result in giving us some new esculents, not absolutely to displace our old and well-tried friend the Potato, but to supply the deficiencies, when such arise in the Potato crops, as well as to act in honourable rivalry with it.

Knowing, then, how much we are indebted to Chili for giving us the Potato, we will direct our attention to some other products of the South American continent; and first may be mentioned the Ullucus tuberosa, a little twining or prostrate plant, belonging to the natural order Basellaceæ, and known to the natives as *oca-quina*. These plants are largely cultivated in Bolivia and the Andes of Peru for the sake of the tubers, which are scarcely so large as a Walnut, are of a yellowish colour, and are in appearance not unlike small Potatoes; they are produced underground at the ends of long thread-like branches. Like the native Chilian Potatoes, they are waxy, and if not sufficiently cooked, stick to the teeth like gum or glue. The natives cook them in a precisely similar manner to the true Potato, by exposing them for three or four nights to the atmosphere in an elevated situation, occasionally throwing water upon them, so that they become frozen, after which they are placed in the sun to dry; the final result is a starchy and palatable tuber, instead of a waxy one with an earthy flavour. These tubers have been grown in England, but have never, to our knowledge, been subjected to a system of cultural experiments.

Oxalis crenata, native of Peru, and O. tuberosa, native of Bolivia, are both cultivated in their native countries for the sake of their tubers, which in O. crenata are small, the average weight of each being about 2 ozs.; and a single plant is said to produce about ½ lb. weight of them. In O. tuberosa they are about the size of a large marble, and have much the appearance of little immature Potatoes. The tubers of both species, indeed the entire plants, have an acid flavour, owing to the presence of oxalic acid; this objectionable flavour, however, disappears in the process of cooking, the acid principle being converted into saccharine matter, and the tubers becoming floury. O. crenata has been grown in this country, and was, at one time, recommended as a substitute for the Potato. How far cultivation might increase the size of the tubers, and improve their quality, has not been proved; but it is beyond doubt that some good result might be attained. A Mexican species (O. Deppei) produces fleshy fusiform roots of moderate size, which are edible. Arracacha esculenta is another South American tuberous plant. In habit it is similar to the Hemlock, to which it is botanically allied. The roots are large, and divided into fleshy lobes, about the size of an ordinary Carrot. It is cultivated in the cooler mountain regions of Northern South America, where the roots form a regular article of food; and when boiled, they are said to have a combined flavour of a Chestnut and a Parsnip. The plants thrive in their native country, where the mean temperature of the warmest month is 62°, and of the coldest month 57°. It was, therefore, at one time thought that they might be cultivated advantageously in the South of England and in some parts of Ireland. They might, perhaps, be satisfactorily grown in some of our colonies.

Amongst tuberous plants of North America used for food, the Apios tuberosa is worthy of notice. It is a twining plant, belonging to the Pea family, and grows in hedges and bushes on the mountains from Pennsylvania to Carolina. The tubers are small, but are produced in large quantities, and are very mealy; the plants grow well in England in ordinary garden soil, and can be increased almost indefinitely by separating the tubers.

The Prairie Turnip (Psoralea esculenta), also a leguminous plant, is a native of N.W. America, where the large tuberous

roots are eaten either raw or boiled, and constitute a large proportion of the food of the natives. The tuber has a dark-brown skin, and is said to have an insipid taste. The plant has been introduced into our hothouses. The Sweet Potato (Batatas edulis) and the Yam (Dioscorea, sp.) are not altogether unknown in England; indeed the first-named was introduced as a delicacy long before the Potato itself, and has frequently been confounded with it by the earlier writers. At the present time the plants are largely cultivated in most tropical and subtropical countries; several varieties are known, some producing very large tubers. They have an agreeable, sweetish taste, and are very nutritive, containing more flesh-forming matters than the common Potato. The Sweet Potato is sometimes seen in this country, but it should be more generally introduced and used as an esculent. The Yam is likewise occasionally brought from the West Indies, and though not often used with us, it is too well known to need description.

Having drawn attention to a few of the tuberous-rooted plants of foreign countries, some of which have been before recommended, and others of which appear to us likely to prove useful, were they submitted to a series of careful and patient experiments in cultivation, we will, before concluding our subject, point out one or two European and British plants as examples of what may be found amongst our own indigenous vegetation. The Parsnip Chervil (Chærophyllum bulbosum) is common in France, and has been known to gardeners in this country since 1726, while some attention has been given to its culture as an esculent. The root is similar in form and size to a small Dutch Carrot, and is outwardly of a grey colour, with a white mealy interior. When boiled the flavour somewhat resembles that of the Potato; it is wholesome and nutritive, and has been recommended for cultivation with us as a vegetable. In the Hebrides the roots of the Goose-weed or Silver-weed (Potentilla anserina) are not unfrequently collected by the people in times of scarcity, and boiled or roasted for food. The roots of the Bistort (Polygonum Bistorta), though containing a large quantity of tannin, and consequently very astringent and bitter, when raw, are, after being steeped in water and roasted, edible and nutritious. In Russia and Siberia they are much used when there is a scarcity of bread.

We do not mean to imply that all the plants here mentioned are suitable either for cultivation or use as food plants in this country. We have described a few of the most likely, and referred to others, to show that the resources, either by culture or by a system of commerce, are unlimited.—John R. Jackson, A.L.S.—(*Food Journal.*)

THE CHESTNUT TREE OF MOUNT ETNA.

The traveller in Sicily will recollect the little village of Giarre, about half way between Messina and Catania; and since the opening of the railway between these cities, with a station at no great distance from its principal street. On the seaside below the town is the shipping port of Riposto, and between Riposto and Giarre lies a fertile plain, rich in Olive and vineyards. Giarre itself has not much to boast of, except perhaps it might do so of the glorious views to be seen from the slight elevation on which it stands. One long principal street, a large plain chapel, a very second-rate inn, and then there is nothing more to be said of the village. It is, however, the nearest town with an inn to the famous giant Chestnut tree of Mount Etna, and as such is visited by tourists. This fine old tree grows in the Bosco or woody region close above the town and on the slope of Mount Etna. A narrow, steep road, gradually ascending, leads from Giarre to La Macchia; the broad bed of a river now (in the end of May) rolling down nought but clouds of dust, is passed, and the lava beds formed by the eruptions of 1689 and 1735 are traversed, and at last S. Alfio is reached. This village is about four and a half miles from Giarre, and from it a very fine view of Etna is obtained. The mountain, however, from this side looks low and by no means as imposing as when seen from the sea. A little beyond S. Alfio the road turns to the left, still leading upwards, until all of a sudden the giant tree breaks upon the view, the road itself running through its very midst. It stands about 4000 feet above the sea level, and it requires a good three and a half hours to walk to it from Giarre.

The Chestnut tree of Mount Etna.

It has been calculated that this tree is about one thousand years of age. It is a tree, therefore, old enough to have its early history lost in myth; but still it has its story; and this story tells us that long ago a certain Queen of Arsgon was passing by this way, when, from the effects of the weather, she and her suite, which consisted of one hundred mounted persons, took shelter under the shadow of its trunk and boughs, and so to this day and from this fact it is known as the Castagno di Cento Cavalli. This story is said to be generally believed, and, at any rate, does not appear to have been much discussed. Not so the tree; and very many opinions may be quoted, all more or less differing as to its age and size. Some believe, or have believed, that the tree was as large as the story tells us it was, that the interior of the vast trunk has since then decayed away; leaving a number of separate pieces, each large enough to form a big tree, which pieces are covered with bark only on their outer surface. Others assert that there were here several large trees, more or less joined together, and demonstrate on the pieces of these trees still standing the barky layers surrounding the whole of their stems.

Not very long ago there were still four pieces standing, each of them of the dimensions of a very large tree. In the space surrounded by these pieces stood a hut, in which the annual crop of Chestnut fruit was stored. One of these trees, or portions of the tree, has since disappeared. The hut has now been removed, and the road, sufficiently wide to allow of a carriage, runs between the remaining pieces and over the ground on which the hut was built. As you approach, one large piece of the tree is to the left-hand side of the road, and two larger pieces are to the right. It is very probable that many of the pieces believed to have belonged to the one original vast stem, were really stems themselves of independent trees, and such would appear to be the case with the large trunk to the left of the present roadway. But there is a strong probability that the two immense pieces to the right of the road were at one time united, and that they form part of the original tree. The annexed woodcut is from a photograph of these pieces. Both of them are deeply hollowed out. The base of the trunk to the right of the woodcut is very much decayed away, and several men could shelter in it; and the portions of the stems seen on looking at the picture are devoid of true bark. If these two portions once formed a single stem, then, indeed, though it might not have thrown a shadow sufficiently large to shade a hundred horsemen, yet it must have been a very giant among all the forest trees Even now, in its decadence, the three

stems are objects of sufficient interest to lead us to ask for them the reader's attention.—E. P. W.—(*Nature.*)

NEW EDITION.

The New Method of Growing Fruit. By the Rev. JOHN FOUNTAYNE. Third Edition, much enlarged. "Journal of Horticulture" Office.

FROM the fact that this pamphlet of Mr. Fountayne's has reached a third and enlarged edition, it would appear that his new method of growing fruit by a "combination of vinery, orchard house, and conservatory, by which Grapes, stone fruit, and flowers may be grown together in perfection in the same house," has met with a considerable amount of favour with the public. We have seen the house erected by Mr. Fountayne in the Royal Horticultural Society's garden at Chiswick, where every attention has been given to it by Mr. Barron, and we can affirm that under his management there is not only a house of healthy and unusually vigorous Vines, but a moving platform of fruit trees in pots, which would do credit to any establishment. Those who wish to see this new system of Mr. Fountayne's in full operation should pay a visit to the Society's garden at Chiswick.

WHY AND HOW A CABBAGE HEADS.

ALL plants have an aptitude and inherent capacity for storing up supplies of plant-food for future use. Among the annuals the growth is so rapid that this tendency is not so perceptible. The biennials and perennials show it in various ways; sometimes it is in the thickened root, sometimes in the rhizome, the bulb, or the tuber, but oftenest in the buds. Preparation being thus made for the future, there is a period of rest more or less extended; then follows a rapid growth—inflorescence, maturing of the seed, and exhaustion. Among the perennial and woody plants this is done towards autumn in the form of buds, and it is here I find the explanation of the Cabbage-heading process.

A bud as it stands in winter on the tree, with its compact folds of leaves and shortened axis, is only a small head; and a Cabbage head is only a large bud with compact leaves and shortened axis, resting for a period and accumulating starch and other plant-food for the supply of the flowering process and ripening of seeds. It is perhaps a universal law in all vegetation which is prolonged for any time, that the collecting and storing-up of plant-food takes place preparatory to the exhaustive process of maturing seeds. The Turnip, Beet, &c., store theirs in the root; the Cauliflower in the flower-stems; some do it in the thickened leaves, but the most common mode is by buds.

The Cabbage, after growing for a certain period, begins to form its "bud," and, as in other cases, there is a shortening of the axis of growth so as to compress into the bud the embryo of the future inflorescence. Starchy matter accumulates, and other peculiar compounds are elaborated, the leaves become blanched by exclusion from light, and it becomes a hard solid bud. After a certain period of rest a new growth commences, the axis elongates rapidly, inflorescence takes place, and as the process goes on the leaves become green from exposure to light, and finally flaccid and exhausted. The same process takes place in spring time in the bursting of every bud, and the rapid growth and elongation of the axis. The bud and the "head" are the same process taking place under different conditions of growth.—(*American Gardener's Monthly*)

"HOE YOUR OWN ROW" is our only reply to "A YOUNG GARDENER" who writes complaining, "The foreman gives me harder work than to the other two, and I know that I could do the lighter jobs better than they."

"If you want to have riches,
And want to have friends,
Don't trample the mosses down,
And look for the ends;
But always remember,
Wherever you go,
The wisdom of practising
Hoe your own row!

"A good many workers
We've known in our time—
Some builders of houses,
Some builders of rhyme!
And they that were prospered,
Were prospered, we know,
By the intent and meaning of
Hoe your own row!

"We've known, too, a good many
Idlers who said,
'I've a right to my living,
The world owes me bread!'
A *right*, lazy lubber!
A thousand times No!
'Tis his, and his only,
Who hoes his own row."

NOTES AND GLEANINGS.

THE Rev. B. T. Lowne, M.R.C.S., read a paper at the meeting of the Society of Biblical Archæology, July 4th, on THE FLORA OF PALESTINE. He considered that it comprised eight distinct elements, four of the dominant existing floras of Southern Europe, Russian Asia, North Africa, and that of Arabia and North-western India. Each of these floras was stated to occupy a distinct region of the country. Interspersed with these are found numerous examples of plants belonging to palæarctic Europe, constituting its fifth element. The Arctic flora of Hermon and Lebanon constitutes the sixth. Mr. Lowne thought further that the Cedars of the Lebanon and the Papyrus of the Jordan lakes were the remnants of two ancient and almost extinct floras belonging to two distinct geological periods. Mr. James Collins read a paper ON THE GUMS, PERFUMES, AND RESINS MENTIONED IN THE BIBLE, particularly pointing out the fact that few of them were indigenous to Palestine, and that many have been wrongly named by the Greek and later botanists. In the course of his observations Mr. Collins detailed the characteristic differences between the true and false Balm of Gilead, Ladanum, Sandal-wood, &c., and the greater or less efficacy of their medicinal properties. Mr. Lowne and Mr. Collins brought for exhibition a large number of mounted specimens, and a complete collection of gums, perfumes, &c., to illustrate their respective papers.—(*Nature.*)

WORK FOR THE WEEK.

KITCHEN GARDEN.

LET as large a piece of ground as can be spared be thoroughly trenched and heavily dressed with manure, to receive the latest crop of *Cauliflowers*, which must be planted without delay. This crop will prove the most useful of the season, and with care in taking up the heads when ready, and hanging them in a dry shed, it may be made to afford a supply from the end of October till January. The Walcheren *Broccoli* or Cauliflower is considered the best for this purpose, as, in fact, it is for all other plantings; it grows more compact, its foliage affords better protection to the head than that of the other sorts, being of a more cup-like habit, and it does not open so soon when hung up. Make a plantation of Grange's Broccoli to succeed the above. Make a good sowing of *Lettuces* now for autumn use, as also of *Endive* and *small Salads*. Care must be bestowed on gathering and drying the various sorts of *Herbs* in request by the family; choose a dry day, pull or cut them just as the bloom begins to expand, and spread them thinly in a dry shed, which is preferable to drying them in the sun; when dry they can be tied in convenient bundles and hung in their winter quarters. Stake the late crops of *Peas* with care, and in the case of the Victoria Pea stop the shoots when as high as the stakes. Pay general attention to all advancing crops, stirring the surface of the soil, and earthing-up such as require it. Pinch the points out of shoots of *Tomatoes*, and keep them properly nailed up.

FRUIT GARDEN.

Strawberry plantations which are to stand to bear another crop must have superfluous runners cut away between the rows, and all weeds carefully removed, but on no account let any of the foliage be cut away at this season, as is sometimes practised. A more improper mode of culture cannot be conceived than that of cutting off every leaf to the earth as soon as the plants have done bearing. Net Morello Cherries to preserve them for autumn use. Currants and Gooseberries should have all the watery, useless shoots thinned out.

FLOWER GARDEN.

Attend to greenhouse plants now placed out of doors. See that worms do not effect an entry into the pots and close the drainage; attend to the routine of tying, stopping, and other details. Pinks and Cloves may now be layered, and a stock of cuttings of Scarlet Geraniums put in. It is the fashion in most gardens of the present day to introduce rusticwork to a great extent for seats, arbours, flower baskets, &c. I question the propriety of using bark and rods for vases. I always wish

to see them covered with flowers, but I can gaze with lasting delight upon the classic form of a Warwick or other elegant-shaped vase, which heightens, by contrast, the beauty of the flowers which it contains.

GREENHOUSE AND CONSERVATORY.

The Camellia plants that are now out of doors should be liberally washed with the engine, using clear water. The soil should be examined in due time to discover its actual state and that of the roots. Those that require it should be surfaced with good, healthy, rough soil, charcoal, flints or rubbly stones, removing all unkindly soil about the edge of the pots or tubs. The buds of the early-flowering plants should be thinned in due time, and in doing this it is necessary to take care to choose for blossoming only the most healthy, strong, and prominent buds. The conservatory will now be principally occupied with the border specimens and a few of the choicest stove and greenhouse plants, with an occasional contribution from the Orchid house, because, as the flower garden should now be gay, it is less necessary to crowd flowers into this house; therefore trust rather to rarity and superior cultivation for exciting attention at this season than to glaring masses of common plants. The specimens in the borders must be attended to with water, and a good soaking of liquid manure in a clear and weak state will now be very beneficial. Climbers must also be neatly trained, and every part of the plant houses, vases, &c., be kept as clean as possible. Give plenty of air both night and day, but if the house contain many tender stove plants shut it up for an hour in the evening. Many of the stove plants in some establishments will now be occupying the greenhouse while the regular occupants are in the open air; but as many greenhouse plants, such as Eriostemons, Chorozema Henchmanni, Boronias of various kinds, and late-blooming Croweas, require the aid of a little heat to insure their making a good growth, they may be kept in the house with the stove plants, regulating the temperature so as to be supportable to all plants. Keep a moist atmosphere, especially towards the evening, and shut up for an hour or two about the time the sun leaves the house. The greenhouse specimens in the open air will also require attention. Pimelea spectabilis must be cut in pretty closely. Dillwynias will require to have the straggling shoots cut in, especially such as clavata, rudis, and juniperina. Chorozemas must also be shortened back, and Daviesia latifolia should have the old blooming wood removed to encourage the young growth as much as possible. Boronia serrulata and pinnata should be stopped boldly back, and be kept in gentle heat to start them into full growth. Keep a look-out for mildew, and as prevention is better than cure, dust them occasionally with sulphur after syringing them. Plants of Aphelexis of all kinds, the flowers of which are beginning to fade, must be attended to, cutting the flower stems close off at the base, and stopping the leading branches if the plants are growing loosely. When the plants begin to make fresh growth encourage them with a little manure water, and the same may be done with all the plants previously noticed under this head.

STOVE.

As many of the principal plants of this house will now be in the conservatory, advantage must be taken of their absence to encourage the subjects for winter blooming, especially such as Justicias, Eranthemums, Begonias, Aphelandras, Euphorbias, &c.; and a batch of Achimenes picta and Gesnera zebrina must be started for the same purpose. Plants of Stephanotis done blooming, must be set in the full sun and in an airy place to ripen the wood; and Clerodendron splendens and late plants of the other kinds must also be encouraged. Rondeletia speciosa is an excellent winter plant where sufficient heat can be afforded; and Torenia asiatica and Pentas carnea, especially the latter, are desirable plants. If not already done, Luculia gratissima and Pinciana must be placed in a sheltered corner in the open air to ripen the wood and set the bloom. Never mind the leaves turning brown, they will soon recover that when placed in heat again. Maintain a moist growing heat with plenty of air, and guard against insects.

STORE PIT.

See well to the selection of good varieties of Primula sinensis as they show flower; encourage their growth by giving them a liberal shift as soon as they are proved. See that the Cinerarias and Calceolarias are standing in a cool shady place. The Calceolarias should be top-dressed as soon as they begin to make growth, to encourage the young stock. A quantity of stocky plants of the scarlet and variegated Geraniums, Heliotropes, late-struck Fuchsias, &c., should be duly encouraged for late autumn flowering.

FORCING FRAMES.

These structures should now be producing for the conservatory and mixed greenhouse an abundance of well-grown Cockscombs, Balsams, Globe Amaranths, Thunbergias, Gloxinias, Achimenes, and a host of other articles. The growth of specimen Fuchsias should be encouraged, also that of late-flowering Pelargoniums, the Japan Lilies, Erythrina Crista-galli, chimney Campanulas, &c.; these will maintain a display. Guernsey Lilies should be ordered in due time; these are remarkably pretty and useful autumn-flowering plants.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

WE planted out beds of *Celery* after nipping out every sucker, and let the most forward beds alone, except one little piece which had been assisted for a time with glass, and which has been earthed up. We have no faith in earthing-up our first main crops more than three weeks or so before we send the produce to table. We feel a little mortified at one thing—part of a bed had glass protection for a time, and when planted out the plants at one end stood 4 inches higher than the rest of the bed which had been less kindly treated. Of course, we meant the most forward part to come in first, but now on looking over the bed it would be difficult to say which is the forward part, and which the later, the whole looks so uniform. Both were treated alike, and planted out after due and full exposure. How is it, then, that the last have so quickly overtaken the first? There are many of these simple matters which the most clever among us cannot understand, and it is a good point gained when we can confess our ignorance, for the feeling of ignorance is the first step that must be taken in acquiring true knowledge. We have for many years noticed that Celery always grows most rapidly some eight weeks after the sun has passed his greatest altitude, and even then when a partial shade is given. Our beds run north and south, and have had a flickering shade hitherto, from heavily-cropped early Peas on the top of the ridges between the beds. These Peas are of no use to us now for the best table, but they come in for pea soup, and the servants' hall, where they are liked quite as well when they have a little "bone in them," and are not individually so easily squeezed into a jelly between the thumb and finger. We shall leave them standing a little longer, and as long as they can help us in the above direction, as we especially value them for the little shade they give.

We staked the last sowing but one of *Peas*, and run cords beyond the sticks along the sides of luxuriant rows, which were likely to be broken, and which, perhaps, would not have been so had if the sticks had been put in as we wished—a rather difficult thing to get done, for there will ever be a disposition to bring the sticks together in a sharp point at the top, or even to make them cross each other, instead of each row of sticks standing \ / obliquely outwards from the row, like an open vessel—___/ In the latter case the Peas have room within the sticks to ramble, and yet are protected. In the other they come out beyond the sticks, and are liable to be snapped and broken by every brisk breeze. May we ask some of our readers, "How they gather Pea pods fit for use?" Some time ago we felt as if our hair would have lifted off our hat at seeing a man making the pods come to him by a pull of sheer strength, thus either loosening or pulling up the Pea plant, and doing his best to prevent the other younger pods on the stem swelling and maturing. There is no quicker, safer, nor more workmanlike way of gathering Peas than taking a small sharp-pointed knife in your hand, and nipping the stalk of the pod in two between the blade and thumb. This will cause no injury whatever to the Pea plant.

We sowed Lettuce, Endive, Turnips, Radishes, and Onions for salads, and as successions. A little more thinning was also deemed necessary in the main spring beds of Onions, especially the later-sown. If we had the chance we would now mulch and manure Asparagus, so as to have it strong next year.

FRUIT GARDEN.

We have layered many Strawberry runners, and will most likely prick out a lot in beds, to be raised for potting and planting. We have had some fine Strawberries out of doors, but not at all equal in quantity to the crop in most years. Our Peach trees out of doors are becoming worse and worse, the wood giving way even after the fruit had swelled considerably. We attribute it entirely to the keen frost of winter, the sudden

changes, and the long periods of damp foggy weather. Some persons who have escaped this infliction are rather priding themselves that the favourable result is owing to their own good and peculiar management. This may be the case, though we believe that in the long run it will be found that the peculiar management had nothing to do with it. We have lived to see fine Peach trees that one would have thought nothing could injure next to killed after they had borne heavy crops for years, and this has taken place three times at least on trees on the same wall. The age of the tree often makes it more liable to such serious inflictions. We recollect a case in point. A friend who had planted his trees three years after ours were planted, as much as insinuated that we had ourselves to blame for the state of the trees. Two years afterwards what were his fine trees previously were made a wreck, and then he, too, had cause for grumbling.

ORNAMENTAL DEPARTMENT.

Put walks and lawns in good order, and hope the former will give little more trouble for the season. Hollyhocks, Dahlias, and strong herbaceous plants need to be well supported, and, all things considered, one stake is better than many, the side shoots being looped easily, so as to hang gracefully without anything like a bundle being made. Some plants are tied so stiffly as to resemble the lint on the rock or distaff our grandmothers used for their spinning-wheels. We should like to see a general sweeping reprobation passed on a forest of sticks, and whittled ones too, for supporting separately any twig and shoot of a plant.

Out of doors here our flower beds would have been nowhere during the strong winds and battering rains but for the little bushy twigs and sticks stuck in and hidden slightly among Calceolarias, Geraniums, Ageratums, &c. These bushy sticks hold the plants firmly, and yet not so firmly but that they yield a little to the wind without the chance of breaking or of being pulled up by the roots, and now there is scarcely the point of a twig to be seen.

No time should be lost in having little shoots of Pinks, Mule Pinks of various colours, Pansies, and many herbaceous plants inserted as cuttings. They will do well in sandy soil in a shady place; better still if the soil has been moved to the depth of 4 inches, rough stuff placed beneath, and covered with fresh sandy soil, with sand covering the mere surface, and then a hand-light placed over the cuttings. These will strike more rapidly still if a little bottom heat be given to them.—R. F.

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Books (*A Reader*).—For instruction in vegetable physiology, purchase Henfrey's "Introductory Lectures on Botany," edited by Dr. Masters. The price is 12s., we believe. (*J. K.*).—There is no separate work on the culture of the genus Erica. There is a long descriptive list of the species and their culture in the "Cottage Gardeners' Dictionary," under the titles Erica and Heaths.

Weights of Pine Apples (*Amicus*).—At the Royal Horticultural Society's Exhibition at Nottingham, the heaviest Pine Apple was a Providence. It weighed 11 lbs. 5 ozs. The heaviest Queen Pine Apple weighed 5¾ lbs.

Covent Garden Monopolists (*R. G. M.*).—Your case is one of private debt, and not suitable for publication, as you have your remedy in the County Court.

Jerusalem Artichokes (*H. S.*).—If you want good-sized tubers you must let the plants grow.

Bouquet (*A. G.*).—Bouquet is a French word, synonymous with nosegay. It may be either large or small, for holding in the hand or for decorating a vase. In whatever sense the English word nosegay is used, the same is applicable to bouquet.

Japanese Honeysuckle (*A. Ryland*).—The Tartarian Honeysuckle belongs to the Xylosteum or Fly Honeysuckle section of the genus Lonicera, and is, consequently, quite distinct from the Japanese.

Berberis (*C. H. P.*).—It is impossible to name it without having a specimen.

Staging for a Greenhouse (*A Constant Subscriber*).—To make the most of such a house as yours with the least possible trouble, we would have a level platform of 2 feet in front, a pathway of 2½ feet, and a raised stage behind. It would be more picturesque to have four circular stages with raised shelves, terminating in a place for a large plant, separate these all round by 2-feet paths, and have a narrow shelf in front, and a narrow border behind for plants to cover the back wall; but this will involve a much larger outlay, and on the whole will not give more plants justice.

Royal Botanic Society's Show (*G. W.*).—The Messrs. Brown you refer to, were of 24, High Street, Marylebone, who had a number of garden engines, tools, &c., and an improved step chair.

Painting Greenhouse Stage (*Welshpool*).—We should paint it light brown.

Seedling Pansies (*A. Clark*).—They are the darkest we have seen. Send plants to the Floral Committee of the Royal Horticultural Society.

Over-luxuriant Shoots of Roses (*H.*).—You do not say whether the "gourmend Rose shoots" are of Roses on a Briar stock, or on a Manetti stock. If it is on a Briar and the head requires no regulation, cut the gourmands away altogether, or, if you please, you may greatly shorten them, and cause them to break and flower. If the Roses are on a Manetti stock, let the gourmands grow to the full height of the tree, and then cut off the tops. They will make good repairers of the bush next year, and probably bloom this autumn.—W. F. Radclyffe.

Dark Rose for a Conservatory (*J. Mackenzie*).—I cannot name any red Rose that gives single flower buds. The best two for your purpose, and both beautiful, are Charles Lefebvre and Duc de Cazes; the former is rich, variable, crimson; and the latter purple crimson. There is no crimson Rose equal to Charles Lefebvre. Maurice Bernardin, vermilion, is also one of the very best Roses.—W. F. Radclyffe.

Surfaces of Rose Leaves Eaten (*R. S.*).—There are two insects which thus attack the foliage of the Rose—the Antler Saw-fly, and the Saw-fly of the Rose. You will see in Cranston's "Rose Book" a description of both. I believe that the leaves sent have been attacked by the latter. He recommends syringing with a solution of soot and quicklime, also shaking the trees over a cloth. The caterpillar of the Antler is bright green with hairs, and with a dark line down the back, and one much darker on each side. It is half an inch long. The Rose Saw-fly caterpillar is also half an inch long with orange-coloured head, with small black spots on each side. It descends into the earth in the autumn. It causes the leaves to look as if scorched by fire. I advise the sufferer to fork fresh-slaked lime into the ground beneath the trees in the autumn.—W. F. Radclyffe.

Pelargonium and Geranium (*Thaumastes*).—We fully sympathise with you now you find that flowers you have always called Geraniums are named Pelargoniums, and we persist, botanically heretically, in calling all the Scarlet and other bedding-out varieties Geraniums. Yet there is no doubt that there is a great difference between the Storksbill and Cranesbill—they constitute two different genera; but there is no very great difference between what are commonly called the Geraniums used for bedding purposes, and the Pelargoniums used for in-door flowering. Both are Pelargoniums. Pelargonium is characterised by having usually seven stamens, and unequal-sized petals; Geranium, by having ten stamens, and equal-sized petals; and Erodium, by having five fertile anthers usually. The three genera are nearly allied.

Stems of Vines Decaying (*G. B.*).—As the stems of your Vines have the appearance of being bruised and bitten, probably some animal has done it. We have seen fungus destroy the roots and permanently injure the Vine. It attacked the roots of one Vine in our early house last year, and again this season. We removed all roots affected, and every portion of mould having any trace of spawn, replacing with fresh loam. All Grape-growers should look out for the attack of the new Vine disease; it is first discerned by the appearance of warty excrescences on the back of the leaves. We had it in a house of new Vines last year, and were obliged to root out every plant and burn it, at the same time removing all the soil half a mile from the garden. We have seen no trace of the terrible enemy since. In the case of this disease the Vines die off suddenly, and on examining the roots they will all be found to be dead. Imperfect drainage may be the cause of your Vines being unhealthy. If the border is all right, the roots healthy to the extremities, and the leaves kept free from red spider and mildew, they will recover.

Grapes Diseased (*P. J.*).—It is a clear case of Oïdium, and your only remedy is flowers of sulphur, not pounded sulphur.

Grapes in a Ground Vinery (*J. D.*).—From your description we consider your Grapes are spotted, and that chiefly arises from the supply of sap being deficient, and in your case we think it is caused by the coldness of the ground rendering the root-action sluggish. The evil might have been prevented if you had given air proportionate to the heat, or a slight shade for a few hours in the early part of the day. In this dull, cloudless season there is no necessity to whiten the glass, nor, indeed, at any season for Grapes in a ground vinery, as success mainly depends on the sun heat. Your crop is too heavy; that is why the berries are so small. Remove the smallest berries; they are stoneless, and will not swell off well. All the bunches should have been thinned as soon as they were fairly set. You will have small berries, and wedged together, and if the season should continue cold and wet the bunches may lose more berries from decay than you need have removed in thinning. We would thin even yet, and tie up the shoulders of the bunches.

Rhubarb for Early Spring Use (*Idem*).—It is now too late to sow seed, and that mode of raising the plants is not desirable for your purpose We advise you to procure roots, and to plant them in November or early in spring, but November is preferable. The ground should be deeply trenched and heavily manured, well mixing the manure with the soil as the trenching proceeds. The soil should be light rather than heavy, and the situation open. Plant in rows 4 feet apart, and place the plants 3 feet apart in the rows. Cover the crown about 2 inches. After planting mulch the ground with stable litter. All the care the plants will need the first year is to keep them clear of weeds, and water them as often as you like after the middle of May with liquid manure up to the close of July. No leaves ought to be removed the first year, but in the second the supply will be good. For market purposes we advise Royal Albert, Linnæus, and Victoria, which last comes in about a fortnight after the others. If you only require one kind for early use, we should prefer Linnæus.

Dr. Hogg and President Strawberries—Forming Cordons—Wall-trained Peach Trees—Plums Cracking (*Amateur*).—The roundish high-coloured fruit is President, the other is Dr. Hogg. Cut one-third of the length of your cordon trees, and pinch the point out of the growing shoot once or twice in a season. After the wood of the side shoots is somewhat firm, cut them over at the fourth or fifth leaf; pinch back all after-growths. Your Plums cracking and the gum exuding from them, is the result of the wet season; it generally happens immediately after "stoning," when the fruit is rapidly increasing in size. We have Rivers's Early with scarcely a sound fruit on the tree. You can do nothing to your tree to prevent it. In a dry season they would be all right. Do not allow the shoots of your Peach and Nectarine trees to run into and cross

each other; cut back to a young shoot, and lay it in in place of the older wood which has been removed.

SEEDLING GERANIUM (*A. S.*).—The petals were all shed; colour good, but not differing from others; truss large. If it were much differing from many old varieties, which it is not, no one could decide on its merits without seeing the plant.

SELECT GERANIUMS FOR EXHIBITION (*E. H.*).—*Zonals:* Lord Derby, Dr. Lindley, Mrs. William Paul, Christine, Monsieur Rendatler, The Bride. *Nosegays:* Lady Constance Grosvenor, Chilwell Beauty, International, Rose Rendatler, Duchess, Duchess of Sutherland. *Golden Tricolors:* Sophia Dumaresque, Sir Robert Napier, Lady Cullum, Lucy Grieve, Prince of Wales, Sophia Cusack. *Silver Tricolors:* Italia Unita, Charming Bride, Impératrice Eugénie, Prince Silverwings, Mrs. John Clutton, Lass o' Gowrie.

SELECT VERBENAS FOR POT CULTURE (*Idem*).—G. P. Tye, Mrs. Pochin, Polly Perkins, Shakespeare, Beauty of Kent, Magnificens, Black Prince, Lælia, King of Verbenas, Nemesis, Conspicuous, Ace of Trumps, White Queen, Miss Wimsett, Mrs. Reynolds Hole, Florence Fiddian, Fanny Martin, Mrs. Eckford, Ont-and-Outer, Shirley Hibberd, Achievement, Spot, Mauve Queen, Anatole Leroy.

SELECT HERBACEOUS PLANTS (*Flds.*).—Agrostemma Coronaria flore-pleno, crimson; Alyssum saxatile compactum, yellow; Anemone apennina, blue; A. hortensis fulgens, scarlet; Anomatheca cruenta, salmon with red spots; Aquilegia fragrans, lemon; Arabis albida, white; Aubrietia deltoidea grandiflora, blush lilac; Aster alpinus, lilac purple; Betonica grandiflora, purple; Campanula aggregata, blue; Cheiranthus Marshalli; Colchicum alpinum, rosy purple; Convallaria rosea, rosy red; Cyclamen neapolitanum, red; Cynoglossum spenninum, blue; Delphinium Belladonna; Dianthus cruentus, deep scarlet; D. floribundus, pink; D. puugens, white; Dodecatheon Meadia, lilac; Draba aizoides, yellow; Erigeron speciosus, bluish purple and yellow; Helleborus niger, white; Hepatica angulosa, blue; H. triloba, blue and red, double and single varieties; Hypericum calycinum, yellow; Iberis saxatilis, white; Iris altica, yellow, veined purple; I. reticulata, blue purple, blotched yellow; Lilium tenuifolium, scarlet; Narcissus juncifolius, yellow; Œnothera macrocarpa, yellow; Œ. taraxacifolia, white; Orobus vernus, purple; Phlox verna, rose; Pulmonaria angustifolia rubra, purplish red; Scilla sibirica, blue; Sempervivum californicum, fine for edging, leaves in green rosettes, tipped brown; Silene alpestris, white; S. Schafta, rosy pink; Sisyrinchium grandiflorum, purple; Symphytum caucasicum, blue; Trollius asiaticus, orange yellow; T. europæus, lemon; T. napellifolius, yellow; and Zephyranthes candidus, white. These do not exceed 18 inches in height, though soil, &c., make considerable differences.

WHAT ARE ORNAMENTAL PLANTS? (*H. F. S.*).—Your prize list is so vaguely worded that under the title "Ornamental Plants," any plants and all plants, tender or hardy, that are cultivated for ornament in the stove, greenhouse, or garden, may be exhibited in that class. The committee, perhaps, intended the class for ornamental-foliaged plants; if so, cannot they publish that?

VEGETABLE MARROW FRUIT NOT SWELLING (*One in Trouble*).—We should attribute the non-setting of the fruit to want of heat, but it may arise from want of light, as you say the plants are at the back of a Cucumber frame. They cannot have too much sun, nor, when the weather is hot, too copious supplies of water. We should fertilise the flowers, and unless the weather be very much warmer than it has been with us for the past eight weeks, no water will be required. Watering in dull cold weather does no good to such plants as these. Warmth is, we think, what is needed, and with it we have no doubt your plants will do well; without it they will probably fail.

TOMATO SEED SAVING (*C. P.*)—Let the fruit remain on the plant until thoroughly ripe, then gather and lay it on a shelf in a warm house for a few days; afterwards squeeze the fruit into a saucer of water, and with the hand wash the pulp from the seed. The seeds will sink. Run off the water clear of the pulp, place the seed in the sun to dry, and when thoroughly dried store it in paper in a cool dry place.

COMPOSITION FOR REDUCING THE LIGHT IN A GREENHOUSE (*Subscriber*).—All things considered we do not think anything equal to whitening and skimmed milk, bringing the whitening to the consistency of thin paint, and applying it with a thin brush to the inside of the roof. There is no wash that you could apply to the outside that would be permanent, if it must resist rains, but the above wash applied to the inside would not be liable to be washed off, and in autumn could be removed and light admitted to the plants. In winter greenhouse plants cannot have too much light. Could you not have a few rapid-growing climbers? We have our greenhouse-roof covered partially with Tacsonias Van-Volxemi and molliesima, and Passifloras Comte Nesselrode, cærulea racemosa rubra, and Countess Guiglini, and they are now in fine bloom, and will continue so until autumn. They have a fine appearance, very different from any artificial shading.

JASMINE NOT FLOWERING (*E. M. M.*).—You do not say on what aspect your plant is situated, but we presume it is south, which is best, though it succeeds tolerably well on both east and west aspects. The soil, we suppose, is well drained, and light rather than heavy. Train in the shoots required for extension at about 9 inches apart, and from them will proceed side or foreshoots, which usually flower when 12 inches long, but if they do not, stop them at the second or third pair of leaves. The stopping will concentrate the forces of the plant on the bases of the shoots, and from the light and air admitted the wood will ripen with greater certainty, and on that depends the next year's flowering. In the case of flowering shoots we consider it well to cut them back after flowering to within a few inches of their base. Between the main shoots you may lay in any vigorous shoots, but it is best to avoid overcrowding, and in winter, or rather early in spring, cut-in all the side or front shoots to within an inch of their base, and shorten the extension shoots to the firm wood. In very dry, hot weather, when the plant is flowering, give a good soaking of water once or twice a-week.

RHODODENDRON CASTING ITS LEAVES (*Idem*).—The casting of the leaves may be due to dryness at the root, arising from the plant being raised considerably above the surrounding level. In this case we would lower the plant, still keeping the collar rather high, and give a mulching of cow dung. It would have been well not to have allowed the leafless plant to flower. Remove the seed vessels; allowing them to remain weakens the growth considerably. Water freely in dry weather. Do not cut the plant back unless leggy, and if it is so, not until next April. Lower the plant in September.

BOX EDGING FAILING (*T. C.*).—We cannot account for the Box edging failing, but we attribute it to soil, or, perhaps, you reside in a smoky district. Without data we can form no opinion. On gravelly soil we have found it do well.

EXHIBITION STANDS FOR ROSES AND DAHLIAS (*W. H. M.*).—The boxes may be made of inch deal, and the length for twenty-four Roses should be 4 feet; for eighteen, 3 feet; for twelve, 2 feet 2 inches; and for six, 1 foot 6 inches. Breadth in every case 1 foot 6 inches; height at back, 6 inches; height in front, 4 inches. We extract the foregoing dimensions from the excellent "Book about the Rose," by the Rev. S. Reynolds Hole, who adds:—"The covers, being 7½ inches in depth at the back, and 5 inches in front, 4 feet 1 inch in length, 1 foot 7 inches in breadth, and having a narrow beading within the four sides, half an inch from the bottom of the lid, overlap the boxes, leaving ample room for the Roses, and are secured for travelling by stout leather straps. Within the boxes some exhibitors have holes pierced at equal distances on a uniform surface of wood; but as Roses differ in size it is more convenient to have the facility of placing them where we please, and for this purpose it is desirable to have strong laths ⅜-inch in depth, and 1⅞ inch in width, extending the length of the box. These laths should be six in number, and should be nailed on two strong pieces of wood, crossing the box one at each end, 2 inches below the surface. The upper and lower laths should be fixed one-eighth of an inch within the box, and the four remaining so arranged that there will be five interstices 1¼ inch in width—three for the Roses and two merely to reduce the weight. There will be a space of 1¼ inch between the laths and the upper edge of the box, to be filled as follows: Cover the laths with sheets of brown paper, two deep, and cut to fit the box, and upon these place the best moss you can obtain. The Roses are placed in tubes of zinc 4½ inches in length, 2 inches wide at the top, gradually tapering until they become 1 inch in width at the centre, the tops being moveable. This top is taken off, and the stalk of the flower being brought through until the Rose is held securely, it is replaced upon the tubes, previously filled with pure rain water." A stand for twenty-four blooms of Dahlias should be 48 inches in length, by 18 inches in width from front to back. It should be raised at the back 7 inches, and 3½ inches in front. The holes should form three lines of eight each, and should be 6 inches from centre to centre, and 3 inches from the outside. The metal tube for the water may be 1 inch in diameter, and should fit into the holes of the board; the wooden tube to receive the bloom, and fitting into the metal tube, should rise 1⅞ inch above the board. The colour of the board should be a lively bright green. The dimensions of a stand for twelve blooms of Dahlias can be easily deduced from the foregoing. Such a box as that just described would be suitable for Roses if shown in single trusses; for single blooms of Roses the dimensions would be almost too large, while for bunches of three trusses it would scarcely afford sufficient space. For Roses the tubes may be fastened to the bottom of the box, not using a board as in the case of Dahlias, and the spaces filled up with fresh green moss. The most suitable colour for a box for Roses is dark green. You may use several boxes in showing a number of trusses or blooms. Chapman's cases are excellent, especially where flowers have to be sent to a distance. The Verbenas you may set up according to taste.

CUCUMBERS NOT SWELLING (*A Beginner*).—The cause of the fruit going off is deficient root-action, and in your case we think a deficiency of bottom heat. The bottom heat ought to be confined beneath the bed or border in which the plants are grown, or how can you maintain the required bottom heat of 70° to 75°? We would confine the heat by a 4½-inch wall, with openings at every 3 feet, and sliding doors to let out any excess of heat. What you call the "old sow" is usually called the woodlouse. The best plan of destroying these insects is to place a little hay loosely round the sides of the structures they infest, and in the morning pour boiling water down the walls a little above the hay. This, of course, kills all it touches, and repeated several times will entirely destroy them, though they will in time reappear. When this method cannot be adopted on account of the boiling water being likely to injure plants, your best plan will be to place a boiled potato wrapped lightly in a little hay in a small flower-pot, and put the pot on its side where the woodlice are troublesome. This trap should be examined every morning, and the woodlice secreted in the hay shaken into boiling water. A number of traps of this kind, put down every night and examined in the morning, will soon thin their numbers. (*W. H. C.*).—Your Cucumbers are suffering in the same way as those referred to in the preceding answer.

PIT FOR WINTERING BEDDING PLANTS (*A Cottage Gardener*).—Without a path inside we consider 6 feet quite wide enough. When wider, pits are not handy for the examination of the plants. The front we would have 1 foot 4 inches, and the back 2 feet 2 inches high. By all means construct the sides and ends of inch boards, with a 1½-inch cavity for sawdust. The boards will need to be bolted together, putting in a piece of wood about 1½ inch wide at every 3 feet, and the depth of the frame, the bolts passing through it. The boards should be tongued and grooved. The side ventilators we consider unnecessary. We should think in the warm position you describe bedding plants of the hardier kinds may safely be wintered. You may work a propagating frame in a window facing the north, removing the plants, when struck, to your frame. The earliest time you can remove Apple and Pear trees is as soon as the majority of their leaves have fallen. Against the gable of your house due south, and with the kitchen flue running up the centre we think an Apricot would be the most profitable fruit tree. Grapes might do, but in these days of cheap glass out-door Grapes bring but little. Espiran and Royal Muscadine are good for walls. Plant in March, and 4 feet apart, training up with two rods.

COOL-HOUSE MANAGEMENT (*Subscriber*).—For the next two months you will need no higher temperature than that afforded by the sun. You must give as much air as possible on fine days, and a little all night, even in dull weather. No fire will be needed, unless the temperature, from a continuance of cold weather, fall below 55°, and then you may give a little fire heat to have the temperature at from 50° to 55° at night when the fruit is ripening; but except in very dull and cold weather no harm will result from not employing fire heat. If the days are hot and the nights cold the fruit will ripen perfectly, though the temperature at night may fall below 50°. From 50° to 55° is the night temperature most suitable, and on that a rise of 10° on dull days, and from 15° to 20° or more on bright days will suit. The main point is to give abundance of air.

GLAZING (*Subscriber in Berks*).—You should refer to the page and volume. When grooves are used for glazing they should be deeper and wider than the glass. If the glass is to be fixed from beneath firmly in the groove without putty, slips of indiarubber, or narrow list, or soft cord, may be used with advantage. Were it not for getting the squares out easily, even if we had grooves, we would use putty; but the other modes admit of the squares being removed with little trouble. Tight grooves would be dangerous, and therefore the groove must depend on the size of the glass. One disadvantage in fixing glass in grooves with putty is, that when a square is broken there is a difficulty in taking the broken pieces out of the grooves.

GAS-HEATING (*An Amateur*).—We cannot say more as to gas-heating than is contained in No. 841. We are rather shy in giving the size of boiler and pipe for gas-heating, so much depends on the management. Were the case our own, in such a small house as 18 feet by 12, we would have two or three of the small iron stoves now so common, place an argand burner beneath or in each, and take a quarter-inch pipe from the top through the roof If you could have a small stokehole outside, the best mode would be to take a small flue beneath a tiled floor. The expense of erecting such a house would depend on its height, whether it was to be a span-roof or a lean-to, or whether the glass was to be fixed in sashes, or merely laid on rafter sash bars, and large squares were used orchard-house fashion. For such work our advertising columns supply the lowest prices.

BOILER NOT WORKING WELL (*A. S.*).—We consider the removal of the boiler desirable, constructing a shed for it. Take care to have the boiler low enough, so that the water may have a gentle rise from the top of the boiler to the termination of the flow pipe, not allowing any depression until the highest point be gained. There you should have in each compartment or house an air pipe, which should be somewhat longer or higher than the feeding cistern. By all means heat the pits with hot water. It is well to have pipes on the same level to insure regularity of heating, but they may be on different levels, only you will need to attend more to the valves.

NAMES OF FRUITS (*R. B. L.*).—No. 1, Sir Joseph Paxton; 2, Comte de Paris; 3, President. Remove the suckers from your standard Roses.

NAMES OF PLANTS (*Barnes*).—Spiræa ariæfolia. (*G. Bayliss*).—Davallia pyxidata, one of the Hare's-foot Ferns. (*Castro*).—Stove plant, Tradescantia discolor. Fern, Nephrodium pubescens. (*Mrs. St. John*).—It is a very charming white Lily wort, Hyacinthus princeps of Baker, a plant of recent introduction from South Africa, and only quite lately named. A figure will be found in Mr. W. W. Saunders's publication, the "Refugium Botanicum," at plate 175. Of course it is very widely separated from all the more commonly known Hyacinths. (*Rhubarb*).—You are unreasonable to expect us to name twenty-two specimens. We adhere to our rule to name not more than six. 1, Lastrea Filix-mas; 6, Nephrolepis exaltata; 7, Scolopendrium vulgare crispum; 8, Athyrium Filix-fœmina; 10, Lastrea Filix-mas, polydactyla; 18, Blechnum Spicant. (*J. G., Brighton*).—We well remember your Rose specimens arriving, but what became of them we cannot tell. We apologise for this, and beg you will send us other specimens. (*J. W.*).—Both your names are correct. 1, Alsine tenuifolia; 2, Lotus tenuis, which, by-the-by, is only a narrow-leaved variety of L corniculatus. (*G. B. A.*).—Euonymus japonicus. It is a greenhouse plant, and succeeds well under ordinary greenhouse treatment. It blooms at the present season of the year, but its flowers have nothing whatever to recommend them, being green, small, and insignificant. (*Peter Paterson*).—Santoona chamæcyparissus. (*G. J.*).—The Ransom or Ramps, Allium ursinum. Pronounce Lichen as if it were spelt "Li-ken." (*E. M. T.*).—Begonia fuchsioides. (*Clare*).—1, Anagallis tenella, Bog Pimpernel; 2, Euphrasia officinalis, Eyebright; 3, Thymus Serpyllum, wild Thyme. (*J. F. Cranswick*).—1, Cystopteris fragilis, var. dentata; 2, C. fragilis, typical state; 3, Platyloma rotundifolia; 4, Nephrodium decursivo-pinnatum. We offer you the following list from which to select; all are "pretty little gems." All will do well in a greenhouse, and several of them are hardy:—Ceterach officinarum; Asplenium Trichomanes, var. incisum; Lastrea glabella, or L. decomposita, var. glabella; Notholæna flava, or chrysophylla; N. nivea—both of these are sometimes referred to the genus Cincinalis; Microlepia (or Davallia) novæ-zelandiæ; Asplenium fontanum; Cheilanthes hirta, C. marantæ, or C. alabamensis; Cystopteris fragilis and its var. dentata; Asplenium viride and A. lanceolatum; Myriopteris (or Cheilanthes) myriophylla or lendigera; Aleuropteris mexicana; Lastrea rigida; Polypodium calcareum, and P. Phegopteris. We should add some of the dwarfer varieties of Lady Fern. (*A Young Gardener*).—1 and 2 are both Alyssum saxatile; No. 1 in a younger and more robust condition, blooming in its prime; No. 2 from an older seed-bearing plant, less vigorous than the other. 3, Erysimum odoratum; 4, Corydalis lutea. (*For-an-Darroch*).—Your Grass is an exceptional condition, and is somewhat intermediate between Festuca duriuscula and F. pratensis. We incline to think it is the former, as its spikelets are few-flowered and the outer palea is clearly awned, but it is somewhat more robust than ordinary for this species. F. pratensis should have more flowers in a spikelet and have no awns; hence we discard the idea of referring your specimen to this species, although a figure in "Fl. Danica" (t. 1323), agrees well with your plant and is authentic. The other names you suggest we decidedly repudiate. F. racemosa is a myth, and was never applied except to a South American plant from Quito. (*H. M. J.*).—Kœlreuteria paniculata. (*Mrs. Pollock*).—Centranthus ruber.

POULTRY, BEE, AND PIGEON CHRONICLE.

A WILTSHIRE POULTRY SHOW.

WITH reference to the remarks of "WILTSHIRE RECTOR" as to a proposed show of Poultry and Pigeons for Wiltshire, I must ask you to allow me to supplement his remarks and say, Our object is to establish a show to be held annually either in Devizes, or some other town in the county which can provide a suitable building; but to enable us to do this we must to a very great extent depend upon the help we receive from exhibitors out of the county, as, unfortunately, there are very few in it. I may add that there will be a meeting of the provisional committee the first Thursday in August to decide whether the show takes place or not, and this must entirely depend upon the promises of support we then receive; so that I would urge upon all those disposed to help us to communicate with the Honorary Secretary, Mr. John Marsh, 42, Market Place, Devizes, as early as possible. Any suggestions made to him will receive the best consideration of the committee. In the meantime our Honorary Secretary or any of the committee will be glad to give any information which may be required. Any gentlemen feeling disposed to attend the meeting, to be held at Mr. Marsh's office on Thursday, August 3rd, at eleven o'clock, will be gladly welcomed.—ONE OF THE COMMITTEE.

THE ANTWERP, THE VOLANT OR WHITE EYE, AND THE ANTWERP CARRIER PIGEONS.

I ASSUME the Antwerp proper to be the Dove-faced, silver-eyed Pigeon, of mealy or strawberry plumage and reddish-barred wings, notorious for its almost irreclaimable wild nature—a Rock Dove, except in colour of feather. And on this assumption I conceive the Volant or White Eye to be the offspring of the Antwerp proper and the Belgian or French White House Dove, so showing the silvery white eye and mealy or strawberry-tinted white plumage of its parents, and displaying the power of flight of the Antwerp proper, accompanied by the domesticated habits of the House Dove, and thus bred on for enduring high flights over home, in which it is becoming famous. And I assume the Antwerp Carrier to be of the Antwerp proper and the Dragoon descent, and also bred on, but for homing flights, for which its inherent propensities, thus derived, amply qualify this Pigeon. Some of these birds are ash, some blue, and others chequered, the ash showing the mealy or strawberry caste of the Antwerp proper, with the reddish bars of its wings; and some have the silvery eye of the Antwerp proper, and others the Dragoon orange or fiery-red eye. Therefore "mongrels" and cousins are the Volant or White Eye and the Antwerp Carrier, as I assume and conceive them to be; but no purist can apply the epithet "mongrel" to either bird in its ordinary signification.—READER.

[We sent your note to the same authority as before, and he replies:—"My opinion of the origin of the 'White-eyed' Pigeons, as described by 'READER,' is published on page 450 of your last volume. His peculiar questions are most difficult to understand, and almost impossible to reply to in a satisfactory manner. 'Antwerps proper,' as he calls them, originally took their name from the city in Belgium bearing that name. They are, as I have before said, esteemed almost exclusively for, and judged by, their aërial performances as *voyageurs*, and therefore they are of all sizes, colours, and shapes, ranging from the Carrier to the Owl, from which two varieties they have most of them unquestionably sprung. These birds are very numerous, very cheap, and very ugly; the latter point, like that of the bull dog, is often regarded as a sure indication of high quality. However, the Belgians have, in their endeavours to utilise the instinct of the Pigeon, profited greatly, as well as amused themselves, and have also by the supposed admixture of the Carrier, Owl, and Barb, been the means of our obtaining the show Antwerp, now so greatly admired and earnestly sought after in England; and although the additional cross of the Barb may not have improved their flying properties, it has added greatly to their appearance as show birds. Their colours are Blues, Blue Chequers, Duns or Mealies, and Red Chequers. I have in my possession a Mealy hen, which has won ten prizes, flying from Paris to Brussels; she is a singular mixture of the Carrier, Owl, and Barb, and possesses the size, strength, and wart of the former, the sprightliness of the Owl, and the massive head of the Barb. I have upwards of a hundred Antwerps, and have kept them for years, won very many prizes in the show pen, and in a quiet way have tested their homing properties, and proved them good. All Pigeons may be termed 'Volants;' with any special breed of that name I am unacquainted."]

MOULTON POULTRY SHOW.

THIS Show, though a manifest improvement on those which have preceded it at the same place, was, no doubt, considerably injured by the show held the day before at Oundle, a large proportion of the birds having been entered for both meetings. The weather was ockily fine, though the early morning did not look at all promising. The best of

the classes was that for *Game* fowls, in which double the number of prizes could with justice have been awarded; a remarkably fine pen of Duckwings, the property of Mr. Boyes, of Beverley, won the cup. The *Cochins* and the *Spanish* were also very good, but were in both cases evidently much the worse for travelling. Many of the *Hamburghs* and *Bantams* were exceedingly good, and the first-prize pen of Spanish in the Selling class, was one of the cheapest we have seen for a long time.

There was an excellent show of *Pigeons*, in which Mr. Yardley was specially successful, being there with a strong entry of his best birds. We believe the financial success of the Show was most satisfactory, and a contemplated revision of next year's prize schedule will, doubtless, much increase the entries.

The following is the prize list:—

Dorkings (Grey).—1 and 2, J. Longland, Grendon.

Spanish.—1, J. Stephens, Walsall. 2, H. Yardley, Birmingham. *hc*, H. Thornycroft, Floore; H. F. Cooper, Walsall.

Game.—1 and Cup, W. Boyes, Beverley (Duckwings). 2, B. Cox, Moulton. *hc*, B. Cox; T. Hancock, Northampton; J. Fletcher, Stoneclough, near Manchester (3 pens).

Cochins.—1 and *hc*, H. Lloyd, jun., Handsworth, near Birmingham (Buffs). 2, J. Stephens, Walsall (Partridge).

Brahmas.—1, H. Yardley (Dark). 2, J. Bonser, Moulton (Light).

Hamburghs.—1, W. Bearpark, Ainderby Steaple. 2, J. Stephens. *hc*, B. Cox; Swallow & Chambers, Northampton.

Game Bantams.—1, H. Yardley. 2, B. Cox, Northampton. *Any Variety.*—1, H Yardley (Blacks). 2, W. Bearpark.

Selling Class.—1, W. Nottage, Northampton (Spanish). 2, J. Stephens (White Cochins). *hc*, J. Brown; H. Thompson; W. F. Checkley.

Ducks (Rouen).—1 and 2, B. Cox.

PIGEONS.

Carriers.—1, H. Yardley. 2, Martin & Owen, Kettering. *hc*, Swallow and Chambers; Higgins & Sassall, Northampton.

Pouters.—1, Martin & Owen. 2 and *c*, Higgins & Sassall. *hc*, W. Nottage (2); H. Yardley.

Owls.—1, H. Yardley. 2, W. Norby, Northampton. *c*, Martin & Owen.

Any other Variety.—1, W. Nottage. 2, H. Yardley. *hc*, Swallow and Chambers; Martin & Owen; Higgins & Sassall.

Any Variety Bred in 1871.—1, H. Yardley. 2, Swallow & Chambers. *hc*, Swallow & Chambers; W. Nottage. *c*, Martin & Owen.

Judge.—Mr. E. Hewitt, Sparkbrook, Birmingham.

OUNDLE POULTRY SHOW.

From the first institution of this poultry show it has been a most popular annual meeting, but, unfortunately, for several years on the days of exhibition the weather has been very unfavourable. We are glad, however, to say that this year, though at times during the day (July 12th), sharp showers caused some uneasiness to the managers, throughout the afternoon the attendance exceeded their most sanguine anticipations.

On the morning of opening some considerable delay arose from neglect on the part of the railway company in the delivery of the exhibition pens on the show ground, as agreed for at latest on the previous evening, although they had been confided to them for transit several days previously. These pens did not arrive on the ground until somewhere about eight in the morning, but a few willing exhibitors gave a helping hand; so indefatigable were they that the entrance of the public was not interfered with in any way. Surely railway companies, knowing well the urgency of the case, should make greater efforts to prevent delay in delivery, as the very stability of a show is placed in jeopardy by the non-fulfilment of these contracts with punctuality.

Looked upon as a whole the entries were quite equal to those of previous seasons; but it was the subject of general remark how suddenly, from the effects of the heavy rains, not a few of the very best pens of fowls were fast lapsing into deep moult. As usual, Messrs. Longland and Wood were keen opponents in the *Dorking* classes. Several prizes were taken away this year, however, in these classes by other exhibitors, the Rev. E. Bartrum's two pairs of Dorking pullets being very well shown. On the whole the *Game* fowls were not nearly so good as they usually are in this neighbourhood. A first-rate Brown Red cockerel, sent by Mr. B. Cox, of Moulton, as being a fowl of good promise, is worthy of special note. *Spanish* were throughout as well shown as any variety in the show; and the *Cochins*, as will be seen by referring to the prize list, comprised specimens from the yards of not a few of the most noted breeders. *Brahmas* were few and indifferent. The Golden-spangled *Hamburghs* were excellent, but chiefly overshown.

Pigeons competed, as by rule, in pens of threes, each pen to contain a different variety. The competition was unusually good, but several competitors placed themselves completely out of court by sending two or even more pens of the same breed. The roominess of the tents was a very favourable feature of the show, and met with the warm approbation of the visitors.

Dorkings.—*Cock.*—1 and 2, R. Wood, jun., Clapton. 3, J. Longland, Grendon. *Cockerel.*—1, Mrs. F. Stephens, Abbott's Ripton Hall. 2, J. Longland. *Hens.*—1, J. Longland. 2 and 3, R. Wood, jun. *Pullets.*—1 and 2, Rev. E. Bartrum, Great Berkhamstead.

Game Fowls.—*Cock.*—1, 2, and 3, S. Deacon, jun., Polebrook. *Cockerel.*—1, B. Cox, Moulton. 2, Brenthall & Kyte, Nottingham. *Hens.*—1 and 3, H. Lotan, Oundle. 2, B. Cox. *Pullets.*—1, Brenthall & Kyte. 2, S. Deacon, jun.

Spanish (Black).—*Cock.*—1, J. Stephens, Walsall. 2, J. F. Dixon, Cotgrave. 3, E. Smith, Oundle Rectory. *hc*, H. Thornycroft, Floore. *Hens.*—1, J. F. Dixon. 2, W. Woodhouse, King's Lynn. 3, W. R. Bull, Newport Pagnell. *hc*, J. Stephens; E. Smith (2). *c*, H. Thornycroft; G. Wyman, Peterborough; W. R. Bull. *Chickens.*—1, Withheld. 2, J. Stephens. 3, E. Goodliffe.

Cochin-Chinas.—*Cock.*—1 and 3, H. Lloyd, jun., Handsworth. 2, J. Stephens. *hc*, J. N. Beasley, Pittsford Hall; H. H. Bletsoe, Barnwell. *c*, H. H. Bletsoe; *c*, J. Watts. *Hens.*—1, J. Stephens. 2, H. Lloyd, jun. 3, H. H. Bletsoe. *hc*, W. F. Checkley, Moulton; J. N. Beasley; J. Watts. *Chickens.*—1 and 2, H. H. Bletsoe. 3, H. Phillips, Northampton. *c*, J. F. Loveridge, Newark; H. Lloyd, jun.

Brahmas.—1, H. Yardley, Birmingham. 2, W. Stevens, Northampton. 3, J. Watts.

Hamburghs.—*Gold and Silver-pencilled.*—1, W. R. Tickner, Ipswich. 2, E. Goodliffe. 3, W. Bearpark, Ainderby Steeple. *Gold and Silver-spangled.*—1, J. Stephens. 2, B. Cox, Northampton. 3, T. W. Swallow, Northampton.

Bantams.—*Game.*—1, L. Calcott, Oundle. 2, J. R. Marriett, Titchmarsh. *Any other Variety.*—1, H. Yardley. 2, J. Watts. *c*, H. Wyman, Ashton, Towcester.

Any other Variety.—1, H. Yardley. 2, J. R. Marriott. 3, W. Prentice, Aldwinckle.

Selling Class.—1, L. Calcott. 2, E. Smith. 3, Rev. A. Longhurst, Fotheringhay.

Geese.—1 and 2, S. Deacon, jun., Polebrook. *hc*, E. Goodliff (2).

Ducks.—*Aylesbury.*—1, H. H. Bletsoe. 2, S. Deacon, jun. *Rouen.*—1 and *c*, R. Wood, jun. 2, E. Goodliff. *Any other Variety.*—1, E. Smith. 2, E. Goodliff.

Turkeys.—1, M. Kew, Market Overton. 2, Mrs. G. F. Baker, Barnwell Mills. *hc*, J. A. W. Underwood, Warmington; J. Craig, Fotheringhay.

Pigeons.—1 and 2, H. Yardley (Almonds, Yellow Barbs, Black Carriers, Spots, White Owls, and White Pouters). *hc*, R. Andrew, Peterborough (White Pouters, Blue Owls, and Black Carriers).

Rabbits.—*Heaviest*—1, E. C. Sherard. 2, No competition. *Lop-eared.*—1, E. C. Sherard. 2, H. Ashby, Oundle. *Fancy variety.*—1, J. Clipston, Oundle. 2, W. H. Laxton, Oundle.

Mr. E. Hewitt, of Sparkbrook, Birmingham, was the Judge.

ECCLESHILL POULTRY SHOW.

This was held on the 15th inst.; although but recently instituted, and begun on a very small scale, it has attained a fair position among the annual gatherings of the West Riding of Yorkshire.

The Black Red *Game* were only of moderate quality, but the Brown Reds were considerably better; and in the "Any other variety" class we considered the second-prize pen much better than the first; both were Piles. The third prize was withheld. In single cocks the first was a very good Brown Red, but out of feather. The cup for Game was awarded to this bird. The *Spanish* were a very good class, and the birds in faultless condition; but both *Cochins* and *Brahmas* seemed to be showing the effects of the season, most of them exhibiting signs of moult. In both the Silver-spangled and Pencilled *Hamburghs* Mr. Beldon had the classes to himself, winning all the six prizes. The rest of the Hamburghs were also very fine in quality and condition for the time of year. In the "Variety" class Gold Polands were first, Silver second, and Crêve-Cœurs third. There was a class for chickens of any variety, but these were poor on the whole. Game *Bantams* were fair, the first-prize pen in Black Reds being birds of this season, and very promising in quality. Black Bantams were good, but the third prize was unaccountably withheld. The cup for Bantams was won by an unusually good pen of Whites. In the variety class for *Ducks*, the first were handsome Bahamas, and the second common Teals, but there was only one pen of the larger varieties.

Pigeons showed the greatest improvement both as regards numbers and quality, many of the best birds in the kingdom being shown, principally in consequence of the offer of two cups, one for the best pen, and the other for points, decided only by prize-taking. The first of these was won by Mr. Horner with a most exquisite pair of Almond Tumblers. The winner of the second was Mr. Taylor, of Huddersfield, with sixteen points against fourteen, by Mr. Lishman, the latter having gained four first prizes and one second, and the former two first and five second prizes; three points being allowed for a first, and two for a second prize. Carrier cocks were an extraordinary class. Both the winners were Blacks, the second superior in quality but out of feather. In hens the first was Black, and the second Dun. In Pouter cocks the first was a Blue Pied, 20 inches in feather, and 7 inches in limb; the second White, 18¾ inches in feather, and 6¾ inches in limb. This bird was in splendid condition and fine in girth. The best bird in the Pouter classes was the first-prize Blue hen, 18½ inches in feather, 7⅝ in limb, perfectly marked, and the show and style quite up to the taste of the most fastidious amateur. The second was a handsome Yellow, 18¾ inches in feather, and 6¾ inches in limb, the colour being of a superior order. There were several birds in both classes measuring well, but deficient in marking, and rantish in appearance. Short-faced Tumblers were next on the list. The winners were all Almonds, and the contest very close. In common Tumblers the first were Black Mottles, and the second Black Balds. Barbs were a good class. The first prize went to Duns, and the second to Blacks. Of English Owls there was a large show, the quality of head being excellent. Blues were first, and Silvers second; the hen in the latter pen possessing the best-formed rose we have seen of late. The first in Turbits were Yellows, perfect in form and colour, but rather larger than desirable; the second Blacks of good colour, but rather foul in thigh. Fantails were good throughout, the first being very small and delicate in appearance, and combining that fine nervous expression so rarely seen of late; the second were larger but good in tail and carriage. Both the winners in Jacobins were Red, the prize being closely contested. In Dragoons, the first were Reds of excellent colour, and the second Blues; there was also a capital pair in nest-feather. There was but one real Short-faced pair of Antwerps in the Show, and these were only half-moulted young ones, although the second were a nice pair of birds, but larger than the first. The class for Working Antwerps contained some excellent birds, most of them being of the true racing variety. In the "Variety" class, Mottled Trumpetere were first, and Porcelain Swallows second. The rest in the class were highly commended.

The first in *Rabbits* were nice Himalayans, and the second Angoras.

There was also a show of *Cage Birds*, but these did not show in great numbers, the time of year being inappropriate for this purpose, but there were some good birds, notably the first-prize Yellow Norwich, which was one blaze of colour, the second in that class being a good Belgian. The first in Buffs was a Belgian of good properties, and the second Norwich.

GAME.—*Black-breasted Red.*—1, C. Chaloner, Whitwell, Chesterfield. 2, W. Fell, Adwalton. 3, J. W. Thornton, Bradford. *Brown-breasted Red.*—1, Miss J. A. Aykroyd, Eccleshill. 2, J. Hodgson, Bradford. 3, F. Sales, Crowle. *Any other Variety.*—1, B. Jarvis, Mansfield. 2, F. Salea. 3, Withheld. *Any colour.* —*Cock.*—1 and Cup, G. F. Ward, Wrenbury, Nantwich. 2, C. Chaloner. 3, Withheld. *Hen.*—1, J. Fell. 2, C. Chaloner. 3, W. Spencer, Haworth.

SPANISH (Black).—1, T. C. & E. Newhitt, Epworth. 2, H. Beldon, Goitstock. Bingley. 3, J. J. Booth, Silsden, Leeds.

COCHIN-CHINA.—1, H. Lacy, Hebden Bridge. 2, J. Sichel, Timperley, Cheshire. 3, H. Beldon.

BRAHMA POOTRA.—1, Cup, and 2, H. Lacy. 3, H. Beldon.

HAMBURGHS.—*Silver-spangled.*—1, 2, and 3, H. Beldon. *Golden-spangled.*—1, J. Rollinson, Lindley, Otley. 2 and 3, H. Beldon. *Silver-pencilled.*—1, 2, and 3, H. Beldon. *Golden-pencilled.*—1 and 3, H. Beldon. 2, J. Rollinson. *Black.* —1, C. Sidgwick, Keighley. 2, H. Beldon. 3 J. Smith, Gilstead, Bingley.

ANY OTHER VARIETY EXCEPT BANTAMS.—1 and 3, H. Beldon. 2, J. Sichel.

ANY BREED.—*Chickens.*—1, C. Sidgwick. 2, J. Clayton, Allerton (Game). 3, W. H. Baxter, Idle (Cochins).

GAME BANTAMS.—*Black-breasted Red.*—1, W. F. Entwisle, Westfield, Cleckheaton. 2, W. Grice, Crosshouse, Bootle, Carnforth. 3, W. Adams, St. Clements, Ipswich. *Brown-breasted Red.*—1 and 2, W. F. Entwisle. 3, Withheld. *Any other Variety.*—1 and 2, W. F. Entwisle (Pilea and Duckwings). 3, J. Stabler, Driffield (Pilea). *Any colour.*—*Cock.*—1, W. F. Entwisle. 2, J. Blamires, Great Horton, Bradford. 3, Withheld.

BANTAMS.—*Black.*—1, S. & R. Ashton, Roe Cross, Mottram. 2, J. Walker, Halifax. 3, Withheld. *Any other Variety.*—1 and Cup, H. Beldon. 2, J. Sichel, Timperley (Pekin). 3, J. Watts, Hazlewell Hall (Japanese).

SELLING CLASS.—1, B. Jarvis, Mansfield. 2, H. Beldon (Game). 3, Frankland and Aspden, Church Hall, Accrington.

DUCKS.—*Aylesbury or Rouen.*—1, J. Newton, Silsden, Leeds (Rouen). *Any other Variety.*—1 and 3, W. Binns, Pudsey (Brahma and Brown Decoy). 2, S and R. Ashton (Carolina).

PIGEONS.

CARRIERS.—*Cock.*—1 and 2, G. J. Taylor, Fartown, Huddersfield. *hc*, J. C. Ord, London; E. Horner, Harewood, Leeds (2); J. Lishman, Bradford. *Hen.* —1 and 2, G. J. Taylor. *vhc*, E. Horner. *hc*, G. J. Taylor; E. Horner.

POUTERS.—*Cock.*—1, J. Lishman. 2, E. Horner. *hc*, H. Yardley, Birmingham; G. J. Taylor; J. Lishman. *Hen.*—1, J. Lishman. 2, G. J. Taylor. *hc*, G. J. Taylor; E. Horner; J. W. Cannan, Bradford.

TUMBLERS.—*Short-faced.*—1 and Cup, E. Horner. 2, G. J. Taylor. *vhc* F. Moore, Burnley. *hc*, H. Yardley; T. Waddington, Feniscowles. *c*, F. Moore; E. Horner. *Common.*—1, J. Lishman. 2, J. M. Braid, Cambridge. *hc*, J. Preston, Allerton, Bradford; J. Lishman.

BARBS.—1, E. Horner. 2, G. J. Taylor. *hc*, T. Waddington; E. Horner.

OWLS (English).—1 and 2. J. W. Cannan, Bradford. *hc*, J. Thresh, Bradford; J. Crosland, jun., Wakefield; W. H. Baxter.

TURBITS.—1, J. Lishman. 2, G. Roper, Croydon. *hc*, H. Yardley; G. J Taylor; H. G. Poole, Bradford; J. Lishman.

FANTAILS.—1, J. F. Loversidge, Newark, Notts. 2, T. Waddington. *vhc*, W H. Tomlinson, Newark-on-Trent. *hc*, H. Yardley; J. Lishman.

JACOBINS.—1, G. Roper. 2, W. H. Tomlinson. *hc*, G. J. Taylor; T. Waddington; J. W. Cannan.

DRAGOONS.—1, W. S. Stanhope, Eccleshill. 2, F. Graham, Birkenhead. *vhc*, W. H. Mitchell, Moseley, Birmingham. *hc*, T. Speight, Bradford; E. Horner.

ANTWERPS.—*Short-faced.*—1, J. Cundall, Copt Hewick, Ripon. 2, J. W Collinson, Halifax. *hc*, J. Jackson, Eccleshill. *c*, H. Yardley. *Working.*—1, W. Lund, Shipley. 2, E. Horner. *hc*, J. Cundale; J. Jackson; W. Lund D. Riddiough, jun., Bradford; J. Crosland, jun.; Clayton & Bairatow.

ANY OTHER VARIETY.—1, J. Cundale. 2, J. Lishman. (Whole class highly commended.)

SELLING CLASS.—1, F. Moore, Burnley (Tumblers). 2, H. Stanhope, Eccleshill. *hc*, T. Speight; E. Horner; J. Lishman.

Point Cup for Pigeons, G. J. Taylor.

CAGE BIRDS.

CANARIES.—*Clear Yellow.*—1, J. Shepherd, Bradford. 2, L. Belk, Dewsbury. *hc*, J. Whitaker, Great Horton; W. Heap, Queensgate, Bradford. *Clear Buff.* —1, J. Whitaker. 2, W. Heap, Bradford. *hc*, G. Gott, Calverley; J. Shepherd. *c*, Hutton & Fawcett, Baildon. *Even-marked.*—1, J. Shepherd. 2, L. Belk. *Any other Variety.*—1, J. Shepherd. 2, L. Belk (Ticked Belgian). *hc*, Hutton and Fawcett; W. Heap.

MULES.—1, T. Nowell, Baildon. 2, W. Heap. *hc*, J. Shepherd.

LARKS.—1, T. Barrett, Manningham. 2, J. Close.

BRITISH BIRDS (Any other variety).—1, W. Heap. 2, J. Shepherd.

FOREIGN BIRDS (Any other variety).—1, J. Shepherd. 2 and *c*, W. Heap.

RABBITS (Any variety).—1, J. Buckley, Bradford. 2, J. Preaton, Allerton. *hc*, J. Thwaites, Bradford.

JUDGES.—*Poultry:* Mr. C. W. Brierley, Rhodes House, Middleton; Mr. John Douglas, Clumber. *Pigeons, Rabbits, and Cage Birds:* Mr. E. Hutton, Pudsey.

CRYSTAL PALACE CAT SHOW.

A CAT Show? Yes, a veritable show of cats was held at the Crystal Palace, on the 13th inst., at which about 150 cats were present. Taking into consideration the large number of cats kept in London alone, the Directors of the Crystal Palace, from a suggestion of Mr. Harrison Weir, resolved to hold a Show, and the result far exceeded their most sanguine expectations. Early in the morning the visitors began to arrive, and up to the time of closing there was no cessation, nearly 20,000 persons striving to obtain a sight of the household pets, though many, unfortunately, were unable to do so owing to the cages having been arranged in a double line instead of a single, which would have afforded to the public a view of two sides of each cage instead of one, and thus distributed the pressure; but even the railway companies were taken by surprise as to the number of visitors, and hundreds of people were left behind at the different stations from want of room to carry them forward.

But to the Show. There was a hope that the famous Edinburgh cat would be sent, but the owner considered it too far. Yet one was there from South Bermondsey of a heavier weight—21¾ lbs. being nearly a pound more than the celebrated Scot. The next in weight was a black and white, which only turned the scale at 18¾ lbs. The Duke of Sutherland contributed a fine specimen of the British wild cat, genuine and rare. It was caught in a trap in Scotland, and had lost a part of its fore foot. Anything more savage than it could scarcely be imagined, for after many attempts were made to get it out of its travelling-den into the exhibition-cage, it was resolved to show it as it was, rather than risk the danger of its escape.

The white cats were well represented, and in the Long-hair class a very beautiful Angora with deep blue eyes was awarded the first prize. In the Short-hair class the two distinct kinds of white contended—viz., the yellow-white and grey-white, the former taking the first prize. The cat sent as a Tortoiseshell Tom was not, in reality a true tortoiseshell, the colour being of a grey tabby, yellow tabby, and white, instead of black, yellow, and red. The Judges only awarded a second prize to it. The long-haired cats were large, and some of them of very lovely colours, such as a very light fawn, light grey, deep black, dark brown, and other varieties. There, also, were the Manx cat with tiny tail, and the Crimean cat almost tailless; Indian cats of a rich uniform Rabbit-grey, sandy cats, and black cats, the first prize of the last colour being exceedingly brilliant. There, also, were a couple of Siamese cats, marked and of the same hue as the pug dog, and of light and delicate form; and there, also, were cats, four of which had double feet on the fore legs, and nearly so on the hind, and also many other novelties. In fact, the collection was well worthy of attention, and was, without doubt, a very great success, so much so, that the Crystal Palace Company intend to have another Show in the autumn.

One would scarcely believe that the public would be so wrong as to enter black cats in a white class, white cats in a tabby class, and black and white in a tabby class, yet such was the case, and many were the disqualifications in consequence. Such carelessness, or thoughtlessness, seems to us almost wilful.

The Judges were the Rev. G. Camming Macdonna, the well-known breeder and owner of the celebrated St. Bernard dog, Mr. John Jenner Weir, F.L.S., and Mr. Harrison Weir, F.R.H.S., who exhibited a very beautiful blue tabby (not for competition), called "The Old Lady," aged twelve years, which attracted considerable attention on account of her fine quality of colour.—OLD TOM.

THE SEXES OF BEES' EGGS.

IN resuming my pen—which expression must, however, be taken metaphorically rather than literally, since I dictate these lines from a recumbent position, in faltering accents, and I fear me in somewhat uncertain grammar, to be transcribed by the active and untiring fingers of the loved and loving one, to whose watchful care and unwearying tenderness I owe it, under God's providence, that I have at length emerged from a prolonged sojourn in the dark valley of the shadow of death into the twilight of a tardy and uncertain improvement, which, however, I trust may yet prove to be the actual dawn of permanent recovery—I say, then, that in resuming my pen after very many months of painful and enforced abstinence from writing on my favourite subject, I cannot refrain from thanking "R. S.," Mr. S. Bevan Fox, and many other friends and apiarian contributors to "our Journal," whose able and interesting communications have so well replaced my own humble contributions on bee subjects. I owe also my best thanks to "B. & W." and numerous apiarian friends and correspondents who have either publicly or privately expressed their warm sympathy and kind wishes. "Sweet," it is said, "are the uses of adversity," and surely one of the sweetest of these is that kindly phase of human nature which in times of suffering and affliction knits together more firmly the bonds of family affection, converts acquaintances into friends, and elicits expressions of heartfelt sympathy from distant and almost unknown correspondents, who might heretofore have been well deemed ignorant of everything regarding us save the bare fact of our existence. To all these, and proud am I to say that there are many such, I would also tender my warmest acknowledgments and heartfelt thanks.

Having said thus much on matters personal to myself, I now turn to the main subject of this communication. Whilst fully agreeing with "B. & W.," that nothing of this kind can be proved beyond a doubt by a single experiment, and that it is possible that a queen may on very rare occasions deposit, as if by mistake, a worker egg in a drone cell, in the same manner as isolated drone eggs are sometimes found to have been laid in worker cells, I am bound to say that no such instance has ever presented itself to my notice, and that I believe that if ever it occurs it is so rare a case that, so long as Mr. Pettigrew avoids transition cells, and experiments only with such eggs as are deposited in those of the full drone size, he may spend the remainder of his life in the pursuit without succeeding in developing a single queen bee from any egg which he may find placed in a drone cell. The fact that all eggs laid in these cells will produce drones and nothing else, is moreover fully esta-

blished by a witness whose evidence Mr. Pettigrew himself will scarcely venture to set aside. Mr. Quinby, the eminent and practical American apiarian, whose opinions on this point originally coincided with his own, and from whose "Mysteries of Bee-keeping," several passages in support of his peculiar views are quoted in Mr. Pettigrew's "Handy-Book of Bees" (which passages are, however, nearly all either entirely omitted or materially modified in the later edition of Mr. Quinby's book), has since made the identical experiment which has been unsuccessfully attempted by Mr. Pettigrew, and he now declares that the attempt to rear queens from eggs deposited in drone cells has so utterly failed with himself and others, that he and they have "no longer any hope of success." He adds, moreover, that "the reason undoubtedly is, that eggs laid in drone cells are not impregnated."

It seems to me, however, that the most conclusive proof of the inability of bees to reverse the sex of an egg after it has once been deposited in the comb, is afforded by those rare and singular instances in which, as if by mistake and by some default in their usually unerring instincts, they without interference on the part of the apiarian, attempt of their own mere motion to raise a queen from a drone egg or grub. Only one such instance has ever come under my own direct observation, and this was recorded at the time in the pages of "our Journal." Writing at a distance from home, I am, unfortunately, unable to refer to back numbers, but the circumstances were briefly these:—Some years ago, in the course of my then numerous queen-rearing operations, I formed a small swarm or nucleus, to which I gave a comb containing worker-brood in all stages, for the purpose of enabling the bees to raise a queen. It happened, moreover, that this comb consisted partly of drone cells, in which also were eggs and young brood, and at the point of junction between the drone and worker cells was formed the only royal cradle which the bees attempted to construct, but which nevertheless appeared to progress favourably, and was in due course completed. Watching assiduously as I did the development of all my royal protegées, I found that in this case fruition was unduly delayed, and becoming impatient I cut open the royal cell on the twenty-fourth day after the formation of the swarm, when instead of the expected defunct princess, I found to my astonishment a living and fully-developed drone apparently on the point of making his first appearance on life's stage.

Now, surely in this case Mr. Pettigrew's attempted experiment must be deemed to have been—however unwittingly, and, perhaps, because unwittingly—most fully and fairly carried out. The bees themselves selected a male egg or grub, lavished upon it all the extra material, food, and attention requisite for the development of a queen, and succeeded in producing only an ordinary drone!—A Devonshire Bee-keeper.

It is quite apparent from several productions on bees which appear from time to time in the Journal, and which are written by gentlemen of long experience and practical acquaintance with apiculture, who have bestowed, no doubt, not a little time and study in elucidating the natural history and economy of bees, and, moreover, have given the results of that experience and study to the public—it is quite apparent, notwithstanding all this, that the "bee hive" is still, confessedly by them, a great "mystery" unexplored—full of anomalies and unsolved problems, as knotty as Mr. Pettigrew's queenless hive studded over with fictitious royal cells, of which we have an account in your last number.

As to the physiological mystery which appertains to the sexual character of the eggs when they first leave the ovaries of the queen, and the change which science asserts some only undergo on their passage outwards, I shall at present say nothing; but that each egg is "sexually" fixed as deposited in the cell by the queen is a fact beyond all contradiction. Mr. Pettigrew's experiment is a most conclusive refutation of the views which in his "Handy-Book" he seeks to establish; albeit, though quite true, it is not at all new. Such abortive attempts at queen-rearing from drone eggs I have frequently witnessed, and when some years ago the fact first presented itself to my notice, I watched with as much interest and curiosity as to results as did Mr. Pettigrew; but, alas! when the mountain brought forth, instead of a beautiful queen there was produced a monster drone. This last week another instance came to my notice. A friend of mine artificialised a hive by division; for the queenless half, unfortunately as it appeared, no royal material was to be had—all drone cells and brood. He asked me to look at the beautiful royal cells which depended from the combs. I did so, but my suspicions were immediately aroused by observing no worker brood, and by the royal cells being constructed on drone combs. I opened one, and found, as anticipated, it contained a drone nymph, luxuriating for a brief space on royal dainties, and receiving all the outward marks of royal dignity and honour. With Mr. Pettigrew I join in astonishment at the delusion. No doubt the instinct of the bee is here somehow at fault; perhaps it is also at fault when royal cells are constructed and sealed in cases where there are no grubs at all. But be this as it may, no royal bee or queen can be reared except from female or worker eggs, and Mr. Pettigrew must abandon his untenable theory, which is one of a bygone age, that eggs have no sexual character, and that the common bees have anything to do in imparting such characteristics to the eggs after they are deposited by the queen in the cells.—J. Lowe.

QUEENS LEAVING THEIR HIVES.

Your correspondent, Mr. Lowe, must explain on other grounds the remarkable circumstance which I mentioned three weeks back. The driven Italian hive was rather weak at the time I made the swarm out of it, being, in fact, only about three parts full of comb and bees, and saved by spring feeding from perishing of famine. Moreover, I carefully examined the combs after driving in search of possible royal cells, of which I was much in need. Finding none I cut out a large piece of brood comb wherewith to make another artificial swarm before I substituted the hive for the strong and full hybrid stock. I feel quite certain that there could not have been within it any royal brood.

Neither is there any mistake as to the issuing of the swarms referred to, which I witnessed myself—both of them. Not only so, I watched the gradual development of royal cells in the hybrid hive. I saw one or two of them distinctly sealed up on the 26th of May. But the strongest evidence in favour of the correctness of my surmise lies in the fact that the swarm which issued on the 24th of May, out of the Italian driven hive, has proved equally defective in purity of breed as its parent stock, the hybrid; whereas, the second swarm which issued from the same Italian stock on the 9th, has extremely well-marked bees of all ages. I may add that the swarm of the 24th of May, sent out a magnificent "maiden" swarm on the 13th of July, which gave me the fullest opportunity of inspecting the quality of the hybridisation. In the one case not more than half the bees, if so many, are well marked, whereas in the other it is difficult to see a badly marked bee. I know not what other inference is to be drawn from the facts I have stated. It may be an exceptional case, which only proves the rule. Still I have always considered it far from proven that "queen bees never take aërial excursions" on fine days in summer time.—B. & W.

BEES ADAPTED TO LOCALITIES.

Frederick William Vogel, an eminent Prussian bee-keeper, says:—"An improved breed equally suited to all parts of an extensive country is an impossibility. For each particular district an improved breed specially suited may be produced. In a cross, resulting from the Italian queen with the black drone, degeneration became apparent in the second generation, the hybrids divided numerically, one portion resembling the Italian, and the other the black bees. In the fourth or fifth generation some of these hybrids reached again the pure Italian others the pure black bee."

AN OLD SWARM OF BEES.

There is a swarm of bees in the adjoining town of Knox, Albany Co., that has occupied the same comb for the past fifteen years, and in the same hive. The swarm was found by Benjamin Gallup in the town of Watervliet, Albany Co., fifteen years ago, on a pine shrub along the roadside. He went to a farmer's house and procured a box 18 inches square inside. After hiving the swarm in this box, he secured them, with proper ventilation, and brought them home, some eighteen miles from the spot where he found them. They have remained in the same box ever since, and have cast off swarms every season, with the exception of three seasons. The comb has never been renewed since the bees have occupied the box. At present they appear to be in fine condition to commence the season's work, and

the prospects are they may continue to do well for some years.

Now, there is something that accounts for this swarm prospering so long in the same box and comb, and that is, their casting swarms nearly every season left the hive with a young fertile queen; the queen being very fertile kept the colony strong in numbers, which is the best protection against the moth and in preserving the comb. It also goes to show the necessity of keeping our colonies furnished with young fertile queens. If this be attended to, we need not fear, with proper management, but that success will crown our efforts in bee-culture, if blessed with favourable seasons.—P. J. Severson, *Albany Co., New York.*

Cheltenham Poultry and Pigeon Show.—The schedule of prizes is tempting. There are twenty-one silver cups, and the money prizes are three good ones in every class.

OUR LETTER BOX.

Beccles Poultry Show.—Mr. R. Wilkinson, of Waterden Road, Guildford, informs us that it was he, and not Mr. Nicholls, who took the prize as the exhibitor receiving the highest number of marks without obtaining a prize.

Polish Hen Hatching a Brood (*C. B.*).—We are always glad to hear of such deviations as that noticed in your communication to us. As a rule, Polands are non-sitters, so are Hamburghs; but they both occasionally take us by surprise as your hen has done. Are you sure she is perfectly true? There may have been a cross, though it does not show itself in the feather. We shall be curious to know whether she will continue the accomplishment or not. We are glad to hear so good accounts of your chickens, ours have been very healthy.

Quantity of Food for Fowls (*Ilkley*).—Your Swan at this season should want little feeding, the weeds should supply him with all he wants. The Geese should live principally on grass. Wild Ducks, Teal, and Widgeon, should pick up the greatest part of their own living. Wood Ducks are small feeders. Pigeons will eat till they are hungry again. Water Hens live entirely on grass. We hope your hay will be up before you read this, and that your poultry will all be at liberty. From your saying that 21 lbs. of corn will not feed your stock, we expect you allow all to feed together, and that the weak go to the wall. For this reason they are not in condition. You have 123 head of feeders, and 21 lbs. of corn divided among them will not be much. The Swan, the four Geese, and five Turkeys, would eat it all if you gave them time. No poultry nor game care to seek food, if they can have it provided, and your birds must be managed rather than indulged. The cocks, hens, and chickens should form the first division, and you would find it more profitable to give them food ground and mixed, than to give the corn whole. Then the Turkeys should be fed, and let Ducks and Pigeons have a struggle for the remainder. That which Swan, Geese, and Ducks may require if they find the meal insufficient, they will find in the water. The fowls, &c., will do the same on the grass. If you throw the Ducks food in the water, some sinks, and much is carried away This is lost. Throw it on the ground or in some very shallow clear place, with a gravelly bottom, where the Ducks can both see and reach that which has sunk. By attending to this the 21 lbs. will keep your birds in condition during the summer, not afterwards.

Aylesbury Ducks' Bills Yellow (*Wild Duck*).—Water has a great effect on the bills of Aylesbury Ducks. Hard water and peat water change the colour for the worse; but you must bear in mind they get darker as the birds become older, and they are never so delicate as when they are ducklings. It is beneficial to them to have their food in a vessel filled half way up with small grit, and with only sufficient water to cover it. If their food is put in this they have to get it among the grit, and the friction has a good effect on the bills, but there must be neither gravel nor gravel stones—they are injurious. It is also good for them to be turned out in grass with the cold dew or white frost on it. Some water has the property of turning them, and therefore if you intend to exhibit you will do well to shut them up for a time. Their bills will improve, and they will increase in weight. Straw or yellow bills disqualify Aylesburies. If you want large eggs you must keep either Spanish or Crêve-Cœurs; neither of them sit. For sitting, laying, and the general purposes of a fowl of all work, we know nothing better than the Brahma, next the Cochin, but neither of them lays large eggs.

Light Brahma Chicks' Feathers (*Inquirer*).—There is always a change in colour when the chicken plumage changes for hard feathers. It is very desirable the black flight should remain, but the black feathers on the back are by no means desirable.

Chrissy-Millie Chicken.—"Punch's" cartoon records that the season of mammoth gooseberries has arrived; but another season has also arrived—that of duplicate animated things. We have two single women made into one, Chrissy-Millie, a horse with six legs, and now we see the following:—Mr. Fleming, saddler, Kennoway, Fifeshire, has a hen which has hatched a chicken with four feet, four wings, two necks, and two heads. We have heard of two perfect Hares united by their backs. No greyhound could catch them, for when one was tired he turned over and the other Hare took up the running!

Portraits of Pigeons (*H. J. R. L.*).—The Antwerp appeared in No 464, the Carrier in No. 471, the Dragoon in No. 473, the Pouter in No. 483, the Almond Tumbler in No. 489, the Barb in No. 500, the Flying Tumbler in No. 509, the Fantail in No. 512, and the Turbit in No. 523. If you send back the two numbers which are wrong we will return them. Consult our advertising columns; we cannot recommend dealers.

Bees' Swarming (*Severn Valley*).—It is very unusual for so long a period as fifty-five days to elapse between the issue of a first and what we infer from your letter to have been the second swarm. We think it most probable that the latter will require further assistance in respect of food. The personal appearance of the surviving queen will, doubtless, by this time have enabled you to decide for yourself to which race she belongs. Without knowing how long the royal cells had been sealed over when you saw them we cannot undertake to offer an opinion on the point.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. July.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 12	29.921	62.4	57.3	S.W.	57.3	70.8	49.2	113.7	47.8	0.020
Th. 13	29.878	62.9	59.6	S.W.	58.4	71.2	54.4	101.0	54.9	—
Fri. 14	29.902	68.0	63 5	S.	59.8	74.0	61.8	112.4	60.3	—
Sat. 15	30 040	68.7	60.4	W.	60.8	79.9	61 8	131.0	60.4	—
Sun. 16	30.144	67.1	63.9	N.W.	61.5	82.2	62.3	129.0	63.0	—
Mo. 17	30.129	64.2	62.3	S.E.	60.2	82.2	63.7	121.4	59.4	—
Tu. 18	30.073	68.5	58.7	N.E.	60.1	80.0	64.0	123 8	61.3	—
Means	30.012	66.0	60.8		59.8	77.2	69.6	118.9	57.6	0.020

REMARKS.

12th.—Very fine early and till noon, slight shower at 2.30 P.M., a short heavy one at 4.5 P.M., and showery the rest of the day, but the whole product very small.

13th.—Rain at 8 A.M.; fine day with slight shower in the evening.

14th.—Warm and fair throughout, fine evening, and bright sunset.

15th.—A most beautiful day, but rather warm though there was a nice breeze.

16th.—Fine, but very oppressive, feeling (though not looking) storm like.

17th.—A most delightful day, the great heat being tempered by a cool breeze.

18th.—Still splendid weather, sun very hot, but a delightfully cool breeze.

A very warm week. July 15th (St. Swithin), is usually the hottest day in the year, although that has not been the case this year, reference to the above table will show that the temperature was very high.—G. J. Symons.

COVENT GARDEN MARKET.—July 19.

The beneficial change in the weather has had a marked influence on the market, and supplies of bush fruit have greatly improved both in quantity and quality. Importations are heavy, and a large quantity of West Indian Pines have come to hand in excellent condition. Hothouse produce is receding in price, now the London season is drawing to a close. Potatoes are heavily supplied, and only the best samples maintain their price.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples	½ sieve	1	6 to	4	0	Mulberries	lb.	0	0 to	0	0
Apricots	doz.	1	0	3	0	Nectarines	doz.	4	0	12	0
Cherries	lb.	0	6	2	0	Oranges	℔ 100	6	0	10	0
Chestnuts	bushel	0	0	0	0	Peaches	doz.	6	0	15	0
Currants	½ sieve	3	0	4	0	Pears, kitchen	doz.	0	0	0	0
Black	do.	4	0	6	0	dessert	doz.	0	0	0	0
Figs	doz.	3	0	6	0	Pine Apples	lb.	3	0	6	0
Filberts	lb.	1	0	0	0	Plums	½ sieve	0	0	0	0
Cobs	lb.	2	0	2	6	Quinces	doz.	0	0	0	0
Gooseberries	quart	0	6	0	8	Raspberries	lb.	0	6	1	0
Grapes, Hothouse	lb.	2	0	6	0	Strawberries	lb.	0	6	1	6
Lemons	℔ 100	6	0	10	0	Walnuts	bushel	10	0	16	0
Melons	each	2	0	6	0	ditto	℔ 100	1	0	2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	doz.	4	0 to	6	0	Leeks	bunch	0	4 to	0	6
Asparagus	℔ 100	4	0	8	0	Lettuce	doz.	0	8	1	0
Beans, Kidney	℔ 100	1	6	2	6	Mushrooms	pottle	1	0	2	6
Broad	bushel	2	0	3	0	Mustard & Cress	punnet	0	2	0	0
Beet, Red	doz.	2	0	3	0	Onions per doz. bunches		4	0	6	0
Broccoli	bundle	0	0	0	0	pickling	quart	0	0	0	0
Brussels Sprouts	½ sieve	0	0	0	0	Parsley	sieve	3	0	6	0
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	9	1	0
Capsicums	℔ 100	0	0	0	0	Peas	quart	0	6	1	0
Carrots	bunch	0	0	0	0	Potatoes	bushel	3	0	6	0
Cauliflower	doz.	3	0	6	0	Kidney	do.	3	0	8	0
Celery	bundle	1	6	2	0	Radishes	doz. bunches	0	6	1	0
Coleworts	doz. bunches	2	0	3	0	Rhubarb	bundle	0	4	0	6
Cucumbers	each	0	6	1	0	Savoys	doz.	0	0	0	0
pickling	doz.	0	0	0	0	Sea-kale	basket	0	0	0	0
Endive	doz.	2	0	3	0	Shallots	lb.	0	6	0	9
Fennel	bunch	0	3	0	0	Spinach	bushel	3	0	4	0
Garlic	lb.	0	3	0	0	Tomatoes	doz.	2	0	3	0
Herbs	bunch	0	3	0	0	Turnips	bunch	0	4	0	8
Horseradish	bundle	2	0	3	0	Vegetable Marrows	doz.	2	0	3	0

POULTRY MARKET.—July 19.

All the excitement of scarcity and high prices has passed away. Trade diminishes, supply increases, and with it prices are no longer sustained; some days better, some days worse, but still making an average for the time of year.

	s.	d.		s.	d.		s.	d.		s.	d.
Large Fowls	3	0 to	0	6		Pigeons	0	9 to	0	10	
Smaller ditto	2	0	2	6		Rabbits	1	6	1	6	
Chickens	1	9	2	0		Wild ditto	0	9	0	10	
Ducklings	2	0	2	6		Hares	6	0	0	0	
Goslings	8	6	6	6		Guinea Fowl	0	0	0	0	
Pheasants	0	0	0	0		Grouse	0	0	0	0	

WEEKLY CALENDAR.

Day of Month	Day of Week	JULY 27—AUG. 2, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
27	Th		74.9	50.7	62.8	19	17 af 4	53 af 7	44 af 3	morn.	10	6 14	208
28	F		76.4	50.8	63.6	21	19 4	51 7	6 5	25 af 0	11	6 14	209
29	S	Length of Night 8h. 31m.	75.5	49.9	62.7	18	21 4	50 7	20 6	7 1	12	6 12	210
30	Sun	8 Sunday after Trinity.	75.2	50.2	62.7	16	23 4	49 7	23 7	3 2	13	6 10	211
31	M	Length of Day 15h. 23m.	74.9	50.0	62.4	15	24 4	47 7	9 8	13 3	○	6 8	212
1	Tu	Lammas Day.	75.6	50.4	63.0	19	25 4	46 7	44 8	33 4	15	6 5	213
2	W	Royal Horticultural Society, Fruit, Floral, and General Meeting.	75.3	50.9	63.1	20	26 4	44 7	10 9	54 5	16	6 1	214

From observations taken near London during forty-three years, the average day temperature of the week is 75.4°, and its night temperature 50.4°. The greatest heat was 92°, on the 2nd, 1856; and the lowest cold 31°, on the 2nd, 1864. The greatest fall of rain was 1.39 inch.

COVENT GARDEN MONOPOLISTS.

MR. PEARSON never did greater service to fruit-producers than when he sent to The Journal of Horticulture his communication on the doings of the Covent Garden fruit monopolists. In my time I have had something to do with some of the Covent Garden fruiterers, and can verify all that Mr. Pearson writes about their dealings with us poor innocents in the country. Being, like many other gardeners, in want of a Pine or two, and perhaps Melons, for a particular occasion, and having got them, I thought it no sin when I had a glut of these fruit to send to the salesman double the quantity in weight as an equivalent. But, "tell it not in Gath," when the hills came in the Pines were charged 10*s.* per pound, and the Melons in proportion, and no notice whatever taken of my consignments. This, of course, was a sickener, and ended my experiments in fruit-bartering in Covent Garden. There is one good which the fruit monopolists do, and that is, when fruit has to be procured from them, they show gardeners' employers the high prices they have to pay for it, and so stop some of the grumbling at home about the expenses of keeping up the gardens. No doubt some kinds of fruit are of a very perishable nature, and salesmen must charge good prices to make up for their risk, but there is no reason why extortionate ones should prevail, as at present.

Many amateurs with orchard houses would be glad to send some of their produce for sale in Covent Garden if there were a chance of obtaining a fair price from the fruiterers. Gardeners, likewise, when they had their employers' sanction to sell their surplus productions, would be able to send in some seasons quantities of fruit, which is often spoilt from want of gathering. Thus in London, and in all large cities and towns, consumers would obtain their fruit at reasonable prices if the monopoly in Covent Garden were broken up.

If glass protection were generally applied for the growth of our more valuable fruits, consumers would always find for sale in the market plenty of fruit, and dealers would not need to depend for their supply upon France or the Channel Islands. Without the collapse, however, of the monopoly in Covent Garden this desirable state of things could not happen; and perhaps the best plan would be that of "J. P.," of York (page 23), where he recommends forming a Horticultural Co-operative Society. This Society, to be efficient, should have branches in all large cities and towns to supply all fruits in season at reasonable prices, and I have no doubt, after all the expenses of management, a good dividend would be secured to the shareholders. The Covent Garden salesmen would then have mostly to depend upon the fruit they grew themselves or on foreign supplies, and we should soon see a fall in their prices when they could not control the markets as at present.—A Gardener.

I was happy to see the prices given by the retail fruiterers, &c., in Covent Garden Market commented upon by Mr. Pearson, of Chilwell. I fully concur in every word he says, and, moreover, think something might be done to get rid of such a monopoly.

I have been a grower of fruit for several years, sending it to Covent Garden, and, as a matter of course, as regularly as the year comes round I have my annual growl, also my self-gratulation that my existence does not depend upon the prices given by the dealers in the market. Nevertheless, on behalf of the consumer, as well as the grower, I most willingly and emphatically enter my protest against such unfair proceedings. Of course a large margin must be allowed to the retail salesman who deals in such perishable articles as fruit, &c., "but there is reason in roasting an egg," and by way of illustration I, in the early part of June, sent up a box of Nectarines, allowed by all who saw them to be magnificent (and so they were both in size and colour), the Covent Garden prices at the time being quoted, "Nectarines per dozen 12*s.* to 24*s.*" I received the magnificent sum of 6*s.* per dozen, this subject to salesman's commission, &c. This appears to be too glaring, but it is only one of a number of similar cases I could quote.

Could not something be done that would be beneficial both to the consumer and grower? Why in these days of free trade is a person requiring a pound of Grapes to pay 20*s.* per pound, and the grower to get 2*s.* 6*d.*, or may be lucky indeed if he receive 5*s.*? Surely some enterprising individual or company might be found to put a stop to this monopoly, and at the same time be the means of enabling persons who at present are totally unable to do so, even in cases of sickness, to purchase a bunch of Grapes—so refreshing to many an invalid—at a reasonable cost, and yet give the growers a fair remunerative price for their trouble and anxiety.—Elruge.

I think my case is even worse than the one quoted by Mr. Pearson in your number of July 20th. By the return enclosed you will see I received on April 5th, for a box of very fine Strawberries weighing 1¾ lb., the large sum of 5*s.* 6*d.*, from which was deducted 1*s.* for carriage and commission. The price in the Avenue on the same day was 36*s.* per pound.—J. Ridgway, *Fairlawn, Tonbridge.*

ALPINE PLANTS

AT MESSRS. OSBORN'S NURSERY, FULHAM.

Probably there is no class of plants so little known as those called Alpines, under which name are included many besides those having their native habitat in mountainous districts. Possessing a quaintness of form as beautiful as it is interesting, these pretty plants deserve the notice they are at length attracting. After inspecting a collection of them, and seeing how exquisitely neat is the growth of almost all, and what a marvellous variety of form and colour is developed both in the foliage and blossom, one feels surprised that plants possessing such rare beauty should have been so long neglected.

Having lately had an opportunity of seeing the fine collection of rare alpine plants cultivated by Messrs. Osborn, I purpose offering a slight description of some of

the most select, most of which have been grown at this nursery for many years, not for profit, for, as Mr. Thomas Osborn told me, there has till very lately been little, if any, demand for them, but simply because it is the rule of the firm never to discard a really good thing.

Taking the Saxifrages first, we have Saxifraga Aizoon, and Aizoon minor, the latter having a very close compact growth; S. ceratophylla, a fine distinct kind, with deeply-serrated foliage; pectinata, a compact grey kind; next comes the true longifolia of Backhouse, a perfect gem, like a grey rosette; pulchella, very neat and dwarf; and moschata, of still more compact growth; then we have Guthriesna variegata, neat, pretty, and bright; oppositifolia, and atropurpurea.

Among the Sedums there are S. reflexum, very fine; anglicum; grandiflorum; glaucum, very beautiful; Telephium atropurpureum, with almost black foliage; brevifolium, a beautiful kind, forming a bright compact mass, very neat and effective; the pretty grey farinosum; and those two compact kinds, Lydium and Wightmannianum.

Sempervivum californicum, from its being used so largely in public gardens, is now well known, but there are others deserving special notice. Of these calcaratum is very similar to californicum, but more compact; acuminatum, a distinct brown kind; the beautiful miniature hirtum; montanum, quite a gem among Sempervivums, and spinosum, a very rare variety, remarkably compact, and quite distinct from all others.

Of other plants worthy of notice, there are the neat-growing Aubrietia deltoidea variegata, Campanula garganica, Nepeta violacea, Trifolium fimbriatum, with pretty purple flowers; the very dwarf-growing Thymus corsicus; our own native Thymus Serpyllum albus, dwarf, compact, and pretty; and the very beautiful Thymus micans, each plant forming a compact mass, so dense as to appear like the half of a green ball resting upon the soil, the entire surface being studded with flowers of a delicate pink. The well-known Trifolium rubrum must not be omitted, its dark-green-edged foliage being very striking and effective. Silene alpestris, too, with its pure white flowers, is a useful plant, as is the very pretty marsh plant Parnassia palustris, another white-flowering plant. Then there are Lychnis Lagascæ, with a profusion of bright pink flowers; the pretty spring-flowering Soldanellas, Linum flavum with its fine deep yellow flowers, Linaria triornithophora with fine spikes of purple flowers, a fine old species, very rarely to be met with, but most worthy of a place in all gardens; the pretty trailing Linnæa borealis; the purple-flowering Rhexis virginica; Campanula pulla, dwarf and effective, with purple pendant bell-like flowers; Gentiana acaulis, with its deep blue flowers; Gentiana gelida, with smaller flowers; and G. septemfida, producing its flowers in trusses. These are all fine and distinct. To this list may be added the Vetch-like Astragalus hypoglottis; Androsace lanuginosa, with pretty pale pink flowers; Androsace ciliata, a charming little plant of very dense, compact growth, and with flowers of a rich deep pink; Achillea tomentosa, with bright yellow flowers, and the pretty Fern-like Thalictrum adiantoides, which, as its name implies, much resembles a Maiden-hair Fern.

It will be understood that this list represents a mere tithe of the Fulham collection. They are the kinds that struck me as being the most beautiful and distinct of those I saw; and although I may have failed to note many other worthy varieties, yet I can confidently recommend all I have selected as being of sterling merit.

Very many of these plants will thrive in ordinary garden beds; they are, therefore, valuable for edgings or mixed groups along the front of herbaceous borders; but the real home for them, and the place in which they flourish best, is the rockery —there, if rightly managed, they display their marvellous and varied forms to the greatest advantage, some thriving best in sheltered nooks formed by the projecting rocks, while others clothe the rocks themselves with a beautiful enamel of deepest green or silvery grey. Wonderful examples of plant life are these gems of the vegetable kingdom. The miniature growth, the great variety of form and colour, both in foliage and blossom, which they offer to us, should cause them to be cared for and treasured very much more than they have been hitherto. They are objects of interest at all seasons of the year, and certainly if we seek for refinement in our gardens we shall find it developed in a much larger degree in this class of plants than in any other; for so exquisitely delicate and varied are the colours, and so beautiful the forms of most of them, that all other plants appear huge and coarse beside them. The curious dwarf growth seems to invite one to explore, and to thoroughly enjoy them we must do so—a mere passing glance will not suffice; so diverse are their characters and so intricate their forms, that we may always find something fresh to interest us.

It may be useful to add a word or two upon the culture of these plants. This is by no means a difficult matter, yet there are a few conditions necessary to success. The most important of these are: Not to build the rockery in a shaded position, but in an open, airy place, well away from tall overhanging trees; it is not shade that is wanted to keep the plants flourishing in summer, but a deep, rich, fibrous loam, with an abundant mixture of broken stones, so that the roots may penetrate deeply, and that the soil in which they are growing may be drained thoroughly; for though these plants are so dwarf, yet they send their roots deep down in the earth, and then we find them flourishing in full vigour through all the vicissitudes of adverse seasons. One other essential condition to the successful culture of these plants in summer, and in summer only, is a moderate but continuous supply of water, such as might be had from the overflow of a small fountain. This, dripping gently over the highest rocks, would spread just that coolness around the plants which they like so much. Of course all the kinds will not flourish in the same soil, or with just the same treatment. To those who may contemplate forming a collection, however small, I would say, Find out the conditions under which the plants you select are known to flourish in their wild state, study them, and with that liking for them which is certain to grow upon you, will come the requisite knowledge of their requirements.—Edward Luckhurst.

A BIT OF SOUTH DEVON.—No. 1.

Here am I in that city of villas, Torquay, and though I have seen many other towns in each of the British islands, not one of them in beauty equals this; it is compounded of thickly-wooded steep-sided valleys, studded on either hand with white residences, wide apart, and each framed in a surrounding of luxuriant trees. Whichever road you take, whichever side of whichever valley you traverse, you pass a series of villas so long-continued that you become weary of looking upon them, each tasteful, each indicating wealth, each encircled by a well-kept garden, and the tenants of which are exuberantly luxuriant; but more of them by-and-by. I must have an outpouring first against that general prejudice and delusion that Torquay is too hot to be desirable as a summer resort. I entertained that opinion myself, but I ventured to believe the records furnished by meteorologists, and I find that their figures are not fictitious; more of them hereafter. On the 18th of this now month of July, the day on which these present sentences are written, I looked during mid-day at one of the publicly-exposed thermometers on the Strand—the day intensely bright, almost cloudless, wind south-west—and that thermometer in the shade stood at 70°. Now, I will wager an acre to a footsbreadth that it has been hotter than that at Scarborough on this same day and hour, and at London 10° hotter. "Ah! that was an exceptional day." No, it was not exceptional, friend Peter Prejudiced, for here is the record of three previous days, published in "The Torquay Directory:" July 14th, 67°; 15th, 72°; 16th, 72°.

Why Torquay is thus temperate is fully explained by its vicinity to the sea, and the evaporation from the profuse and luxuriant vegetation in and around; for let me remind your readers that in the hottest parts and in the hottest season of India ice is made by mere evaporation about the vessel containing the water.

What shall I select from my jottings to enlarge upon next? That which first most forcibly struck me—the colour of the soil. It is red, very red, as if formed of ground bricks, and is, I believe, the new red sandstone of geologists worn by the action of the elements into a cultivatable consistency, or rather inconsistency, for it is very light, a large proportion of it being silica, and the colour imparted by an excessive amount of the red oxide of iron. Next was I struck by the profusion of a red, or rather pink, flower, which, in multitudes and masses, is on every old wall and in the chinks and clefts of the rocks; I never saw it so profuse in other parts of the kingdom; it is the Spur Valerian (Centranthus ruber). I thought that the colour of its flowers and those of the Herb Robert (Geranium Robertianum) seemed more intense than in my more eastern-dwelling neighbourhood, and when I walked among the flowers in the "Devon Rosery" the same intensity of red colours prevailed. There was a Cockscomb with its comb so intensely crimson that it seemed to emit rays of colour; the crimson leaves of the

Coleuses and the petals of the Roses all seemed more fervid than ours eastward. I expressed that such was my impression, and that I thought that the oxids of iron in the soil was the cause of the increased colour. Mr. Curtis responded that he had long entertained the same opinion.

Burckhardt describes the gratification, somewhat saddened in his case, upon reading the name of an old friend written on a pyramid in Egypt. I, too, remember the joyful recognition on an Indian cricket ground of one who in long-gone years had been in England a brother clubbist; and now it has been my gratification to recognise in Mr. Curtis one whom as a lad I must have met, and about whose related belongings I know much. There is a Devon proverb, "Good cob, good shoes, and good hearts last for ever." In the instance of Mr. Curtis and his family I will be hostage that the last instance in the proverb is truthful—I was welcomed as if an old tried friend had reached them. There 's a free-gardenery as well as a freemasonry, and we all might have smoothed our chins self-complacently when Mrs. Curtis remarked, "There's always something good in those who love gardening."

The name of Curtis is interwoven with flowers and their culture for a full century—William Curtis, with whose name the "Botanical Magazine" is identified; Samuel Curtis, of Glazenwood, his son-in-law, and continuer of that magazine; and Henry Curtis, his son, author of "Beauties of the Rose," formerly of the West of England Roseries, Bristol, and now of the Devon Rosery, Torquay. William, the grandfather, abandoned a large medical practice for the pursuit of natural history, especially of its fairest member—botany, and it now seems incredible that he selected ground in the Grange Road, Bermondsey, for his botanic garden. You would not allow me space for many notes about him, but I must tell how he was the first to obtain superior engravings and colouring of flowers. Previously to the appearance of his "Flora Londinensis," whoever has had occasion to consult the published portraits of plants will agree with me in appreciating the progress he effected. He not only had the difficult task of finding and instructing artists, but he had the further difficulty of keeping them, for when they attained to excellence there were many bidders for their services. The calico printers tempted away his first artist, Mr. Kilburn, and he so succeeded in their service, that he lived long enough to die in some affluence at Beddington Corner, near Croydon. He had not a competitor in such designing, for the great cotton manufacturers, Peel & Yates, had at that time only two patterns, "the great bird's-eye," and "the little bird's-eye!" To Kilburn succeeded Sydenham Edwards, but he also departed from Mr. Curtis and established an opponent periodical, "The Botanical Register." The fondness for floral illustration proved hereditary, and well do I remember the beautiful flower groups painted for Mr. Samuel Curtis by Mrs. Pope. Mr. Henry Curtis has also been a sketcher of flowers; some specimens are before me, and others are known to the public in the "Beauties of the Rose."

But of the two now gone, each was, and the living is, a practical gardener, and William Curtis deserves especial remembrance as the introducer of Sea-kale into the kitchen garden. He published a pamphlet on its culture, and gave with each a box of the Kale's seed. Samuel Curtis cultivated a large nursery and orchard at Glazenwood, near Coggeshall, in Essex. Well do I remember seeing him dredging his Apple trees with lime by the aid of an implement he had invented, and, as a lad, still more did he secure my regard by tumblersful of his sparkling Black Currant wine. Henry Curtis has especially devoted himself to Rose culture. And now I arrive at my notes written down at the Devon Rosery.

This nursery is about a mile from the town on the Paignton Road, and is five acres devoted entirely to the propagation and culture of Roses. Let no one proceed thither expecting to see ornamental arrangements, or the slightest attempt to prefer the ornamental before the useful—it is a thoroughly practical establishment, where in their season all the operations of propagation and culture may be seen, and any of the approved varieties, old or new, purchased in any number from one to a thousand. Budding was the order of the day when I was there, and it will surprise your amateur readers to know, that the head budder could insert and tie one thousand buds in ten hours. I never knew of but one more nimble, and he could complete twelve hundred in the same space of time.

I have seen the Roses in their prime at many of the nurseries where they are a speciality, and I have seen their selected specimens at the London exhibitions, but none of them surpassed in any quality, and none of them equalled in luxuriance, the Roses here. The foliage is unsurpassable in size and freedom from disease—verdure is the rule, brown spots the exception.

Mr. Curtis, as already noted, is a practical rosarian, and he is a man of science too, just the variety of man from whom to obtain literary cuttings, and the following are some:—

"The Manetti is a hardy, strong-growing, semi-double pink Rose, introduced from Italy about thirty years ago by Mr. Rivers, to whom all Rose and fruit-growers are so much indebted. The Céline Rose (Hybrid Bourbon), of most robust growth, with a bright rose-coloured double flower, was introduced as a stock for budding by myself twenty-seven years ago, and is still found the best stock on which to bud some sorts that will not grow well on the Manetti, such as Noisettes, Teas, &c. The more robust-growing varieties of Roses budded on these stocks form splendid objects trained as pyramids, or for pillar Roses by the sides of lawns, &c. Manetti-worked Roses have the advantage of being easily grown in cold, windy, and exposed situations; even in the north of Scotland they are not killed if grown below the snow line."

Some may attribute Mr. Curtis's preference for the Céline stock to the natural fondness of a first introducer, but he has a reason for his fondness—"its fibrous roots are so numerous."

"Dwarf Roses, budded on the Manetti stock, will flourish well in almost any soil, as well as in those soils of a light, dry, sandy character, which are unfavourable to the Briar. Roses on their own roots prefer a warm light soil, with leaf mould and sand, and it is useless to attempt to grow them in a true stiff Briar soil. Their roots are generally more delicate the first year than those of Roses on the Manetti or Céline."

I will conclude, for the present, with a list of old Roses—best of the best—selected by Mr. Curtis and approved by Mrs. Curtis. Mr. Peter Prejudiced will "Humph! What had she to do with them?" Much, for however skilful a man may be in cultivating a Rose, I put aside his opinion as to its colour and form for that of a lady of taste—and such is Mrs. Curtis—and one evidence is on the table before me in a bouquet of wild flowers and native Ferns only. The Roses are grouped according to their colours.

WHITE AND CREAM.

Acidalie, B. White.

Boule de Neige, H.P. White. This fragrant Rose has petals so stout and Camellia-like, that it is especially suitable for wearing in a lady's hair.

Devoniensis, T. Cream. "Powerfully scented, and largest of its family. It was raised by the late G. Foster, Esq., of Oatland, near Devonport, and is believed to be a progeny of the Yellow China, fertilised by yellow Noisette Smithii growing by its side."

Homer, T. Cream, frequently tinted.

Madame Bravy, T. Cream, model of form.

Madame Noman, H.P. White.

Mademoiselle Bonnaire, H.P. White.

Sombreuil, T. White. Half Bourbon. Highly scented.

Virginal, H.P. White.

White Bath Moss, S. White.

BLUSH AND FLESH COLOUR.

Alba mutabilis, H.P. Blush.

Clémence Raoux, H.P. Flesh.

Madame Rivers, H.P. Flesh.

Madame Rothschild, H.P. Flesh. One of the finest of this section.

Madame Vidot, H.P. Blush.

Madame Willermoz, T. Pale salmon. Large, and foliage fine.

Marguerite Bonnet, B. Flesh.

Marquise de Mortemart, H.P. Flesh. Dwarf.

Mrs. Bosanquet, C. Flesh.

Rubens, T. Pale flesh.

Sophie Coquerelle, H.P. Blush. Good as a standard.

Souvenir d'un Ami, T. Pink flesh. Large, fine form. Raised by M. Bellot, a florist at Fongères, near Moulines. Introduced in 1846.

PINK AND ROSE COLOUR.

Abel Grand, H.P. Pink. Large, highly scented, good as a standard.

Baronne Prevost, H.P. "Bright rose, the prince of Perpetuals. Raised by M. Deprez, of Yebles, near Paris, and sent out in 1844."

Blairii No. 2, S. Hybrid China. Pink. Good for a pillar.

Comtesse de Chabrillant, H.P. Rose. Fragrant.

Edonard Morren, H.P. Rose.

Lælia (also called Louise Peyronny), H.P. Bright rose, very hardy, very fragrant.

Madame Clert, H.P. Pale rose.

Madame Jacqnier, H.P. Rose.

Madame Knorr, H.P. Bright rose, "more fragrant than the old Cabbage Rose."

Marguerite de St. Amand, H.P. Pink. Good as a standard.

Monsieur Noman, H.P. Pink.

Monsieur Woolfield, H.P. Deep rose.
Pavillon de Pregny, H.P. Purple rose, "reversa of petals satiny white."
Perfection de Lyon, H.P. Rose.
Reine de Midi, H.P. Rose.

CARMINE, SCARLET, AND LIGHT CRIMSON.

Alfred Colomb, H.P. Scarlet. Very fine.
Annie Wood, H.P. Carmine.
Beauty of Waltham, H.P. Carmine.
Catherine Guillot, B. Carmine.
Charles Lee, H.P. Crimson.
Clotilde Rolland, H.P. Light crimson.
Dr. Andry, H.P. Crimson. Large and stout-petaled.
Duc de Rohan, H.P. Crimson.
Dupuy-Jamain, H.P. Carmine.
Exposition de Brie, H.P. Crimson.
Felix Genero, H.P. Carmine. "Very fragrant, noble foliage, makes a good stand. A superb Rose."
John Hopper, H.P. Crimson. Hardy; good as a standard or for a pillar.
Jules Margottin, H.P. Carmine. "A superb Rose, blooms abundantly in autumn; good as a standard, and for forcing."
La Brillante, H.P. Carmine.
Laurent Descourt, H.P. Crimson.
Madame Clémence Joigneaux, H.P. Carmine. Large.
Madame Victor Verdier, H.P. Scarlet. Fragrant; good as a standard.
Mademoiselle Marie Rady, H.P. Crimson. Very large and double; good as a standard.
Marie Baumann, H.P. Scarlet. Fine and fragrant.
Maréchal Vaillant, H.P. Carmine.
Souvenir de Poitean, H.P. Crimson.

CRIMSON, DARK CRIMSON, AND PURPLE.

Charles Lefebvre, H.P. Dark crimson. Very large; attar-scented.
Duke of Edinburgh, H.P. Crimson.
Eugène Appert, H.P. Crimson.
Fisher Holmes, H.P. Crimson. Camellia-like.
John Keynes, H.P. Dark crimson and fragrant.
Madame Moreau, H.P. Crimson.
Senateur Vaisse, H.P. Dark crimson.
Xavier Olibo, H.P. Purplish crimson. Peculiar in colour, and fragrant.

YELLOWS.

Céline Forestier, N. Pale. Fragrant. Nearly evergreen. Good for bed, wall, or standard.
Gloire de Dijon, T. Buff. Fruit-scented. Good as a climber or standard.
Madame Margottin, T. Citron. Very fragrant.
Mademoiselle Adèle Jongant, T. Pale.
Maréchal Niel, T. Golden. Very large and fragrant; blooms early and late. Good for a wall.
Triomphe de Rennes, N. Pale. Peculiarly scented.

Be it remembered that the foregoing is only Mr. Curtis's selection from the "old" Roses. I must reserve his notes on last year's varieties until a future communication, for I have not done yet with Torquay.—G.

LAXTON'S ALPHA PEA.

I AM desirous of recording my experience of this fine variety. Grown by the side of other varieties acknowledged to be the best, and under precisely the same conditions, this beats them all. It is not the earliest, but is only a week later than Carter's First Crop, and four days behind Dickson's First and Best. Sown on the same day as Little Gem, it was gathered the same day as that excellent dwarf. As to productiveness, Alpha, without being the best, is amongst the best, and equal in yield to varieties of inferior quality. It attained a height of 4 feet, and was covered with pods from within less than a foot from the ground. It has been common enough to find pods containing nine full-sized peas, a few have been opened with ten; and yesterday, on looking for the finest pod, it was found to contain twelve fine peas. In quality, it is the opinion of several better judges than myself, that Alpha is the very best of its season, being superior to Little Gem by its more delicate and sugary flavour. Altogether this is a variety of great excellence, and will hold high rank amongst its numerous rivals for some time.

This Pea has grown a foot above the limited height of the vendors, but this season is ruinous to orthodox heights of Peas, First Crop averages fully 3½ feet; Laxton's Supreme is now 5 feet high, and will easily reach another foot, and I have rows of Champion of England, at this moment just ready for gathering, 8½ feet high, placing the rod fairly anywhere by the side of the rows without touching the haulm. This, held up to its legitimate extent, reaches above 9 feet. That, however, is not the fair and accepted mode of stating the height of Peas. These measurements are not given as being extraordinary, but as showing the necessity of making allowances for weather influences, and the propriety of giving the heights of Peas as approximative, and so, in the case of new kinds, preventing reflections which have been, and perhaps will be again, indulged in by the public against the dealers.—J. W.

BROOKLAND, CHARMINSTER, NEAR DORCHESTER.

THE RESIDENCE OF W. WEBSTER, ESQ.

"WHERE there's a will there's a way" is an old and trite proverb, which as often receives its illustration in gardening as in anything else—a truth I have more than once exemplified in my own horticultural experience, and which has been abundantly shown in the case of the gentleman whose garden I visited the other day in my annual Dorsetshire tour—alas! I fear to be my last. When real love for flowers is aided by the very needful adjunct of a little hard cash, it is astonishing what difficulties can be overcome.

No one, in passing by the road which leads through the village of Charminster, would suppose that behind the wall which abuts on the high road there is such a treasury of horticultural beauties as Mr. Webster has already accumulated. Time was when there were plenty of jack snipes in the place where now stands the garden, so rich in its varied productions; and I, who saw it only two or three years ago, can hardly believe the change which has taken place. The house abuts on the road, but, once inside, you are no longer aware of that, so open is the whole scene. A glass verandah filled with flowering plants, and with its roof covered with Vines, runs along the front of the house, and this again opens into a range of houses comprising stove, vineries, and greenhouse, all built on Mr. Cranston's plan, and for elegance of form and the ease with which they are ventilated they seem to me the very models of what houses ought to be. As these houses are well known and constantly advertised in the columns of the Journal, there is no need that I should detail their mode of construction. Mr. Webster is more satisfied with them than ever. There is also a nice propagating house, of course the usual adjuncts of pits and frames, and in all of them are to be found some of the richest and rarest of the horticultural introductions of late years. Amongst Ferns there were a fine plant of Adiantum farleyense, and young, promising examples of the beautiful Filmy Ferns Todea superba and Todea pellucida, while Platycerium alcicorne was treated here in an original way, which was certainly most effective. A large pot, somewhat like a Sea-kale pot, was turned upside down, holes were made in it, and another pot placed inside with peat; the Fern was planted here, and, pushing itself through the holes, gradually laid hold of and spread over the pot, and so the whole surface of it will gradually become covered.

Grapes were exceedingly well grown, although on a small scale as compared with many places. I saw strong Vines well filled with fruit of the Muscat Hamburgh, and very large bunches of Trebbiano and other good kinds, while Black Hamburgh, as usual, formed the *pièce de resistance*. The first crop was over, and the successions were rapidly coming forward. Strawberries had been forced in abundance, and the plants placed in the border were furnishing good second crops of bloom.

I saw in the houses a nice plant of the very curious Ataccia cristata, not often seen, but always sure to excite wonder when in flower, so unlike is it to anything else, and so doubtful some would be in looking at it whether it were a flower or not; while most of the more recent introductions in both stove and greenhouse plants were to be found here.

But perhaps that part of the garden in which I was most interested was the rock garden, for, although small, it contained a most interesting collection of alpine plants, many of which were growing and flowering in great profusion. Intermingled with them were also some nice specimens of our best British Ferns. Most of the finer varieties of Sedums and Sempervivums were mixed with Campanulas, Gentians, Violas, and Primulas. Noticeable among them I saw Omphalodes verna alba, Dianthus deltoides, Sisyrinchium grandiflorum, Primula cortusoides—the old variety had been, I was assured, a perfect mass of flower; the same had been the case with Aquilegia cærulea. Dianthus alpinus, Silene rupestris, and, as the auctioneers say, others too numerous to mention were thickly studded all over the rockwork. It is most encouraging to those

of us who have so long advocated the growth of these alpines and herbaceous perennials to find them now coming so much into favour, for here not only was this garden devoted to them, but in the borders were to be found fine masses of many of our favourites. Delphinium Belladonna and D. Keteleeri had been very fine; the former is certainly unequalled for the brilliancy of its azure blue. Nor must I omit to mention a summer-house completely covered with Clematis Jackmanni and Clematis rubro-violacea with thousands of blossoms open and opening all over it. The plants had been cut down to within 2 feet of the ground, and had now covered the whole of it with bright foliage and still brighter flowers, and afforded another illustration of the many uses to which these showy plants can be put.

I need say no more to prove that Mr. Webster is "well to the front" in the various departments of gardening, and rarely does one meet husband and wife so thoroughly at one in all connected with horticulture as in the kind and hospitable friends to whom I owed a pleasant and profitable visit.—D., *Deal.*

GREENHOUSE PLANTS.—No. 5.

PLANTS SUITABLE FOR PILLAR AND TRELLIS ARCHWAYS.

In many greenhouses there are wooden or iron pillars supporting the roof, and in others there are in addition trellis archways. The fronts of some greenhouses are so high as to admit of plants being trained to trellises or wires fixed to the front uprights. For training on these, very vigorous-growing plants are not required; the freest-growing climbers are not suitable, whilst for others the positions are wholly unsuitable. The following, however, are good:—

Abutilon striatum.—Of erect habit. Leaves bright green, with rather long footstalks; flowers bell-shaped, orange, striped or veined with red. It is of very free growth, the flowers being solitary, and produced from the axils of the leaves almost continuously, but most freely from June to the end of summer. The plant is apt to become bare of shoots at the base. To obviate this the shoots should be stopped at every foot of growth upward, and when the plant becomes bare at the bottom the shoots may be cut to within a few inches of its base in the spring, keeping it rather dry for a short time, and when the fresh shoots are a few inches long repot it, or if it is planted out, remove the surface soil and top-dress. A compost of two parts of light fibrous loam, one part peat, and one part leaf soil or old cow dung, with one-sixth of silver sand, will grow the plant well. Good drainage is necessary. Keep the plant rather dry in winter, and when growing afford a good supply of moisture at the roots, with frequent syringings.

Acacia juniperina.—Habit drooping. Leaves small. Flowers pale yellow, produced abundantly in April.

A. dealbata.—Leaves long, much divided, having a Mimosa-like appearance. Flowers yellow, in May.

A. oleifolia elegans.—Leaves medium-sized entire, pale green, and glaucous. Flowers yellow, from October to May. In my opinion this is the most graceful of all the Acacias.

The Acacias require a compost of equal parts of sandy peat and light turfy loam, with one part of leaf soil; also good drainage, an abundant supply of water when growing, and the soil moist at all seasons. Being liable to become leggy, the best plan is to cut them in after flowering in spring. The plants should be well furnished with shoots from the base, keeping them plentifully branched by frequently stopping the shoots.

Akebia quinata.—Leaves five-cleft or five-leafleted. Shoots twining. Flowers rosy lilac, produced in March or April. Soil two parts fibrous loam, and one part fibrous sandy peat, with a free admixture of sharp sand and good drainage. The pruning required is to cut away the old shoots after flowering, and to encourage fresh shoots from the base. Water the plant very freely in summer, but keep it dry in winter, not, however, allowing the foliage to suffer. Syringe well in summer.

Bomarea multiflora.—This is a twining plant with orange red flowers. Water it freely in summer, and keep it dry in winter, syringing freely in summer.

Billardiera mutabilis.—A climbing plant. Flowers crimson, produced in July and August. Prune it early in spring, cutting out the old wood, watering freely in summer, and in winter keep it moderately dry, syringing freely. Soil fibrous loam and sandy peat in equal proportions, with one-third of leaf soil, and a free admixture of sand.

Brachysema acuminatum.—Leaves rather long, entire, green above, glaucous underneath. Flowers pea-shaped, crimson, in March and April.

Brachysema hybridum.—Flowers crimson and cream-coloured, in March.

Brachysema latifolium.—Leaves much larger than those of the others. Flowers crimson, in May.

These plants are subscandent, and of stiff habit. The shoots, however, are rather long, and should not be stopped, but be allowed to hang down. Prune the plant after flowering, cutting it in rather closely, and encouraging fresh shoots, giving a gentle sprinkling overhead morning and evening. Water freely when growing, and keep it dry in winter, but not so as to affect the foliage. Soil equal parts of sandy peat and fibrous loam, with one-fourth of leaf soil.

Cobæa scandens variegata.—This well-known variegated climber is very effective on trellises. Its leaves are variegated, being white and pink. The shoots may be trained either upwards or downwards. The essential point is to secure good fresh foliage in the early part of the season. It is not nearly so hardy nor so rampant as the plain-leaved form. Cut the shoots back in spring, keeping the plants dry for a time, and encourage young shoots from the base, or where practicable. In winter keep it rather dry, but in summer water well. Syringe freely in the evenings of hot days. Soil sandy loam two parts, sandy peat one part, and leaf soil one part, with good drainage.

Fagelia bituminosa.—An evergreen twiner, with pretty pea-shaped yellowish purple flowers, in June. The soil should be rough, with free drainage; it may be peat and loam, with some lumps of charcoal, broken pots, and silver sand. Prune the plant in summer after flowering, thinning out the shoots well where very close. Water freely in summer, but moderately in winter.

Habrothamnus elegans.—Of free growth, and very free-flowering late in winter and in spring, and sometimes it blooms continuously. The flowers are borne in dense clusters, and being drooping have a fine effect. Their colour is bright carmine.

Habrothamnus fasciculatus.—Flowers crimson, in clusters early in spring. This is one of the finest of greenhouse plants. All the Habrothamnuses are beautiful for cut flowers.

Habrothamnus aurantiacus.—Flowers orange, and sweet-scented. It blooms in autumn and winter.

As the species of Habrothamnus produce their flowers on the current or last year's wood, pruning should be deferred until the flowering is past, and then they may be cut in rather hard, leaving some shoots at the base so as to keep that part well furnished. Any rampant shoots may be stopped in summer, but not after July. Water freely in summer whilst the plants are growing, and when a good growth has been made and it becomes stationary lessen the supply of water; indeed, only give enough water to keep the foliage from flagging. When the flowers begin to expand water copiously. Soil turfy loam and fibrous peat in equal parts, old cow dung one part, charcoal and silver sand half a part each, with a free admixture of sandstone. Good drainage is necessary. The plants are best in borders.

Hoya carnosa.—An evergreen twiner, with dense clusters of wax-like pinkish-white flowers. It is a first-rate plant for pillars. Water it freely when flowering and growing, but when at rest keep it dry, only do not allow the leaves to shrivel. The plant cannot be kept too dry in winter. Drain extra well, and afford a compost of equal parts of sandy fibrous peat, fibrous light loam, old cow dung, charcoal in lumps from the size of a hazel nut to that of a walnut, broken bricks, and old lime rubbish, well mixed.

Mimosa prostrata.—Of prostrate growth, as its name implies, but when trained to wires or a pillar its shoots hang down gracefully, and have a fine effect. The foliage is pretty, and the flowers are pale pink, produced in summer. Soil sandy loam two parts, and one part each of sandy peat and leaf soil, with a free admixture of sharp sand. It seeds freely, and the best plants are those raised from seed sown in a hotbed in spring. Water freely in summer, keeping the plant rather dry in winter. Prune it in spring before the growth commences, thinning out the shoots where too close together, and spur them well in. A gentle syringing in hot weather is very beneficial.

Mitraria coccinea.—This is a fine pillar plant, having splendid scarlet flowers about April or May. Confine the pruning to thinning-out the old wood, and shortening any irregularities of growth after flowering, and encourage the plant with a gentle sprinkling of water overhead, not watering too much at the root—indeed, giving no water until the soil becomes dry, then afford a good supply before the foliage suffers. In winter keep the plants dry. Soil two parts sandy loam, one part sandy

peat, and one part leaf soil, with half a part each of lumps of charcoal and silver sand. Provide good drainage.

Pergularia odoratissima.—This is of quick growth, and may be said to be the Stephanotis of the greenhouse, to which plant it is allied, but the flowers are green and sweet-scented. It blossoms in summer. It is rather slow in establishing itself in a greenhouse, but is there not nearly so liable to be attacked by red spider and other insect pests as when grown in a stove. It requires to be freely watered when growing, and to be kept dry in winter. Soil fibrous loam, sandy peat, and leaf mould in equal parts, with half a part of old cow dung and lump charcoal, and a free admixture of sharp sand. Good drainage should be provided.

Pronaya elegans.—An evergreen twiner, with pretty blue flowers in July and August. It is allied to Sollya. Soil sandy peat and loam in equal parts, with a free admixture of sharp sand, together with good drainage. Water the plant freely when growing and flowering, but in winter keep it moderately dry.

Plumbago capensis.—Flowers pale blue, produced at the end of summer (August and later). Its flowers are very fine, but the plant is of straggling growth, for which there is no remedy except stopping, but if that be resorted to after June the flowers will be few. The plant should be cut-in rather closely in February, keeping it rather dry for about a fortnight, and then encourage growth by copious waterings and free syringings. A good growth being made, water sparingly, and this check will generally induce flowering. After November keep it dry. Soil turfy loam two parts, one part leaf soil, and one part sandy peat, with a free admixture of sharp sand, and good drainage.

Rhynchospermum jasminoides.—Flowers white and fragrant, in July. It is very useful for bouquets. Water freely when growing and flowering, and in winter keep it dry, but not so as to affect the foliage. It requires good drainage, and a compost of two parts fibrous light loam, one part sandy fibrous peat, half a part each of old cow dung and lump charcoal, with a free admixture of sharp sand. It will hardly need pruning in ten years, and then cut out the old worn-out shoots and encourage fresh ones.—G. Abbey.

IMPORTANCE OF AN INTEREST IN GARDENING AND NATURAL HISTORY TO THE YOUNG.

I lately held converse with some of the men who will leave their marks for good on the times. Singularly enough the above was the theme that occupied the attention of several of them, and it was said that enough had not been done in this direction in "our Journal," and that as a beginning I ought to say a few words on the subject.

I feel the importance of giving a right tone in this direction to the young of both sexes in all ranks of society. In one sense this is more necessary in the case of the children of the artisan and the more humble labourer than in the case of those more favoured by circumstances, or who have had the benefit of a more extended and finished education, which would naturally open up wider sources of investigation and enjoyment.

I would strongly recommend all such encouragement from three considerations. First, it is necessary, for the health of body and mind, that both should be employed, and the more employed the better, provided we do not go to such extremes as to transgress the laws that must ever regulate our physical and moral well-being. Secondly, the study of the simple, the natural, the pure, and the beautiful by the young will be one of the best antidotes against the indulgence in gross and debasing pleasures. Many a lad and many a man seek pleasurable excitement in channels that will ultimately be ruinous, who might never have cared for such indulgences if other sources of excitement of a more mellowing character had been presented to his notice, such as a book to read, a garden to clean, a plant to tend, a bird to feed, a beautiful insect in all its wondrous transformations to study. And lastly, call it contractedness or selfishness if you will, still it is no less a law of our humanity, especially strongly manifested in the young, but never absent even in the case of the old, unless the heart has become old and as much shrivelled up as the half-mummied body—the law manifested in the fact that to insure anything like enjoyment we must have something to care for, something to pet, something to love, something that in a proprietary sense must be inherently and peculiarly our own. And thus, on the same principle, if the object petted be a living thing capable of responding in some measure to our cares for it, the more attractive it will be. I can recall to recollection many instances in which the sportive kitten, the cosy tame rabbit, the faithful affectionate puppy, the kiss-and-kise-me dove and pigeon, the favourite strutting cock of the yard, or the still more aristocratic bantam (but whose love to his owner was even greater than his assumed dignity), the high warbled cheering note of linnet and canary when a certain knock was heard at the door, and more especially when a certain head and shoulders showed within it; the appearance of the window plant after its roots were watered and its leaves were washed, cleaned, and sponged, and when every bit of flower and foliage seemed to look you in the face and say, O, how I thank you for your care!—I can recall to memory instances such as these which have exerted a more mellowing kindness-securing and kindness-diffusing power than could be realised by looking on the finest painting or sculpture, or beholding the most magnificent scenery the world can afford; and chiefly because these living things could make a return for the care bestowed, and because, also, the possessor could look on each or either as his or her very own.

With all our contest with flinty selfishness, the moral reformer will be sure to fail if he do not bring even this strong self-appropriating feeling to work for him rather than against him. I have known of hard-featured orange-nut-and-cake basket women in the streets of London shivering with cold, shivering still more because they found themselves alone and destitute of human sympathy (though living as it were in passing crowds of men and women) who would deprive themselves of what they really wanted that they might take home the accustomed piece from the catsmeat man to the little pussy in the little room that purred and mewed its satisfaction, and did its best to enliven the room, otherwise so poor and so dingy. No neighbour's cat could have so cheered the lone woman. And in a similar case when the poor woman went home to her garret in St. Giles's, having sold little during the day, with little for her supper, with visions of a frowning landlady about the not strict payment of rent to the day and hour, and she found her heart hardening, sinking, and despairing, because no one seemed to care for her—what a relief it was to her for the tear to find its way down her furrowed cheek as she watered and washed the leaves of the pretty plant in the broken teapot in the window, and found herself in imagination away at the cottage in the Wolds, and in meadows gay with Buttercups and Daisies, whilst every clean and flourishing leaf spoke of cheerfulness and the foreshadowing of happier days! The plant became what it was to her because she attended to its every want, because it was exclusively her own. The finest plant in a gentleman's garden would have exerted no such mellowing, humanising power.

Now for a few simple deductions. Damp not, but encourage all such tastes for pets, be it bird or plant, even in very young people. I have known gardeners greatly annoyed because young ladies and gentlemen were always troubling them about seeds and plants for their gardens, and food for their pets, &c.; and such a mess they did make of it all! Order and good management require that the children should not interlope or interfere on the gardener's domain proper; but surely a place could be set aside for the young folks, and a particular place or position awarded to each, that each might do the best, and carry out a particular hobby without interfering with the peculiar leanings of his neighbour; and all this it is wise in every way to encourage. It is well to encourage sympathy between the highest and the lowest in station, and the young lady and the young gentleman who labour in their plots until thoroughly exhausted may well be expected to feel more sympathy with the working man than the young gentleman who has never had his hands blistered or his shoulders aching from wielding a mattock, using a spade, or trundling a heavily-loaded barrow.

Again, I have often found mothers, and fathers too, so objecting to their young folks having any pets of their own, that to carry out the natural craving it had to be indulged-in in a concealed sort of way—a very bad thing, for in every matter it is well that the most perfect confidence should exist between child and parent. "I might as well have a perfect Babel as these screeching and howling sounds. A managerie with its filth and odours could be no worse than my boys pester me with, with their beasts and birds in every corner they can get hold of," said a mother not long ago. Ah! but mother, if you arrest the gratification of such tastes you might have tastes formed for other things that will give such pulls at your very

heart chords, that in comparison the screeching you complain of would be the sweetest music. Direct all such tastes aright, and you may wield a mighty power on your loved young ones for fostering habits of order, of attention, of thoughtfulness, of cleanliness, and kindness. Be assured that the boy or girl who will allow a bird to pass unheeded its usual feeding time, who will allow it or its cage to be encrusted with filth, who would act cruelly to animal or insect, is not the most likely to be very careful not to wound the feelings of his or her fellow-creatures in future life.

In the country even the humblest may less or more indulge the gratification of such tastes, but in our large towns, where room is so scarce and dear, such humble people must pretty well confine themselves to the smallest birds, and to plants inside and outside the windows. For this, in the case of the plants, little more is required than constant attention, and a peck or two of fresh soil obtained, if in no other way, from the roadsides of some suburban highway. When such plants are grown for their own sakes and the pleasure they confer they will ever exert a power in arresting the indulgence in the low and degrading, and the culture of them, therefore, should be encouraged in every possible way.

Previous to the conversation referred to I had not been able to open the Journal of the 13th, and therefore did not see the account of the Children's Flower Show at the Victoria Docks, or the more-than-interesting comments of the "WILTSHIRE RECTOR" (so like him) at page 26; but as he is very anxious to receive hints as to the managing and conducting such societies and shows to the best advantage in town and country parishes, I hope that those experienced in such matters will kindly aid him, as I have had no personal experience in this promising field.

In conclusion, I would add that the poorest and humblest of us have our feelings, and that therefore the more a warm sympathy is developed in unobtrusive deeds rather than as a matter of ostentation, the more that a kind patronage is felt rather than paraded, the more that a kind regulated help is given so as to enable the poorest better to help themselves—the more likely will be success to follow all such well-meant benevolent effort.—R. FISH.

THE NIGHT-BLOOMING CEREUS.

I WISH to ask particulars as to the situation, aspect, &c., in which is growing the fine specimen of Cereus grandiflorus described by Mr. Maitland, at page 28. If he can give particulars of its native country I shall be glad, as I have in my collection three plants, all under the name of Cereus grandiflorus, and all different. One plant came from Demerara, one from New Providence, and one from an English collection, and under any circumstances I shall much value the details of culture, as I have never had more than three flowers upon either of my plants in a season.—C. M. MAJOR.

[In reply to your correspondent, the situation in which the plant is growing is the south end of the plant stove. It is planted-out in a border 18 inches wide, by 9 feet long. The compost which I use consists of one-fourth old lime rubbish, one-fourth broken bricks and charcoal, and one-half fibrous loam, well mixed. As regards culture, plenty of moisture is given while the plant is growing, and until it has completed its fresh growth; then I gradually withhold water until the end of September, from which time up to March the plant is left perfectly dry. The native country of this Cereus is Jamaica, and the plant we have came from there. Its flowers are white, and have a strong Vanilla scent. Any further details I will give with pleasure.—ROBERT MAITLAND, *The Gardens, Pendyffryn, near Conway.*]

THE BOTANY OF LOWER WHARFEDALE.

BEING on my summer's ramble, and a great lover of natural history, I took up my abode at Barden, Skipton-in-Craven, on the lower part of the "lordly Wharfe," beneath the barren and rugged gritstone heights of Simon Seat and Barden Fell, contrasting well with those aged and noble groves that overhang the rocky river, and the fertile and luxuriant foliage beneath. The natural woods of the hillside are chiefly Oak, with more Rowan and Birch, and less Hazel and Ash, than across the river in the limestone dales. The principal Mosses of the stream are Racomitrium aciculare, Hypnum flagellare, and Hypnum palustre; the bogs upon the hillsides abound in Sphagnums, Bartramia fontana, Bryum ventricosum, Hypnum fluitans, and cuspidatum, here and there Mnium subglobosum, and the moss-covered walls abound in Weissia, Dicranum, &c.

Within an area of only 100 acres, I never in all my botanical rambles met with so rich a display of plants and Ferns; and as many may be seeking quiet and repose, and may wish to refresh their memories, or become acquainted with botany, I am induced to send a list of the flowering plants and Ferns which surround the comfortable farm house in which myself and family have taken up a temporary abode.

Towering mountains, extensive forests, and rapid streams, constitute a grand and awe-inspiring scene, while we

> "Sit by mossy mountain
> Where a sweet stream has birth,
> And look around with admiring eye
> On the lovely things of earth,—
> The Lichen, the Moss, and the mountain flower,
> And the wild bee revelling there."

On the antiquities of the district I will not dilate, but simply mention Ilkley, with its Saxon crosses and Roman encampments, Bolton Abbey and its princely demesnes, Barden Tower, and Kilnsey Hall. All tend to make this now-easily-accessible place one of the most delightful summer residences in the north of England.—D. FERGUSON, *Coatham, near Redcar, Author of the "Natural History of Redcar."*

P.S.—In my garden with a north-west aspect, Cineraria maritima, Silene pendula, Lasthenia californica, Calceolarias, and seedlings of self-sown Geraniums, endured the winter, which was very severe.

PLANTS OBSERVED AT DUBLEY, IN THE HIGHEST PART OF LOWER WHARFEDALE.

Verbascum Thapsus
Centaurea acabiosa
Orchis conopsis
ustulata
bifolia
maculata
Scabiosa succisa
Thalictrum flavum
Geranium sylvaticum
phæum
Robertianum
mollie
dissectum
Trollius europæus
Lamium amplexicaule
Vicia Cracca
sepium
sativa
Polygala vulgaris
Spiræa Ulmaria
Galium verum
saxatile
pusillum
boreale
cruciatum
Plantago major
lanceolata
Helianthemum vulgare
Achillea Millefolium
Silene inflata
Chrysanthemum leucanthemum
Rhinanthus Crista-galli
Prunella vulgaris
Erica Tetralix
Fumaria capreolata
Digitalis purpurea
Myosotis arvensis
Hyacinthus non-scriptus
Oxalis Acetosella
Sagina procumbens
Picris hieracioides
Saxifraga tridactylites
Bellis perennis
Ranunculus aquatilis
Ficaria
acris
repens
Lingua
Veronica serpyllifolia
officinalis
Chamædrys
Beccabunga
arvensis
Scrophularia nodosa
Scrophularia aquatica
Antirrhinum Orontium
Stellaria nemorum
Cardamine amara
Viola odorata
canina
Pyrus Aria
Epilobium angustifolium
roseum
Sempervivum tectorum
Sambucus Ebulus
nigra
Taraxacum palustre
Carduus Marianus
Andromeda polifolia
Vaccinium Myrtillus
Vitis-Idæa
Thlaspi bursa-pastoris
alpestre
Cerastium viscosum
Betonica officinalis
Epilobium montanum
Senecio vulgaris
Jacobæa
aquaticus
lividus
Chelidonium majus
Primula vulgaris
veris
elatior
farinosa
Lychnis sylvestris
Flos-cuculi
Geum rivale
Stachys sylvatica
Prenanthes muralis
Campanula rotundifolia
Solidago Virgaurea
Lotus major
Lysimachia vulgaris
Valeriana officinalis
dioica
Circæa lutetiana
Mercurialis perennis
Picris echioides
Lonicera Periclymenum
Salvia verbenacea
Chenopodium bonus-Henricus
Malva sylvestris
Eupbrasia officinalis
Galium uliginosum
Alchemilla vulgaris
Rumex Acetosella
Rumex obtusifolius
Potentilla verna
Rumex Acetosa
Trifolium ocrolencum
Hypericum humifusum
hirsutum
Linum catharticum
Caltha palustris
Ribes rubrum
Tamus communis
Mentha birsuta
Glechoma hederacea
Ballota nigra
Thymus Serpyllum
Origanum vulgare
Asperula odorata
Sanguisorba officinalis
Campanula latifolia
Barbarea præcox
Arabis hirsuta
Rosa Sabini
Spergula nodosa
Rubus saxatilis
Ribes petræum
Galium sylvestre
Hieracium anglicum
murorum
gothicum
prenanthoides
crocatum
Arenaria verna
Draba incana
Viola lutea
Rubus Chamæmorus
Turritis glabra
Montia fontana
Stellaria uliginosa
Chrysosplenium
Cardamine sylvatica
Crepis paludosa
Equisetum paluatre
Telmatica
Polypodium vulgare
oreopteris
Dryopteris
Phegopteris
Pteris aquilina
Asplenium Trichomanes
Athyrium Filix-fœmina
Blechnum boreale
Lastrea spinulosa
dilatata
Filix-mas
Aspidium aculeatum

ROSES AT THE JERSEY EXHIBITION.

I SEE in your number of the 20th inst. that "TOURIST" remarks on the absence of medals for Roses, and the fact (?) of the Exhibition having been founded on the Rose Show. As I was Judge of the fruit and flowers I can assure you that these statements are not correct. A bronze medal was actually awarded to the best blooms of Roses, and the show of these merited no more. The Exhibition was founded on the show of Channel Islands' cattle.—T. C. BRÉHAUT, *Richmond House, Guernsey.*

AMERICAN EARLY ROSE POTATO.—My experience of the Early Rose Potato is the same as that of Mr. T. J. Harrison (page 26).

I have it side by side with Kidneys and Jersey Blues. The Early Rose is badly blighted, neither of the others touched, nor have I heard of blight about here as yet.—W. L., *Birchington.*

THE PROGRESS AND CONDITION OF THE ROYAL GARDENS AT KEW.

The following are extracts from the Director's report for 1870:—

The total number of visitors in the year 1870 has been 586,835, as against 630,594 in 1869, and 502,369 in 1868.

Total number on Sundays	265,585
„ on Week-days	321,250
	586,835

Greatest Monthly attendance (June)	145,029
Smallest Monthly attendance (December)	2,871
Greatest Week-day attendance (Whit-Monday, June 6th)	41,572
Smallest Week-day attendance (December 9th)	11
Greatest Sunday attendance (June 5th)	19,365
Smallest Sunday attendance (February 13th)	70

Number of Visitors in each Month of the Year 1870.

January	4,971	Brought forward	422,723
February	5,494	August	74,831
March	10,487	September	58,119
April	88,557	October	21,706
May	65,307	November	6,585
June	145,029	December	2,871
July	102,878	Total	586,835
Carried forward	422,723		

1. Botanic Gardens.—The improvements in the laying-out of the grounds of this department, which have been in progress for the last five years, are now nearly brought to a close by the remodelling during the past year of the herbaceous ground; by the construction of the Rose walk, 215 yards long, along the wall bounding the herbaceous ground on the west, which has been heightened by the addition of 3 feet of pierced brickwork; by the fencing-off of the reserve ground; by the completion of the terrace on which the new range of stoves, &c., stands (which is, however, only partially planted); and by the formation of the paths leading to this. Many Pines and other evergreen trees have been transplanted, chiefly by the transplanting machine, and placed as screens to shut out the view of the backs of the houses on Kew Green, and the fronts of those along the Richmond Road; and many deciduous trees have been introduced along the walks; large beds of Rhododendrons, Laurels, and other shrubs have also been planted along the principal paths.

An attempt has been made to utilise the Deodars, with which some parts of the garden were too much crowded, by placing a number of them at equal distances along a line concentric with the Yew fence which encloses the Palm-house area, leaving a broad grass walk between the fence and the Deodars. Similarly many of the scattered Atlas Cedars have been transplanted, and now form an avenue along the curved walk leading to the back of the old Victoria house. Other Conifers, together with the scattered Wellingtonias, have been planted along the vista which leads from the west door of the Palm house to the great Cedar in the pleasure grounds.

Large beds of mixed flowering, evergreen, and deciduous shrubs have been planted on both sides of all the gates leading through the wire fence into the pleasure-grounds, and in other exposed places, with the view of mitigating the effects of the hot summer winds and cold winter ones, which since the denudation of the grounds by the loss of trees and old shrubberies, every now and then devastate the gardens. The terrace on which the Palm house stands has been re-levelled for the first time since its construction in 1846; its angles have been filled with large beds of Laurels and Rhododendrons, and the whole terrace bordered with Ivy.

A great deal remains to be done in bringing the many young trees that have from time to time been planted in old shrubberies and on the lawns into picturesque groups, and many more have still to be introduced. Most of the old shrubberies want renewal or clearing away, and the American garden behind the Palm stove, which has suffered severely from the summer drought, requires replanting throughout.

The banks of the ornamental water are constantly being washed away by the ripple, owing to the depth of water close to them; they should be wattled and planted with clumps of Osier, Sedge, &c.

2. Pleasure Grounds.—The effects of the long and severe summer's drought on the old trees in this department have been disastrous; they have perished by hundreds, Elms, Ashes, Beeches, and Sycamores especially; many, no doubt, from having approached the limits of the age which such trees attain on so excessively poor a soil as that of Kew, but more, perhaps, through having been drawn up in thick plantations, and thus starved from the first.

Active steps have been taken to clear large areas of dying and dead trees, to trench the ground, and clear it of old roots, and plant closely a mixture of young trees of all sorts, which will be thinned out as they grow. This operation has enabled me to arrive at an approximate estimate of the ages of some of the more common trees in these grounds, and of the average duration which the several sorts have attained.

The oldest trees in the grounds are undoubtedly Oaks, English Elms, and perhaps Hawthorns, of which some of the first and last may be relics of the aboriginal forests that covered this part of England; whilst the oldest of the Elms were undoubtedly all planted. No data have been obtained for ascertaining the age of the Oaks, but probably none exceed three hundred years, and the majority date from the reign of George II. The only large ones that remain are several near the Brentford Gate, one near the upper end of the lake, and several near the Queen's Cottage grounds.

The largest English Elms of which the rings have been counted are about two hundred and fifty years old, but there are a few near the Palace gates which have probably attained three hundred years. Of these the top of that nearest the gates was blown off this winter, and the stump removed; but the butt was too far decayed for its rings to be counted. All the old Elms in the grounds and their outskirts are in rows, and were either planted along former walks, or came up in hedgerows, and were spared when the domain was enclosed and the hedges removed. Of Elms under two hundred years old there were innumerable examples throughout the grounds; these were for the most part suckers from the roots of older Elms, which, coming up amongst other and better trees, have done irreparable damage to them; the English Elm being of all plants the most impoverishing in light soils.

Of the old Hawthorns, the last fine one perished during the summer's drought; they abounded at one time on the gravelly parts, and appeared to be of the same age as the old Richmond Park Hawthorns.

Beech, Oak, and Maple are the only other trees that have sprung up spontaneously in the grounds, and all from originally planted trees. The oldest Beeches were planted in George II.'s reign, and are about one hundred and fifty years old; but of these there are very few indeed; the largest of them is a magnificent tree near the Brentford Gate, with a trunk 10½ feet in girth at 5 feet above the ground; its branches, which sweep and root in the ground, form a circle 116 paces in circumference. It is showing signs of decay.

The majority of the Beeches, which formed eight-tenths of the arboreous vegetation of Kew, are part of an extensive and dense plantation, made about 1750, but which, having been wholly neglected during the succeeding hundred years, have impoverished one another to such an extent that the majority are already diseased and fungussed. It is upon this Beech forest that the winter gales and last summer's drought have told most heavily; the majority, having no root-hold, could not resist the blasts, and the loss of one is immediately followed by that of its neighbours, both from the admission of the wind, and from the sun's rays drying and heating the surface of the previously shaded soil over their roots.

Of other trees there are several good Limes, Evergreen Oaks, Spanish and Horse Chestnuts, all from one hundred and fifty to two hundred years old; these trees have thriven well, and last long in the soil of Kew. The Ashes, Poplars, Acacias, and Willows average only from one hundred to one hundred and fifty years, and the Birches sixty to eighty years.

The only good Coniferous trees of any age at Kew are Cedars of Lebanon and Larches; many of the former were planted about 1750, but of these not a dozen remain; the largest having attained a girth of 11 feet at 5 feet above the ground. The Spruces, Scotch Firs, Pinasters, and Weymouth Pines have all been ruined by being crowded amongst forest trees. The Hemlock Spruces, with which the path by the Richmond Road was ornamented twenty years ago, are everyone dead; the last, which stood near the Pagoda, having succumbed to the drought of the past summer. Of Planes there never were many; a few fine Orientals, planted in 1740—50, remain in the King of Hanover's grounds, one near the old Palace, and one near the Temple of the Sun.

The above comprise all the trees of which there were any quantity in the grounds previous to their being made over to the public in 1845; since which time four-fifths have either died or have been removed to make way for buildings, avenues, paths, &c.

Between 1840 and 1865 many efforts were made by my predecessor to keep up the sylvan scenery of the pleasure grounds, by planting Conifers amongst the old trees, in every available open space, especially Deodars, Cedars, Scotch, Douglas, Austrian, Corsican, and Weymouth Pines, Pinus longifolia, Smithiana, and Spruces of various sorts, besides forest trees innumerable; but as permission could not be obtained, either to make sufficient clearances or to disturb the roots of the old trees by trenching the ground, these plantations have utterly failed. On the other hand, he covered many acres of unoccupied land, by the river and elsewhere, and in the Queen's cottage grounds, with plantations, which have all done well, and are now being thinned, by transplanting young trees from them to fill the clearances which are being made elsewhere.

Eight hundred yards of "blind paths" for carts, &c., have been made through the woods, with gravel from the lake beds.

The lake in the pleasure grounds, which was half finished in 1869, has since been completed, and the whole of the ground on the south side of it cleared, covered with good soil, and prepared for the formation of the new pinetum, the planting of which will be begun forthwith. In reference to this pinetum I have to state that, as no complete public arranged and named collection of hardy Conifers exists in

England, the establishment of such a one at Kew is looked forward to with much interest by both collectors and nurserymen. Of the latter, two of the most eminent, Messrs. Lawson, of Edinburgh, and Dickson and Turnbull, of Perth, have presented to the Royal Gardens specimens of every species and variety that was to be found in duplicate in their extensive collections. Mr. M'Nab, of the Edinburgh Botanic Gardens, has also sent many valuable plants for this department. Many thousand loads of good loam from the lake bed have been carted to those parts of the grounds, especially on the east side, where the soil is excessively poor, preparatory to forming new plantations, and the rest of the soil has been put round the roots of the trees wherever it was thought advisable.

3. Interchange of Living Plants and Seeds.—The demands upon this establishment, especially from India and the Colonies, for tropical and temperate plants and seeds; and from planters, forest and garden superintendents, for information of all sorts, increase annually; and these demands are of so miscellaneous a nature that it is often difficult to keep up with them.

Six more active and intelligent young gardeners have been sent to the Cotton, &c., plantations in India, in which country there are upwards of thirty former Kew *employés* engaged in various departments of horticulture and arboriculture. A skilful gardener has been sent to the Botanic Gardens in Jamaica, which are being revived under the energetic government of his Excellency Sir J. P. Grant; and another to take charge of the Agri-Horticultural Society's Garden at Madras.

The success of the Cinchona experiment is now fully established in the Sikkam-Himalaya, the Neilgherries, Khasia Mountains (East Bengal), Ceylon and Jamaica. The bark from the first-named localities has commanded a price equal to the Peruvian in the English market; nineteen cases of red bark from Darjeeling having been bought by Messrs. Howard & Sons for 1*s.* 9*d.* per lb., which these gentlemen inform me is what South American bark of the same age would have fetched. No less than a ton of prepared bark has been sent to London from Ceylon, the produce of seeds sent to Dr. Thwaites from Kew in 1861.

I was assured by the late Dr. Anderson, Superintendent of the Calcutta Botanic Garden, and the successful introducer of the plant into Sikkim, that it will in a very few years be produced there in any quantity at the rate of 3*d.* per lb.

I continue to have demands for Cinchona seed from many quarters, which I am enabled to supply from seeds ripened in the Ceylon plantation under Dr. Thwaites's superintendence.

Great exertions are being made by the Indian Government to introduce the Ipecacuanha plant into India; in which operation this establishment has been called upon to take an active part. This is due, partly to the limited and uncertain supply of the drug received from America, and more to the revival of the old practice of administering it in large doses in cases of dysentery, upon which it acts as a specific. It is a singular fact, that the introducers of the Ipecacuanha into European practice, the Brazilian traveller Marcgrav and the physician Piso (in 1648), explicitly stated that the powder is a specific cure for dysentery, in doses of a drachm and upwards; but that this information appears never to have been acted upon till 1813, when Surgeon G. Playfair, of the East Indian Company's service, wrote testifying to its use in these doses. Again, in 1831, a number of reports of medical officers were published by the Madras Medical Board, showing its great effects in hourly doses of five grains, till frequently one hundred grains were given in a short period; testimony which, notwithstanding its weight, was doomed to be similarly overlooked till quite recently, when it has been again brought directly under the notice of the Indian Government, which is making very vigorous efforts to introduce the culture of the plant into suitable districts of India.*

The numbers of plants, seeds, &c., sent out, is as follows:—

Hardy trees and shrubs	1494	Packets of seeds.....	4911
Stove and greenhouse plants	5186	Ward's cases	34
Herbaceous plants.....	1317	Recipients	150

The receipts have been:—

Hardy trees and shrubs	971	Seed packets	2676
Stove and greenhouse plants	1409	Ward's cases	30
Herbaceous plants	1219	Donors	152
	3599		

The greater proportion of plants sent out has been to Jamaica, Ceylon, India, Australia, Algeria, the United States, and to continental gardens; of seed to all the colonies, and the United States; and of Ward's cases to the West Indies, Australia, and Natal.

A very extensive correspondence was commenced last year with H. Capron, Esq., the active commissioner of the Department of Agriculture of the United States of America, by which means a vast number of American seeds, and especially of Californian and Rocky Mountain trees, have been procured and distributed to the colonies.

Messrs. Booth, of Hamburgh, have presented a second selection of the rarer European and American forest trees of their nurseries to the Arboretum, including many kinds that are not to be found in English collections. It is a curious fact that the rage for introducing Coniferous trees into English parks and gardens has almost extinguished the culture of all but a few deciduous trees; and I have now to apply to foreign nurseries for the rarer Maples, Oaks, Ashes, Limes, Poplars, &c., which were so extensively planted in English parks in the early part of this century, and which when the Kew Arboretum was made in 1840-50, were to be procured at the suburban nurseries. Messrs. Lee, of Hammersmith, have promised a full set of their hardy deciduous trees, &c., and Mr. W. Paul, of Waltham Cross, and others, have most liberally supplied many deficiencies.

Besides the above, the following contributions are of special value, or interest—viz.

Mr. C. F. Carstensen, H.B.M. Vice-Consul, Mogador; the true Euphorbium of commerce, the drug of which has been imported into Europe for upwards of two thousand years, whereas the plant producing it was never previously known to Europeans. Seeds of the Argan tree.

M. Kuffmann, Botanic Gardens, Moscow; live plants of the drug Sumbul, from Central Asia, another important medicine, whose origin was previously unknown.

A third hitherto unknown plant, yielding a drug of the greatest value, has been for the first time introduced into Europe during the past year—namely, the true medicinal Rhubarb, from Western China; of which a healthy live plant has been received from the Jardin d'Acclimatation of Paris.

4. Museums.—The substitution of printed for written labels throughout the collections is being proceeded with. An improved method of mounting the specimens of seed-vessels, cones, &c., is being carried out, which will greatly facilitate their inspection, and at the same time improve the appearance of the collection. Methylated spirit is being used for preserving the fleshy fruits instead of acetic acid, which it is found does not permanently prevent decomposition.

5. Herbarium and Library.—About ten thousand specimens have been received, chiefly as donations, in this deparment.

(Signed) Jos. D. Hooker, *Director.*

* I am indebted for most of these facts to my friend, Dr. Christison, F.R.S., who informs me that he has habitually referred to them in his courses of University lectures, and has long wondered how it was that medical men should have so long and so obstinately shut their eyes to this truth. The merit of proposing the introduction of the Ipecacuanha plant into India, is, I believe, due to Dr. Murray, Director of the Medical Staff of the Indian army, and the operation was being energetically conducted by Dr. Anderson, late Superintendent of the Calcutta Botanic Gardens, who at the period of his untimely death (in October last), had procured a large quantity of plants for transport to India.

NOTES AND GLEANINGS.

The Vice-Chancellor Sir R. Malins has made an alteration in the constitution of the Managing Committee of the Oxford Botanic Garden. A petition was presented by the University of Oxford, the Vice-Chancellor of the University, Dr. Liddell, and the Professor of Botany there, Mr. M. A. Lawson, for the purpose of obtaining a variation of a scheme made in pursuance of a Master's report, dated in 1833, whereby a perpetual committee, consisting of the Vice-Chancellor, the Proctors for the time being, and the Regius Professor of Physic, with "the seven seniors resident upon the physic line," was established for the management of the Physic Garden at Oxford, in accordance with the will of Dr. William Sherrard, made in April, 1728. Dr. Sherrard by his will gave £3000 for the maintenance of a Botany Professor of the Physic Garden at Oxford, upon condition that the University should settle a perpetual fund for maintaining the garden. A suit was instituted shortly after Dr. Sherrard's death, in which it was settled that the University should pay £150 a-year for keeping up the garden in question, and the Royal College of Physicians were appointed visitors of the gardens. It was now proposed that the Committee constituted as above mentioned should be replaced by three resident members of Convocation, who should be nominated by the Vice-Chancellor and Proctors of the University, subject to the approbation of Convocation, and should hold office for ten years, and be styled "Curators of the Botanic Garden." The Vice-Chancellor approved the proposition, and made an order to carry it into effect.

—— It will be perceived by our advertising columns that a supplemental Rose Show will be held at the Crystal Palace on August 5th, but we have been favoured with no further information on the subject.

—— The Cultivation of the Poppy in China, which has been more than once prohibited by Imperial edicts, appears to be increasing everywhere, and becoming a profitable trade. In Szechuen, where the climate is warm and the season early, two crops at least are produced on the same ground annually. The seed of the Poppy is sown in February, the plants flower in April, and the fruits are so far matured by the middle of May, that the juice is collected, and the stalks removed and burnt directly after; but previous to this the second crop, which may be either Indian Corn, Cotton, or Tobacco, is sown, so that almost by the time the Poppy is cleared from the field the new crop makes its appearance. The profit derived from the cultivation of the Poppy is not only the result of a fair market value

and a ready sale, but also from the fact that much of the work in the plantation, especially the gathering of the juice, can be done by the children of the family. The scratchings or incisions being made in the capsules in the morning, the juice which has oozed out in the course of the day is collected in the evening, and after simply exposing it to the sun for a few days it is ready for packing. The seed not required for sowing is used for food.—(*Nature.*)

—— Metropolitan Floral Society.—"D., *Deal*," states, in answer to many applications, that the schedules will be sent from the Crystal Palace to all previous exhibitors, that he will send off those for other applicants as soon as he receives them, and that the Show is fixed for the 30th and 31st of August, instead of the 24th and 25th as previously announced.

—— Fertilisation of the Bee Orchis.—Mr. Darwin, in his "Fertilisation of Orchids," states his belief that the Bee Orchis presents a physiological difference from all other British Orchids, and is habitually self-fertilised. I had, yesterday, an opportunity of observing a number of these plants in one of its abundant localities in Surrey, and at a time when fertilisation must have been completed. In every plant almost all the capsules were considerably swollen, and were loaded with apparently fertilised ovules. In most of the withered flowers the remains of the pollinia were still visible in the position described by Mr. Darwin, hanging down before the entrance to the nectary, in immediate proximity to the stigma, and rendering it almost impossible to believe that the flower had ever been entered by any insect of considerable size, which must inevitably have carried away the pollinia with it. The fact that the Bee Orchis, the most "imitative" of all our native plants, is never visited by insects, is a very suggestive one. If, as might well have been assumed, the object of the "mimicry" is the attraction of bees, the device appears to have signally failed.—Alfred W. Bennett.—(*Nature.*)

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 13.

Really one cannot feel at all surprised that agriculturists and horticulturists should utter some complaints at the weather we have had throughout a great part of the spring and summer of 1871. We look usually—shall we say it?—for a display of a certain measure of dissatisfaction when we question individuals belonging to either class with regard to atmospheric influences. The weather is an Englishman's topic, often an unpleasant one, and doubly so to a man whose pocket, or whose reputation and his feelings are affected thereby. Conversing lately with a friend who is a gardener, I attempted to check the jeremiad he was indulging in by remarking that he had at least one reason to be thankful—the cold easterly winds and the generally unseasonable weather had, as I perceived by my own observations in the country, done much to retard or diminish the development of insect life. But he was up in arms directly. "That's all you know about it. Certainly there are not many caterpillars, and some other sorts of insects I haven't seen which I mostly see, but there's hosts of flies; and as for the blight, why, there's quantities of it on everything, and what's more, it came with those very easterly winds you're praising up." This was an argument I could not gainsay, and I soon found the truth of his assertion as to the abundance of aphides, for they swarmed both on plant and tree, and are at this moment dispersed, in all stages and of varying ages, over our suburban gardens west and south of the metropolis, the number being beyond the average. Even the Limes and Planes about our parks and squares are thick with them. But as to their being brought by the wind, and an east wind in particular, here I have my doubts, though quite aware that they do perform aërial migrations, as I have myself observed, and as others have recorded instances. My friend seemed half inclined to suppose that blight travelled across the city, and had reached us westerns from the districts in Kent and Essex which are adjacent to London. This, however, is evident from inquiry—that whatever the folks there may have parted with in the aphis line, they have a sufficiency still left.

However, fortunately for us, where aphides most do congregate, thither resort, not only their friends the ants, but also their very numerous enemies. Ladybirds are about just now in force, and also the larvæ of Syrphi. Unfortunately, as it appears, the aphides are more hardy than some of their devourers; and I have seen the Syrphi moving about on a cold day as if they were decidedly uncomfortable and "out of sorts," perhaps suffering from rheumatism, while the aphis tribe about them were digging away most contentedly into the juices of the plants they were attacking. Just now, too, I see many individuals of the Lace-winged Fly (Chrysopa perla), emerging from the pupa condition, and these will soon produce a large family of their descendants, great lovers of aphis flesh. A very elegant yet unpleasant insect is the fly in question, for it can develope under some circumstances an odour which is rather worse, as I think, than sulphureted hydrogen. Not always is it thus odoriferous, and one observer has suggested that it is a sexual peculisrity. Not unfrequently a specimen of it will be brought to an entomologist by some friend with the exclamation, "See, here's a beautiful fly!" To this the response naturally is, "Oh, very much so! but I would rather not take it in my hand, if you will excuse me."

It is so frequent an occurrence to find the Hawthorn hedges defoliated in May and June that even naturalists do not always have their attention drawn to the fact, and observe who has been the depredator or depredators, for there are sometimes several at work together. A common offender is the Little Ermine Moth (*Yponomeuta padella*). And not only is this species abundant on Hawthorn and allied plants, but the caterpillars also disfigure and damage various fruit trees with their webs, and contrive thus, by the protection they afford, to escape many of the insectivorous birds while diligently pursuing the employment of stripping the boughs. When this page meets the reader's eyes the moth is in the imago state, and quantities of these small, and certainly pretty Ermines may be seen fluttering about around the spots where they had lived as caterpillars, intent on providing for the continuance of the species, a subject in which the horticulturist may be expected to feel little sympathy. A few weeks since the caterpillars were approaching maturity, and I saw thousands of them on Apple and Pear trees in different parts of Surrey. Professor Westwood has informed us that in the north of France, some years since, the Apple trees for miles were defoliated by these troublesome creatures, which are fortunately rendered sufficiently visible by their webs after they are a week old. Upon a web being pulled down some of the inmates are sure to escape, and, getting off, establish fresh colonies, for the caterpillar of the Little Ermine drops by a thread when alarmed, and reaches the ground if it can. However, a diminution of their numbers may be thus made, and more especially should the trees be examined when the insects have entered the pupa condition, for precautionary measures then taken may save the trees from much injury the following season. It is usually the habit of these caterpillars when ready to change, to spin up in the common web, each making for himself an inner encasement of silk. Some few straggle off to walls, palings, and odd nooks. The web, or social tent, spun by the caterpillars of the Little Ermine is more annoying than that produced by other gregarious species, because it is generally extended indefinitely. The Lackey, for instance, spins its web, and when food near it gets scarce the brood migrate and form another. In the species before us a sort of offshoot is made from some angle of the web, by means of which more leaves are enclosed; and thus they proceed every day until quite a mass of silk is produced, intermingled with the cast-off skins and the excretions of the caterpillars. One writer on entomology has stated, that "the mass of silken threads and webs is of such a size and toughness that even the very sparrows can scarcely make their way through them when they alight on the tree." In this, however, there is some exaggeration.

Yponomeuta padella.

The eggs of the species, though laid in the summer on the twigs, are not hatched until the succeeding spring. So far as I have observed, the broods which appear from the different patches of eggs fraternise freely with each other; and a caterpillar, which has by some mishap been turned out of house and home, is received without question into the first colony whither he can make his way.

Amongst the annoying insects which certainly seem to have become more abundant here of late years is the common Crane Fly or Daddy Longlegs (Tipula oleracea), the ravages of which formed a subject of comment with that most worthy of the older naturalists, Réaumur. He noticed that in Poitou the

grass of extensive districts was destroyed by means of the larva, so that the cattle suffered severely. He entertained the delusive notion that it fed upon earth, and only injured vegetation by its mining operations. Mr. Stickney was able, however, to assure Mr. Kirby that it devoured the roots, and that the administration of very large doses of lime had little effect upon it. Mr. Kirby adds, that under the vague name of "the grub" two species are confounded—namely, Tipula oleracea and cornicina; and others also, we might now say, though the former species is the most troublesome and unfriendly to the gardener as well as the agriculturist. Many a lawn and grass plat have I seen scathed by the insidious work of these larvæ; and in one instance, in particular, going through a public garden, where a new path had been cut through some turf, I was amazed at the dense and disgusting masses of Tipula larva which were laid bare. Describing the ravages of the species at Holderness, Mr. Kirby speaks of having counted 210 grubs in a single square foot; but though I cannot claim to have made an exact calculation, I believe that in the case referred to the number was still larger, so closely were they packed together. Even under favourable circumstances only a proportion of these reach the perfect condition, being diminished in number by various parasites, and they are also a favourite article of food with birds. Rooks especially, when hunting for them in the fields, are scared away or perhaps shot by the ignorant, or, it may be, by the better educated, on the supposition that they are attacking the vegetation. As Mr. Newman suggests, the best remedy for this and other insect pests is the encouragement of birds. For use on a small scale he recommends water in which Walnut leaves have been boiled, and a weak solution of carbolic acid has also been proposed.

A few years back some consternation was occasioned in one of our London parks by the subterranean proceedings of Tipula oleracea, large patches of the ground presenting a dismal appearance. The Minister was questioned regarding the matter in the House, and he replied with calmness and a delightful absence of scientific knowledge that there had been a "plague of insects," but that proper remedial measures were being taken. In spite of these the species still frequents the grassy slopes of Hyde and St. James's Parks, where the perfect insect furnishes much amusement to youngsters from the decided indifference it shows as to parting with its legs—a rather awkward case for those who believe in acute insect sensibilities. —J. R. S. C.

GROUND LEVELLING AND PRACTICAL GARDEN PLOTTING.—No. 19.

DRAWING PLANS.

To draw and transfer *fig.* 42 to the ground. Draw lines E F and G H at right angles; draw square *a*, *b*, *c*, *d*. From centre *o*, being the point where the two lines intersect, describe a circle; the points where the circle cuts the diameter lines give the points 1, 4, 9, 12. From point 1, with radius 1, 3, draw arc 3, terminating at points *c e*. From the same point, with radius 1, 2, draw arc 2, terminating at points *a* and *c*. From point 9, on the same line, draw similar arcs as arcs 10 and 11. From point 4, on diameter line G H, with radius 4, 6, draw arc 6, meeting arc 3 at point *e*; from the same point draw arc 5, terminating at points *a* and *b*. From point *a* draw arcs 7 and 8; draw corresponding arcs from points *b*, *c*, and *d*. From point 12 draw arcs similar to those drawn from points 1, 4, and 9. Draw the outside circle from centre *o*, also draw lines *m n*, *r s*, *t u*, *v w*.

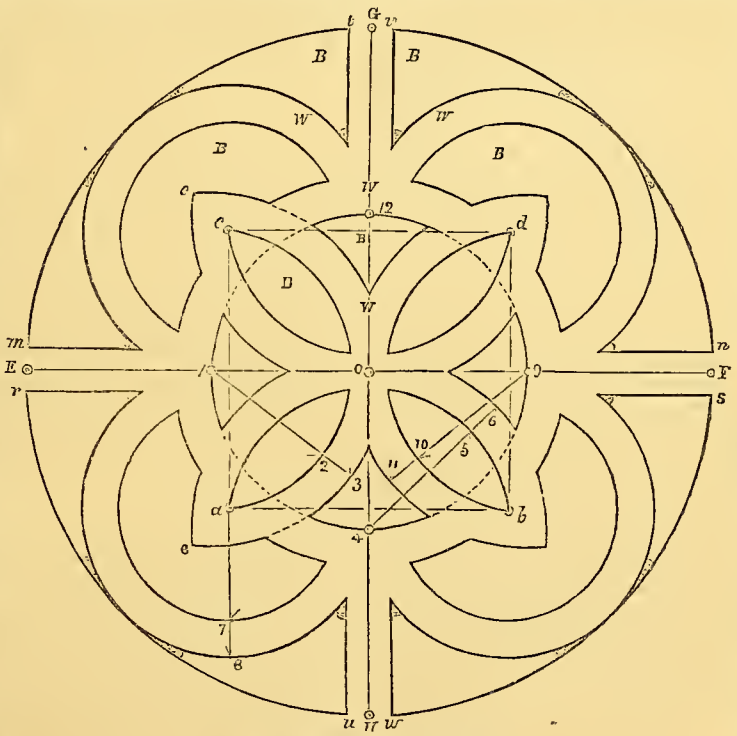


Fig. 42. Scale 16 feet to the inch.

To transfer to the ground the design represented in *fig.* 42. The diameter of the circle is 58 feet. Lay line E F, and bisect it at right angles with line G H; where the lines cross each other insert a peg as at centre o. From centre *o*, with a string 29 feet long, trace the outside circle. Find square *a*, *b*, *c*, *d*, as before described—the side is 23 feet 3 inches—insert a peg at each point, as at points *a*, *b*, *c*, *d*. On each side of centre *o*, on lines E F and G H, measure 13 feet 3 inches, and insert a peg at each point, as at points 1, 4, 9, 12. From the peg at point 1, with a string 15 feet long, trace arc 3, terminating at points *c e*, as shown by radius 1 3. Reduce the string 3 feet, and trace arc 2, terminating as at points *a c*. From the peg at point 9 trace arcs 10 and 11. From the peg at point 4, with the same length of string, trace arcs 5 and 6. From the peg at point 12 trace similar arcs. From the peg at point *a*, with a string 12 feet long, trace arc 8; reduce the string 3 feet and trace arc 7. From the pegs at points *b*, *c*, and *d*, with the same lengths of string, trace arcs corresponding to arcs 7 and 8. On each side of the diameter lines E F and G H measure 18 inches, and insert pegs as at points *m n*, *r s*, *t u*, and *v w*, and lay lines connecting points *m n*, *r s*, &c., thus forming entrance walks from the outside of the circle. Where the lines cross each other are the angles of the beds. The lines are intended to be in Box, as are also the dotted points of the outside beds as shown. B indicates the beds. W the walks.—M. O'Donnell, *Gardener to E. Leeming, Esq., Spring Grove, Richmond.*

BEDFORD HORTICULTURAL SHOW.—July 20th.

Being somewhat anxious for a holiday and to breathe a fresh atmosphere, I took a short ride in the train from Luton to Bedford, hoping to be cheered up by what I saw, and, what are always so exhilirating to me, the shakings by the hand and the friendly greetings of old and respected friends. On all these points the Bedford Show proved to me to be a red-letter day, to be indelibly marked in my recollection. A good deal, of course, depended on the fine day, for, with plenty of rain before and plenty afterwards, none fell on that day; so that the ladies had no reason for staying away for fear of spoiling their beautiful dresses. I had no sooner entered the horticultural grounds at noon—the agricultural show had opened hours before—than I thought how very clever the Bedford people must be to have all entries arranged,

staged, judged, and the prizes awarded before the great expecting public were admitted; but I found that even for them the hour was too early, and some of the judging had to be done in crowds.

Then, again, I thought how powerless the lords of creation were, even helped by all the bâtonniug, and banter, and sarcasm of *Punch*, to change in one iota the line or the dimensions of a lady's dress. I have had my own notions of the swelled-out ballooning that made a roadway necessary for a single lady; of the danger to your own limbs, if you courted propinquity, from the rubs and thumps from iron hoops; and of the worse than waste involved in having the bottoms of dresses so long as to make the work of the scavenger unnecessary in clearing pathways from filth and dust, as if it were the very height of perfection to turn the skirt of a dress into a sweeping broom. But to the astonishment of such a comparative hermit as I, here were some thousands of beautifully dressed ladies, the width of whose garments at the base would hardly exceed a perpendicular line dropped from the shoulder, and, what is more, the most comely of these dresses were as many inches above the ground level as to show a pretty foot and ankle. The wondrous goddess Fashion seems to regulate these things at will, and when invention is rare just repeats the past. I have a strong recollection of having seen just such dresses many years ago. An old friend of mine, long gone to his rest, used to say that his home-spun, home-weaved wedding coat, which lasted his lifetime for Sundays and seemed little the worse at last—for sheddy was then unknown—had been three times the very pink of cut and fashion. Tastes in gardening matters change much in the same way. With all the excess of hooping a little of it was very good, as it enabled a lady to walk with comfort and ease. We are often surprised that it is not thoroughly seen, that every bundling-up of skirts, holding them up—anything and everything that impedes the free use of feet and hands in walking, just so far interferes with ease and gracefulness of motion, and thus lessens the attractions of the sweetest flowers of earth.

Though Agriculture and Horticulture are such twin sisters that they ought to go hand in hand with each other, we have had reasons for coming to the conclusion that it was not advisable for them to have their great fête days at the same time; the greater interest was so apt to overshadow the less if more attractive one. There seemed no room for such a surmise at Bedford. I know nothing of the arrangements between the sister Societies and saw no schedules, but a mere fence and wicket separated the show grounds of the one from the other, and that of itself was a great advantage; and at whatever show-ground you entered you passed into the other at half price, and to save trouble there were no returns from one to the other. I was told that both Societies were satisfied with the number of visitors, and however the agricultural might have been visited in the forenoon, the great preponderance of numbers seemed to be in the horticultural department in the afternoon. The show of fine stock and of the newest and best implements in the agricultural department was very attractive.

In the horticultural department preparations had been made on the most extensive scale in the shape of tents and marquees, almost sufficient for a metropolitan gathering. If a drenching rain had suddenly come, how the spare space would have been prized! In judging from the quality exhibited, I should hope that in future the lovers of quantity will also be gratified. The show of vegetables from cottagers and gentlemen's gardeners was, as is generally the case in this and neighbouring counties, very fine, well worthy the appellations of good, better, best, and the only difficulty seemed to be, where all was good, to find the best. Kidney Potatoes were shown as if they had been previously cast in a mould, so uniform in size and shape were they; and in Rounds the prizes were awarded to beautiful flattish Potatoes, without showing the indentation of an eye, and only wanting the least thing in length to make them in every feature and look a Kidney. I heard some ladies and gentlemen asking each other what constituted a round Potato, and I heard no satisfactory answer given. No real round Potato with eyes much sunk would have had the least chance with these flattish symmetrical tubers, which are in reality more kidney-shaped than round. Until a clearer definition be given, the great bulk of good round Potatoes that show much of an eye have no chance at an exhibition table. I should be inclined to take the word "round" in its natural sense, and apply it to a Potato where the longest and shortest diameter were as nearly of the same length as possible. I listened to a discussion between two great gardeners, each an authority on such subjects, in relation to the Early Rose Potato, a long Kidney, with eyes rather deep, and a buff-coloured skin. One stated that, for early forcing, with him it beat by a fortnight the earliest varieties of Ash-leaved, Handsworth, &c., and turned out as mealy as a flour-ball. The other contended that in such dripping seasons as this, out of doors this vaunted sort was only fit for cattle. Both agreed it was very prolific. More information would be desirable, especially to all who have but little room to try improved sorts. There was one drawback as respects the vegetables, and especially the Potatoes, none were named, and I heard many inquiries in this direction, that a legibly-written card would at once have satisfied. Societies and exhibitors should bear in mind that visitors come for improvement and instruction as well as pleasure and sightseeing. Some Peas were new to me, but I could not ascertain what they were. The only vegetable I noticed named was a large basket of fine specimens of Laxton's Supreme Pea, not for competition, brought by Mr. Manning, of Tingrith, not from the garden, but his own freehold farm. Taken altogether, whether in separate dishes or collections in baskets, the vegetables were well worth going a journey to see. There were some fine Cucumbers, one brace long and symmetrical, with a small girth, but no name was appended.

As a hint to young gardeners, I may say that if one has to provide for a large establishment, he must make vegetables the first speciality, and fruit the second, for after all our refinement we must eat to live, and thus what satisfies the appetite will ever among the masses have stronger claims than that which merely gratifies the eye.

With the exception of a few good bunches of Grapes for competition, the fruit was chiefly confined to Raspberries, Gooseberries, and Currants. I noticed only two small dishes of Strawberries. True, the table was graced with fine Grapes, Melons, and Pines from Mr. McKay, of Woburn, and Mr. Manning, but these were merely for looking at before going to grace the dinner-table. With the fine gardens round Bedford there is great room for extension here.

The ornamental department was more distinguished for quality than quantity, and here fine foliage reigned supreme over the merely bright in flowers. True, there were fine cut Roses, well-arranged bouquets, baskets of flowers, and floral stands for the table, which I could scarcely see for the crowds round them, and the judging of which when I am concerned, I always desire to escape from, and to give up to a committee of ladies. I think, too, in the country, and especially in summer, the stems of these hand flowers should be real, and the handle not a make-up of wires and sticks. With so much of the artificial, why not have artificial flowers at once? A little dusting and washing would make them always fresh, and the perfume most desired could at once be supplied. There is a danger that we forget the natural too much in wooing the artificial. One great speciality was a number of baskets of wild flowers and grasses, made up, I presume, by young ladies, who each, no doubt, thought she ought to have the one prize of a sewing machine. Pity the judges who were compelled to pass so many and fix on merely one. More interest would have been attached to this attractive feature, if there had been more diversity in the arrangement, if each kind had been kept more separate, and if there had been even an attempt at nomenclature.

In mixed collections of plants Messrs. Wood & Ingram stood first. I had long known the Huntingdon Nurseries to be distinguished for fruit trees, ornamental trees, shrubs, florists' flowers, and small glass houses that turned out immense quantities of small plants, but the size of the plants exhibited showed there must have been great progress in glass houses, &c., since I saw the nursery years ago. Among their plants were a huge dense bush of Croton pictum; a beautiful glossy-green plant of Neottopteris australasica with fronds fully 4 feet in length, and 11 inches in width; a very fine plant of Cibotium Schiedei, with fronds more than 6 feet in length and wide in proportion; a fine plant, with large round foliage, of Verschaffeltia splendida; a huge healthy bush shrub of Croton variegatum; a fine plant with bright green leaves of Dracæna australis; a large plant with fine foliage of Theophrasta imperialis; a good specimen of Phormium tenax variegatum, showing a high flower-stalk with swelling buds; a good plant of Croton angustifolium; more Dracænas, including the white and yellow-edged green-leaved Reginæ; finishing with a noble specimen of Dicksonia antarctica.

Mr. D. McKellar, gardener at Colworth Hall, took the second place for a more mixed collection containing the good old Rush-like plant Russellia juncea, Cissus discolor, Chamærops humilis, Hibiscus Cooperi with finely mottled foliage, Coleus Albert Victor as a pyramid, a very tall standard Fuchsia, Begonia fuchsioides well bloomed, Croton variegatum, and a huge plant of Musa Ensete which must have required a waggon to bring it, and would have needed a tent on purpose high enough to show it off.

Just to show what could be done in very little houses and in very little room, Mr. Sheppard, the well-known nurseryman at Bedford, who had hands and head full enough for one day, had beautiful, compact, yet perfect specimens, fit for the best table decoration, of such plants. A fine bright variety of Ixora crocata, Sanchezia nobilis variegata from Ecuador, with white-striped leaves, Ficus elastica, Dicksonia antarctica, Neottopteris nidus, Eurya latifolia, Clerodendron Balfourii, Pandanus elegantissimus, Pteris cretica, Allamanda neriifolia, Caladium Chantini, and a pretty little plant of Pandanus javanicus. Many would be frightened at the room required for large specimens but might take courage and find space enough for such compact little specimens as the above. Mr. Sheppard, among a mixed collection, chiefly of hardy Ferns, exhibited a nice little shrub with white corymbs of flowers, called, I think, Sweetia caffra, that seemed as if it would like an intermediate house.

Besides what I have noticed, the bulk of the plants in pots consisted of Ferns, Mosses, and Coleus. Owing to the pressure I could not catch the names of the different exhibitors who showed nice plants; but Mr. McKellar, who was not afraid to bring the Musa Ensete, had less reason to dread bringing huge Ferns from Colworth, thus standing first. For instance, the name has escaped my memory of a fine Fern with a diameter of head 8 feet across; a Lomaria gibba, with a pretty head, 5 feet in height and 6 feet across; a fine dense plant of Gymnogramma chrysophylla with a diameter of head of 6 feet; an Adiantum formosum, 8 feet; Adiantum trapezoides, 8 feet 6 inches; and a noble specimen of the Bird's-nest Fern, Neottopteris nidus, close on 9 feet in diameter of head, length of average-sized leaves 5 feet, and width of each across, 11 inches. Then among hardy Ferns there were the cambricum variety of the common Polypodium, 2½ feet

across; and Polystichum proliferum angulare, 6 feet across. Of Lycopods Selaginella circinalis was 24 inches; Martensii variegata, 26 inches, and Martensii, 30 inches in diameter of head, proving that these things are made a speciality at Colworth. Coleuses were shown in the sharp-pointed, sugarloaf, pyramidal style, averaging a height of 6 feet, and 5 feet in diameter at the base, showing the plants must have room; but, as stated above, that may be no deterrent to the possessing and admiring of healthy little plants.

I have hinted that there was a scarcity of flowering plants in pots, but I had nearly forgotten one very attractive feature of a fine combination of flowering and bedding plants in a bed, which seemed to command great notice. At the entrance of a large tent Mr. Sheppard had a large long parallelogram bed, raised something like a foot above the grass level, and all the surface that could be seen was clothed with the greenest moss. In this bed a fine collection of bedding plants, including the Tricolor Geraniums, &c., were arranged in circles, ovals, triangles, and white-leaved and purple-leaved plants and Lobelias and Alternantheras formed alike the edging and the division to the groups, with Echeverias and Sempervivums for an edging all round. The whole bed, planted much on the same principle as the huge parterre of Mr. Robson, looked very tempting and pretty. I heard more than one lady say, "I wish I could lift it as it is," and that done in pieces would not have been difficult, as I presume every, or almost every, plant was in a pot, and the pot concealed by the moss. A very little difference in the arrangement would have presented a beautiful symmetrical parterre, but Mr. Shepherd stated that that was less the object than to get in rather a pretty way as good an assemblage and variety of bedding plants as possible. I could at once see the difficulty of thoroughly balancing the fine group, as of some plants there were few in number, but doing so would have rendered what was beautiful still more complete and finished.

These meagre outlines of what was seen in a day chiefly devoted to pleasure, will, I think, convince many, as it has convinced me, that if the town of Bedford will it, it may become as distinguished for its horticultural shows as it has already been distinguished for the cleanliness of its streets, and the cheapness and the excellence of its educational institutions.—R. Fish.

EXTRACTS FROM THE REPORT ON THE BRISBANE BOTANIC GARDEN.

In the Experimental Department the plants of commercial value, which have been enumerated in former reports, continue to thrive as well as ever. Of these, particular mention may be made of the Indigofera tinctoria (Indigo), the Rubia tinctorum (Madder), the Coffea arabica (Coffee), the Thea Bohea (Tea), the Zingiber officinalis (Ginger), the Curcuma longa (Cardamom), the Amomum Melgueta (Grain of Paradise), the Manihot utilissima (Cassava); the fibrous plants—viz., the Jute (Corchorus capsularis), the Sun Hemp (Crotalaria juncea), the Queensland Hemp (Sida retusa), the China Grass Cloth Plant (Bœhmeria nivea), &c. I have been careful in cherishing the development of these and kindred plants, and it is a matter of satisfaction to know, that beneficial results will likely follow from the increased interest evinced in their cultivation, as is shown from the numerous applications for seeds and plants which have been made during the past year.

With respect to the valuable practical results that have followed the introduction of several of this order of commercial and food plants, it is a source of gratification to be able to state that in many instances private enterprise has proved successful, the first experiment having been made from seeds or plants procured from the gardens. This especially applies to the articles Cotton and Sugar, which, as generally known, are becoming year by year more important as staple exports of this colony. It is to be hoped and trusted that other plants of commercial value and importance, such as Coffee, Tea, Tobacco, &c., may claim the attention of the settler, as they are no less a source of profit, nor less easily cultivated, than the Sugar and Cotton plants. In some of the districts—particularly on the sea coast—some thousands of plants of the Coffee have been distributed in response to applications; and without doubt we shall hear ere long of the plant being extensively, if not generally cultivated. The demand for cuttings and young plants of the Silkworms' trees, Morus alba and Morus multicaulis, is greatly on the increase, more especially from East and West Moreton and the Darling Downs districts.

We have received during the past year hundreds of cuttings of various valuable Grape Vines, and nearly all these, with several American varieties already on hand, have been distributed to persons embarking in the cultivation of the Vine. They are mostly wine-producing sorts. In the department of Sugar Canes, there has been an immense demand for cuttings during the past year. From all the Sugar-growing districts, the applications have far exceeded any previous demand.

The applications for various products of the gardens are largely on the increase. The grand total of recipients of plants and seeds from the gardens numbers 530 persons, irrespective of societies, or private individuals where no such associations exist, who have from time to time been supplied with seed, &c., for purposes of distribution. Among this number of persons 60,980 plants, cuttings, and packages of seeds of various kinds have been supplied.

It is gratifying to be enabled to report that a quantity of the Artocarpus integrifolia (Jack fruit), and other useful plants, have been planted by Commander Bedwell, R.N., during a cruise in the surveying schooner "Pearl," on several of the islands bordering the coast.

A Large Mushroom.—["The cry is still, They come."—Eds.]—This morning was brought to me a Mushroom of the following dimensions: Circumference, 2 feet 10½ inches; diameter, 1 foot; weight, 1 lb. 5¾ ozs. It was gathered in a field near the river Swale at Helperby, in the North Riding of Yorkshire.—Henry Wilson.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Ply the fork incessantly amongst the growing crops of *Broccoli, Cauliflowers*, and *Winter Greens*, and continue to manure and trench up every piece of ground as it becomes vacant. Prepare trenches for late *Celery;* water the growing crops, and stir the soil about them. Reserve and get ready a patch of ground for the sowings of *Cabbages* to stand the winter; the soil should be of a light sandy nature, and not too rich, as it encourages a luxuriant growth, which is apt to make them tender. Plant out finally the strongest *Endive* from the early sowings, and sow also more for late crops; the Small Green Curled is very good for the purpose. *Garlic* and *Shallots* should now be taken up and dried for storing. Sow also more *Lettuce*, and keep up a good succession of *Radishes* and *Salads*. Pull up the crops of winter *Onions;* lay them in rows with the roots turned to the sun, and frequently turn them until the stalks are withered, when they will be fit for storing; as they are liable to decay if bruised, they should be carefully handled, and not be thrown about like so many stones. Let them be very dry when stored, and spread out very thinly, not laid in heaps. The late-sown *Peas* should have attention paid to watering and staking.

FRUIT GARDEN.

Espalier Apples and Pears should have the leaders tied-in, and the superfluous shoots spurred-in. Attend also to choice Apples and Pears planted in the open quarters but not trained; remove superfluous shoots, and try the effect of tying downwards the points of some of the strongest shoots. It has a very good effect on trees inclined to grow too luxuriantly. Attend to stopping and nailing wall fruit trees in general, and prosecute the thinning of Grapes on the open walls. Remove all runners from Strawberries not required for making fresh plantations.

FLOWER GARDEN.

Dahlias which have attained a good size should now have their side shoots properly thinned out, leaving three or four of the strongest and best-set shoots. Examine the fastenings carefully; if they have become too tight and are cutting the stem remove them, and retie them with a stronger material, allowing plenty of room to admit of the stem increasing in size. See that the pots on the tops of the stakes are gone over every morning, and destroy all the earwigs which are found. A little soot sprinkled on the plants when wet with dew is an excellent preventive to their ravages; as long as that remains the earwigs will not touch the foliage. Beds of Phlox Drummondi and strong-growing varieties of Verbenas should have some short bushy twigs stuck amongst them, thereby affording them a little support as they grow up, and tending to preserve the outline of the bed. Do not neglect surface-stirring this dry weather; for my own part I would rather see the surface of the soil looking fresh and rather rough, and covered with little lumps of earth, than have it raked smoothly, and at the same time as hard as if it were intended for a billiard table. The rockery, a valuable adjunct to the flower garden, should now have a thorough cleaning; clear away all flower-stems and dead leaves. A few stones had better be placed in front of the tender-rooted species to afford a little shade and protection from the powerful rays of the sun. Half-hardy plants put out here in June should have their shoots spread out and pegged down. Nail the shoots of Fuchsias and Petunias to old stumps or roots that may have been introduced amongst the rockwork; treated in this way they produce a gay and pleasing effect during the autumn months. Carnations and Picotees will require copious watering during the present dry weather. It will be advisable to thoroughly moisten the soil contained in the pots when moisture is applied, which is far better than the little-and-often system. Earwigs are extremely destructive to this class of flowers by eating off the lower part of the petals;

it is usual to trap them in tobacco-pipe heads placed on the tops of the sticks which support the plants; the bowls, however, must be new, for if they have been smoked the smell of the tobacco will prevent the earwigs' entrance, and defeat the object in view. Pinks which have been lately planted out must be watered, and, if possible, shaded with an awning of calico; remove decayed petals from those flowers in which there is an appearance of seed. As the seed-pods of Pansies ripen they should be gathered and dried in a shady place. Take care at all times to save seed only from flowers of good form and stout petals. Tulips may now have the outside skins removed; very small offsets will be as well in the ground, and a bed of fine and suitable soil should be prepared for their reception. Florists would do well to pay more attention to these offsets by well and clean growing; whatever trouble they bestow will be amply repaid by the fine blossoms which their well-grown maiden roots will produce.

GREENHOUSE AND CONSERVATORY.

At this period, many plants which are commonly considered as inmates of the stove or greenhouse the whole year round would be much benefited by a thorough exposure to the elements. It may, however, be observed that no exotic plants should be subjected to this process, but those which have made a new growth previously in-doors. It must be remembered also that an unclouded July sky is a very different thing to the flickering shade produced by the rafters and styles of a hothouse roof, and some caution is necessary for a week or so at first in turning out plants of this kind. The practice is to place them in a northern aspect for a few days; they thus become gradually inured to sunshine, and all that is necessary after this is to put them in a situation sheltered from the winds, but by no means under what is termed the shelter of trees. As to the selection of kinds, I shall, of course, pass by those which come from the very hottest regions of the globe, and suggest that all gross climbers and plants of elongated and rambling habit be subjected to this process for a month or so. To carry out and do justice to such a plan, some thin screen should be provided to throw over the plants in very bright weather. Without this, although the plants may not be constitutionally damaged, they may become so discoloured in the leaf as to be a blemish instead of an ornament when housed. Another matter must be considered—not only may the leaf suffer, but the roots, especially those of a hair-like character. The remedy is placing the pot inside an empty one, which will act as a non-conductor, or plunging the plants. When the latter plan is adopted some extra precautions should be taken against the common earthworm. Some of the larger specimens in the conservatory and mixed greenhouse will soon become exhausted, and preparations having been made so as to secure a reserve stock, this should be well attended to in regard to timely shifting, watering, &c. If such a course be followed up good specimens will always be at hand to fill up blanks occasioned by declining stock. Let young rooted Pelargoniums be potted-off in due time; and protected Cinerarias, too, whether seedlings or suckers, should have regular attention; those intended for autumn work should be potted without further delay. The forward Achimenes will have produced abundance of suckers; these taken off, and encouraged in a propagating frame, will produce a very late display. Propagation of all kinds should now be a weekly business; rooted cuttings should be potted-off betimes. Now that many of the Camellias, Azaleas, and other plants have been removed to their summer situations out of doors, painting or other repairs required for any of the plant houses will be more conveniently done than at any other season. Where houses are painted sufficiently often to keep the paint always good, which is the cheapest method in the end, there will be no difficulty in getting the wood dry: but where the wood is allowed to become nearly bare before repainting is thought of, the house should be kept dry inside, covering the outside with some waterproof material in the case of showers, and allowing a fortnight of bright drying weather to thoroughly dry the wood before the work is commenced.

STOVE.

If there are sickly or badly-rooted specimens here they must be frequently examined for red spider, otherwise they will become a nursery for this pest, from which it will soon spread to adjoining plants. See that young growing stock is not allowed to suffer from want of pot-room, and attend carefully to watering, giving manure wter to all plants in free growth that enjoy it. Gardenias, &c., which have been removed to the conservatory while in bloom should be replaced in heat as soon as their beauty is over, in order to allow of their growth being ripened before the dull cloudy days of November set in Although shading Orchids must now be promptly and carefully attended to, allow them as much light as they will bear without injury, using a very light screen, and only when absolutely necessary. Keep the foliage clear of insects and dust, by frequent syringings or spongings as may be necessary.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

As it is hardly possible to have too much of a good thing, we wheeled a lot of half-rotten dung and leaves on a Strawberry quarter, from which we had gathered all that was worth waiting for, and then trenched dung and Strawberry plants down preparatory to planting strong plants of Broccoli. If we had been at all short of *manure*, and had not wished to get the dung out of sight, we could have dispensed with the manure, as the Strawberry plants, and the rich surfacings they had several times received, would have been a good preparation for the Broccoli. The store of nutriment trenched down will, however, tell on the present and succeeding crops for some years, as the deeper-placed manure will become very sweet as it is brought time after time nearer the surface. But for thus at once disposing of the massive Strawberry plants, we should in many instances have mixed the manure more regularly through the staple of the soil. There are even cases, such as making fresh beds or quarters of Strawberries, where we are inclined to do both; place some manuring material at the bottom of the trench, to entice the roots to go downwards, and mix manure also with the general staple, that manure being of a more decomposed character, to encourage early and rapid growth.

In the case of Broccoli and Greens to stand the winter, provided the top spit is fair for porosity and richness, we have frequently noted that the plants on the whole do better when the most of the rather fresh manuring matter is placed at a considerable distance from the surface. The plants thus grow sufficiently before the winter, but they are kept compact instead of flabby, and thus pass through the frost and changes of winter more easily than if the growth had been more luxuriant; and then, as the warm days of spring come on, the roots make a regular network in the rich food at the bottom of the trench, and it seems almost impossible to cut and gather too much from the plants. Even now, past the middle of July, we could gather crisp little shoots of the Asparagus Kale, and but for having plenty of other vegetables, we might have left the Scotch Cabbaging Kale in order to cut young shoots from it, only we sadly wanted their room.

These little shoots are not so attractive to the cook as fine Cabbages and huge Cauliflowers, but for delicacy and sweetness we know nothing in the green vegetable way to surpass them, as when nicely boiled they are as soft as so much rich marrow. We would here repeat the caution given in the spring, when most of us had the mortification to see our fine Broccolis less or more departing, do what we could to save them; and that is, that all with limited room in their kitchen garden should give the most of the space they can command to *Brussels Sprouts and Scotch Kale.* Savoys are all very well, and large heads are fine fill-dishes for a family, and the little Ulm Savoy is as sweet as a tender Cabbage, but they are, in general not so delicate to eat, nor so much to be depended on through the winter, as the Brussels Sprouts and Scotch Kale.

On the whole, we prefer the old fair-sized Brussels Sprouts from home seed or imported seed to most of the new varieties, each of which has some distinguishing property of its own. We have grown most of them, and have fallen back chiefly on the older kind, just as we have done in the case of the Vegetable Marrow. For richness and delicacy the old oblong plain variety is still by far the best. Where the climate is not very bad the tall Scotch Borecole yields quantities of side shoots. In small places where less is required, the dwarf Scotch Cabbaging Kale is most desirable, as the little side shoots have a tendency to turn in somewhat Cabbage fashion. Veitch's Dwarf is also very good, hardy, and beautifully curled. We like these even better than the Cottagers' Kale, which is a coarser vegetable, and in severe frosts we find the above Scotch Curlies stand as well. The Cottagers' Kale, if strong, yields a profusion of gatherings in the spring months.

Where there is room for a row we would advise all readers to appropriate it to the Asparagus Kale. The mere head it makes is of little consequence comparatively; the great attraction is

the multitude of shoots it throws out after the head has been removed, and these, taken clean off when from 3 inches to 4 inches in length, are in reality a good sweet substitute for the shoots of Asparagus. The gatherings from a row of good plants are astonishing. All these plants produce more in proportion to the earliness of cutting-off the head of the plant. We think that the heads of these Kales are more tender after they have had a touch of frost; and sometimes when the head of a Brussels Sprout is removed, it is advisable to leave the larger leaves at its base, as a little protection to the small shoots, or sprouts, on the stem of the plant. Every large leaf left near the top arrests free radiation, and, therefore, is so far a defence from severe frosts. The head, too, of a Brussels Sprout has a flavour all its own, quite different from the sweet little knobs along the stem, and altogether superior to a young Savoy, which it rather closely resembles. As the frost last winter cut-up so many of our Cabbage plants, we were glad to keep the greens named above much longer than usual, and, therefore, we had a good opportunity of testing their usefulness. In cutting the heads of Brussels Sprouts at all early, it is well to daub the cut part with clay and lime to prevent the stem cracking, as the wet and frost would tell on the stem.

There is one use to which the Scotch Kales are put in the north, that is seldom adopted in the south. The seed is sown late in the autumn, the plants are turned out in spring, as we do with spring Cabbages, and if the sewage from the cottage is given to them they grow with great rapidity, and then as they grow the larger leaves are cut in two, and under the name of "stewings," are cut again into small pieces, and along with dressed barley, a little oatmeal and water, and what little bit of meat can be obtained, form in many a cottage, and even a tradesman's home, the chief dish at the midday meal. Such a dish is a far different and very superior affair to the "Kail brose," so celebrated in Scottish song. That altogether was a very rough primitive get-up, and only fit for men emerging from semi-barbarism, or for men, if at all refined, yet seized with a sort of monomania to keep-up mere existence on the hardest and most economical of terms. Even in London we have heard Englishmen, despite the northern dialect, which they could not quite master, singing about the "Scottish Kail brose," with as much enthusiasm as if before them there steamed a round of beef, and a rich plum pudding; but we much feared that if, even when a little hungry, a dish of the "Kail brose" were put before them, it would soon have damped the fervour of their singing.

Cooking Vegetables.—We have several times touched on this subject, and only touched upon it because it is not in our peculiar province. With all our boasted progress, in general we are poor cooks, and do not make the most of what is within our reach. Meat is often underdone or overdone, and thus deprived of its nourishing properties; but the vegetables! Anything seems good enough for them in too many cases. At market and public dinners this is still very observable. We have seen Cabbages and Savoys that could have done little more than passed through scalding water; they were as hard as so many pieces of chips of wood, and would have been better even in their raw state, for then they would have shown a little green about them. On dining once with a gardener, the Peas on the table (Jeye's Conqueror), were, indeed, "ne plus ultras," and did not the eyes of the mistress of the house sparkle as everyone praised the Peas, and they were delicious. Three or four great cooks have told us that they hardly could spoil that Pea try how they might, for when young it wanted so little boiling, and the colour kept such a rich green. However, the next day we think it was, at a horticultural dinner, the same Pea in similar excellent condition when gathered, became by some peculiar process, a hard, dirty-looking, yellowish mess, that no one would do more than taste and then leave alone.

We recollect the late Mr. Loudon telling us that when he was in the habit of visiting large gardens, and was often asked by the gardener to have some refreshment at the midday meal, he was frequently very much surprised, either at the total absence of vegetables, or their rarity in the shape of a small dish of Potatoes, or at the very inefficient way as to cooking in which they were brought to table—Potatoes sodden and soft instead of dry and floury, which they would have been if properly attended to. We also recollect the worthy veteran referring to the families of some head gardeners that were more than ordinarily delicate in their constitutions, and thus required great care in rearing them and expense for doctoring, and expressing his opinion that matters, humanly speaking, might have been very different if the children had partaken of more vegetable food. Bold as he was, he had been so much criticised for some of his utterances, that he heartily wished that some one with authority to teach his advice would impress on young gardeners, who were likely to spend the most of their lives in a garden, to endeavour in choosing a partner for life to get a helpmate who already knew, or who would not be above learning, how to cook vegetables so as to present them at table most tempting to the appetite, most healthful as food, and most pleasing to the eye. Yes, the doing such a simple thing as the sending nice, soft, sweet, green Peas to table is a matter worthy of consideration. No doubt our sisters have made great advances since Mr. Loudon was in the zenith of his fame, but even now we fear there is great room for improvement, and that, too, in large as well as small establishments; and the one practical deduction we wish to make is just this, that it would be a good thing if some lady were to give us short, simple, but minute directions as to the cooking of our common vegetables in the best and most economical way.

Cauliflowers.—We have to record a little disappointment. Our hand-light Cauliflowers never did better. Our second lot seemed equally promising, and had only the fault of forming the heads too much at a time. However, they had every appearance of proving of first-rate quality. We had watered them with sewage before the rains came. The somewhat continuous drenching rains seemed to have changed them; instead of the heads keeping in a close compact mass as we wish to see them, they began to open, and shoot, and spread. We never like the idea of even the denizens of the servants' hall, if possible, having the chance of tiring of any one thing, but a goodly portion of these fine Cauliflowers had to go there, as the heads were too open for the dining-room table. The person who could speak with most authority told us that for mere consumption nothing could be better, they were so sweet, tender, and soft. This we found to be quite correct. As it was we suffered no inconvenience, as there were still enough of compact heads to go on with. We are inclined to think that the extra drenching was the chief cause of this spreading, and the rich sewage before the rains which we could not foretell might also be a predisposing cause. Have any of our readers met with similar results? Have they been able to trace it to a similar or to any different cause? Our next successions as yet seem to be all safe and promising. Of course these opening and spreading heads were of little value, except for immediate use, in comparison with the firm, compact, white heads. How can we make sure of preventing this opening and spreading? It often takes place to a considerable extent in dripping rainy autumns. Our opinion is, that less nourishment and more room to the plants would have modified this tendency, but then we could not know of these heavy downpours of rain.

Celery.—Planted out the last, or nearly the last, of our plants. For a wonder with us, the earliest beds, except where planted out, have as yet received no more waterings. The rains have been ample for the purpose. We have had comparatively little to do with the water cart, but as a counterbalance the grass lawn, and especially that which was fresh laid, has required great attention. It would hardly pass muster three days without the machine or scythe going over it.

FRUIT GARDEN.

With regard to summer-pinching, pruning, &c., see previous notices. We proceeded with planting out the last forced *Strawberries*, some of the first planted out coming into bloom. We also prepared young plants for forcing, and for fresh plantations. For the former purpose we do not think that any place is better than fixing the runner in a small pot, and, when fully established, and filling the pot with roots, cutting the string, and repotting firmly in a larger pot, as fully explained and detailed a few weeks ago. Let enthusiastic beginners, however, clearly understand, that it is on the details being carefully carried out that success will depend. Great troubles and great disappointments often ensue, because seemingly little things are deemed of no importance. We say nothing to those who force their thousands of pots, but to beginners we may here repeat, "Attend especially to the small matters referred to." Then for getting an early return from fresh plantations in the open ground, when there are no forced plants to fall back upon, it will often be the most economical plan to layer the runners in pots, and then, having the ground in good order, to turn the plants, well rooted, from the pots into the ground, as then you may expect a fair crop the first summer after planting. Where ground is scarce, and you cannot spare it for a couple of months or so, then the best plan is to turn the young plants into a bed with rich lumpy material,

near the surface, putting them 6 or more inches apart, and when the ground is ready lifting the plants with balls and planting them firmly in the ground prepared for them.

With regard to preparing ground for Strawberries out of doors; the duration of the plantation, according to the plants used, or the treatment given, may be fixed at from two to three, or four, or more years. During that time it is advisable that no spade should interfere with the roots, and that the mere breaking of the surface, to prevent caking and cracking, should be done with the hoe or the points of a fork. Hence the importance of deep-stirring the soil at once, and the importance, too, in proportion to the length of time the plantation is to continue, of having some manure at the bottom of the trench, and also of having manure incorporated with the bulk of the soil. The plan we like best is to place a layer of manure not much decomposed on the surface, and trench that down, the greater part of the manure being at the bottom. Then when the piece is thus trenched, to place a layer of sweet decomposed hotbed or other dung, and with spade or fork to incorporate that with the soil for a spit in depth, so as to give vigour to the young plants at once.

Before turning the plants out it is well to solidify the surface soil. If the soil is inclined to be stiffish loam—the very soil for Strawberries—then a tramp and a light roll will be enough before planting; but if the ground is of a light, sandy, open texture, it can hardly be made too firm before planting, or tramping round the plants afterwards. In either case anything like surface-caking or cracking must be avoided by surface-stirring and surface-mulching. We have known cases where Strawberries had done little good in light open soil, that bore immense crops when the ground was consolidated, and where, instead of lightening the surface of the ground in spring, men trod up firmly to the plants between the rows, the point of a fork just being drawn along afterwards to give free access to water, mulching to prevent all caking and cracking.

In choosing young plants it will be prudent, as far as possible, to take them from fruiting fertile plants.

We must leave other matters just to say a word about *cutting the leaves from Strawberry plants* when they have done bearing. Some practise the cutting system, others stigmatise it as horrible and barbarous. Now, each plan may be the better according to circumstances. For instance, in good loamy soils, where the plants grow strong but dwarf and compact, and the leaves continue pretty fair as to greenness, the mowing or cutting off such foliage would not be advisable or defensible. The chief thing in such cases would be to clean the plants of runners, clean, surface-stir, and mulch, and let well alone. Even in light land, but consolidated and mulched, there would not be much necessity for doing more than the above in cleaning, &c.; but in very light sandy soil, and where, though we may mulch, we either have not or cannot consolidate the soil to suit the Strawberry, it may often be the best plan to cut the leaves, or the greater part of them, leaving only the small ones near the heart untouched. We have seen the leaves under such circumstances with nearly double the length of footstalk they would have in stiffer soil, and by the time the fruit was gathered the foliage would often be getting brown and spotted, and therefore could do little in the way of perfecting the buds for a future year. Under such circumstances in July, or even to the first week of August, we would not hesitate to remove such exhausted leaves, and encourage fresh ones to spread out near the ground, and thus perfect buds and encourage free rooting. In good loamy soil we would remove no leaves, and never use a spade between the rows.—R. F.

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

Books (*Ariba*).—London's "Villa Gardener" is the only book we know of that will suit you.

Gardeners' Examinations (*John Jones*).—We believe there will be no summer examination by the Royal Horticultural Society this year.

Geraniums (*James Noon*).—This is merely a sport of foliage to which many seedling Geraniums are liable.

Bovista gigantea (*W. X.*).—We presume you are aware that Bovista gigantea is a large Puff-ball—a fungus. We do not know that it has ever been cultivated.

Weights of Pine Apples at Nottingham Show.—"In reply to your correspondent 'Amicus' respecting the weights of the Pine Apples at Nottingham, I exhibited two Queens in my collection of fruit weighing respectively 5 lbs. 14 ozs. and 6 lbs. 1 oz.—G. T. Miles, *Gardener to Lord Carrington.*"

Rose Leaves Diseased (*W. M.*).—It is difficult to decide what occasioned the damage to the Rose leaves. I have examined them with a glass, and can see no fungus spores. It never occurs under glass. I believe it was occasioned by a severe frost which we had a few days ago; or it may be attributed to atmospheric causes. There is no cure for it. The leaves will drop. Glass is the only sure preventive.—W. F. Radclyffe.

Maréchal Niel Roses not Flowering (*T. E. C.*).—There is, we fear, no royal road to make Maréchal Niel bloom. Leave all strong shoots unpruned, and thin out the weak. If one of the standards could be transplanted and trained against a south wall it would be almost sure to bloom the first year after transplanting.

Roses Mildewed (*Lady King*).—Your Rose leaf has been attacked by mildew, often caused by drought at the root. Most probably the bud was eaten by the earwig. The Antler Saw-fly's grub will also eat the margins of leaves and perforate the leaves with small holes.—W. F. Radclyffe.

Leafing of the Oak and Ash (*Fincastle*).—The popular opinion in the midland counties is, that if the development of the leaves of the Oak precedes that of the Ash the weather during harvest will be fine; but that the weather will be wet if the Ash-leafing precedes that of the Oak. The rhymed form of the proverb is—

"If the Oak's before the Ash
Then you'll only get a splash;
If the Ash precedes the Oak
Then you may expect a soak."

The leafing of the Oak usually precedes that of the Ash.

Potting, Stopping, and Striking Chrysanthemums (*Probo*).—The plants in 4-inch pots should be at once placed in 9-inch pots, using a compost of two parts turfy loam, one part leaf soil or old manure, and one-sixth of sharp sand. They should be stopped now to induce bushiness, and may be again, but not after the second week of August. Cuttings of the points of the shoots put in now, and placed in a gentle heat, will root freely, and if not stopped but potted in 5-inch or 6-inch pots, will make nice plants for late flowering.

Climbers for a Dwelling-house (*Flora*).—For the south aspect we would have Cloth of Gold, Lamarque, Climbing Devoniensis, Gloire de Dijon, and Maréchal Niel Roses; Berberidopsis corallina, Wistaria chinensis, Lardizabala biternata, Passiflora cærulea, Jasminum grandiflorum, Magnolia grandiflora (Exmouth variety), Ceanothus azureus, C. Veitchianus, Punica Granatum, and its double red and double yellow varieties, or you may omit the last two. Plant 4 feet apart for so high a wall (30 feet). For the east wall, you may have Aristolochia Sipho, Cydonia japonica, Japanese Honeysuckle, Clematis Jackmanni, C. Fortunei, C. Standishi; Cratægus Pyracantha, Cotoneaster microphylla, and Cydonia japonica alba. On the north aspect Ivies are most suitable, the Irish and Rægner's are good. We would plant Virginian Creeper (Ampelopsis hederacea), alternately with the Ivy at 3 feet apart to insure the speedy covering of the wall.

Peach Stones not Vegetating (*T. G.*).—You will not facilitate their vegetation by grinding the edges of the stones, but you can cleanse them and place them in sand at once, and in February plant singly in pots at about an inch apart in light loam. Cover them about an inch deep, and place them in a hotbed; or you may sow the stones in October in pans, keeping them in a cool house free from frost, in February place them in a hotbed, and when well up remove them to a cool house.

Ananassa sativa variegata Treatment (*W. G. C.*).—It is a stove plant, and from October to February would succeed in a temperature of 50°; during that period keep it dry at the roots. The minimum temperature should be 55° in March, 60° in April, and 65° in May, and 65° should be the minimum up to September, when the temperature may fall 5° per month until 50° be reached. A temperature of 40° will not injure the plant, but is not desirable. We question whether it can be grown satisfactorily in a greenhouse. We have known it grown in a vinery with a winter night temperature of from 40° to 45°, the Vines being started in February, and from March there is no material difference in the temperature of a stove and vinery.

Peach Tree Heading-back (*A Learner*).—You will not gain anything by cutting back the tree which is blighted and has its shoots at the top of the wall, unless there are young shoots at the base; then by all means cut away any long bare branches; if not, defer heading-back until next February.

Melon Leaves Withering (*C. R.*).—We hardly think your plants are infested with red spider, nor by thrips. If you had had an attack of those pests the plants would not have recovered unless remedial measures had been adopted. Send us a leaf and we shall probably be able to give you some information.

Evergreen Climbers for a Shady Conservatory Wall (*K. P.*).—For the situation nothing would do so well nor look so neat as the small-leaved Ivies, of which the following are good:—Hedera Helix digitata, Donerailensis, and lobata with green leaves; and marginata Cullisi, elegantissima, and palmata aurea. They could be grown in pots, but are best planted out. On the other wall on which the sun strikes after twelve o'clock, we fear Maréchal Niel Rose would not do. We advise Habrothamnus fasciculatus, H. elegans, Luculia gratissima, and Camellias. There is nothing better than Camellias. They would succeed in boxes, but best planted out. The plants may be obtained of any of the principal nurserymen.

Lady Downe's Grapes Mildewed (*J. S.*).—They are affected with mildew. Probably the atmosphere of the house is too cool, too moist, and not sufficiently ventilated. The berries sent are past cure. The

remedies are sulphur, more heat, and better ventilation. We must add, however, that we are not sure whether some other cause is not at work. Are the roots too deep, and in a cool, moist border?

Vine Leaves Warted (*R. S.*).—Your conjecture is a correct one. The Vines have taken up more moisture than the leaves can digest. The remedy you suggest will no doubt prove effectual.

Echeveria secunda glauca Propagation (*An Old Subscriber*).—It is best raised from seed. Drain the pot to half its depth, then fill to the rim with a compost of two parts sandy loam, one part sandy peat, and one part lime rubbish, covering the surface with very fine soil. Water the soil, then scatter the seed on the surface, and cover with silver sand very lightly. Place the pot in a frame with a temperature of 70°, and to lessen the necessity of watering shade from bright sun. Keep the soil just moist without making it very wet, and when the plants are fairly above ground remove them to a greenhouse and afford a light airy position. When they have two or three leaves pot off singly in small pots. Sow in March.

Black Tripoli Grape (*Idem*).—The Welbeck Black Tripoli is the same as the Frankenthal, Victoria Hamburgh, or Pope's Hamburgh. It has roundish oval very large berries, with juicy, vinous, rich flesh, and is the most useful Grape in cultivation, succeeding under the same conditions as the Black Hamburgh.

Destroying Rose Aphis (*R. W.*).—Boil ¼ lb. quassia in a gallon of soft water for ten minutes, strain, and add to the water ¼ lb. soft soap. Apply with a painter's small brush. This will be far more effectual than soot water.

Names of Plants (*Lantana*).—There is little doubt that the plant to which you refer under the name of "Umbrella Fern," is the Dipteris Horsfieldii of Robert Brown, a truly noble Fern, which inhabits the South Sea Islands, and which, strangely enough, occurs also in Malacca and the Malay Archipelago We have no knowledge whatever respecting the stated introduction of the plant, but only hope in case of such an event, that the plant will become firmly established in our gardens. The plant is, like most other Ferns, possessed of a plurality of names, that of Polypodium Dipteris (of Blume), being the one adopted in Hooker and Baker's "Species Filicum" (see p 362), whilst Polypodium conjugatum, Dipteris conjugata, and Drynaria Horsfieldii are all synonymes. A very interesting note respecting this plant occurs in Dr. Seemann's "Mission to Viti" (pp. 14, 15). He says—"The boys took us to a ravine where some years ago Dr. Harvey, of Trinity College, Dublin, had collected a fine Fern (Dipteris Horsfieldii, *J. Sm*), which has magnificent fan-shaped leaves, when growing in favourable situations from 8 to 10 feet high, and 4 feet across. The plant is found in all parts of Fiji, New Caledonia, and various other islands, and has never been introduced to our gardens, nor did any of my specimens survive being taken out of their native soil." (*D. M.*). —Melilotus officinalis, the Melilot. (*K. J.*).—1, Peperomia Saundersii, usually known in gardens as P. arifolia var. argyrea; 2, Oplismenus imbecilis variegatus (the Panicum variegatum of gardens); 3, Selaginella Willdenovii (S. cæsia arborea of gardens); 4, Cyrtomium falcatum; 5, Farfugium grande; 6, Begonia argyrostigma. (*Ignoramus*).—1, Ervum hirsutum; 2, Vicia sepium; 3, Chenopodium urbicum; 4, Atriplex patula; 5, Gnaphalium uliginosum; 6, Rumex Acetosella. (*Mrs. St. John*).—Albuca species, but we cannot determine which. (*Subscriber*).—Limnanthes Douglasii. It is a beautiful spring bedding plant if sown in autumn. (*A Subscriber*).—Cissus discolor. (*Rhubarb*).—Having named six, we did not retain the others. If you send half a dozen more we will endeavour to name them, but we decline to undertake to keep large batches of specimens in order to name them by instalments.

POULTRY, BEE, AND PIGEON CHRONICLE.

VALUABLE PIGEONS STOLEN FROM EXHIBITIONS.

It gave me great pleasure to see Mr. Hewitt's letter on this subject in your Journal of July 13th. I can support all he says, more especially as to the best interests not only of exhibitions but of exhibitors being interested in this matter; for if such practices be allowed to continue all the loss, as in my case, falling on the exhibitor, I am convinced that public Pigeon exhibitions will very soon be things of the past. In consequence of my own loss, and previously to the robbery of Mr. Yardley's bird, not only myself but a number of others (still, however, as ardent in the fancy as ever), had determined not to exhibit again until shows were conducted in a different manner, and either greater precautions taken for the safe keeping of the birds, or committees made liable for their negligence.

I shall be very glad indeed to second Mr. Hewitt's kind offer by myself giving a reward of £5 for the recovery of my Black Carrier cock stolen from the late Manchester Show, and the conviction of the thief. Some stir seems likely now to be made in the matter, and if it do not result in the punishment of those who have already offended, it will at least do good in the reform of public exhibitions. A little ordinary care on the part of committees or secretaries would easily prevent such practices. I would suggest as perhaps the easiest applied and safest preventive, that a light iron bar or chain should be run along the fronts of, say, every six or twelve pens, with a padlock at each end. This could readily be removed to clean or feed the birds, and would effectually prevent any abstraction by unauthorised persons. Hitherto the greatest negligence has been apparent in regard to the safe keeping of valuable birds by the committees of shows, as anyone might see on visiting our public exhibitions persons handling birds without the slightest interference on the part of the authorities. After my late action at Manchester I met both an exhibitor and a purchaser at the very show from which my bird was stolen, and the former stated to me that at the close of the show he took away all his own birds without any interference, and the latter did the same with a pair of birds he had claimed. I think the sooner such management is stopped the better, and only hope that exhibitors are now beginning to be a little more alive to their own interests by having matters put on a rather more fair footing—namely, that those who make the profit should also bear the loss.—James F. While, *Birmingham.*

I am quite of the opinion of Mr. Hewitt, that watchful eyes are the best means to prevent valuable birds being stolen from poultry shows; and as the secretaries of the various shows do not employ enough people to tend the birds, I think it high time for fanciers to take the matter in their own hands. Mr. Hewitt is willing to give a reward of a guinea to the party who, by his evidence, shall be the first to bring to conviction the person who has been lately committing himself; I will give the same amount, and I trust many more fanciers will do the same thing, as I feel certain it is the only means to prevent these losses. I am also willing to give the same amount to any person who will by his evidence convict any person of stealing Pigeons from any of the forthcoming shows this season, or I will subscribe the like amount to any fund that may be formed for the same object.—Frank Graham, *Birkenhead.*

All fanciers and exhibitors will warmly thank Mr. Hewitt for the manner in which he has taken up this subject, and I will place a similar amount to that which he offers at his disposal, or in the hands of any properly appointed person, feeling sure that other exhibitors will interest themselves to raise a sufficient sum to tempt any accomplice, not being the actual offender, to "split" on his confederate and bring the offender speedily to justice. Should this movement be liberally responded to, further steps can soon be decided on, and will, doubtless, prevent a repetition of these dishonest practices.—F. Waitt, *Albert Villa, Alcester Road, King's Heath, Birmingham.*

I beg to add my little mite (5*s.*) to the reward offered by Mr. Hewitt, trusting it may soon be called for to pay some one for their trouble in detecting the offender. I believe that these robberies are carried on by one fellow.—James Coleman, *West Bromwich.*

A few friends, in consideration of the loss Mr. J. F. While, of Birmingham, sustained at the late Manchester Show, and the expenses he incurred in bringing the matter to trial, desire to present him with the following subscriptions:—Mr. H. Yardley, Birmingham, 10*s.* 6*d.*; Mr. James Watts, Hazlewell Hall, 10*s.* 6*d.*; Mr. W. H. Mitchell, Moseley, 10*s.* 6*d.*; Mr. F. F. Foster, Birmingham, 10*s.* 6*d.*; "Sympathy," Birmingham, 10*s.* 6*d.*; Mr. Frank Graham, Birkenhead, 5*s.*; Mr. J. T. Bradley, Birmingham, 5*s.*; Mr. Massey, Birmingham, 5*s.*; Mr. Anderson, Birmingham, 2*s.* 6*d.*; Mr. J. Coleman, West Bromwich, £1.

HATCHING DUCKS' EGGS UNDER DIFFICULTIES.

I placed eleven Duck's eggs under hen No. 1; she sat for six days and then deserted them. I found them quite cold, but having another hen wanting to sit, I put her on. No. 2 sat five days and then left her nest. I thought it was then a hopeless case, but one of my men had a hen wanting to sit, and proposed that we should try her. It was then noon; he did not leave work till five, and had three miles to walk home, and the eggs were cold. I put them in water as hot as I could keep my hand in, for ten minutes, then placed them in a cucumber frame until the men left work, when I put them in a piece of flannel. They were then taken three miles, put under a hen, and eventually nine ducklings made their appearance and are going on well.—W. L., *Birchington.*

Poultry Judging.—A meeting of poultry exhibitors was advertised to be held at Wolverhampton during the recent

meeting of the Royal Agricultural Society. We do not know who attended, except the Rev. A. G. Brooke, Mr. Wood, and Mr. Tudman. It was agreed by them that a Poultry Club is desirable, that judges are not uniform in their awards, and that they are not allowed sufficient time to make them.

WESTWARD HO! POULTRY EXHIBITION.

This took place on the 20th inst. The weather was fine, and no committee could more fairly have deserved success. The tents were large and commodious, and the only improvement that could have been made would have been placing the Pigeons not so high, so that ladies and children might have enjoyed a better view of them.

A few really good Grey *Dorkings* composed the first class on entering the tent, but a good hen with a bad cock, or the contrary, was the order of the day. Some of these birds were individually of great frame and good colour, but the selection was certainly open to much improvement. A few good White Dorkings in their own class were the recipients of the prizes, but the entry was limited. Three extraordinarily good pens of Black *Spanish* fowls were comprised in the winning pens; they were, perhaps, a little too heavy in the face, but such excellent birds for breeding stock as are rarely met with. *Game* fowls were good, but very fast going out of condition, the hens more particularly so. *Cochins* were quite up to the average; Buffs, Partridge, and Whites being successful in the order they are named. In the *Brahmas* all the three prizes were given to the Dark-feathered variety, the very best hen in the class being in a highly-commended pen, but, unfortunately, mated to a cock worse than indifferent. The *Hamburghs*, except the Silver-pencilled ones, showed a great improvement over those shown at any previous meeting in this district. *Polands* were likewise excellent. In the Variety class *Crêve-Cœurs* stood first in a capital entry, *Houdans* second, and Black Hamburghs third. In a large class for the best cock of any variety or pure breed, a wonderfully perfect Black Minorca stood first, a Brown Red Game cock and White Cochin taking the remaining honours. In a general chicken class, open to any breed, a first-rate pen of Grey Dorkings, exhibited by the Rev. G. F. Hodson, stood far a-head, but the cockerel in this pen lacks age materially for present exhibition; the second-prize birds were Brown Red Game, and the third Dark Brahmas. Game *Bantams* were below par, and, with the exception of the two pens, one of Gold-laced and the other Nankeen Bantams, the variety Bantam class was so indifferent that the third prize was withheld, being the only case of non-award on the prize list. *Geese*, *Turkeys*, and *Guinea Fowls* were all very good, and a very complete collection of *Rabbits* had their admirers.

No previous show in these parts was ever held at which *Pigeons* formed so prominent and excellent a division, one of our most noted breeders sending the choicest specimens for competition; besides these, however, were most excellent pens entered from the immediate neighbourhood. We cannot, though briefly, but allude to a most disgraceful attempt at imposition made by a rather extensive exhibitor to secretly blight the reputation of an opponent undeservedly. It appears a letter, covering several pieces of writing paper, was sent to the Hon. Secretary, stating the informant's personal knowledge that certain pens of his rival, which he specified, had the tail feathers fastened in, and that whilst he strictly prohibited the mention of his (the accuser's) own name, he knew the truth of his assertion; that the owner had frequently boasted of the successes of his trickery; and that the writer was only anxious to prevent deceptions so base injuring the "honest exhibitor," &c. After the awards were made and returned the Judge was made acquainted with the accusation, and that gentleman at once intimated his conviction the whole imputation was "fabricated from beginning to end." With three gentlemen of the Committee, who at his request accompanied him, an adjournment to the Show tent proved the accusation false from beginning to end, as anticipated. The letter sent contained also a specific promise, that if the accused were punished, the informant's entries would be greatly increased on future occasions. We think we cannot be supposed to speak at all uncharitably when we express our opinion that the whole accusation was written with a knowledge of its falsity. Although we forbear to mention by name the author of this unwarrantable charge, we cannot but suggest to him that his conduct is the most likely of anything to injure poultry exhibitions. A really worthy punishment for such conduct would have been to have withheld all the prizes that had been awarded to the writer of the letter, as the loss would have been possibly suggestive that in all the affairs of this life "honesty is the best policy."

Dorkings.—*Coloured.*—1, E. Burton, Truro. 2, Mrs. A. C. Thynne, Penstowe, Stratton. 3, Mrs. P. Coffin, Portledge. *White.*—1, J. H. Nicholls, Tangier, Lostwithiel. 2, W. Pickard, Hartland. 3, Mrs. Macgregor, Hallsannery, Bideford.

Spanish.—1, S. R. Harris, Cusgarne, St. Day. 2, F. Brewer, Lostwithiel. 3, G. Tonkin, Bristol.

Game.—1, H. Gibson, Brockenhurst. 2 and 3, S. R. Higham, Morchard Bishop. *hc* and *c*, Dr. W. King, Bullmore, Falmouth.

Cochin-China.—1, S. R. Harris. 2, J. Beard, St. Blazey. 3, F. Brewer. *hc*, T. M. Hawke, St Day.

Brahmas.—1 and 2, E. Burton. 3, S. Richards, Truro. *hc*, Mrs. A. C. Thynne.

Hamburghs.—*Gold-pencilled.*—1, R. Lorum, Exeter. 2, S. R. Harris. 3, G. Lins, Par Station. *hc*, S. Richards. *Gold-spangled.*—1, S. R. Harris. 2, J. W. Banbury, Bude. 3, J. Medway, Newton Abbott. *Silver-spangled.*—1 and 2, S. R. Harris. 3 and *hc*, J. Clark, St. Day. *c*, W. M. Lancaster, Berridon, Bradworthy. *Silver-pencilled.*—1, S. R. Harris. 2 and 3, J. Walter, Bideford.

Polands.—1 and 2, J. Beard. 3, S. R. Harris.

Barnnoor.—1, W. Bailey, Kilkhampton. 2 and 3, D. Barrable, Paize, Ponghill. *hc*, G. H. Pinckney, Barnstaple. *c*, A. Trewin, Kilkhampton; C. Withecombe, Buckland Brewer.

Bantams.—*Game.*—1, Miss E. How, Woodville. 2, F. Cooper, Ampney Crucis. 3, F. W. Palmer, Barnstaple. *c*, S. Veal; W. How, Woodville. *Any other Variety.*—1, Rev. G. F. Hodson. 2, Miss B. How. 3, Withheld.

Any other Variety.—1, T. E. Hawkin, Lostwithiel (Crève-Cœur). 2, F. Brewer, Lostwithiel. 3, C. Magge, Melksham. *hc*, S. Veal, Langtree; H. Leworthy, Newport, Barnstaple; E. Burton, Truro; W. Littlejohns, Pilton, Barnstaple; R. E. Holman, jun., Bideford. *c*, W. Courtney, Barnstaple. *Cock.*—1, S. R. Harris. 2, M. Huxtable, Wheddon. 3, F. Brewer. *hc*, G. Britton, jun., Bishop's Tawton. *c*, G. W. Wilkey; W. Gordon, Morchard Bishop. *Chickens.*—1, Rev. G. F. Hodson, North Petherton. 2, Mrs. M. Huxtable. 3, J. Heal, Parkham. *hc*, S. E. Hawkio, Lostwithiel. *c*, J. Long, Plymouth.

Guinea Fowls.—1, S. Symons, Tawstock. 2, W. M. Lancaster. 3, G. H. Pinckney, Barnstaple. *hc*, R. B. Molesworth, Bideford.

Ducks.—*Aylesbury.*—1 and 2, S. R. Harris. 3, G. M. Oliver, Dreason, Bodmin. *hc*, T. E. Hawkin. *Common or Any other Variety.*—1, G. Copp, Tawstock. 2 and 3, J. Heal, Parkham. *Any Variety.*—1, Rev. G. F. Hodson (Rouen). 2, S. R. Higham (Rouen). 3, J. Heal.

Geese.—1 and 3, W. M. Lancaster. 2, W. Saunders. *c*, J. Heal (2).

Turkeys.—1, Mrs. A. C. Thynne. 2 and 3, J. Heal.

PIGEONS.

Carriers.—1, H. Yardley, Birmingham. 2, E. Burton. *hc*, R. B. Molesworth, Bideford.

Barbs.—1 and 2, H. Yardley. *hc* and *c*, J. C. Bullen, Newport, Barnstaple.

Pouters.—1, H. Yardley. 2, H. Porker, Taunton.

Fantails.—1, H. Yardley. 2, E. A. Bazeley, Bideford.

Jacobins.—1, H. Yardley. 2, J. & C. Bullen.

Trumpeters.—1, H. Yardley. 2, R. B. Molesworth.

Common.—1, H. Yardley. 2, W. Geary, Barnstaple.

Any other Variety.—Equal 1, H. Yardley (2). Equal 2, F. Braund, Bideford; H. Henry, Beaford. *hc*, H. Gibson, Brockenhurst; J. & C. Bullen. *c*, E. A. Bazeley; J. & C. Bullen.

Rabbits.—1 and 2, C. Leat, Tiverton. 3, T. Hodges, Bideford (Himalayan). *hc*, J. C. Nosworthy, Barnstaple (Lop-eared); C. Leat; W. H. Baker (2).

Mr. Edward Hewitt, of Sparkbrook, near Birmingham, was the Judge.

BEDFORD AGRICULTURAL SOCIETY'S POULTRY SHOW.

The first show of poultry held at Bedford for many years took place on the 20th inst., and proved a great success; it was in connection with the Agricultural and Horticultural Society. The attendance was numerous, and the Poultry Show, which was under a large tent, was much crowded. The town of Bedford subscribed handsomely. Independently of collecting £120 for poultry and horticultural prizes, it gave upwards of £60 in cups and prizes to the Agricultural Society. The pens were supplied by Mr. George Billett, of Southampton, and Mr. W. B. Jeffries, of Ipswich, gave his services as Judge.

The *Cochins*, *Game*, and *Brahma Pootras* were very good; but the other classes, with the exception of a few specimens, were bad.

The following is a list of the awards:—

Dorkings (Any variety).—1, J. Longland. 2, Rev. J. G. Baker. *Cock.*—1, Rev. J. G. Baker. *c*, J. Longland.

Cochins (Any variety).—1, G. Shrimpton. 2, H. Lloyd, jun. *hc*, G. Shrimpton; R. B. Stafford; J. K. Fowler. *c*, B. Newland. *Cock.*—1, R. Crawley. *hc*, J. K. Fowler; G. Shrimpton; H. Lloyd, jun.

Game.—*Black-breasted Red.*—1 and 2, R. Hall. *hc*, R. B. Stafford; Capt. Moutressor. *c*, W. H. L. Clare. *Any variety.*—1, R. Hall. 2, W. H. L. Clare. *hc*, W. H. L. Clare; J. H. Bradwell. *Cock.*—1, R. Hall.

Spanish (Any variety).—1, W. Nottage. 2, W. R. Ball. *hc*, J. K. Fowler. *Cock.*—1, C. Wright.

Hamburghs (Any variety).—1, — Swallow & Chambers. 2, — Arnold.

Brahma Pootra (Any variety).—1, A. B. Hamilton. 2 — Stevens. *hc*, H. Clark; M. Leno. *c*, J. Holmes.

Game Bantams.—*Black-breasted Red.*—1, C. Read. 2, Capt. Newland. *hc*, G. Dickens. *c*, W. J. Reeder (2). *Any variety.*—1, J. Allen. 2, W. Y. Johnson. *Cock.*—1, P. M. Payne.

Bantams (Any variety except Game).—1, R. B. Stafford. 2 and *hc*, M. Leno. *Cock.*—1, P. M. Payne.

Any other Variety.—1, J. Malden. *hc*, P. M. Payne; Miss Roe; J. K. Fowler.

Farmyard (Local).—1, F. Powers. 2, N. Clarke. 3, T. Cranfield.

Ducks.—*Aylesbury.*—1 and 2, J. K. Fowler. *Rouen.*—1 and 2, J. K. Fowler. *Any variety.*—1, Rev. A. Orlebar. 2, M. Leno.

Guinea Fowls (Any variety).—1 and 2, Mrs. Street.

Geese (Any variety).—1, W. K. Fowler. 2, G. Davies.

PIGEONS.

Carriers.—1 and *hc*, H. Yardley. 2, — Swallow & Chambers.

Pouters.—1, H. Laver. 2, H. Yardley. *c*, W. Nottage.

Jacobins.—1, G. Roper. 2, H. Yardley.

Antwerps.—1, W. R. Ball. 2, W. Nottage.

Fantails.—1, J. Loveraide. 2, H. Yardley.

Trumpeters.—1, H. Yardley. 2, P. M. Payne.

Any Variety.—1, W. Nottage. 2, D. Dean. *hc*, W. H. Boyer; — Swallow and Chambers; H. Yardley; H. Laver.

CLECKHEATON POULTRY SHOW.

The following are the awards made at this Show, held on the 22nd inst.:—

Game.—*Black Red or Brown Red.*—1, C. W. Brierley, Middleton. 2, R. Hemingway, Shelf. *Blue or Grey Duckwing.*—1, C. W. Brierley. 2, J. Mason, Worcester. *Any variety.*—1, C. W. Brierley. 2, R. & H. Walker, Gomersal. *Cock.*—1, E. Aykroyd, Eccleshill. 2, C. W. Brierley.

Dorking.—1, T. Briden, Farby, Skipton. 2, W. H. King, Rochdale.

Cochin-China (Any variety).—1, H. Beldon, Bingley. 2, H. Lacy, Hebden Bridge.

Spanish (Black).—1, C. W. Brierley. 2, H. Beldon.

Brahma Pootra.—1 and 2, H. Lacy.

Hamburghs.—*Gold or Silver-pencilled.*—1, H. Beldon. 2, S. Smith, Northowram. *Gold or Silver-spangled.*—1 and 2, H. Beldon.

Pheasants (Black).—1, C. W. Brierley. 2, H. Beldon.

Game Bantams.—*Black Reds or Brown Reds.*—1, G. Noble, Staincliffe. 2, W. F. Eatwisle, Wike. *Any variety.*—1 and 2, W. F. Entwisle.

Bantams (Any variety except Game).—1, H. Beldon. 2, S. & R. Ashton, Mottram.

Any other Variety.—1 and 2, H. Beldon.

TURKEYS.—1, E. Leech, Rochdale. 2, Rev. N. J. Ridley, Newbury.
GEESE (Any variety).—1, E. Leech, Rochdale. 2, G. F. Thompson, Cleckheaton.
DUCKS.—*Aylesbury.*—1, J. Williams, Wath, Rotherham. 2, E. Leach. *Rouen.*—1, E. Leech. 2, J. White, Wakefield. *Any variety.*—1, C. W. Brierley. 2, W. Binns, Pudsey.

PIGEONS.

CARRIERS.—1 and 2, E. Horner, Harewood. *Single Birds.*—1, E. Lee, Birchenley. 2, H. Yardley, Birmingham.
TUMBLERS.—1, F. Moore, Burnley. 2, E. Horner.
POUTERS OR CROPPERS.—1, E. Horner. 2, H. Yardley.
FANTAILS.—1 and 2, J. F. Loversidge, Newark.
DRAGOONS.—1, H. Yardley. 2, F. Graham, Birkenhead.
JACOBINS.—1, E. Lee. 2, W. Gomersall, Littletown.
NUNS.—1, H. Yardley. 2, E. Horner.
ANTWERPS.—1, H. Yardley. 2, — Stanhope, Eccleshill.
EXTRA PRIZES (Any variety).—1, E. Horner. 2, C. Gravil, jun., Thorne.

RABBITS.—*Lop-eared.*—1 and 2, C. Gravil, jun. *Extra Prizes* (Any variety).—1, C. Gravil, jun. 2, C. E. Illingworth, Hightown.

JUDGES. — *Poultry:* Mr. James Dixon, Bradford; Mr. Richard Teebay, Fulwood, Preston.

ANTWERP, VOLANT, OR WHITE EYE PIGEONS.

I SEE what is stated at page 56, but still we do not get at the information sought. There is but one Antwerp Pigeon which I call the Antwerp proper, and it is the Dove-faced Antwerp, which frequents the loftier buildings of the city of Antwerp, as our Daws and Starlings do steeples and towers; in short, as you see Pigeons in the dome of St. Paul's, London—wild Doves, or the tramps and vagrants of Pigeon society. So is the Dove-faced Antwerp a wild Dove, in the city of Antwerp, and, probably, in the Belgian towns and provinces, such as I describe. I wish to learn if it is not a cross-bred bird between this Dove-faced Antwerp and Dragoon (and Owl, too), that is represented as the Antwerp or *voyageur* Pigeon we all know so well, such as were flown from the Crystal Palace lately; not our toy show Antwerps, useless on the wing; in short, if these Voyageurs are not Dove-faced Antwerp and Dragoon (Owl, too) Skinnums?

And I would learn, if the White-eye (Volant) is not either Dove-faced Antwerp and Tumbler crossed—perhaps House Dove crossed—or Dove-faced Antwerp under domestication—reclaimed Doves, indeed; for I think the Dove-faced Antwerp is the House Dove, become homeless and partially wild, as Daws and Starlings, and vagrant Pigeons are.

"Volants" all birds are, more or less, and some insects and reptiles too; but the Volant Pigeon is so called in demonstration or rather signification of its remarkable flying powers. And Volants are White Eyes; but whether Dove-faced Antwerps pure or crossed, as suggested, remains to be told. The "Volant" is indigenous to certain provinces in Belgium only, and a *rara avis*, generally speaking. Mr. Sutherland, of Combe, I believe, knows this Pigeon. In Lancashire we want to know what White Eye (Volant) is.—READER.

P.S.—The White-eye Volant I am told is also called "The Cumulet," whatever that signifies. Is it some prolific speciality, or gregarious habit, or has it reference to cloud—cumulus—flights?

MIDDLETON POULTRY SHOW.—This Show, which of late years has been very successful both as regards the number and the quality of the poultry and Pigeons exhibited, is fixed for September 20th and 21st. There are fifty-two classes for poultry, seventeen for Pigeons, and six for Rabbits, in all seventy-five classes, and the prizes include several cups.

SUCCESSFUL SWARMS—DRIVING.

I BOUGHT a stock of bees this spring. A month ago a swarm came off which I put in a straw hive, but the bees did not seem to settle, and I suspected they were going off to some place which they had chosen. In about half an hour they began to return to the stock hive again, in a quarter of an hour they had all done so. Is it probable the old queen which would go with this swarm was lost? In fourteen days, the weather being unfavourable all that time, there was another swarm which I secured; it has been fifteen days in the hive, and this is quite full of comb, and 9 lbs. heavier. I have heard no piping in the old stock, neither do I think it will swarm again. It has sufficient honey to keep its population during the winter and spring, and has on it a glass cap (10 inches by 5 inches), which is full, except a small piece of comb at the side. There is pure honey in all the combs, no bee-bread, and the bees are now sealing it quickly.

The white clover, which is the chief honey plant here at present, will last for some time, but haymakers are robbing the fields of much of our bee food. I purpose sending my bees to the moors in about three weeks' time. Would it answer to drive the old stocks at the expiration of twenty-two days from the date of swarming? Would they make sufficient honey, if the season be favourable, to maintain their population during the winter? I would not object to feeding in the spring. In the autumn, when the brimstone fumes are killing our little favourites, I could drive some bees and add to the old stocks; in this way I should get an extra hive. If the glass-cap were not all sealed, I would put it on the top of the swarm until all were sealed. Would giving beeswax to the bees be of any advantage to them in making comb?—T. R.

[It is very probable that the old queen was lost when the first attempt at swarming was made, and that under the circumstances no second issue will take place. If you now drive the stock you are likely to sacrifice a great quantity of brood, the usual conditions being entirely altered by the too-probable loss of the old queen. The expelled bees may or may not be able to collect sufficient food to last the winter; all depends upon the character of the remainder of the season, which, of course, no one can foresee, but a removal to the moors would afford them a better chance. If the driven bees are put into a moveable-comb hive, a few sheets of artificial comb given to them two or three days after the operation might possibly be an advantage.]

PREVENTING SWARMING.

THERE are several causes which, if put in operation, will tend to prevent swarming; but to reduce it to a practical science requires considerable tact and attention. One point is to have large hives and plenty of room; another, to keep none but young queens. This lessens the tendency to swarm. Moveable comb hives are indispensable. We have several apiaries at a distance from home, and do not find it necessary to watch them daily in the swarming season, as was the tedious old-time custom. As above mentioned, we supply each colony with plenty of room and a young queen. During the season when swarms are most likely to issue, a man examines each hive as often as every eight or nine days, and if any queen cells are in process of construction, cuts them off. They cannot mature any more queens within the next interval before examination, and if any cells are then found they are cut out in the same way, and so on till they cease.

The wing of the queen is clipped close, so that if any cells should be overlooked, and a swarm should issue, she could not fly, and, being unable to accompany the bees, they would return to the hive.

There is danger of the queen being lost by dropping to the ground in front of the hive and not finding her way back. This can be avoided by using what is called a "queen yard," being simply a plank in front of the hive 18 or 20 inches square and 4 inches high, with a strip of tin 2 inches wide set in all round the top, projecting inwards, parallel with the bottom of the box. The bottom should be tight, with a strip of wire cloth, 3 or 4 inches wide, across the side next the hive, to make it cooler. Make an opening in that side corresponding to the entrance of the hive at the bottom, and a passage through which the bees must pass into the queen yard before taking flight. The queen cannot fly, and cannot crawl over the projecting tin, and will readily return to the hive. I know of no possible means of preventing swarms with the box hive, as the queen cells are often inaccessible.—(*Moore's Rural New Yorker.*)

APIARIAN GLEANINGS.

TO FIND THE QUEEN.—I know of no method of finding the queen, except by looking till you see her. She is generally to be found on one of the brood combs. Handle the combs gently, so as not to alarm the bees, and she will remain much more quiet. The Italian queens being generally highly-coloured, can be distinguished much more easily than the natives, and are much less disposed to run about in fright over the combs.

TO REMOVE BEES FROM A FRAME of honey or brood, hold it perpendicularly to avoid breaking-out the combs, and give it a sharp, sudden motion downwards, with force enough to dislodge most of the bees. The few still adhering can be brushed off with the feather-end of a stiff quill or a small wing.—M. QUINBY.—(*Moore's Rural New Yorker.*)

OUR LETTER BOX.

Books (*P. J. J.*).—We think you must mean the "Poultry-keepers' Manual," price 5*s*., free by post 5*s*. 4*d*.

Dark Brahma Cock Crop-bound (*C. G.*).—Your fowl must have had a wonderful constitution to live through your treatment. We cannot imagine much worse feeding than yours. It is far more fitted for a pig than for a fowl. It is said that certain Indians, when unable to procure food, eat earth to stay the cravings of an empty stomach. Your fowl must have laced his "olla podrida" in the same spirit. For some time after each operation the food should have been plain thick gruel, administered frequently, and very little at a time, not such a hotch-potch as he had. Till you alter your feeding you will always have crop-bound birds. Give up your thirds, cabbage, potatoes, and muizemeal. Give ground oats, barleymeal, or even whole corn. Be careful in giving small quantities at a time, and your bird will do better, but he will be long in recovering the double operation. If you have another as good we do not advise you to keep the patient.

Fowls to Supply Chickens and Eggs (*H. B. B.*).—You cannot do better than keep the Brahma Pootra if you mean to eat the eggs and chickens yourself. If you mean to send to market, we advise you to keep Dorkings, provided they can always have the run you speak of.

Hamburghs Catarrhed (*W. H.*).—Your Hamburghs have a cold; all the breed are subject to it. You say they seem well, and lay well. All they want is a stimulant. Nothing is better than some bread and ale, and a little camphor in their water. If the cold be treated in this way it will pass. If the weather change for real summer weather, dry and hot, we shall hear no complaints of the sort; but with lessening days, cool mornings and evenings, and tropical showers (six hours sooner or six hours later, *vide* Francis Moore Physician, in his learned treatise, "Vox Stellarum"), we have little hope of perfect health and ease for man or other bipeds.

Preventing Fowls Sitting (*E. W.*).—We are tired of remonstrating with those who, like you, complain fowls are always sitting. The act, or propensity, or nuisance as you term it, is one strictly in accordance with all the attributes of fowls. As to their being always sitting, it is a question of lapse of time. If you chose twenty children, all born February 13th, 1871, you will not be surprised if on the 13th of February, 1872, they are twelve months, if in 1892 they are all of age, and looking on you as "an old fogey." It may be, the burden of twenty coming of age the same day may be hard to bear. If you had chosen them in four divisions, with one year's interval, they would not all come of age at once. If your chickens are all of the same age, they will all lay and want to be broody the same day; if you choose them at one or two months' interval, there will be the same interval in their laying and broodiness, and you will have nothing to complain of. Broodiness in a pullet is a question of age; in a hen, it is a question of season. If you keep pullets, you may depend on their laying, but if you keep hens they will only lay in the spring. We suppose your only objection is, that the hens do not lay when they are sitting.

Distinguishing the Sex in the Egg (*E. E. F.*).—We thank you for your letter, and your experiences. We do not believe in the sexes of eggs, and have little faith in the eggs of pullets. They are generally supposed to be the worst eggs they will lay. We have tried all the modes suggested, and have come to only one conclusion—that the earliest chickens have a tendency to the male sex. It is curious that a Crêve-Cœur should sit, and as you put her on Duck's eggs, thus showing her the sweets of maternity in their sourest sense; it is probable she may rejoice it was only the exception, caused by some disarrangement of the organs, and she may avoid such visitations, and such gentle cares in future.

Making Hens Recommence Laying (*Cressy*).—We can only recommend you patience. Feed your fowls moderately but well. Do not have recourse to any cabbage, potato, or patent foods. No stimulants. Every hen if she meet with no accident, lays her stipulated number of eggs, and whether she does it in four years or in one, she will lay no more. Everything that is done in the way of forcing to lay, tends to produce disease of an incurable character. Meat feeding forces laying.

Crossing Dorkings (*C. M. S.*).—We had not thought there was a pure Red Dorking cock left. We never see one now. The late Prince Consort had them, also Sir John Cathcart, and Mr. Fisher Hobbs. You may safely keep the produce, and the chickens will show the Red blood next year. It will be no disadvantage to them. It cannot be too generally known and understood, that no colour should be allowed to influence the chances of success of a pen of Dorkings in general competition. All can compete except White. They have classes apart. Silver-Greys can compete in the general class.

Dubbing Game Chickens (*E. W. S.*).—The age of five months is full early for dubbing, but if your chickens are shown with full heads they will have no chance against those that are dubbed. The best food for a journey is bread sopped with water, and put in a vessel fastened to the side of the basket in which the bird is packed.

Keeping Hamburghs (*J. C., Riversdale*).—They do not thrive in confinement; they must have a good run. Brahmas, Cochins, or Spanish will suit you much better. We should choose the first-named.

Double Egg (*J. N.*).—We are much obliged by your communication. It was for many years declared that these double eggs were not fruitful, but experience has proved the contrary. We have many instances recorded in which, as in your case, twins have been produced, not always joined together. The weight, 5¼ ozs., is very great. Hens sometimes lay each for a week and then discontinue. It does seem an anomaly and a difficulty that fourteen eggs should produce fifteen chickens, but it is not the less true, and we thank you for the authentication of it.

Woodbridge Show.—"I wish to know if any exhibitor at this Show has received any prize money. I have not, and although the Secretary promised to send it at a certain date I have seen nothing of it. I am waiting until another exhibitor is ready, and then we are going to try and get it in the County Court, and I advise all others to do likewise.—Howarth Ashton, *Polefield, Prestwich*."

Antwerp Pigeons, &c. (*Reader*).—We think that no more need be published. The question has been already asked, replied to, and rejoindered. Birmingham boys have as good a right to maintain their opinions as Lancashire lads. They each claim truth, and it may be, "truth disclaims them both."

Second Swarm Deserting their Hive.—The errant swarm may have returned to the old hive, although it seems more probable that they have gone off altogether. We cannot account for their deserting their hive, although discouragement owing to unfavourable weather may possibly have been the cause, and in this case a timely supply of food sufficient to enable them to proceed with comb-building, might, perhaps, have saved them.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. July.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 19	29.923	69.3	61.4	S.W.	64.3	80.0	56.3	121.4	56.3	—
Th. 20	29.923	64.7	56.7	N.W.	64.5	77.2	56.9	121.2	54.8	—
Fri. 21	29.967	64.4	57.0	S.E.	64.0	73.5	57.1	120.0	56.5	0.030
Sat. 22	29.659	59.4	56.6	S.E.	63.6	73.7	56.9	113.0	55.5	0.010
Sun. 23	29.665	61.2	56.7	S.W.	63.5	71.1	52.8	121.2	51.6	0.170
Mo. 24	29.630	62.4	57.3	S.W.	62.2	70.2	53.7	122.0	54.1	0.250
Tu. 25	29.393	61.8	56.2	N.W.	61.8	67.8	54.0	117.1	54.8	0.120
Means	29.732	63.3	57.4		63.3	73.2	55.4	119.4	54.9	0.580

REMARKS.

19th.—Hazy in early morning, fine but occasionally cloudy, storm-like, with a few drops of rain at 7 P.M.

20th.—Fine morning, cool air and bright sun all day, but cloudy at night.

21st.—Hazy and cloudy till noon, so of course cooler, very fine afterwards.

22nd.—Hazy morning, slight shower at noon, and a short heavy one between 5 and 6 P.M.; all else fine.

23rd.—Fine early, thunder at 11.55 A.M., slight shower at 1 P.M., and two or three afterwards.

24th.—Rainy morning, sunshine and showers during the day, but wet evening and night.

25th.—Fine, early; strong wind and frequent heavy showers, vivid flash of lightning, and very long, though rather distant, peel of thunder at 3.2 P.M.

Barometer rather lower than last week, temperature slightly higher, the difference between the dry and wet being precisely the same, 5°.9. The latter part of the week alternating splendid sunshine and heavy showers.
G. J. Symons.

Errata.—Barometer, April 29th, should be 29.388, and July 14th, 30.032.

COVENT GARDEN MARKET.—July 26.

We are now better supplied with general produce than for some time past, and a fair attendance of buyers has kept the stands clearer in consequence. Pines and Grapes are very plentiful; Peaches and Nectarines quite sufficient for the demand.

FRUIT.

	s.	d.	a.	d.		s.	d.	a.	d.
Apples ½ sieve	1	6	to 4	0	Mulberries lb.	0	0	to 0	0
Apricots doz.	1	0	3	0	Nectarines doz.	4	0	12	0
Cherries lb.	0	6	2	0	Oranges ℔ 100	6	0	10	0
Chestnuts bushel	0	0	0	6	Peaches doz.	6	0	15	0
Currants ½ sieve	3	0	4	0	Pears, kitchen doz.	0	0	0	0
Black do.	4	0	6	0	dessert doz.	0	0	0	0
Figs doz.	3	0	6	0	Pine Apples lb.	3	0	5	0
Filberts lb.	1	0	0	0	Plums ½ sieve	0	0	0	0
Cobs lb.	2	0	2	6	Quinces doz.	0	0	0	0
Gooseberries quart	0	6	0	8	Raspberries lb.	0	6	1	0
Grapes, Hothouse lb.	2	0	5	0	Strawberries lb.	0	6	1	6
Lemons ℔ 100	6	0	10	0	Walnuts bushel	10	0	16	0
Melons each	2	0	6	0	ditto ℔ 100	1	0	2	0

VEGETABLES.

	s.	d.	a.	d.		s.	d.	s.	d.
Artichokes doz.	4	0	to 6	0	Leeks bunch	0	4	to 0	6
Asparagus ℔ 100	0	0	0	0	Lettuce doz.	0	3	1	0
Beans, Kidney ℔ 100	0	6	1	0	Mushrooms pottle	1	0	2	6
Broad bushel	2	0	3	0	Mustard & Cress punnet	0	2	0	0
Beet, Red doz.	2	0	3	0	Onions per doz. bunches	4	0	6	0
Broccoli bundle	0	0	0	0	pickling quart	0	0	0	0
Brussels Sprouts ½ sieve	0	0	0	0	Parsley ½ sieve	3	0	6	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	9	1	0
Capsicums ℔ 100	0	0	0	0	Peas quart	0	6	1	0
Carrots bunch	0	0	0	0	Potatoes bushel	3	0	6	0
Cauliflower doz.	3	0	6	0	Kidney do.	3	0	3	0
Celery bundle	1	6	2	0	Radishes doz. bunches	0	6	1	0
Coleworts doz. bunches	2	0	4	0	Rhubarb bundle	0	4	0	6
Cucumbers each	0	6	1	0	Savoys doz.	0	0	0	0
pickling doz.	0	0	0	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	0	0	Shallots lb.	0	6	0	9
Fennel bunch	0	3	0	0	Spinach bushel	3	0	4	0
Garlic lb.	0	3	0	0	Tomatoes doz.	2	0	3	0
Herbs bunch	0	3	0	0	Turnips bunch	0	4	0	8
Horseradish bundle	3	0	6	0	Vegetable Marrows doz.	2	0	3	0

POULTRY MARKET.—July 26.

There is a good supply and a good demand. As usual, increased consumption follows on diminished prices.

	a.	d.	s.	d.		s.	d.	s.	d.
Large Fowls	2	6	to 3	0	Pigeons	0	9	to 0	10
Smaller ditto	2	3	2	6	Rabbits	1	5	1	6
Chickens	1	9	2	0	Wild ditto	0	9	0	10
Ducklings	2	0	2	6	Hares	0	0	0	0
Goslings	6	0	6	6	Guinea Fowl	0	0	0	0
Pheasants	0	0	0	0	Grouse	0	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 8—9, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
3	Th	Stafford Horticultural Show.	74 9	50.6	62 8	19	28 af 4	42 af 7	32 af 9	15 af 7	17	5 57	215
4	F	East Neuk of Fife Horticultural Show.	75 9	50.6	62 8	17	30 4	41 7	50 9	34 8	18	5 52	216
5	S	Crystal Palace Supplem ntal Rose Show.	74.5	50.9	62.7	19	31 4	40 7	6 10	48 9	19	5 46	217
6	Sun	9 Sunday after Trinity. Duke of Edin-	73.2	50.8	62.0	21	33 4	38 7	23 10	59 10	20	5 40	218
7	M	[burgh Born, 1844.	74 6	50.9	62.7	16	35 4	36 7	42 10	after.	21	5 33	219
8	Tu		74.5	49.4	61.9	18	36 4	34 7	1 11	19 1	☾	5 26	220
9	W		74.9	49.6	62.2	16	38 4	32 7	27 11	26 2	23	5 18	221

From observations taken near London during forty-three years, the average day temperature of the week is 74.6°, and its night temperature 50 4°. The greatest heat was 90°, on the 6th, 7th, and 8th, 1858; and the lowest cold 35°, on the 4th, 1865. The greatest fall of rain was 0.88 inch.

THE CULTURE OF WINTER SALADS.

TO provide salads in summer is not difficult, but to keep up a supply throughout the winter is not so easy. It requires considerable skill and forethought, and it is just what every gardener, however small the place, should try to do, because the demand for winter salading is rapidly increasing, and the chances are that he will some day be called upon to grow them, when he would find it much to his advantage to have given them a share of his attention.

Hitherto, I believe, the French gardeners have excelled the gardeners of this country in the culture of their salads, but I do not think that the perseverance of the English will long allow that to be the case; the French may, and perhaps always will, have a greater variety of materials with which to make up a salad than we have, or indeed than English palates require; but I think salad culture is destined ere long to develope itself in this country to as great a degree as in France, and to become an object for special preparation in most gardens.

Under the head of salads for winter I mean to include the early spring months, or that period before which it will not be safe to attempt to raise a supply out of doors. The materials which I have found most in demand are Lettuces, both Cabbage and Cos, Endive of sorts, Corn Salad, Mustard and Cress, Watercress, Parsley, Celery, and Radishes, also Chicory. Beetroot, which is frequently used, would, of course, be supplied from the summer-grown crops, and the same may be said of the Celery, which will in most seasons be fit for use up to March or April.

For Lettuces and Endive it will be necessary to have plenty of glass protection, such as temporarily-constructed garden frames, hand-lights, and bell-glasses, or what the French call cloches. Any of these, or all of them, may be arranged on a sloping border, or any sheltered place with a sunny aspect There are very few places where there are not a few glazed lights to spare, and in the absence of any other protection these may be used as follows:—Select the spot and level the soil, stake out a piece of ground equal in width and length to the number of lights to be used, drive strong stakes into the soil, and nail a 6-inch board to them for the front, and one a foot or more in width for the back; let the under edge just touch the top of the soil—when the lights are laid on there will be one of the most handy and useful structures that can be put up for temporary use. The soil inside may be dug out to any depth, so as to admit of heating materials being placed inside, hotbed-fashion, in case of need; but for the protection of full-grown Lettuces and Endive, or salads which require to be blanched fit for use, only a few inches of soil need be taken out, unless from its poorness a better sort is required. Bear in mind that in these structures there must always be space allowed between the plants and the glass for the circulation of air, as, during bad weather in winter, much attention to air-giving will be necessary.

Last summer, when I took charge of these gardens, I found that a very large quantity of all kinds of salading would be required during the winter and spring, I therefore set the men to erect several ranges of the temporary frames described, and nothing could have answered the purpose better. Some of them were filled with sturdy plants of Parsley; a few lights were devoted to Tripoli Onions, while the remainder were filled with Lettuces and Endive in various stages of growth, always reserving enough space for the reception of a good store of various sorts of salading in a fit state for use. If the roots of such plants are packed carefully in a dryish soil the leaves remain fresh and good for a long time. During the severe weather last winter I erected some temporary benches in the packing shed, placed on them a few inches of soil, packed the Lettuces and Endive as closely as convenient, and they kept in first-rate condition. Again, after the Endive is used up, which is about February or March, these frames are employed for forwarding spring Lettuces and Onions, Radishes, Mustard, Cress, and Parsley, as well as various plants for out-door crops.

The earliest crop of Radishes is generally sown with the early crop of Carrots in December or at the beginning of January on a gentle hotbed; they can again be sown among early crops of Potatoes on a bed of leaves. Great care must be exercised that the heat is not too strong, otherwise the Radishes run too much to top. Another precaution it is as well to mention should be taken—that is, not to use the soil for such crops as Carrots and Radishes too light and rich; if so, the same result will be produced. A good plan is to press the soil firmly about the roots after the plants have made a fair share of top-growth; this will induce them to swell at the bottoms, and check top-growth.

Next I will speak of Mustard and Cress. There are often complaints made about the difficulty in getting the latter to vegetate. I have experienced the same result, but it has been with old seed; I have never had any difficulty with new seed. The plan which I adopt is to sow the seed in shallow boxes of convenient width, and never to cover it, but merely press it into the soil with the hand. Do not sow too thickly, otherwise the gummy substance produced upon the seeds by moisture congeals, and destroys the vitality of the seed. Gentle heat and moisture constitute all that is required besides the above. There ought to be no intermission of supply between the first in-door crop and the last out-door crop. I begin to sow in-doors during the last week of October, or sooner if the weather is precarious.

Corn Salad, or Lamb's Lettuce, though not always required for the salad bowl, is, nevertheless, a very excellent and agreeable salad. It is very much in request here. Its culture is of the easiest kind, and when once established in a garden it will come up freely enough without sowing, but to make sure of a good supply, a sowing is made in August for autumn use, and two more in September for winter use. In many parts of England it requires no other protection than that afforded by a wall, and when hard frosts set in I generally cover it with long litter or fern, and cut it as required, but doubtless it would be improved by being grown in some cool place protected by glass.

Chicory is, I think, becoming more commonly used than

any other sort or salading, except Endive or Lettuce. It is a good addition to a salad, though it has been thought too bitter for some tastes, but those who are accustomed to eating it take no notice of that. It is not so bitter if forced quickly, but if forced slowly it is both bitter and tough. My mode of treating Chicory is in May to sow a good breadth in rows, 1 foot apart, in the open ground, selecting good deep soil, and encouraging the growth so as to produce good-sized roots. In the autumn I dig them out of the ground in the same way as Carrots, taking care not to break them. After drying, the roots may be packed away, minus the tops, in some dry cool shed, where they will be secure from frost, using dry earth or ashes to pack them in. When forcing commences, which with me is about the beginning of November, a hotbed is prepared of sufficient size to afford a heat of about 70°. The position for such beds is by no means of particular importance, for I have placed them in dark sheds or cellars, or in any out-of-the-way corner of the garden, and in brick pits or garden frames, and if every ray of light be excluded, any of these places will answer the purpose well. If a bed cannot be afforded for forcing Chicory alone, the roots may be potted thickly, and placed in any heated structure. They must be kept dark, and supplied with plenty of water. The young leaves will soon push forth, well blanched and tender, and when from 4 to 6 inches long are fit for use. This salad is the easiest to force of any that I know, and may be enjoyed by anyone having the most limited means for forcing it.

Of Lettuces and Endive, in order to have a good stock of plants for winter use, successional sowings should be made frequently between July and November. The earliest sown will come to perfection in the open borders, and also later sowings if the weather be mild. The stock, however, should be so regulated as to have a large quantity of plants approaching maturity, so that all store places under glass may be filled up when frost sets in. Hand-lights and cloches may be used with advantage to protect the plants left in a forward state in the open ground. The cloches, of which I have several dozens, are the handiest and most useful means of protection I know, and they should be in use in every garden. The way to make the most of them is to place the plants in groups of five or seven, close enough for the cloche to cover the whole. During hard frost a little protection must be given at night. Cloches are also remarkably handy for bringing forward Lettuce in the spring, for protecting or growing Parsley, and for many other purposes.

I hope the hints I have given will be found useful to those who may be called upon to supply a winter salad; but remember, there is much to be left for the cultivator's own judgment to apply according to circumstances which I cannot foresee. By the methods described, I have to supply some thousands of heads and bunches of the different salads mentioned during the autumn, winter, and spring.—Thomas Record.

STRAWBERRY CULTURE.

Last season Strawberries, owing to the excessive heat and drought, ripened nearly together, but where they were well supplied with water at the roots the quality was very superior. The present season has been equally remarkable for wet; in many cases the fruit was deficient in colour and flavour, and decayed on the ground before it was quite ripe. In a season like the present, the best way to ripen the fruit, and to preserve it for a few days after it is ripe, is to stick small sprays of Elm, Beech, Hornbeam, or anything similar, round the plants, and allow the fruit to hang over from the clefts of the spray. In a dry, scorching season the fruit is sometimes scalded, but in a wet season this is the only way to preserve it intact.

The failure out of doors has been amply compensated by the unusual excellence of the pot fruit. A very large crop has been gathered with considerably less attention as regards watering. In continued dry, hot weather the amount of watering pot Strawberries require is enormous. Various means have been tried to obviate, to some extent, the necessity of so much watering, such as placing the pots in saucers of water, or setting them on turf, but I do not approve of either system. To obtain the finest-flavoured fruit the pots should stand upon a wooden platform or shelf as close as possible to the glass, and in a position where a current of air can pass over and under them, especially when the fruit is ripening; and air at that time should be admitted both by night and day. The fruit, as a consequence, will be highly coloured and rich in flavour.

The following varieties were grown in the orchard house this season, and they ripened in the order of their names:—Premier, British Queen, Mr. Radclyffe, Lucas, President Wilder, La Constante, Souvenir de Kieff, and Frogmore Late Pine. From some cause, but what I know not, nearly two-thirds of the plants of Souvenir de Kieff were "blind," and the same circumstance occurred with the plants in the bed out of doors. This is an excellent Strawberry, but if it has a failing of this sort it is not to be recommended. Lucas was very good indoors, and is very fine out of doors; beautiful in colour and excellent in flavour under the circumstances. British Queen and Mr. Radclyffe are much alike; both are first-class, and always to be depended upon for a crop of the finest dessert fruit. President, which ripens earlier than any of the above except Premier, which ripens about the same time, should be grown by everybody. Frogmore Late Pine, planted out and in pots, is unsurpassed as one of the latest varieties; the fruit is large, and, with its peculiar Pine flavour, most excellent. The plant is also an abundant cropper. Those who require fruit of the largest size and late should grow Admiral Dundas and Cockscomb; the latter is also of good flavour.

The new varieties which I have not as yet seen noticed are President Wilder, which is of dwarf, compact habit; the fruit is not of the largest size, but there is plenty of it, and the flavour is good, especially out of doors. Triomphe de Paris is of free growth, and an excellent variety for pot-culture. Alexander II. also promises well. The fruit is of large size, somewhat irregularly formed, and of a bright red colour; it is, unfortunately, one of the most tender sorts, and the plants were much cut up last winter.

It may be useful to state the method of culture pursued here with the Strawberry in pots as well as in the open garden. We commence to layer the runners both for pot-culture and for planting out about the first week in July. The Strawberry requires good potting material—turfy loam and rotted manure, in the proportion of four of the former to one of the latter. A single crock is placed at the bottom of a 3-inch pot, and a little soot over this to help to keep the worms out; the loam is then pressed firmly in. The pots are arranged close together in a double row between two rows of Strawberries, and a runner is fixed in the centre of each pot with a small peg. In a fortnight the runners will be established in the pots, and may be cut clean from the plants, placing them in a position freely exposed to the sun and wind; of course not in a continued draught, as no plant will do well in such a position. The plants should also stand on a hard bottom, or each pot should be set singly on a brick.

When the plants have well filled the small pots with roots, they should be shifted into the pots in which it is intended they should fruit; 5 and 6-inch pots are the most suitable, and the compost should be the same as that previously used. I have tried a larger size than 6-inch pots, but do not think that such are so suitable. In potting it is hardly possible to ram in the compost too hard. The pots should not be filled too full: half an inch or more space should be left below the rim to allow of sufficient water being given; and it may be as well to note here that the plants should not have a drop of manure water until after their season of rest and until the flower-trusses appear, when manure water may be occasionally given until the fruit shows signs of colouring, then it must be withheld. During the period of growth the plants should not only stand in an open position, exposed to the sun morning, noon, and night, but ample space should be allowed between the pots in order that the leaves may have room to develope themselves. The only attention the plants require after potting them is to water freely and pinch off the runners as they are formed, and about the middle of October to remove them to cold frames, where the pots should be plunged to prevent the frost from injuring the roots. The pots can be removed to the forcing houses as they are required.

For culture in the open ground, and to obtain the best results, much the best system is to make a fresh plantation annually, and, as already noticed, the runners should be layered in small pots. It is the best way, as not only do the plants go out without experiencing any check to their growth, but they may remain in the pots a week or two if the ground is not ready for them. They can be planted after any crop—Peas, Potatoes, or spring Cabbage. If the ground is cleared before the end of July, it should, if possible, be trenched and well enriched with manure a fortnight before planting. I plant in rows 2 feet apart, and allow the same distance between the plants. This distance is the most suitable for all the varieties, except such as Presi-

dent Wilder, La Constante, Black Prince, and others of the same type. In such a season as this a distance of 2 feet is much too close for the stronger-growing varieties; the leaves have so overshadowed the fruit that sun and air cannot reach it. It is also worthy of note that the best fruit as well as the heaviest crop is obtained the first year after planting. The varieties recommended for pot culture are the best also for growing in the kitchen-garden quarters. Of course, the different qualities of soil have much influence on the quality of the fruit. The flavour is also much affected by position; an open airy exposure suits the Strawberry best. Sheltered from cutting winds, but not shaded, Frogmore Late Pine on our light sandy loam is one of the best late sorts; on some clayey soils it does not succeed.—J. Douglas.

A BIT OF SOUTH DEVON.—No. 2.

"What's in a name?" Much. It is quite true that "a Rose by any other name would smell as sweet," but that is no satisfactory response to the query. The name applied always indicates much. "Ned" is a different man from "Edward." "Bet" is not a woman like unto "Bessie." Then, again, where local names of things are gentle, poetic, the people of thereabouts are not "Nottingham lambs" nor "Paris communists." For example—a confirmatory example: hereabouts the fair blue flowers of Germander Speedwell, Veronica Chamædrys, are called "Angels' eyes," a name as soft as the people's clotted cream.

What a different commencement from that intended when I took pen in hand! But whilst I am a vagrant my habits partake of my infirmity of purpose. I intended first to say, and say it now, that since I last wrote I have had the pleasure of a long chat with Mr. Edward Vivian, the well-known meteorologist; he was on the verge of starting to join the Association of Science at Edinburgh, but kindly spared me an hour. He fully confirms the conclusion I had reached relative to the summer temperature of Torquay. His meteorological observations here extend over many years, but I will confine my quotation to his summary of results during the last ten years.

"Mean summer temperature and highest extreme—

Torquay..	55°.7, 82°.	Clifton..	55°.2, 91°.	Ventnor....	56°.3, 82°.
Exeter....	56°.5, 91°.	Oxford..	55°.3, 90°.	Greenwich .	56°.0, 94°.

Mean winter temperature and lowest extreme—

Torquay..	44°.7, 18°.	Clifton..	41°.3, 7°.	Ventnor....	44°.9, 21°.
Exeter....	43°.8, 14°.	Oxford..	41°.2, 16°.	Greenwich .	41°.4, 8°.

Mean daily range of temperature—

Torquay.....	9°.8.	Clifton	13°.4.	Ventnor	9°.2.
Exeter.....	14°.6.	Oxford	14°.2.	Greenwich.....	16°.3.

Annual amount of rain in inches, and number of days on which it fell—

Torquay ..	28.9, 154.	Clifton ..	29.3, 131.	Ventnor	27.7, 152.
Exeter	27.3, 135.	Oxford ..	25.5, 153.	Greenwich..	22.2, 147."

Collateral evidence of the absence of great summer heat is the fact that when Mr. Vivian resided in Hertfordshire he ripened Black Cluster Grapes on the open wall, but he has failed in his endeavour so to ripen them at Torquay.

My sole object in thus demonstrating that Torquay is a temperate sea-side summer resort is to remove the delusion which causes many to avoid, except in winter, this most beautiful locality, deficient in no one requirement, and with a Flora including many rarities, and all, whether rare or common wayside plants, characterised by very special luxuriance.

I record one relative warning. The plant-seeker will find it stated in Stewart's "Handbook of the Torquay Flora," that here is to be found the Maiden-hair Fern, but Mr. Vivian and Mr. Gosse, both residents, assure me that it is no longer a tenant of the Torquay cliffs. They both tell of "one little pet specimen on Berry Head," the whereabouts of which is kept secret from all but a select few, lest it should become known to that ruthless invader—a visiting collector. Never have I seen that Maiden-hair so fine as in the fernery of Mr. Gosse at St. Mary Church. (There's a softened name, again. How far more grateful to the ear than when the genitive *s*, as usual, is appended.) That excellent sketcher in words of Nature lives now surrounded by his trim garden, fernery, orchard and Orchid houses. If you who are reading these notes are not acquainted with his "Year by the Sea-side," make its acquaintance, and be grateful to me for introducing you to that book and its author, for in that you will see his mind. I know his genial personage, too, having just renewed an acquaintance some years have interrupted. He has a collection of about two hundred species and varieties of Orchids, and is annually adding to them. He has just purchased at a Stevens's auction that must for the present be considered a variety of Anæctochilus (Goodyera) Dawsonianus, but I venture to think it is the species, for the leaves are green, and those of the specimens at present bearing the name are coloured. Then, his fernery, with its walls and buttresses all completely clothed with most luxuriant specimens, hanging over and concealing a tank of slightly-tepid water, in which gold fish live and breed in comfort. How I pity those in glass globes! There, too, is that lovely bog plant, Ansgallis tenera, carpeting with its pale-green leaves the soil's surface, and figuring the carpeting with hundreds of its delicate pinky flowers. Why are not bog plants more cultivated? Mr. Gosse knows how to cultivate as well as how to collect, and he knows that he knows how, and, like another cultivator, would discharge the man who did not plant Cabbages with their roots in the air if he was so ordered. But Mr. Gosse is more than a cultivator and sketcher of Nature. Like the pilgrim turned hermit and cultivating his herb garden, Mr. Gosse can say, "My staff is not thrown aside, I keep it ready for my journey to a better land."

This reference reminds me that in the 15th century hereabouts were the resorts of pilgrims for embarkation towards the shrine in Spain of St. Jago de Compostella. In 1434 the Mary of Brixham was licensed to carry thirty pilgrims, the John of Teignmouth the like number, and the Catherine of Dartmouth forty. The district was likely to be fertile of pilgrims even if its population were not more superstitious then than now, for I have been told that a bed of Lilies of the Valley was not planted because he who did the planting would die within twelve months.

Mr. Curtis's notes on the new Roses of 1870 have just reached me, but before detailing them let me prevent any mistake arising from my remark that his rosery is strictly a practical establishment, by stating that he is a very frequent and very successful exhibitor. Even whilst I have been here he took prizes at Teignmouth, and just previously he did likewise at Clifton when contending with other great Rose-growers. Let me add for the benefit of amateurs this extract from his experience:—"I find guano and soot the best fertilisers for Roses." And now for his

NOTES ON THE PRINCIPAL ROSES OF 1870.

Abbé Giraudier, H.P. (Raised by Levet). Deep rose colour, somewhat in the way of Madame Charles Wood.

Albion, H.P. (Liabaud). A large, well-shaped, bright red Rose, but of moderate growth.

Alexander Humboldt, H.P. (Charles Verdier). A free bloomer, of the prevailing crimson colour.

Auguste Neumann, H.P. (Eugène Verdier). Dark rich shaded crimson, with thick petals. Good.

Baron Chaurand, H.P. (Liabaud). Very dark shaded crimson, with stiff Bourbon-like petals and rosette centre. Medium size and strong growth.

Belle Lyonnaise, T. (Levet). Fine shaded yellow, of vigorous, climbing, Gloire de Dijon habit, and, as far as I have seen, having more yellow with less of the buff tint than our invaluable old friend.

Blanche de Meru, H.P. (Charles Verdier). A small blush Rose of medium growth.

Catherine Mermet, T. (Guillot fils). Full size, distinct flesh rose colour, beautiful. The bud well coloured and graceful.

Countess of Oxford, H.P. (Guillot père). Carmine, very large. Rather deeper in colour than Victor Verdier.

Ducher. A good white Chiua.

Edward Morren, H.P. (Granger). Light carmine rose, of fine form and very double; of extra size. Rather uncertain, specimens sometimes occurring truly magnificent. A good grower.

Eliza Boëlle, H.P. (Guillot père). Light pearly blnsh, in the way of Mdlle. Bonnaire, but a stronger grower.

Ferdinand de Lesseps, H.P. (Eugène Verdier). Rich shaded crimson. Large and of fine form, of the Madame Victor Verdier type; fragrant and superb. A fine exhibition Rose.

General Grant, H.P. (Eugène Verdier). Dark maroon crimson, globular. A strong grower.

Jeanne Guillot, H.P. (Liabaud). Lilac rose, medium size. Not much to recommend it but its stroug growth.

Jnles Seurre, H.P. (Liabaud). Red, the old colour. No acquisition.

La Motte Sanguine, H.P. (Vigeron). Bright cherry crimson, very large and effective. Rather more massive than Glory of Waltham, of the same shade of colour.

Le Mont Blanc, T. (Ducher). White, tinted yellow, medium size.

Louis Van Houtte, H.P. (Lacharme). Rich shaded crimson maroon, deeply cupped, fine form. In the way of Louis XIV., but a stronger grower, very fragrant. A fine exhibition Rose.

Louisa Wood, H.P. (Eugène Verdier). Light vermilion crimson, often very striking in colour, and brighter than Madame Caillat. Of fine form and highly scented, will be found a great acquisition a a pillar Rose.

Madame Ducher, T. (Ducher). Pale yellow, pretty. Of medium size.

Madame Dastour, H.P. (Pernet & Co.). Brilliant cherry crimson; of fine half-globular shape, in the way of Victor Verdier. Good, though of medium growth.

Madame Le François, H.P. (Oger). Rosy pink. Habit and shape of Chabrillant, but not so good.

Madame Levet, T. (Levet). Shaded yellow and buff. Very evidently a seedling from Gloire de Dijon.

Madame Liabaud, H.P. (Gonod). Light pearly or rose blush, nearly white; of beautiful circular shape to its centre. In the way of Virginal, but of rather stronger growth. A decided acquisition. We could wish this gem rather larger for our exhibition stands.

Madame Trifle, T. (Levet). Yellow, shaded salmon and buff; large, of good dark foliage and habit. A Gloire de Dijon seedling.

Mdlle. Eugénie Verdier, H.P. (Guillot fils). Beautiful flesh blush, very large and showy. Of somewhat more expanded form than Madame Rothschild, and like Victor Verdier in growth.

Marquise de Castellane, H.P. (Pernet & Co.). Clear brilliant cherry rose colour; very large, striking, and beautiful. Of good habit, and a great acquisition.

Marquise de Mortemart, H.P. Beautiful light flesh blush; of good size and circular outline, but of dwarf growth.

Paul Neron, H.P. (Levet). Full rose colour; immensely large and massive. A very strong grower.

Princess Christian, H.P. (Paul). Fine shaded flesh rose colour. Habit and foliage of Victor Verdier.

Perle Blanche, H.P. (Touvais). White, delicately tinted flesh; globular and massive, style of La Reine. A hard opener.

Reine des Beautés, H.P. (Gonod). Light blush; a very strong grower. The plants have not yet flowered sufficiently to be proved.

Souvenir de Baron Rothschild, H.P. Dark purplish crimson. Not much of an acquisition. A free bloomer.

Susanna Wood, H.P. (Eugène Verdier). Rose colour. Of medium growth.

Thomas Methven, H.P. (Eugène Verdier). Brilliant carmine; growth strong.

Thyra Hammerick, H.P. Light flesh rose, large and circular; of medium growth.

Tour Bertrand, T. (Ducher). Yellow, shaded buff and flesh. A seedling from Gloire de Dijon, which it much resembles.

Unique, T. (Guillot fils). Flesh, edged and tinted with rose. Peculiar and distinct.

Clémence Raoux, H.P. (Granger). Flesh blush tinted and bordered. Of flat, expanded, massive form. Poor habit.

Those forty varieties were all proved in the Devon Nursery, and the notes record Mr. Curtis's opinions. I will add for the satisfaction of one of the "old Gooseberries" and his daughter, that I saw several specimens of Mr. Curtis's new Rose "Bessie Johnson." I can attest that it is a large, fragrant, pale pink flower, and of vigorous habit. Mr. Curtis says of it, "It is superior in perfume to most of the full-sized blush Roses, with the exception of La France; decidedly superior to Reine Blanche; is distinct, and a very free autumnal bloomer, of the fine habit and growth of Abel Grand."

I must conclude. It is raining steadily, and disagreeably near to the 20th, when Devonians expect the heavy rain, which they call from that anniversary "St. Margaret's Flood;" but it shall not drive me away, for "I have not yet done with Torquay."—G.

P.S.—The rain was last night; glorious sunshine this morning. Off to Berry Pomeroy Castle.

CUCUMBER FAILURES.

Many thanks, Mr. Luckhurst, for your answer to my plaint. Would that I could say it has solved the difficulty for me, but, truth to say, it has not. The day after I received the Journal my and your former neighbour, Mr. Woodford, came down to see me; he knew my case, and I put your letter into his hand. "Well," he said, "we will go and have a look at the bed," and so we did. So far from finding the bed soddened or the roots dead, we found the hills filled with fine, white, clean, healthy-looking roots, and the soil so loose and friable that one could put his hand right down to the manure without any difficulty; in fact, a better-looking bed could not be. So, again, I am at a loss. I find several of my neighbours similarly situated, and in one case the owner has, I know, made all the bed with turf as you have described; so I fear I must put it down as one of those things with "no fellow can understand."—D., *Deal.*

Large Lettuce.—I have frequently grown Lettuces to a much larger size than those spoken of by "R. F. S., *Stafford.*" After reading his remarks in your number of July 20th I visited my Lettuce bed, and cut two of the Paris White Cos, weighing respectively 3½ and 4½ lbs., and measuring 25 inches in circumference. About two years ago I cut two of the same sort, which together weighed 11½ lbs. They were all cultivated in the usual way for the use of a family, and had they received a little more attention would undoubtedly have acquired a much more prodigious size. I know of no Lettuce so useful for summer as the Paris White Cos. For years I have procured my seed from a remarkably fine selected stock. Not only have the Paris Cos Lettuces grown from this seed won the admiration of visitors for their enormous size, but connoisseurs who have tasted pronounced them the best and sweetest of Lettuces.—Uriah Hain, *Rousham Gardens, Oxfordshire.*

THE PORTUGAL QUINCE.

Some time since (about two years) I received some Portugal Quince stocks from Mr. Scott, of Crewkerne, and at the same period some from Mr. Rivers. They differ so widely in habit that I am tempted to ask your opinion as to which is the true sort, the small or the large-leaved. I enclose some of both. I find that the former strikes from cuttings, and has the appearance of the Angers Quince. The latter will not strike from cuttings but must be layered; this bears large fruit.—Inquirer.

[The large-leaved variety is doubtless the Portugal Quince, easily distinguishable from the Angers.—Eds.]

THE POTATO CROPS AND THE DISEASE.

I send you a report of the progress of the Potato disease in this neighbourhood (Ilford). There was an appearance of it about the end of June in plainly-discernible black blotches on the leaves and stalks, and about the 1st of July I dug up a plant of Veitch's Improved Early Ashleaf, and found three diseased tubers. This variety and Hogg's Early Coldstream were planted on a south border fully exposed to the sun, for the earliest crop. On the 1st of July the thermometer fell to the freezing-point, with a continued low temperature until the 14th; from the 2nd to the 15th 2·38 inches of rain fell. The disease made rapid progress in the garden, which is highly manured, consequently the crop is more susceptible to the disease. Rivers's Royal Ashleaf was attacked all along the lines. The haulm of Early Coldstream was soon a mass of decay: but very few tubers of this variety were diseased in the garden, and none in the field. I did not examine many of the second early crop. The haulm is a little touched in places. I lifted two roots of a promising variety named Derbyshire Hero, which was kindly given me to try by my friend Mr. Laing, of Downie, Laird, and Laing, and two roots of White Don. None were diseased. Of the last-named I never saw such a crop of even-sized Potatoes.

But it is in the fields and amongst the farmers that anxiety is felt. A neighbouring farmer had a fine crop of Kidneys, of which he thought much—nearly all are diseased. The Early Shaws, a variety which has been grown about here for more than a quarter of a century, were attacked first, and in some fields many were diseased, while the later sorts showed by the too-easily-discerned spots on the haulm that a continuance of weather favourable to the progress of the disease would soon make sad havoc with the main crops. The farmers, fearful for the loss of their crops, hurried them into market, and caused a rapid fall in the price. The Shaws are only second-rate as regards quality, and the very best "ware" were only fetching £3 per ton.

It was both interesting and instructive to watch the development and progress of the disease during the early days of July, until a kind Providence caused a change in the weather on the 14th. The air seemed to change, and the thermometer showed a rapid rise in the night temperature; it registered 61° on the 15th, 65° on the 16th, and 60° on the 17th, with a continued, rather dry, west wind, and a day temperature ranging from 80° to 85°. The disease was apparently stayed; the black spots on the leaves seemed to dry up, and the rest of the leaf remained of a healthy green up till to-day, July 27th. There is no disease in the main crop at Loxford over a range of seventy acres yet standing; and I again dug up a root of White Don to show the produce to a gentleman from Fife, who declared he never saw such a crop of large even-sized Potatoes and no disease. A young farmer told me yesterday that "down the country" the disease is very wide-spread, and some crops much injured, especially in the neighbourhood of Upminster.—J. Douglas.

The weather in our midland districts has been warmer in the past week, but is still very unsettled and at a very critical

point for the harvest. The Potato disease is likewise appearing amongst the second earlies, and everything is favourable at present for its full development and virulence amongst the late crops should August be wet and warm.—W. T.

Potatoes in the Vale of Gloucester are going, I fear, very fast, by the disagreeable smell that comes from the black-spotted tops, and many are complaining of dry diseased ones even now.—Thomas Gee.

The Potato crop in Cornwall has thus far turned out exceedingly satisfactory, the yield being larger than for some years and the quality very good. Unfortunately, however, the disease is reported to be spreading rapidly in many localities owing to the long-continued rain.—(*Devonshire Paper.*)

THE PROTECTION OF FRUIT TREES FROM FROST.

The most certain protection for wall fruits is to have the bearing wood thoroughly ripened to insure a crop.

It is with great diffidence I enter on a beaten path. The remarks of Mr. Sutherland, extracted from "The Gardener," and published in the Journal of July 13th, page 29, together with the pointed remarks of Mr. Fish in "Doings of the Last Week," in the same number, on the firmness of fruit-tree borders, have induced me to give my treatment of Peach trees against the open walls without the slightest protection having been ever afforded them for a period of eight years, during which time I never failed to secure a good crop of fruit, owing, I believe, to the system of root-management I adopted in order to secure short, hard, well-ripened wood.

I think it proper to commence with the making of the border, and I consider 8 feet to be a sufficient width, allowing 3 feet 6 inches from the wall for a path to nail, prune, disbud, &c., leaving 4 feet 6 inches of a bed to the edging of the walk, to be cropped as will be afterwards stated. There are very few gardeners, I believe, but have often remarked the injurious effects large heavily-cropped and highly-manured borders have on the fruit-bearing qualities of trees planted against walls; the continual digging, manuring, &c, inducing the trees to produce gross wood, water shoots, &c. Large roots running into the border and down into the subsoil, no fruitful shoots nor ripe wood can be secured when the roots get below the influence of solar heat. To correct the evil influence of planting in borders treated and cropped according to old-fashioned ideas, I adopted the following course of treatment.

The site of the border was high and dry; the soil was about equal parts of decayed sods and old garden soil thoroughly mixed, and in a healthy dry state. When filling-in, I had each layer of 6 or 8 inches in depth well rammed, and thus proceeded until I had 16 inches of soil firm and compact. I gave a good slope to the border, planted the young Peach trees in a half-circular space, cut about 6 inches in depth out of the solid border, planted as shallow as possible, and put on a mulching. I gave them the usual treatment young trees receive, and after the first year's growth, I mulched the border in March with very old hotbed manure, as recommended by Mr. Rivers many years since for light soils, and rammed it firmly. I next covered over the mulching to the depth of 1½ inch with sods and garden soil, and sowed in drills successions of Turnip Radishes, Early Dutch Turnips, and Onions, but no other vegetables. The hard manured bottom underneath the dressing of earth just suited such root crops, and never have I seen them better, but not large in size. I took care to have all crops off the Peach border by the 1st of September, in order to allow the solar rays to penetrate the border, and assist in ripening the young wood for the next year's crop.

The wood produced in the second year was in character and hardiness more like the young wood of an Apricot than Peach wood. The trees were studded over with fine triple-eyed, short, stubby shoots, and there was not a single robber shoot on any of the trees. The fruit were of a very large size. I measured a few of them, and the following were their dimensions—one Royal George Peach, 11 inches in circumference, one 10½ inches, one 10 inches, and several—in fact, the remainder—were all from 9 to 9½ inches each. Of Noblesse there were several from 9½ to 10½ inches in circumference.

My treatment during the first year I repeated yearly. When the border wanted water I gave a thorough watering. Previous to watering I went over the ground with a large-pronged fork, and drove it down in the border, moving it backwards and forwards to give width to the holes made by the prongs, and this was done closely around and over the roots, so as to allow the water to sink in freely. The character of the wood every year since has been the same as already described—as brown as if varnished, hard, stiff, and so well able to bear up against any rain storms, that instead of nailing or tying the bearing wood for the ensuing year's crop, after the last disbudding takes place, I allow it to grow from the wall in order to secure a better ripening of the wood. It always ripened more thoroughly growing in such a manner than if laid-in, and I have such proof of the practice being good, that I shall ever continue it. I have never had such crops of fruit (Peaches) as since I adopted the foregoing treatment, which, however, may be practised by many gardeners for anything I know to the contrary.

I should not omit stating that I protected the roots as in the case of Vines and Vine borders, for I believe the roots should be protected until the crop is set, and not protecting them at the most critical period for the safety of the crop causes many of the failures of which we hear. Let failures arise as they may from the many causes repeatedly stated in the gardening world, I have been able without the least protection to secure splendid crops yearly for the eight years during which I have had the management of the trees. I have been a constant reader of your Journal for the greater part of the time, and have often read of failures of the Peach crop, even where protecting materials were in use, but every season I found my crop quite safe with the usual thinnings, and I have become a firm believer in unripened wood being the chief cause of all the failures that take place. Let me point out the case of the wood in a vinery having been badly ripened—what follows? Why, a bad show of small bunches, and a very bad setting of the berries, although quite safe from the influence of frost and cold winds; and I assert that what takes place in the vinery from badly ripened wood, happens likewise to the Peach out of doors. I do not mean to assert that we can ever adopt a system of culture that will make the Peach tree live in health to a good old age; but we can assist materially in prolonging its existence, and have the benefit of splendid crops of fruit without the aid or expense of glass structures. In order to do so we must give up the old-fashioned border cropped with vegetables, but we can sow in succession the crops I have already named, and in the manner described, without the slightest disturbance to the roots of the tree.

In making fruit-tree borders let us make them firm, and if the compost is dry ram it hard; then it will be unfavourable to the formation of large roots, but will assist materially in causing masses of small fibres to spring upwards, assisted by the mulchings, to the surface, there to receive nourishment yearly at our hands, and be within the influence of solar heat.

I treated all the wall trees—viz., the Plums, Pears, Apricots, &c., in a similar manner to the Peach trees. The Plum tree I need not state requires taking up and replanting often, to make it produce fruitful wood, and I found firm borders most useful in causing the Pear on the Pear stock to produce freely at an early age. Borders for the Pear worked on the Quince need not be so firm. I have never resorted to any root-pruning, and the production of fruit-bearing spurs and wood was beyond my expectations; the size of fruit and abundant crops equally so. —J. McD.

POISONOUS FUNGI.

Having noticed accounts of large Mushrooms in two or three of the last numbers of The Journal of Horticulture, and having gathered several in an old pasture adjoining the vicarage grounds, I had the curiosity to measure one of them, the dimensions of which were as follow:—Diameter, 12 inches; height, 7½ inches; and weight, 1 lb. 6 ozs. I have gathered several in the same ring or circle, but none of them, I think, quite so large as this.

As many species of Fungi are used as food, or rather as condiments, and accidents arise in consequence, it may not perhaps be out of place to give briefly the medical treatment to be adopted in the event of poisonous Fungi being eaten. Vomiting should be excited as quickly as possible by a solution of sulphate of zinc or copper. A dose of castor oil or croton oil should be administered, or, what is better still, a large dose of spirits of turpentine. When the aperient has taken effect, small but repeated doses of ether, or ether and opium, should be given in some mucilaginous fluid.

The symptoms produced by these substances are illustrated

by the following case. A man, ten minutes after eating a considerable number of the Agaricus campanulatus by mistake for the Agaricus campestris, was suddenly attacked with dimness of vision, giddiness, debility, trembling, and loss of recollection. In a short time he recovered so far as to be able to go in search of assistance, but he had hardly walked 250 yards when his memory again failed him and he lost his way. His countenance expressed anxiety; he reeled about, and could hardly articulate. The pulse was slow and feeble. He soon became so drowsy that he could be kept awake only by constant dragging. Vomiting was then produced by means of the sulphate of zinc; the drowsiness gradually went off, and the next day he complained merely of languor and weakness. It appears from other cases that the symptoms are sometimes those of irritant, at others of narcotic poisoning; in most instances the two classes of symptoms are combined.—E. H. Marriott, *Fernhurst Vicarage.*

ROYAL HORTICULTURAL SOCIETY.

August 2nd.

Pelargoniums of the various sections known as Tricolors, Gold and Bronze, and Golden Selfs, constituted the principal, almost the exclusive, feature of the Show. Its extent was accordingly somewhat limited, for the rage for some of these, especially the Tricolors, appears to be dying out. The Show was held in a tent in the croquet ground, and only wanted the introduction of a few more plants to give diversity. The Royal Horticultural Society cannot be said to be unfortunate in the weather this year, for the day was one of the warmest we have had this season, and the attendance proportionably good.

Prizes were offered by W. Morris, Esq., Vice-Chairman of the Floral Committee, for the best group of Golden Variegated Zonal or Tricolor Pelargoniums, consisting of not more than six seedling plants. Messrs. Downie, Laird, & Laing were first with Stanstead Eclipse, a splendid bright-zoned kind as regards the young leaves, the old broadly banded with brownish black; Adonis, also finely coloured, with a well-marked golden edging; Decision, broadly edged with yellow; Flora McNab, large leaves, bright crimson zone, vandyked with dark crimson; Blythe Hill, and Brightness. Second came Mr. Turner with Salt Hill Rival; Lightning with a beautiful bright-coloured zone; Beauty; Peacock, dark crimson washed with rose and bright crimson; Rainbow, vigorous and bright, and F. Stainton. Messrs. F. & A. Smith sent Champion very fine in colour, Masterpiece, and others; and Mr. Mann, Brentwood, also exhibited. The prize, likewise offered by Mr. Morris, for the best plant selected from the class just noticed, was awarded to Adonis.

Class 3 was for the best collection of Variegated kinds. Mr. Turner, of Slough, was first with a numerous collection nicely grown and set up. Conspicuous among them were Princess of Wales, Mrs. Headley, Mr. Turner, Baroness Burdett Coutts, Miss Pond, Albion Cliffs, white-variegated; Miss Rutter, May Queen, white-variegated; and Mdlle. Christine Nilsson. Messrs. E. G. Henderson were second with a very good, evenly-grown collection; and Mr. Pestridge, Greenway Nursery, Uxbridge, third with good basketsful. An extra prize was awarded to Messrs. F. & A. Smith, of Dulwich, for a fine collection; and Messrs. Bell & Thorpe sent also a large well-grown set of plants, including many handsome varieties of their own raising.

For three plants of a Golden Tricolor variety Mr. Turner was first with Miss Morris, extremely brilliant in colour; Messrs. Carter & Co. were second with Prince of Wales, with large foliage, broadly edged with yellow, and of fine habit of growth; whilst Macbeth, with a broad rich dark chocolate and crimson zone, from Messrs. Bell & Thorpe, of Stratford-on-Avon, was third.

For the best Silver Tricolor Mr. Turner was again first with Mrs. Rousby. From the same exhibitor came also Miss Pond and Lady Brooke Bridges.

In Gold and Bronze varieties Messrs. Downie, Laird, & Laing had the lead, taking the first prize with Maréchal MacMahon, with magnificent foliage, broadly banded with rich reddish chocolate. The plants were everything that could be desired as respects fine growth and colour. Rev. C. P. Peach and Reine Victoria, lighter in colour of zone, were also very fine. The second prize went to Mr. Keeler, Beckenham Nursery, for Conqueror, very good. Messrs. E. G. Henderson and Mr. Cannell, of Woolwich, also exhibited good plants.

The best Golden-leaved self was Golden Circle from Messrs. E. G. Henderson & Son; the second best, Golden Gift, from Mr. Turner. The best Silver-edged was Blushing Bride from Mr. Pestridge, Uxbridge, with, however, a dark zone. The second prize went to Mr. R. Postans, Brentwood, for Miss Kingsbury. There were, however, only these two exhibitors in this class.

The only two exhibitors of Ivy-leaved kinds were Mr. Turner, of Slough, who was first with the splendid-coloured Willsii, and Mr. Macintosh, of Hammersmith, who was second with three finely-grown plants of the large-flowered Ivy-leaf shewn at the last meeting.

For the best Nosegay variety in bloom, Messrs. Bell & Thorpe were first with Charles Dickens, rosy scarlet, with magnificent trusses of bloom; Mr. Cannell, of Woolwich, being second with his lively rose-coloured, free-flowering Master Christine. Messrs. Bell & Thorpe also sent seedling David Garrick, scarlet, with immense trusses; and Mr. Turner Sybil, bright orange scarlet, fine in colour.

The first prize for the best Zonal in bloom was awarded to Mr. Mann, Brentwood, for Triumph, dark scarlet; the second went to Mr. Turner for Madame Jules Elyse, salmon suffused with scarlet, the flowers produced in large trusses.

In Double-flowering Pelargeniums, Messrs. Bell & Thorpe were again successful with a fine plant of Miss Evelyn, bright rose. Second came Messrs. J. Carter & Co. with C. Glym, bright orange scarlet; and third came Messrs. Downie & Co. with Victor Lemoine in fine bloom, showing also a good plant of Marie Lemoine.

The only group of six Clematis shown was from Messrs. Jackman, of Woking, who had in tubs plants from 4 to 5 feet high, and about 2½ feet in diameter. These well deserved the first prize that was awarded them, being covered with flowers. The kinds were Rubella, Magnifica, Alexandræ, very free-flowering, Jackmanni, Prince of Wales, and Mrs. Bateman.

Among miscellaneous subjects, a fine group of Lilium auratum came from Mr. Turner, of Slough; and from Messrs. Downie, Laird, and Laing a remarkably fine admirably-grown group of seedling Gold and Bronze Pelargoniums, together with basketsful of established varieties, as Reine Victoria, Black Douglas, and Impératrice Eugénie, lifted from the open ground and showing how well they stand the weather. Messrs. F. & A. Smith sent a fine group of Balsams, and Mr. Mann one of Zonal Pelargoniums. From Messrs. Bell & Thorpe came three baskets of Petunia Single Beauty, a free-flowering purple-veined kind of excellent habit for out-door gardening; also a fine collection of cut blooms of double and single-flowered Zonal Pelargoniums. Mr. Hooper, Widcombe Hill, Bath, contributed beautiful stands of Pinks, Carnations, Picotees, and Pansies. Mr. Turner sent fine stands of Carnations and Picotees; and Mr. Norman, Plumstead, a stand of twelve new Picotees. From Messrs. Shenton, Biggleswade, came a stand of forcing Pink Flower of Eden, which received a first-class certificate June 8th. Mr. Porter, gardener to Mrs. Benham, Sion Lodge, Isleworth, sent cut Roses, Pentstemons, and Gladiolus. From Mr. Cannell, camo a magnificent stand of cut Zonal Pelargoniums, and a stand was also exhibited by Mr. Mann, while cut blooms of their fine varieties of Clematis were shown by Messrs. Jackman & Son, of Woking. Several extra prizes were awarded.

Fruit Committee.—G. F. Wilson, Esq., F.R.S. in the chair. Mr. Gilbert, of Burghley Gardens, sent a selected Pea from Laxton's Alpha, but the Committee decided that no opinion should be given on Peas except when grown in the collection at Chiswick. It was reported that the trial of Peas and Potatoes would be made at Chiswick next year. Mr. Frisby, Blankley Hall Gardens, Sleaford, sent the old Grotto Pea under the name of Coral Rock. Mr. Evershed, Munsted Gardens, Godalming, sent three sorts of seedling Peas, called Evershed's West Surrey, Munsted Dwarf, and Glossy Marrow. Mr. G. Taber, Rivenhall, Essex, sent an Improved Early Long-pod Bean, which was considered the same as Mackie's Monarch. Mr. Evershed, of Munsted Gardens, sent specimens of a fine stock of Paris White Cos Lettuce. He also sent fruit of a Vegetable Marrow obtained by crossing the Custard with Moore's Vegetable Cream. It is a large, egg-shaped, cream-coloured fruit. Mr. D. Piccirillo, of Wigmore Street, sent four specimens of the Giant Early White Tripoli Onion, the aggregate weight of which was 11¼ lbs. He also exhibited four of the Giant Rocca, weighing 10¾ lbs. The New Queen Onion, exhibited by the same gentleman, was evidently the same as Nocera. Messrs. Veitch & Son sent Early Perfection Potato, a handsome Potato, which it was recommended to try in the garden next year. Mr. B. Porter, The Gardens, Isleworth Lodge, sent Rintoul's Early White Don Potato, a very large hollow-eyed variety. Messrs. Bell & Thorpe, Stratford-on-Avon, sent twelve sorts of Potatoes. Messrs. J. & C. Lee, of Hammersmith, sent Lee's Hammersmith Early Kidney Potato, which was recommended to be tried in the collection at the Chiswick garden.

Mr. Gustave Convreux, of Nogent, Haute Marne, sent specimens of his sécateurs of various sizes. Mr. Tillery, of Welbeck, sent a Melon called Eastwell Seedling, a handsome-looking Melon, but the flavour was gone. Mr. Meakes, gardener to R. Fowler, Esq., Petersham, Surrey, sent two fine fruit of Ingram's Scarlet Gem Melon, a large, handsome, deep-orange-coloured Melon, beautifully netted, but it was not ripe. Mr. Frisby, gardener to H. Chaplin, Esq., Blankney Hall, Sleaford, sent fruit of Shipley's Apricot, but they were not sufficiently ripe. Mr. William Knight, of the Floral Nursery, Hailsham, sent a dish of a seedling Peach, raised by George Darby, Esq., of Markly, Warbleton, Sussex, called Knight's Markly Admirable. It is large and somewhat oval, with a large nipple on the apex. It was grown in a cool house, and was now perfectly ripe. The flavour is particularly rich, and superior to other early Peaches. Mr. Laurence, gardener to Bishop Sumner, Farnham Castle, sent fruit of Prunus dasycarpa, or Black Apricot. Mr. Charles Turner, of Slough, sent three bunches of Golden Champion Grapes of large size. Mr. Rivers, of Sawbridgeworth, sent a valuable collection of ten varieties of Filberts and Nuts. These were all grafted on Corylus arborescens, and thereby induced to a habit of remarkable fertility. Corylus arborescens was received by Mr. Rivers from Bonth, of Hamburg, many years ago. It is now used as a stock for half-standards. It forms a large tree, and is a prodigious bearer. The varieties were:—1, Red

Filbert, a grafted head; 2, White Filbert, a grafted head; 3, Purple Filbert; 4, Knight's Large Cob, a grafted head; 5, Dwarf Prolific, a grafted head; 6, Atlas Nut, a grafted head (this is Corylus algeriensis; the clusters are often large, containing from fifteen to twenty nuts); 7, Lambert Filbert, a grafted head; 8, Gordon's Thin-shelled, a grafted head; 9, Fértile de Coutard; 10, Cosford Nut.

Prizes were offered for the best single dishes of early Plums. The best were Early Green Gage, finely ripened, from Mr. Douglas, Loxford Hall Gardens; the second best, Morocco, from Mr. Porter, gardener to Mrs. Benham, Isleworth.

Prizes were likewise offered for the best collection of Gooseberries, twelve fruits of each variety. Mr. Turner, Slough, was first, showing no less than seventy kinds in fine condition. The second place was taken by Mr. G. Sharp, gardener to W. Martin, Esq., Shermanbury; the third by Mr. Beach, gardener to C. J. Herries, Esq., Sevenoaks. Mr. Sharp had some very fine fruit of Red London, Whitesmith, and Caroline. An unsophisticated Londoner of our acquaintance took the first-named for Plums! For the twelve heaviest fruit Mr. Sharp was again first with "Rubesin," green, and Mr. Beach was second with Green Overall.

Floral Committee.—Mr. J. Fraser in the chair. The novelties on this occasion were not numerous. A good number of new Picotees were shown, and of them the following had first-class certificates—viz., from Mr. Norman, of Plumstead, Ada Ingleton, Miss Ingleton, and Beauty of Plumstead; and from Messrs. Wood & Ingram, of Huntingdon, Delicata Charles Williams, Esq., exhibited by the former, and Miss Fanny Ingram by the latter, had second-class certificates. Messrs. Kelway, of Langport, Somerset, exhibited several very beautiful seedling varieties of Gladiolus, of which Hogarth, Oberon, and Pictum received first-class certificates. Messrs. Carter & Co., of High Holborn, had a second-class certificate for Golden Tricolor Prospero, beautiful in colour; and a special certificate was given to Messrs. E. G. Henderson & Son, for a collection of these varieties. A certificate was likewise awarded to Thomas Laxton, Esq., of Stamford, for Jewel, a double variety. Mr. Guildford, gardener to R. Tryon, Esq., had a first-class certificate for Coleus Tryoni, which was most improperly removed before the public were admitted. The leaves, we are informed, are singularly and beautifully marked.

Mr. Young, of the Milford Nurseries, Godalming, sent Juniperus chinensis aurea, which was awarded a first-class certificate, as being a beautiful golden variety. A special certificate was given to Mr. Parker, of Tooting, for a fine example of Renanthera coccinea; also to G. F. Wilson, Esq., for a group of Liliums, including fine specimens of L. Fortunei and L. Leichtlinii. Mr. Fraser received a first-class certificate for Dracæna Fraseri, with broad leaves edged with rose and crimson, a very handsome kind. A like award was made to Messrs. E. G. Henderson for Begonia multiflora elegans with pale red flowers, not equal in effect to those of B. Sedeni. The same firm also sent a collection of Platyceriums, dwarf Lobelias, and Pelargoniums; the most showy of the latter was one with very pale lilac flowers called Multiflora striata. Messrs. Rollisson, of Tooting, likewise sent some beautifully grown Lobelias of various colours, several of them trained as small pyramids in the style in which they were exhibited by Messrs. Bell & Thorpe a year or two ago.

Mr. Green, gardener to W. Wilson Saunders, Esq., Hillfield, Reigate, received a first-class certificate for a species of Cyrtanthus, from the Cape of Good Hope, and he also exhibited several other plants of botanical interest. Mr. Laurence, gardener to Bishop Sumner, Farnham Castle, had first-class certificates for Anæctochilus ordianus, with beautiful deep green leaves veined with pale yellow, and for an Acineta called sella turcica.

Mr. Cunningham, gardener to Lord Ebury, Moor Park, Herts, again sent Verbena White Lady, noticed at the last meeting, but no award was made. Mr. Hooper, of Bath, sent Carnation Fairest of the Fair, a pleasing flower; Mr. Cripps, Tunbridge Wells, Clematis Lady Maria Meade, a large lavender variety with a deeper-coloured band in the centre of each petal; also Catalpa syringæfolia aurea with beautiful golden-tinged leaves. Mr. Cannell sent a number of cut trusses of Verbenas, and Mr. William Paul a collection of his new Zonal Pelargoniums.

PARAFFIN AND SOFT SOAP AS A REMEDY FOR AMERICAN BLIGHT.

These I can assure you form a speedy and effectual remedy when applied properly, care being taken the mixture do not touch the leaves. To one pint of paraffin oil, or any quantity that may be required, put in a jar a sufficient quantity of soft soap to make the whole of the consistency of train oil. Apply with a paint brush to the parts affected.—T. J. Harrison, *Farndon.*

MUSA ENSETE AT KEW.

To all who have a love for tropical plants I would say, Go and see the noble specimen of Musa Ensete at Kew, it is quite the feature of the Palm House just now. The immense leaves of this stately plant springing from near its base, and bending gracefully high overhead, cannot fail to impress lovers of such plants with a sense of its dignity and grandeur. Nor is this all, for as one glances upwards the beauty of the foliage is much enhanced by the effect of the light playing upon its upper surface, and thus revealing the exquisite delicacy of its texture and colour, which last is heightened and rendered all the more striking by the contrast of the deep red midrib standing out so boldly along the under side of each leaf.

This magnificent plant is by far the finest of its kind I have seen, and I should suppose it hardly has its equal in this country.—Edward Luckhurst.

COVENT GARDEN MONOPOLY.

I remember two years ago a gentleman telling me he had sent a quantity of Cherries to Covent Garden, for which he received very poor returns; so, as he happened to be in town shortly afterwards, he took the opportunity to visit the market, and there, to his great surprise, he found that the man to whom his fruit had been consigned had both a wholesale and retail business, "So," said he, "of course he sold my fruit to himself at the price he paid me, and afterwards to the public at high retail prices."—E.

METROPOLITAN FRUIT, FLOWER, AND VEGETABLE MARKETS.

A special meeting of the Market Gardeners, Nurserymen, and Farmers' Association was held on July 25th at the Bedford Head, Maiden Lane, Covent Garden, under the presidency of Mr. H. Meyers, to consider the question of removing the business of Covent Garden Market to Farringdon Market. Several speakers addressed the meeting, and it appeared that the refusal of the Duke of Bedford to afford proper accommodation to the stall-keepers in the market, whereby they suffered considerable loss, was the cause of the present movement. In wet weather the stalls were flooded—the water standing 5 or 6 inches on the ground. Hence the fruit became useless, and having been thrown aside, found its way to the barrows and baskets of the costermongers, by whom, in its half-decayed state, it was retailed in the poor districts, creating diarrhœa and other diseases among the humbler classes. One speaker, who was corroborated by others, said that Mr. Gye, the lessee of the Royal Italian Opera premises, had asked the permission of the Duke of Bedford to open the Floral Hall as a fruit and vegetable market, offering at the same time to indemnify the Duke against the expense of alterations, and to pay 25 per cent. on the tolls. The offer, however, was refused. Under these circumstances the market gardeners and stall-keepers felt themselves compelled to look out for some other place. Application had been made to the Corporation respecting the site of Farringdon Market. The plans of the proposed improvements at the latter place, prepared at the instance of the Markets Committee of the City of London, by their architect, Mr. Horace Jones, were laid on the table, and inspected by the meeting. The Chairman then read a letter he had received from Mr. Bontems, of the Architect's Office, Guildhall, stating the Markets Committee were not quite prepared to speak definitely as to the question of rent, but when ready to do so they would ask the Association to meet the Committee. Mr. Potter, living at Farringdon Market, was in favour of having the new floral and vegetable market closer to the new meat market than Farringdon Market was. Mr. Rudkin, Common Councillor, explained the plans, and assured the tenants of the old (Farringdon) market that the Corporation were not antagonistic to their interests. The interests of the old tenants would be the first to be considered. There was a larger area in Farringdon Market than in the other suggested site, and if the site between the railway and the new meat market were fixed on, the streets in the neighbourhood must be widened to accommodate the additional traffic, and the stall-keepers would have to pay the cost. At present Farringdon Market was almost a dead letter in the hands of the Corporation, as it brought them in only £350 a-year. It was intended to lower the market to a dead level with Farringdon Street, and to do the same with Stonecutter Street, just leaving an incline sufficient to carry off the water. As to rent, he could say in his individual capacity—not pledging the Corporation—that the rent would not exceed that paid in Covent Garden. Within a month he thought the Corporation would be able to provide the needful accommodation. After further discussion, a deputation, consisting of five vegetable growers and five florists, was appointed to wait upon the City Markets Committee as to rent, tolls, &c., and to report to a future meeting.

At a special Court of Common Council held at the Guildhall on July 27th, Mr. Bontems said that the question of Farringdon Market was referred to the Markets Committee. The Committee thought they saw their way to the enlargement of the market and making it a perfect success. They had sought interviews with those interested in the trade and who knew best the requirements of such a market. They had sought information from them as to what would be necessary to be done in Farringdon Market to make it suitable for their purpose. The President of the Market Gardeners' Association, who was a friend of

his, finding that he was chairman of the Markets Committee, asked him if the Corporation could accommodate the salesmen at Covent Garden. He said that the Committee would be happy to receive from the Association any information they were disposed to give; and that if they could provide any accommodation for them in Farringdon Market, they would be happy to receive them. The Committee had set the architect to work to prepare desirable plans, and to submit them to those best acquainted with what was wanted, to see if they required any alteration. Then, when they were as perfect as possible, they would be submitted to the Court.

GROUND LEVELLING AND PRACTICAL GARDEN PLOTTING.—No. 20.

DRAWING PLANS.

To draw and transfer *fig.* 43 to the ground. Draw line 1, 7, representing 58 feet; divide it into six equal parts, as 2, 3, 4, 5, 6, 7. The points thus found are the centres from which to describe the circles. Produce line 1, 7, to points G H; bisect line G H with line E F at right angles; where the two lines cut each other is centre 4. From point 1, with radius 1 *a*, draw arc *a*; from the same point draw arc *b*, as shown by radius 1 *b*. From point 2 draw arcs *c* and *d*, as shown by the thick and dotted lines. From point 3 draw arcs *c* and *f*; draw similar arcs from points 5, 6, and 7. From centre 4 draw the outside circle, then draw lines 8 9, and 10 11. On each side of the diameter line G H draw straight lines, as shown in the centre—that is, between the arcs drawn from centres 3 and 5.

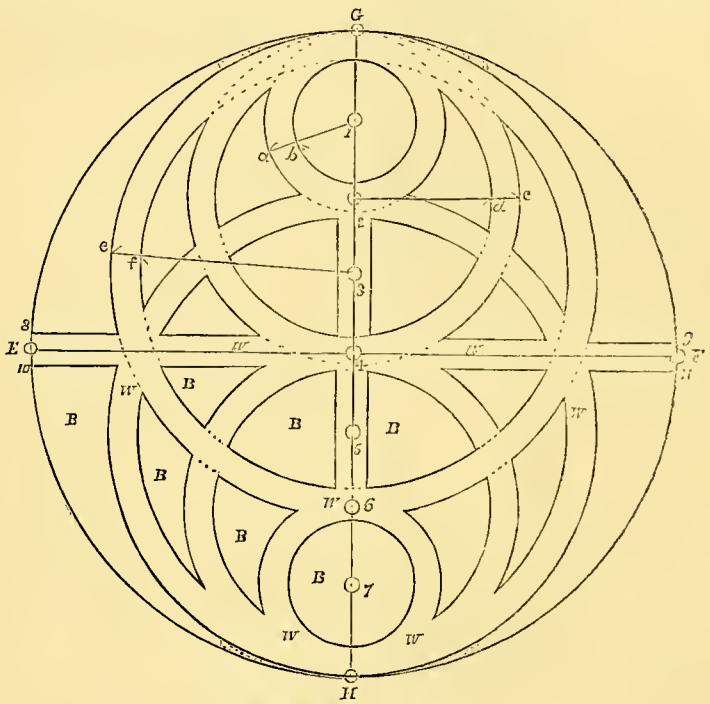


Fig. 43. Scale 24 feet to the inch

To transfer *fig* 43 to the ground. The diameter of the outside circle is 82 feet. Lay line E F, and bisect it, at right angles, with line G H; where the two lines cut each other is centre 4; insert a peg at that point. From the peg at centre 4, with a string 41 feet long, trace the outside circle. On each side of the peg at centre 4, on line G H, measure 29 feet 6 inches; insert a peg at each point, as at points 1 and 7. On each side of the same peg measure 19 feet 3 inches, and insert pegs as at points 2 and 6. Again, from the same point measure 10 feet on each side, and insert pegs as at points 3 and 5. From the peg at point 1, with a string 12 feet long, trace arc *a*. There it is better to trace the circles, as shown by the thick and dotted lines. Where the lines traced cut each other are the angles of the bede. Reduce the string 4 feet and trace circle *b*. From centre 2, with a string 21 feet 3 inches long, trace arc *c*; reduce the string 4 feet and trace arc *d*. From centre 3, with a string 31 feet long, trace arc *e*; reduce the string 4 feet and trace arc *f*. From centres 5, 6, and 7 trace corresponding arcs and circles to those traced from centres 1, 2, and 3. On each side of the diameter line E F measure 2 feet, insert a peg at each point, as at points 8, 9, and 10, 11; lay a line from peg 8 to peg 9, and from peg 10 to peg 11. On each side of the diameter line G H measure 2 feet, and lay lines—that is, between the arcs traced from centres 3 and 5. The lines are in Box; B beds; W, walks.—M. O'Donnell, *Richmond.*

NOTES AND GLEANINGS.

In a previous volume were some notes about Finderne Flowers (Vol. xvii., page 82). Inquiry was made without success for their names, but a correspondent in "Notes and Queries" writes as follows:—"After a careful investigation of the locality and identity of the Finderne flowers, it is satisfactorily ascertained that they are Narcissus poeticus, a plant indigenous to Palestine, and of doubtful nativity in England. —Anna Harrison." We think that this Narcissus, the common Daffodil, is a native of England. We have seen it wild in the woods and other places in many counties.

—— Mr. W. G. M'Ivor, Superintendent of the Cinchona Plantations of the Bengal Government in British Sikkim, has published a lengthy report, of which the following is an abstract:—"The plantations are situated in the Valley of Rungbee in the Himalayas, about thirteen miles from Darjeeling, which seems admirably adapted for the growth of Cinchona. The climate is very moist, being rarely free from rain. Nevertheless the state of the plantations is reported as very unsatisfactory; the plants have nothing like the luxuriant foliage which characterises those grown in Southern India on the Nilgherries. They seem to thrive for three or four years at the most, and then become diseased." Mr. M'Ivor says that trees of equal height do not produce so much bark as in the South of India, being of more slender growth, and the bark being thinner.—(*Nature.*)

—— Sigismund Rucker, Esq., one of the foremost Orchid-growers in this country, is about to give up their culture, and his magnificent collection has passed into the hands of Messrs. Veitch, and will be disposed of at Stevens's rooms. The sale of the first portion of this extensive and rare collection is to take place on the 8th and 9th inst., and will, doubtless, attract purchasers not only from all parts of the country but from abroad; for in forming and keeping up the collection no cost was spared, and the highest skill was exercised to maintain it in the best possible state of cultivation.

—— Mr. Thwaites, in his "Enumeration of Ceylon Plants," says that from the large extent of forest land which has been and is now being appropriated to Coffee cultivation, there is little doubt that some of the indigenous plants will in time become exceedingly rare, if not altogether extirpated, or exist only in the Botanic Garden, into which as many as possible are being introduced. The obtrusive character, too, of a plant brought to the island less than fifty years since is helping to alter the character of the vegetation up to an elevation of 3000 feet. This is the Lantana mixta, a verbenaceous species introduced from the West Indies, which appears to have found in Ceylon a soil and climate exactly suited to its growth. It now covers thousands of acres with its dense masses of foliage, taking complete possession of land where cultivation has been neglected or abandoned, preventing the growth of any other

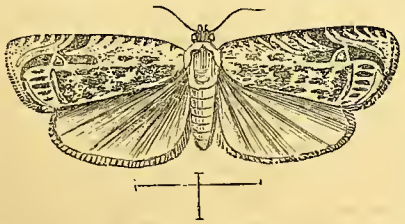
plants, and even destroying small trees, the tops of which its subscandent stems are able to reach. The fruit of this plant is so acceptable to frugivorous birds of all kinds that, through their instrumentality, it is spreading rapidly, to the complete exclusion of the indigenous vegetation from spots where it becomes established.—(*Nature.*)

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 14.

Does it not at first appear a little remarkable, that amongst those who pursue the study of insects, or who collect them as an amusement merely, so great a preponderance will be found confining their attention to the order Lepidoptera? Some few species of other orders have had their ardent students, it is true, especially those which, living in societies, such as the ant and the bee, display marvellous instincts; and late years have swelled the number of beetle collectors: but the majority of entomologists prefer butterflies and moths, and seek them out partly because of the surpassing beauty they present to view, and partly because their transformations possess more seeming interest than those of flies or beetles, and they are certainly more easily observed. Lepidopterists, consequently, outnumber all the other insect-hunters in the proportion of at least a dozen to one. And though it is not very easy to create an interest in the popular mind regarding the beauty of any insect, it is by exhibiting some butterflies or moths that we do sometimes manage to create an impression.

This brings me to the observation with which I had meant to commence my paper, but at which I have arrived in a circuitous way—viz., that of the two principal divisions amongst our Lepidopters, it is usually supposed that the butterflies far surpass the moths in gaiety of colouring. To some extent this holds good, when we examine only the larger species amongst the moths, but if we look at some of the diminutive individuals, we find such brilliant hues as would put them fully on a level with the gay and sportive butterflies, as far as beauty extends, if they had but size. There are many of these small moths which are denizens of our gardens—a few actually injurious to fruit or vegetables, a larger number rather annoying than really hurtful, because by their destructive powers, or by the habitations which they form for themselves, they disfigure various plants and trees. An insect may be so small as to be apparently insignificant; but when even a tiny moth larva occurs by the thousand, or a multiple of that figure, it is easy to see the effects produced thereby. A very obvious instance of this is given us by a species which occurs abundantly in woods nearly every season, and strips the Oaks of their leaves. Showers of the Green Oak Moth (Tortrix viridana), may be shaken from their resting-places on the boughs of the trees in July, and feeble and harmless as is the perfect insect, its progeny can make the lofty "monarch of the forest" assume a rather desolate aspect early in the summer.

This, however, does not visit gardens, but it has plenty of near relatives which do so, and a very notable one is the Wœberian Tortrix (Semasia Wœberana). It differs, however, in its habit from the Green Oak Tortrix, inasmuch as the caterpillar is not a leaf-feeder, but devours the inner bark of trees, working away very perseveringly, and only betraying its presence by a sort of powdery substance, or "frass," which is ejected from the minute holes which are observable in the outer bark. As is often the case with our larval enemies, we only become conscious of the mischief this species is doing when the worst has almost been done—at least by that particular brood. Wood, in his recently published little work on British moths, speaks of Tortrix Wœberana as a particular enemy of the Peach, the Plum, and other allied species which produce drupes. But Kirby and Spence had long ago pointed out that it frequently attacked Pomaceous trees, and it is unquestionably the fact that both the Apple and the Pear have their vigour impaired thereby, though it may not, in the case of these, so far affect the tree as to diminish the amount of fruit produced.



Tortrix Wœberana.

The caterpillars of this species rarely, if ever, touch the solid wood of the tree, confining themselves to the inner layer of the bark, as observed, and seemingly only making holes in the outer bark for the purpose of convenient migration from one part of the tree to another. In most years two broods have been noticed in the south. There is invariably one in April, from which moths emerge in May, and another hatch may be looked for in July, followed by moths again in August. It has been recommended by some to strip off and destroy all the bark which appears to be infected; a rigorous remedy indeed, and likely to result in worse consequences than the disease! With more show of reason, others advise the application of a little oil to all the holes which are seen—a rather tedious process certainly. The best preventive would be to destroy the eggs, which are largish for the species, could they be found, but this is not easy, since the parent moths usually conceal them in cracks. No very effectual plan of dealing with this and other sub-cortical larvæ has been devised.—J. R. S. C.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Attend to destroying weeds at all favourable opportunities, as their seeding this month entails endless trouble in the autumn. Plant thickly a good breadth of *Cabbages* in rich ground, to furnish Winter Greens. Put in a good breadth of *Endive* and *Lettuce* for the autumn supply, and sow some hardy sort of Lettuce for planting-out under south walls, or in frames, to come in after the frost cuts off the out-door supply. Attend to cutting and drying *Herbs* as they are ready. Prepare ground for winter *Onions*. The main breadth of *Spinach* should be sown at once. Dig-down exhausted plantations of Strawberries, and have the ground planted with winter crops if there is not already sufficient of these planted, and make a further sowing of *Turnips*, if these are likely to be scarce before the winter is over. In sowing at this season crops which do not come to perfection till spring, and which are expected to grow more or less throughout the winter, the ground should not only be well manured but trenched to a considerable depth, that the rains and snows of winter may pass quickly beyond the reach of the roots, and that a comparative dryness and warmth may be thus maintained around the roots of growing plants. Those who have observed how quickly snow thaws on well-drained land owing to its high temperature, will at once understand how important the above conditions are to crops which are expected to make way in the depth of winter.

FRUIT GARDEN.

No superfluous shoots ought to be kept on Peaches, Nectarines, and Apricots after this month, so that the wood for the ensuing year may be well ripened. Pears, Plums, and Cherries on the walls and espaliers are amenable to the same laws. The Alpine Strawberry ought to be encouraged this month by trimming-off runners and placing slates under the fruit. About the end of the month is a good time to plant a bed of Hautbois Strawberry; if planted earlier they sometimes blossom in the autumn.

FLOWER GARDEN.

Where bedding-out on a large scale is practised, the propagation and preservation of the annual supply of plants becomes an important part of the gardener's duty. That the result may answer the expectation at planting time, a careful calculation of the number required, and the means there are of preserving them through the winter, should be made. The next thing to consider is the kinds which require immediate attention to have them well-established before winter, those which may be deferred a month or so longer, and, again, what can be propagated in sufficient numbers in the spring, provided a few store pots of each be kept for the purpose. In the first class may be placed nearly all the varieties of Fancy and bedding-out Geraniums (except Scarlets and their allies, which may wait a short time longer), Crassulas, Lantanas, Mesembryanthemums, Hydrangeas, and plants of similar habit, which require to be established and have their wood matured before winter. Next may follow Heliotropes, Salvias, Verbenas, Petunias, Lobelias, &c.; of the latter three, if pit or house-room is an object, a few store pots only of each kind need be kept, as with the assistance of a little heat in the spring a stock is soon obtained, and spring-struck plants if properly grown generally start better than older ones. The new plants which have been planted out on trial should likewise have their distinctive features noted down, with their colours and habit, to ascertain if in any certain class a better colour or habit is

obtained. The number of new plants is so great that an annual trial is necessary to keep what are really acquisitions. Dahlias are growing very rapidly, and will require to be gone over frequently to keep the side branches securely tied-in, for when left untied they are readily broken off by a thunderstorm. Hollyhocks must be securely tied to their stakes. Continue to remove dead flowers from Roses, and give plenty of manure water to the autumn-blooming varieties. Plant out rooted cuttings of Pansies, &c., in nursery-beds, in a shady situation, keeping them well watered, if the weather proves dry, until they become established. Finish budding Roses if not already done; also layer border Carnations, Picotees, and Cloves without further loss of time.

GREENHOUSE AND CONSERVATORY.

It will be much to the advantage of the inmates of plant houses to reduce the shading after this time, to enable the plants to ripen their summer's growth, allowing more air to keep down the temperature, and to check any tendency to a second growth which may show itself, and which can only take place at the expense of next season's bloom. I have previously indicated where a second growth is desirable, as in the case of young plants growing into specimens, but wherever a perfect show of bloom is expected, every means should be taken to prevent it. Epacrises, winter-flowering Heaths, and other things requiring to have their wood ripened early, may now be placed in a sunny exposure; as the wood is already formed, nothing remains but to get it well ripened, and although water must be given equal to the plants' demands, a dry air and warm atmosphere are essential to the perfect ripening of the wood, and consequent formation of bloom-buds. The different varieties of Epiphyllum, if their growth is sufficiently advanced, should have the same treatment. Give a shift to Chinese Primulas and Cinerarias; and Chrysanthemums, Salvias, and other autumn-flowering plants should be placed in their blooming-pots if not done previously. A thin arrangement of the pot specimens will be advisable on account of the permanent occupants of the beds or borders, which at this season should be allowed plenty of space in order to secure strong, well-ripened wood, for unless this is obtained they will not bloom finely.

STOVE.

Brugmansias, Clerodendrons, and other large soft-leaved plants should be frequently washed to keep down red spider, and be well supplied with liquid manure to preserve them in a vigorous state of health. Ixoras which have been cut down for next year's blooming should have their shoots neatly staked out as they advance, and will require to be placed in more light and to be kept somewhat drier, that the gradual ripening of the wood may be assisted. Remove Achimenes, Gloxiuias, Tuberoses, and plants of the same habit, from the conservatory when on the wane, and replenish from the reserve house to keep up the display. Passifloras will be growing fast, and will require frequent training. Thin out weak and over-strong shoots, and reserve only sufficient to produce the desired effect; the blooms will be considerably finer, and the plants themselves more capable of producing well matured wood when these little attentions are performed regularly. Various other stove climbers as Combretums, Quisqualis, Allamandas, &c., will bloom for a considerable portion of the summer if the shoots on which the flowers are borne are slightly cut-in when the blooms decay, as anything which prolongs the period of beauty with these favourites is valuable. The above should be constantly practised. The growing season for Orchids is far advanced, therefore encourage any backward plants with plenty of heat and moisture while this can be safely done. See that plants growing on blocks and in baskets are properly supplied with moisture at the root; to prevent any mistake handle every plant at least once a-week, and immerse those found to be dry in tepid water until the material about their roots is well soaked.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Of this we have said enough in recent weeks' notices. We sowed Radishes, Turnips, Onions, Lettuces, Spinach, Cabbages, and a sprinkling of Cauliflower. We *staked Peas*, the last for this season, and lined with soft cord some that were bearing heavily and getting beyond the protecting sticks. A gentleman said to us the other day, "While the best early Peas are grown in fields for feeding purposes, and even some of the best new kinds are thus grown in fields, how is it that you gardeners make so much to do about sticks, and holstering Peas up when they thrive so well on the open ground without such care and trouble?" Our reply is that we have grown Peas in rows without any staking, but space for space we had not the return in quantity and quality which we obtained from staked rows. Then, for daily gathering, the ground had to be trampled, and the plant of the Pea more injured, and when thus grown and allowed to spread about as the plants liked, nothing else could be grown on the ground; whilst between rows staked up, frequently more than the value of the main crop could be taken off the ground in temporary crops, as Spinach, Lettucee, and Radishes, and if the spaces were fair for width, also Turnips and Potatoes.

We instanced lately how a little shade in the hottest months did so much good to Celery by giving to it the natural conditions it desired. For these and similar reasons it will in general in small gardens be the most economical and the best-paying mode to keep up Peas by some mode, whether stakes, hurdles, wire, or cord lines. In our practice we have had heavy crops of Peas grown as in a field without sticks, but they would compare neither in yield nor quality with those staked up, ground for ground, and then we lost all the intermediate crops, ease of gathering, &c.

FRUIT GARDEN.

Here the work has chiefly been a continuance of that of previous weeks, broken in by gathering fruit for preserving on the two best breezy days, and thus housing it in good condition. Our chief defect this year has been in Strawberries, that did not out of doors show the usual amount of bloom, and therefore we could not send the usual quantity for preserving. Even for table they are now becoming thin, though we shall obtain fair gatherings from those forced and first turned out.

From some dwarf standard Cherry trees we have had little to gather—not worth netting, in fact, but trees against walls have been well loaded, and the fruit very fine. The bloom on the standards was as plentiful as usual, but it was bathed almost constantly in wet or hoar frost, and the bloom nearly all fell. The protection of the wall and earlier blooming saved the others. These are now getting thin, with the exception of such kinds as the Florence, which will require some weeks to ripen. Morellos promise to be a heavy fine crop, and as the birds had begun on them as soon as they showed the least change of colour, we have had to net them up securely.

There has been great devastation among the Currants in this neighbourhood, the whole plant as well as fruit being covered with fly, the plants in many cases dying. We had on walls some plants that suffered severely, though we used the engine freely, but those in the open ground suffered but little, and the rains washed the fruit clean. The rains also provided soft food for numberless birds, so that we have been less troubled by them than usual. In dry days we were obliged to gather Raspberries, or we soon would have had all the ripe fruit nibbled. These have been good with us, though there are many complaints about the thinness of the crops and the smallness of the fruit in many cases.

In the dry weather before the rain the birds carried off green fruit of Cherries, Raspberries, Strawberries, and even Currants when they were quite hard, and long before they showed any signs of colouring, but after the rain they gave up their depredations. It is as well not to cry out too soon. A friend who grieved over the short bloom of his earliest Strawberries has told us that later kinds never did better, and thus he was enabled after the forced ones were over to keep up a good supply. We do not like a break in gathering, but nevertheless, after Strawberries have been in use from forcing for four months, we sometimes think that those from the open ground would be more valued if there were a little interval between the in-door and the out-door gatherings. Perhaps there was never such a difference in the yield of the different kinds of fruit than has been apparent in different parts of the county this season. Some friends tell us that they have had abundance where we find scarcity, and they have had a poor crop when we have had abundance. A friend in Devonshire informs us that the Cherries on walls were next to a failure; here they have been unusually good, though Cherry trees as small bush standards, as already stated, were next to a failure, though for many years they never missed a crop. Could we note and register the circumstances and causes of such various results, we might gain much useful information. In the case of fruit, very little will often make all the difference between a heavy crop and no crop.

ORNAMENTAL DEPARTMENT.

Oh! for a nice little *lawn*, never to be seen but at its best,

instead of a large reach of pleasure grounds, which can rarely be gone over in time to commence in time at the beginning again. In such a season as this, lawns growing healthily could not be kept neat unless gone over every four days—three days would have been better. The labour involved in keeping a large lawn is enormous, and where labour is restricted, and the lawn almost constantly made a special object on every change of company, &c., other things must be neglected or be put off long after they should have been attended to. It is not without reason that we advise all who wish to have everything neat and comfortable to be moderate as to the extent of short grass, as, on the whole, it is the most expensive thing in a garden, and after all a small piece well kept is more attractive and pleasing than ten times the space if it can only be kept indifferently. We make these remarks because it is a growing evil to have large lawns without a proportionate amount of labour to keep them well. We have no objection to fifty or a hundred acres or much more in short grass if the labour is proportionate, and the grass is really well kept, and without involving the necessity of neglecting other things. Fifty acres in a rough state will not yield the pleasure of one acre well kept.

We find, with all our attention to heights in the flower garden, a little tying and training will be necessary, as some plants have grown more than usual, and others, as Scarlet Geraniums, &c., have grown less, owing to the coldness of the soil. These Geraniums with us are not showing the massiveness that they did last season, notwithstanding its dryness, and as yet the masses of bloom are not at all equal. On sandy light soils the masses of bloom have been more nearly up to the mark. Our Calceolarias have never been better. Verbenas we have pretty well discarded, as for several seasons, however vigorous and fine the plants, we rarely saw a bloom on them, the buds being nipped off every night by four-footed intruders. This season we have suffered chiefly in this direction in Roses and blue Lobelias. The fresh shoots, and even leaves and buds, of the former are nipped off, and the latter stumped in to the ground, the bitter juice of the shoots acting, we presume, as a condiment or a medicine, for otherwise one would think it could not be pleasant. It is rather singular that in some places this Lobelia is stumped in as above, whilst in other places similarly exposed the blue wreaths are left untouched.

We cut down and pruned back *Pelargoniums* that had been hardened by exposure after blooming, and put others past their best in the open air to harden them off. In wet weather it is well to turn the pots on their sides. Many tender plants will do well in a sheltered place out of doors if the pots are protected, and the heads kept for a little time from the fierce sun. As alluded to above, we made cuttings of Pelargoniume, which will do very well in the open air, but better still in a cold frame or pit under a glass covering. Slips of all Pinks and Cloves may still be inserted. Some varieties of Mule Pinks are very pleasing. Stirred the soil in which were growing flowering plants in pots, and surfaced with fresh compost. Potted Fuchsias, Balsams, and feathered Cockscombs for late flowering. We regulated twiners, and in the present state of transition, as we are sadly hampered for room for plants, smoked an early vinery before placing a lot of plants in it, as there was just a sign of thrips on a few leaves, so as to give us more room for a few weeks, when other places will be ready for receiving them.

Were it not for interfering with the symmetry of the beds we would soon begin propagating for next season's display, but the small cuttings we took off last year in September are now strong, bushy plants, and showing bloom pretty freely. We fear we shall be obliged to adopt a similar treatment, and take small cuttings from the base of the plants; but from what we stated in the spring, and what we have observed since, such shaded cuttings will not be likely to yield a profusion of bloom so early in the season as cuttings taken from parts of the plant more exposed to the sun and air. To attain this object, however, without at all spoiling the outlines of beds, there ought to be a reserve garden for producing cuttings, and also for gathering cut flowers, as, when the latter are greatly in demand, the taking them from beds robs these so far of their brilliancy. We have had no such reserve as yet.—R. F.

TRADE CATALOGUES RECEIVED.

W. Rollisson & Sons, Tooting, London.—*General Catalogue of Stove, Greenhouse, Hardy and Bedding Plants, Trees, Shrubs, &c.* (256 8vo. pages.)

H. Cannell, Station Road, Woolwich. — *Autumn Catalogue of Fuchsias, Pelargoniums, Pentstemons, Calceolarias, &c.*

C. L. Allen & Co., 76, Fulton Street, Brooklyn, New York.—*Wholesale Catalogue of Hyacinths, Tulips, Crocus, Lilies, Gladiolus, &c.*

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c., 171, Fleet Street, London, E.C.*

Books (*C. L.*).—Blackwoods' "Geography."

Pears for Exhibition (*G.*).—All fruit for exhibition at the Royal Horticultural Society's Committee meetings should be addressed to Mr. A. F. Barron.

Peas (*C. M.*).—We cannot with certainty name Peas from pods only. Those sent appear to be Prizetaker.

India-rubber Joints (*Delta*).—Mr. T. S. Truss, Friar Street, Blackfriars Road, London, S.E.

Vegetables for Exhibition (*J. Lock*).—They should be clean, but not necessarily washed. If Potatoes lift clean they should not be washed; if not, they should be, but they must not be scrubbed or polished.

Lastrea opaca Fronds Shrivelled (*J. Fuller*).—Judging from the frond we think the shrivelling has arisen from a sudden check, owing to dryness of the atmosphere, or it may have been caused by a forced development. From the length of the stipes we should say the latter is the cause. We have known it do well in a shady position in a cool greenhouse, and kept regularly supplied with water. Place it nearer the glass, and keep it moister, shading from bright sun. Such occurrences are not rare under the most favourable circumstances, and plants exhibiting the same tendency as yours will in another season, under similar conditions, be quite healthy.

Exmouth Magnolia not Thriving (*An Amateur*).—You give us no data to form an opinion by, but we presume that it is planted out in rich, rather strong loamy soil, and has good drainage and a sheltered position, or is planted against a wall with a south or south-west aspect. Under such conditions it ought to thrive, water being given plentifully in dry weather. Mulch with cow dung, and add some peat and leaf soil if the soil be poor, or sand if it is very heavy.

Vines for Unheated Vinery (*Idem*).—You do not say where you live, but south of the Tyne, and not over 300 feet above sea level, the following Grapes ripen perfectly in a cold house:—Early Saumur Frontignan, Early Smyrna Frontignan, and Sarbelle Frontignan (these have small berries and bunches, but are desirable on account of the Frontignan flavour); Chasselas Vibert, Chasselas Royal, Royal Muscadine, Foster's White Seedling, General della Marmora, Buckland Sweetwater, and White Romain. These are white or amber-coloured. Black Grapes are:—Trentham Black, Gros Colman, Duc de Magenta, Frankenthal, Black Champion, and Black Hamburgh.

Peach-tree Management (*Idem*).—The trees being planted as maidens, we conclude they were headed-down and have made shoots. Select one as a leader, and dispose of the others as side shoots, allotting an equal number to each side, say two on each, selecting the strongest and best situated, rubbing off all others, training neatly and securing them to the wall, but leaving room for the shoots to swell. If any laterals appear, take out their points at the first leaf or leaves. In February cut back the leader to five eyes, and the side shoots to one-third their length, cutting to a wood or triple bud. Bréhaut's "Modern Peach Pruner" gives full instructions on Peach-tree pruning. It may be had free by post from our office if you enclose 3s. 8d. with your address.

Solution for Dipping Pelargoniums (*Thomas Gee*).—Quassia chips boiled for ten minutes in a gallon of water and then strained will, when cooled, form an excellent bath for Pelargoniums; a quarter of a pound of quassia chips is the proper quantity. It is usual to add soft soap, but that, it should be borne in mind, is not suitable for plants with soft hairy leaves, though it answers admirably for those with smooth leaves, as Roses, Fuchsias, &c. We use tobacco water for Pelargoniums, Cinerarias, Calceolarias, and similar softwooded plants, pouring half a gallon of boiling water on 1 oz. of the strongest shag tobacco, covering up closely and allowing the liquid to stand till cool; then we strain it. It answers perfectly.

Thinning Oranges (*Inquirer*).—It is a good practice to thin the fruit of the Orange as well as those of other fruit trees, but not until the fruit is of the size of a marble. The more you thin, the finer will be the fruit both in size and quality.

Ricinus (*Idem*).—The plants now about 18 inches high may flower in September, but it is likely they will not flower this season. Planted out in a sheltered situation they would have a fine appearance in September, but considering the advanced period of the season we should keep them in pots for the conservatory. The flowers are not showy; the leaves give the plant its decorative appearance.

Laying Edging Tiles (*Amateur*).—The great fault of many prepared edging tiles is that they have not sufficient base on which to stand, and to remedy this we have occasionally put in a brick on the flat underneath them, and secured them to it with cement; but this is also liable to subside if the soil is not very firm, still not to such an extent as when narrow-edged tiles are merely inserted in the ground. We have some common bricks that have done duty as edgings to shrubbery walks for upwards of twenty years, and yet look tolerably well, the ground they were fixed in being firm, and it is only where the roots of trees or shrubs have heaved them up that there is anything to complain of. They were laid in diagonally—*i.e.*, with an angle up; but where edgings are put in adjoining plots of ground kept dug, it is difficult to prevent the unevenness of which you complain. If your edging material is narrow at the bottom, it would be best to employ a handy mechanic to fix the tiles to bricks laid underneath, especially if the line be a straight one, but as a rule mechanics are not good hands at a curve. Should this method appear too expensive, we know of nothing better than firmly ramming the ground

before fixing the tiles, and after that being careful not to disturb them by digging too near.

Fruit Trees (*J. V.*).—No doubt you may use the clear water from the tank with advantage to the fruit trees.

Vines Diseased (*W. E.*).—It appears to us, from the leaves you have sent, that your Vines have had too much water, and probably some liquid manure.

New Show Roses (*J. G. S.*).—The best six exhibition Roses which have been produced within the last three years are, in my opinion—1, Madame la Baronne de Rothschild; 2, Perfection de Lyon; 3, Madame Chirard; 4, Edouard Morren; 5, Louis Van Houtte; 6, Marquise de Mortemart. No. 5 is the finest dark Rose, but it is not, I fear, a good grower. No. 6 is also a delicate grower, but is lovely. I mention two others that are good Roses and fair growers—7, Duke of Edinburgh, and 8, Dupuy-Jamain; they are both handsome Roses, and all are free-bloomers. The four first-named Roses are strong growers; delicate growers will not last long in this climate.—W. F. Radclyffe.

Cutting down Jerusalem Artichokes (H. *S.*).—If you cut off the tops of these at the middle of July at 1 foot high they will produce tubers, but these will be considerably smaller than were the plants not headed down at all. It is advised by some to cut off the stalks about half way early in August to admit more freely the light and air, and when large tubers are not wanted doing so gives a nice even-sized tuber, by some preferred to large, knotty, irregular-shaped tubers, and not nearly so watery. We have known the tops cut off three times in a season, and fresh shoots still produced. The Jerusalem Artichoke is almost as difficult to eradicate as the Horseradish.

Climber for Covering a Low Trellis (*A New Subscriber*).—It would be best covered with Ivy, which forms a very close covering in a short time, and affords warmth which you need. The Irish Ivy (Hedera Helix canariensis) is free-growing and fine, but we should plant Rægner's Ivy (Hedera Rægnerisna). Procure at once some strong plants in pots and plant them out, watering well if the weather be dry. The plants would become well established before winter. Virginian Creeper, and also Ampelopsis Veitchii, would suit, but you seem to forget that they lose their leaves in winter.

Cabbage Plants Blind (*W. L.*).—The cause of the Cabbage, Broccoli, and others of the Brassica tribe coming blind is some defect in the seed; but blindness does not result from what is known as bad seed, being more frequent in true selected stocks than in impure samples. There is no mode of guarding against such occurrences; but in planting out all the Cabbage tribe the plants should be examined, and those not having centres should be rejected. The evil is apparent when the plants have made three rough leaves or never.

Staves-acre (*Idem*).—It is the seed of Delphinium Staphisagria. Dr. Hogg, in his "Vegetable Kingdom," says, page 18, "From the seeds of Delphinium Staphisagria, or Staves-acre, an alkaloid substance called delphine is extracted, which exerts violent poisonous properties in very small doses, acting chiefly on the nervous system. The seeds of the plant are so violently emetic and cathartic as never to be administered internally, but are principally applied to some kinds of cutaneous eruptions, and in powder for destroying the pediculi of the head. A strong tincture has also been used with advantage as an embrocation in rheumatic affections. In some countries the seeds are used to intoxicate fish in the same manner as Cocculus indicus." If you try the seeds along with quassia chips for destroying insects, as stated at page 352 of last volume of The Journal of Horticulture, we should be obliged if you would communicate the result.

Cheilanthes elegans Fronds Falling (*A Constant Subscriber*).—The fronds are always liable to breakage at the base, and in your case this tendency is increased by the temperature 60°) in which it grows, the footstalks being long and unable to support the frond. Place it in an airy and but slightly shaded position in a greenhouse. Water the plant well, but do not keep the soil in a saturated state, and besides giving abundant drainage, add one-fourth sandstone in lumps between the sizes of peas and walnuts to the compost, which may consist of two parts sandy peat, one part loam, and one part silver sand, with the sandstone above named.

Treatment of Imported Ferns (*Idem*).—The Ferns you are expecting from the West Indies should be placed on arrival in pots just sufficient to hold the roots, using a compost of two parts peat, one part yellow loam, and one part silver sand, with good drainage. Place them in a house with a temperature of from 60° to 65° at night, and 70° to 75° by day, with a rise of 10° from sun heat, shading from bright sun. Sprinkle lightly overhead morning and evening, and frequently sprinkle the path and other surfaces with water during the day, so as to maintain a moist atmosphere. Water so as to keep the soil just moist, and when the Ferns begin to grow water more freely.

Croton variegatum Culture (*Idem*).—Use a compost of two parts sandy peat, one part light turfy loam, one part leaf soil, and half a part of charcoal, in lumps from the size of a pea to that of a hazel nut, and silver sand, with good drainage. The watering should be moderate, and copious when the plant is growing freely. Pot in spring before it begins to grow, and again in June or July, if necessary. It requires a light, moderately airy position in a house with a temperature of, from April to October, 60° to 65° at night, and 70° to 75° by day, with a rise to 80° or 85° with sun; from October to April a night temperature of 55° to 60°, and 65° by day, with a rise of from 10° to 15° or more from sun heat. A moist atmosphere is essential for free growth. The botanical name of the Artillery Plant is Pilea muscosa.

Liquid Manure for Asparagus (*W. P., Asparagus*).—Guano water at the rate of 1 oz. to the gallon of water is an excellent manure for Asparagus, and, indeed, all kitchen-garden crops. For the Asparagus you may make it of the strength of 2 ozs. to the gallon, and add 1 oz. of salt to every gallon, giving a good soaking as often as you like from now till the early part of September, and up to the middle of that month if the weather be dry.

Vine Leaves Rusted (*A Constant Reader*).—The leaves enclosed to us are not infested with red spider, but slightly rusted, otherwise they are quite healthy. Having the red spider on the upper part of the Vines, it is very likely the lower part will be attacked.

Clematis Propagation (*W. S.*).—The surest way is to layer the firm shoots in September, and by the following autumn they will be well rooted. The layering may be done in pots sunk in the ground, and the shoot tied to a stake. Clematises may also be increased by cuttings of the side shoots in summer, when they become firm, or about August, putting them in in light sandy soil on a shady border, and covering with a hand-glass.

Peach Tree Casting its Fruit (*T. G.*).—The dropping from imperfect stoning was most likely owing to an imperfect fertilisation at the blooming period, though the same thing sometimes takes place when a tree is over-vigorous. The growth seems to leave an insufficient amount of vigour for stoning perfectly. Hence, watering must be managed with care at the second swelling.

Flue-heating a Small Greenhouse (*R.*).—The proposed earthenware drain pipes will be ample for your purpose, but you will require to have at least 2 feet from the stove or furnace brick, to prevent breakage. In going round the sides and one end of such a house, it is best to take the pipes into a square place instead of having rounded pipes for the corners, as each of these square receptacles would enable you to clean the flues easily by placing a tile on it. The great drawback to these earthenware pipes is that they are apt in such a small place to become overheated, and the pipes or joints to burst. For such a small house as yours we would prefer, instead of your pipes, a small furnace outside, and a 5-inch flue beneath the floor, the flue being covered with tiles as the floor, or rather part of it. In your case we would advise you to have a lap for your glass of rather more than one-eighth of an inch, and to glaze in the usual way. Unless the house roof is very flat indeed you will not be troubled with drip from the laps. True, you might place your squares edge-to-edge without laps, and if straight-cut you would need nothing whatever between the squares; but whether you place the squares in grooves or not, at the sides there must be room left for the side-expansion of the glass, or the squares will soon chip where they join edge-to-edge on the slope. You may pack the squares in the grooves with cord, list, &c., but you cannot do it in the best way, we fear, without infringing patents, and therefore for your small house we would say, Glaze in the usual way.

Storing Diseased Potatoes (*J. H. C.*).—"In 'clamping' your diseased Potatoes, however careful you may have been in sorting out the rotten ones, some that are beginning to turn bad will certainly have been overlooked, and these will propagate the evil throughout the mass. The whole will be lost if you thus store them. At this time of the year, especially, you will most likely have at liberty the bays of the barn, or cattle-feeding and other sheds Carefully sort the Potatoes, spread them out thinly in the twilight of the bays of the barns or sheds, and have them looked over and turned once a-week. Those showing the least sign of the disease should be collected and boiled down, with about a handful of salt to each bushel, and used for the pigs. Let the water be well strained away from them when cooked. Should there be more than the pigs can consume within a reasonable time, have the bulk well rammed down into the hog-tubs, to be used as wanted. In a month or so the crop of the tubers operated upon as above may be considered safe, and unless 'clamping' is absolutely necessary, I would far prefer storing them in lofts, or any cool and dry place where there is twilight, so as to have them under observation and secure from the winter's frost. I would not allow them to be heaped together too thickly, so as to encourage long and exhausting sprouts; and thus managed capital seed may be expected of them next spring. The largest and most-matured tubers, should you require them for consumption, may be sorted as taken up, then housed in a dark place, and the diseased ones as they occur singled out from them as stated; but, of course, their bulk must be kept in the dark, for if allowed to become greened they would be unwholesome for human food. I trust the later-planted eleven acres may escape the disease, and this is possible from the favourable change which has taken place in the atmosphere. When lightning and thunder, and 'white rain' occurs just as a crop of Potatoes is sufficiently matured—viz., about setting the skins of the tubers, the energies of the foliage are then taxed to the utmost, and possibly weakened to a degree which makes it more susceptible of the attacks of the disease, and then a continued sultry moist atmosphere becomes fatal. Dryness and the ridge-and-trench system of cultivating the Potato are the only preventives of the evil, as I have for so many years explained in these pages, but at the present moment I have satisfactory proof of their efficacy before my eyes.—Robert Fenn."

Screen from a Railway (*An Ignorant Amateur*).—The quickest way to get a screen between you and the railway is—first, trench the ground two spades deep, even although you may have to disturb the few trees you have already planted. The best of the Fir tribe for your soil is the Austrian Pine, which will succeed well, and you may plant thickly as nurses Black Italian Poplars, which will run up rapidly, and which you can cut out after the Pines have attained the desired height. The Pines ought not to be more than 2½ to 3 feet high when planted, and you will find that these will make a screen much more rapidly than larger plants, which in all probability would remain stunted for some years before they began to grow.

Insects (*R S.*).—So far as we can judge from the smashed state of the insects sent, they appear to be Nematus Capreæ, one of the many species of Saw-flies. Cannot you tell us something of their habits? (*T. V.*).—Your caterpillar on the Pear was completely smashed, but from what remains it seems to be that of the common Vapourer Moth, Orgyia antiqua. (*R. G. N.*).—The insects sent, which have attacked your Vines, Cucumbers, &c., are the common Weevil, Otiorhynchus sulcatus. They hide under the loose earth by night, and come out to feed after dusk. Lay a towel under the plants and shake them well some time after dusk, when the insects will fall on the cloth, looking like bits of earth, with their limbs folded up. They may be killed with boiling water.—I. O. W.

Names of Plants (*Lady King*).—It is a very beautiful variety of Acer Pseudo-Platanus, which we have never seen before. (*A. B.*).—Nostoc commune, an Alga, not a fungus, very common on dry exposed surfaces, scarcely visible except after rain The structure is very pretty under the microscope.—M. J. B. (*A. R.*).—Melilotus arvensis is the name of your yellow-flowered Trefoil, and Hypnipeis repens that of the Fern. (*Monmouth*).—1, Ruellia maculata, or, if you wish to be very correct, Strobilanthus maculatus, a very shy-blooming plant; 2, Cassia lævigata. (*J. D.*).—The leaf of some umbelliferous plant, not recognised at sight. Be good enough to send when it blooms. (*W. D.*).—1, Malva Tournefortiana; 3, Campanula pusilla alba; 4, Achillea Millefolium; 5. Statice Limoninm; 6, Gentiana asclepiadea alba; 7, Epilobium hirsutum.

(*C. A. J.*).—Erythræa Centaurium. The grass is Poa compressa. Seedling Lobelias come up quite commonly. The noise is inseparable to the machine as constructed. (*C. R. S.*).—Your bulb is a Tulip. (*Hang-down*). Cyanotis vittata, or Tradescantia zebrina. (*A. R.*).—Rhus Cotinus.

POULTRY, BEE, AND PIGEON CHRONICLE.

HATCHING EGGS.

In the Journal of July 27th I found a case similar to one of which I now forward you an account.

The house in which our Geese are secured at night until the goslings are so large that there is not room for them, contains at one end three compartments, in which the Geese lay and sit. They are made by nailing some old boards together, and have a small entrance for the Geese, with a door falling over. In one of these a few weeks ago a hen desired to sit, and on June 14th I received a sitting of Houdan eggs. The hen sat well until Sunday, June 25th, when she left her nest in the morning as usual, about half-past eight, to take refreshment. After doing so she tried to return to her nest, but could not, and the next morning was found sitting in another house on some fresh eggs. Her own were cold; and though she was at once put on them, they were not all warm until nearly evening. The trap-door must have been closed when she left her nest, but she could push it open, and thus got out. She was off her eggs at least twenty-three hours, and had sat half the time—ten days. Of course I expected no chickens. But out of the remaining sixteen (she having broken one previous to the disaster), she hatched no less than fourteen chickens, all of which are now doing well.—S. G. Witcombe, *Broadleaze, West Coker, Yeovil.*

DRIFFIELD POULTRY AND PIGEON SHOW.

We are glad to say the success of this year's Show was unprecedented, the visitors flocking-in from all the neighbouring districts at an early hour. The weather, contrary to general expectation, proved fine, and everyone seemed well satisfied with the general arrangements. There is one rule, however, that would, if cancelled, add much to the interest felt in the Pigeon division of the Show, for by the present arrangement every exhibitor of Pigeons has to provide his own pens, consequently the birds cannot be seen to equal advantage by the Judges and the public; but the mixed character of the baskets, some close wicker-work, some open work of the same material, and some, again, wire, gives a mixed appearance anything but pleasing.

The *Game* fowls were magnificent, Mr. Boyes, of Beverley, with a strong entry, sweeping the board. The *Spanish* were also extraordinarily good, and we noticed a few exceedingly well-bred Ptarmigans. The fancy *Water Fowls* were well represented from the ponds of Mr. Richardson, of Meaux Abbey, Beverley, and some few pens of White Call Ducks, from Mr. Young, of Driffield, were also much admired. Mr. Harry Adams, of Beverley, exhibited some first-rate Almond Tumblers, and the *Pigeons* generally were good, the Owls and Dragoons being better than those commonly met with.

Dorkings.—1, D. White, Driffield. 2, R. W. Richardson, Beverley. *hc*, O. A. Young, Driffield; Mrs. Beresford Peirse, Bedale Hall. *Cock.*—1, W. Botham, Driffield. *c*, R. Smith, jun., Norton, Malton. *Chickens.*—1, D. White. *hc*, R. W. Richardson.

Spanish.—1, R. Smith, jun. 2, T. C. & E. Newbitt, Epworth. *hc*, G. Holmes, Driffield. *Cock*—1, T. C. & E. Newbitt. *hc*, D. Maynard, Driffield.

Game (Black-breasted and other Reds).—1 and 2, W. Boyes, Beverley. *c*, G. Holmes. *Cock.*—1, W. Boyes. *c*, O. A. Young.

Game (Any other variety).—1 and 2, W. Boyes. *Cock.*—1, W. Boyes. *Chickens.*—1, W. Pierce, Driffield. 2, R. Smith, jun.

Cochin-China.—1, W. J. Peace, Driffield. 2, G. Blakey, Kilham. *Cock.*—1, R. Dawson, Beverley. *c*, O. A. Young; F. Winter, Driffield. *Chickens.*—1, R. Dawson. *hc*, W. Leason, Driffield; R. Stahler, Driffield.

Hamburghs (Golden-spangled).—1, T. Holmes, Driffield. 2, G. Holmes, *hc*, H. Naylor, Driffield. *Cock*—1, G. Holmes. *hc*, J. Anderson, Malton.

Hamburghs (Silver-spangled).—1, H. Holmes. 2, T. Holmes. *Cock.*—1, H. Holmes.

Hamburghs (Golden-pencilled).—1, H. Holmes. 2, T. Holmes. *c*, R. Wilson, Malton. *Cock.*—1, H. Holmes.

Hamburghs (Silver-pencilled).—1, C. Holmes, Driffield. 2, H. Holmes. *Cock.*—1, H. Holmes.

Hamburghs (Any variety).—*Chickens.*—1, O. A. Young. 2, T. Holmes. *c*, A. Marshall, Driffield.

Farmyard Cross.—1, W. Horner, Malton. 2, Miss B. Robinson, North Frodingham. *hc*, G. Bromby, Pilwood, Cottingham. *c*, R. P. Moon; T. Coverdale, Dunswell; H. Merkin, Driffield *Cock.*—1, Miss B. Robinson. 2, J. W. Stabler, Driffield. *hc*, J. Wales, North Frodingham. *c*, G. Pounder, Kirbymoorside.

Bantams (Game).—1, Pickering & Dugdleby, Driffield. 2, C. Holmes. *hc*, W. Adams, Ipswich; Miss E. Stahler, Driffield; T. C. & E. Newbitt. *Cock.*—1, Holmes & Wood, Driffield. *hc*, J. D. Maynard, Driffield. *c*, Miss J. Stahler, Driffield; T. C. & E. Newbitt.

Bantams (Any other variety).—1, Nicholson & Holmes, Driffield (Black). 2, T. C. & E. Newbitt (Black). *c*, G. Leason, Driffield (Black). *Cock.*—1, W. G. Pardon, Driffield (Black). *hc*, G. Holmes (Black).

Selling Class.—*Cocks.*—1, R. Loft, Woodmansey. 2, W. Boyes (Brown Red Game). 3, C. Holmes (Golden-spangled Hamburgh). *hc*, Miss B. Laycup, Driffield; R. Wilson, Malton; W. G. Purdon. *Hens.*—1, T. Young (Black Spanish). 2, R. W. Richardson. 3, G. Wilson (Dark Brahmas). *hc*, R. W. Richardson; O. A. Young; R. Loft; T. H. Trigg, Driffield; W. Horner. *c*, C. Holmes (2); R. P. Moon; W. J. Peace; T. C. & E. Newbitt

Geese.—1. O. A. Young. 2, T. Croft, Pluckham. *Goslings.*—1, Mrs. J. S. Jordan, Elmswell Hall. 2, O. A. Young. *hc*, Mrs. D. Robinson, Swaythorpe; Mrs. Kirby, Driffield

Turkeys.—1, M. Merkin, Driffield. 2, W. Chater, Driffield. *Poults.*—1, O. A Young. 2, S. Holmes, Sunderlandwick.

Ducks (Aylesbury).—1 and 2, O. A. Young. *Ducklings.*—1, R. Smith, jun. 2, O. A. Young.

Ducks (Rouen).—1, Miss Jordan, Eastburn. 2, Mrs. R. Stabler. *Ducklings.*—1, O. A. Young.

Ducks (Any other variety).—1 and 2, R. W. Richardson (Carolinas and Pintails). *hc*, O. A. Young (White Call Ducks). *Ducklings.*—1, O. A. Young (White Call Ducks).

PIGEONS.

Croppers.—1, H. Adams, Beverley. Extra 2, R. P. Moon.

Carriers.—1, R. P. Moon. Extra 2, H. Yardley, Birmingham.

Jacobins.—1, R. G. Sanders, Leven. *c*, Davis & Thompson, Hull.

Fantails.—1, Davison & Thompson. *hc*, H. Adams.

Tumblers.—1. H. Adams. *hc*, H. Yardley.

Barbs.—1, H. Yardley. *hc*, H. Adams.

Nuns.—1, H. Yardley. Extra 2, J. W. Rawlinson.

Any other Variety.—1, H. Adams (White Dragoons). Extra 2, H. Yardley (Blue Owls); R. P. Moon (White African Owls). *hc*, R. Youll, Sunderland (Blue Turbits). *c*, J. Noble, Driffield (Trumpeters); F. Hickson, Driffield.

Selling Class.—1, R. G. Sanders (Jacobins). 2, H. Adams. 3, F. Hodgson. *hc*, H. Adams.

RABBITS.

Any Breed.—1, W. Donkin, Driffield. 2, T. R. Luna, Hull. *hc*, J. Humphry, Driffield. *c*, A. Donkin, Driffield.

The Judges were Mr. W. Boulton, of Beverley, and Mr. E. Hewitt, of Birmingham.

LISKEARD POULTRY SHOW.

(*From a Correspondent.*)

The third annual show was held at Liskeard on July 27th, when the delightful weather, superior quality of the entries, and the exertions of a good working committee, and increased number of visitors (upwards of three thousand having paid for admission to the grounds) combined to make it a decided success.

Game were first and best. The winner of last year's cup was first and second with good birds well shown, also first for Hennies or other white-legged Game fowl suitable for table purposes, Hennies being a speciality of this district. It is matter of regret that poultry shows have not improved the quality of fowls in the same proportion as quantity or size, and this remark equally applies to exhibition cattle, roots, &c., as in nearly all cases coarseness is found combined with size, and it is well known that the largest animals and birds are not the most profitable. No one cares to see a very large fowl at table; the yellow skin, large bone, and lanky form, of the Asiatic breeds, not proving so tempting to the appetite of either epicure or invalid as our old Sussex or English Game breeds, with their delicate white skins and plump forms. Of course this does not apply to the Anglo-Malay breed known as Game in the show pens. The prize *Dorkings* were very superior. *Bantams* were good throughout. The Selling class contained some good specimens, notably a pen of Brown Red Game, which gained the prize for the best pen of poultry in the Show. *Ducks* were of great merit, the first-prize pen being claimed at five guineas.

Of *Pigeons* the prize Carriers and Tumblers were perfection. The awards were made by Mr. John Callicott, Tavistock.

Game.—*Hennies and other White-legged* (Suitable for table purposes).—1, J. Reynolds, Redruth. 2, H. B. Love. *hc*, R. Martin. *Any variety.*—1, 2, and Diploma, J. Reynolds. 3, H. Brown, St. Austell. *hc*, H. Edwards.

Dorking.—1, 2, and *hc*, E. Burton, Truro. 3, Lady Vivian, Glyna, Bodmin.

Spanish.—1 and Diploma, S. Harris, Cusgarne. 2, H Edwards, Liskeard.

Malay.—1, J Dennis, Liskeard. 2, C. White, Liskeard. 3, Withheld.

Cochin or Brahma.—1, S. Harris. 2 and 3, E. Burton.

Polish.—1 and 3, J. Beard, Par Station. 2, S. Harris. *c*, Miss Murray.

Hamburghs.—Special and 2, S. Harris. 1, C. Marshall, Liskeard. 3, S. Richards, Truro. *hc*, Lady Vivian.

Bantams.—Special, P. Callicott. 1 and 3, J. Pearson, Liskeard. 2, F. Bulmore, Helston.

Selling Class.—1 and prize for best pen in the Show, R. Clagg, Liskeard (Brown Red Game). 2, H. Hart, St. Austell (Black Red Game). 3, E. Burton (Dorkings). Extra 3, T. Moorshead, Liskeard. *hc*, W. Yelland, Liskeard (Polish).

Ducks.—1 and 2, S. Harris (Aylesbury). 3, G. Oliver, Bodmin (Aylesbury).

Turkeys.—1, M. Oliver, Liskeard. 2, J. Burrows, Liskeard.

Pigeons.—*Carriers.*—1 and 2, E. Burton. *Tumblers.*—1 and 2, E. Burton. *Fantails.*—1, J. Lord, St. Blazey. 2, R. Courtney, Liskeard. *Any variety.*—1, J. Deacon, Liskeard (Jacobins). 2, E. Burton (Runts). 3, J. Lander (Love Turbits).

From the prize list of the Liskeard Poultry Show, it will be seen that the Judge awarded in the Bantam class a first prize to his own birds, which were, of course, entered in his own name. He also awarded a first prize to the Secretary, simply admitting that he gave his services. Such a proceeding is calculated to disgust all honourable exhibitors, and that an authoritative opinion may be given to parties to the proceeding, I should be glad if you would expose the affair. —J. L.

HASLINGDEN POULTRY SHOW.

The seventh annual Exhibition was held on July 26th. The were about three hundred pens of poultry and Pigeons. Several classes were allotted to chickens, of which there was a fine show. The competition for Hamburgh chickens was very keen. The prize adult *Spanish* were remarkably fine. *Cochins* and *Brahmas* were good. The adult Golden and Silver-spangled *Hamburghs* were very good. The class for Golden-spangled contained six remarkable pens, all worthy of a first position. The chickens were generally forward and very promising. Golden-spangled and Blacks were, perhaps, the most noteworthy. In the Any variety class Golden Polands were first, and Sultans second. A good pen of Buff Cochins was first in the Selling class. The Game *Bantams* were not numerous, but the prize pens

were first-class, though some of them were rather deficient in condition. In the class for Any other variety of Bantams, the best Whites we have seen for some time were first, good Blacks second.

The *Pigeon* classes were very fairly filled, many choice specimens competing.

COCHIN-CHINAS.—*Buff or Cinnamon.*—1 and 2, W. A. Taylor, Manchester. *hc*, J. Watts, King's Heath, near Birmingham; H. Lacy, Hebden Bridge. *Chickens.*—1 and *hc*, W. A. Taylor. 2, E. Leech. *Any other Variety.*—1, W. A. Taylor (Partridge). 2, E. Leech. *Chickens.*—1, E. Leech. 2 and *hc*, C. Sidgwick, Keighley (Partridge).

BRAHMAS.—1 and *hc*, H. Lacy. 2, H. Beldon, Goitstock, Bingley. *Chickens.*—1, J. Ashworth, Rochdale. 2, W. A. Taylor. *hc*, T. A. Dean, Moreton-on-Lugg, Hereford; J. Ashworth.

DORKINGS.—1, D. Gellatly, Meigle. 2, W. H. King, Mosa Mills, Rochdale. *hc*, J. Stott, Bealey, near Rochdale. *Chickens.*—1, E. Leech. 2, W. H. King. *hc*, W. H. King; J. Stott.

FRENCH FOWLS.—1, B. Beldon. 2, J. K. Fowler.

SPANISH (Black).—1 and 2, C. W. Brierley. *hc*, H. Beldon. *Chickens.*—1, J. Walker, Wolverhampton. 2, W. G. Mulligan, Springfield, Belfast. *hc*, H. Wilkinson, Earby, Skipton; Clewa & Adkina, Walsall; N. Cook, Chowbent.

GAME.—1 and 2, C. W. Brierley. *Cock.*—1 and 2, C. W. Brierley. *Cock* (local).—1 and 2, Morris & Wood, Accrington. *hc*, R. Holt, Loveclough, Crawshawbooth.

GAME BANTAMS.—1, G. Hall, Kendal. 2, J. R. Robinson, Sunderland. *hc*, T. Sharples, Rawtenstall. *Cock.*—1 and *hc*, T. Sharples. 2, J. R. Robinson. *Any other Variety.*—1, H. Beldon. 2, S. & R. Ashton, Mottram (Black). *hc*, J. Walker, Halifax (Black); R. Pickles, Pinfold, Edenfield (White).

HAMBURGHS.—*Golden-pencilled.*—1, H. Pickles, jun., Earby, near Skipton. 2, S. Smith, Northowram. *hc*, H. Beldon; T. Wrigley, Middleton. *Chickens.*—1 and 2, T. Wrigley. *hc*, J. Thornton, Airworth Lane, Keighley; H. Beldon.

HAMBURGHS.—*Silver-pencilled.*—1, 2, and *hc*, H. Pickles. *Chickens.*—1, J. Smith, Earby. 2 and *hc*, H. Beldon. *c*, H. Smith, Morton Banks, Keighley.

HAMBURGHS.—*Golden-spangled.*—1, H. Beldon. 2, J. Fielding, Newchurch. *hc*, H. Beldon; J. Newton, Silsden; B. Pickles; N. Marlor, Denton, near Manchester. *Chickens.*—1, B. Pickles. 2 and *hc*, N. Marlor.

HAMBURGHS.—*Silver-spangled.*—1, H. Pickles. 2, H. Beldon. *hc*, J. Fielding G. & J. Duckworth, Church. *Chickens.*—1, J. Fielding. 2, G. & J. Duckworth. *hc*, T. Fawcett, Baildon, near Leeds; G. Mitchell, Keighley.

HAMBURGHS.—*Black.*—1, D. Lord, Stacksteads. 2, N. Marlor. *hc*, C. W. Brierley; H. Hoyle, Whitewell Bottom, near Newchurch. *Chickens.*—1, C. Sidgwick. 2, Stott & Booth, Huntley Brook, Bury. *hc*, C. Sidgwick; S. Cox, Stacksteads; E. Brierley, Heywood; W. A. Taylor.

TURKEYS.—1, F. Leech, Rochdale. 2, J. Houlker, Blackburn.

GEESE.—1, J. K. Fowler, Aylesbury. 2, E. Leech.

DUCKS.—*Aylesbury.*—1 and 2, J. K. Fowler. *Rouen.*—1, J. Newton, Silsden. 2 and *hc*, E. Leech. *Any other Variety.*—1, C. W. Brierley, Middleton. 2, H. B. Smith, Brooklands, Preston (East Indian). *hc*, C. W. Brierley; H. B. Smith (Shelldrakes).

ANY OTHER VARIETY.—1 and *hc*, H. Beldon. 2, G. Anderton (White Sultans).

SELLING CLASS.—1, W. A. Taylor. 2, E. Leech. *hc*, J. Watts; J. T. Travis, Rochdale (Brahmas); W. Wilson, Crawshawbooth (Black Spanish).

PIGEONS.

CARRIERS.—1, H. Yardley. 2, E. Horner, Harewood, Leeds. *hc*, J. Stanley Salford, Blackburn; T. Waddington, Feniscowles, near Blackburn.

TUMBLERS.—1, F. Moore, Burnley. 2, E. Horner. *hc*, H. Yardley; J. Fielding, jun., Rochdale; E. Horner.

BARBS.—1, E. Horner. 2, J. Stanley. *hc*, H. Yardley; J. Fielding, jun.; E Horner; J. Stanley.

OWLS.—1, H. Yardley. 2, E. Horner. *hc*, J. Ashworth, Blackburn; J. Fielding, jun.

CROPPERS.—1 and 2, E. Horner. *hc*, T. Waddington, Feniscowles.

FANTAILS.—1, J. S. Loversidge, Newark. 2, B. Yardley.

TURBITS.—1, J. Fielding, jun. 2, H. Yardley. *hc*, W. Kitchen, Feniscowles E. Horner.

DRAGOONS.—1 and 2, T. Waddington. *hc*, H. Yardley; T. Charnley, Blackburn; J. Stanley.

TRUMPETERS.—1 and 2, E. Horner.

JACOBINS.—1, E. Horner. 2, T. Waddington.

ANTWERPS.—1, E. Horner. 2, R. Brierley, Fishpool, Bury. *hc*, J. Stanley.

ANY OTHER VARIETY.—1, E. Horner. 2, H. Yardley. *hc*, W. Kitchen; T. Waddington.

ANY VARIETY (Local).—1 and *hc*, W. Kemp, Haslingden. 2, J. Brown, Cribden End, Haslingden.

RABBITS.—*Spanish.*—1, C. Gravil, jun., Thorne. 2, J. Irving, Blackburn. *hc*, H. Cawood, Thorne, Doncaster. *Angora.*—1, J. Butterworth, Rochdale. 2, A. H. Easten, Hull. *hc*, B. Cawood. *Himalayan.*—1 and 2, J. Butterworth. *hc*, A. H. Easten. *Silver-Grey.*—1, S. Greenwood, Hebden Bridge. 2, A. L. Rawstron, Haslingden. *hc*, S. G. Hudson, Hull. *Any other Variety.*—1 and 2, S. G. Hudson (Dutch Rabbit and Belgian Hare.

JUDGES.—*Poultry and Pigeons:* Mr. T. J. Charlton, Bradford; Mr. S. Fielding, Trentham Park. *Rabbits:* Mr. J. Boyle, jun., Blackburn.

Two years ago Haslingden only offered one class for *Rabbits*, but at their last show they made five classes, and succeeded in bringing up double the number of entries in comparison to the show of last year, through simply having them shown singly. In my measurement of the Lops I shall give the fair and honest length and width, not with the inch, and in some cases 1½ inch, usually added by most judges. This being the first time I have acted as Judge, I mean to start what I hope every other Rabbit judge in the future will do, and only give the real measurement of the Lops. I know of many who have begun the Rabbit fancy by purchasing a Lop, of course thinking to find it measure what they had bought it for, but, to their disgust, found it deficient an inch or more, and consequently threw up entirely. I will say no more on this subject, but trust what little I have said will cause the subject to be well sifted, and that this should be the case is the desire of more fanciers than myself.

The Lop-eared class was throughout very fine. The first-prize doe was 21⅞ inches by 4¾; the second, a very promising Tortoiseshell doe, was 21⅛ inches by 5. The highly commended pen of Mr. Cawood, 21⅝ by 5, was good in ears, but a very small Rabbit.

Angoras were but moderate. The first prize went to a small but good-woolled Rabbit from Mr. Butterworth, the second to one from Mr. Easten, a large Rabbit, in very bad condition; for this I should prescribe a much freer use of the comb.

Silver-Greys were the largest and best class in the Show; there were nine entries. The first prize went to a large and well-silvered doe from Mr. Greenwood; the second to a fine Rabbit from Mr. Rawstron. Mr. S. G. Hudson's highly commended doe would have come off better had she escaped the very heavy rain that continued the whole of the morning, and beat right into the Rabbit pens, wetting many of them through.

Of Himalayans the entries numbered eight, but some very poor specimens were shown.

The Any other variety class was small; the first prize went to a nice little yellow and white Dutch, the second to a fine Belgian Hare.

—JAMES BOYLE, JUN., *Blackburn.*

ESTON AND NORMANBY CAGE BIRD, PIGEON, AND RABBIT SHOW.

(From a Correspondent.)

THIS Show was held on July 29th. Though the entries were not very numerous, they included some excellent specimens.

Pigeons formed a show in themselves, Mr. Yardley entering largely. In Carriers the winners were Blacks, and were decidedly the best pair we have seen in the north this year. A good pair of Duns was third. Fantails were a fair class, many of the birds evidently going into moult. The winning Turbits were Blues, good in colour, but somewhat too large in body. Mr. Yardley's Red Jacobins were easily first in their class, and were claimed early in the day. Barbs and Trumpeters call for no special remark. The first and second-prize Owls were both foreign Whites. In Pouters, the first and second-prize birds were Whites, the winning cock being in splendid condition, and of good length in limb and feather. The winning Nuns were beautiful birds; and Black Magpies stood at the head of their class. The "Any variety" class seems to have puzzled the Judge, for we much preferred Mr. Yardley's Spots, and pens 170 and 171, to the second-prize Dragoons. The Selling class contained some cheap birds of fair merit.

There was also a good display of *Rabbits* and *Cage Birds*. The pens were well arranged, but the time for opening the Show anything but satisfactory.

PIGEONS.

CARRIERS.—1, R. Harrison, Darlington. 2, H. Yardley, Birmingham. *c*, W. Taylor, Weardale.

FANTAILS.—1, W. Bearpark, Northallerton. 2, J. F. Loversidge, Newark. *vhc* H. Yardley, *hc*, T. C. Taylor, Middlesbrough. *c*, R. Harrison.

TURBITS.—1, R. Wilson, Thirsk. 2, J. G. Dunn, Newcastle-on-Tyne. *hc*, H. Yardley; W. Bearpark. *c*, T. C. Taylor.

TUMBLERS.—*Short-faced.*—1, W. Bearpark. 2, H. Yardley. *hc*, R. Wilson. *c*, J. Robinson, Middlesbrough; T. Helmsley, Lackenby. *Common.*—1, W. R. and H. O. Blenkinsopp, Newcastle-on-Tyne. 2, T. C. Taylor.

JACOBINS.—1, H. Yardley. 2, R. Wilson. *hc*, W. Bearpark; W. R. & H. O. Blenkinsopp. *c*, W. Taylor, Weardale.

BARBS.—1, H. Yardley. 2, R. Wilson. *hc*, W. R. & H. O. Blenkinsopp. *c*, W. Taylor; T. C. Taylor.

OWLS.—1, R. Wilson. 2, H. Yardley.

TRUMPETERS.—1, J. Cundale, Ripon. 2, R. Wilson.

POUTERS.—1, W. Bearpark. 2, H. Yardley. *hc*, R. Harrison; R. Wilson; T. C. Taylor.

NUNS.—1, H. Yardley. 2, W. Bearpark. *hc*, R. Wilson.

MAGPIES.—1, J. Cundale. 2, W. Bearpark. *hc*, H. Yardley.

ANY VARIETY.—1, W. Bearpark (Blue Dragoon). 2, J. G. Dunn, Newcastle-on-Tyne (Yellow Dragoons), *hc*, R. Harrison; R. Wilson; J. Cundale; W. R. and H. O. Blenkinsopp. *c*, T. C. Taylor.

SELLING CLASS.—1 and 2, T. C. Taylor.

RABBITS.—*Lop-eared.*—1, W. Wilson, Middlesbrough. 2, —Dobson, York. 3, —Kettlewell, York. *Himalayan.*—1, T. Moore, Normanby. 2, W. Donkin, Driffield. 3, A. H. Easten, Hull. *Angola.*—1, G. Robinson, York. 2, C. Anton, York. 3, A. H. Easten.

BLACKBURN POULTRY SHOW.

THE day on which this was held (July 27th), was the most summer-like of any we have had this year, and the ground was thronged with visitors. The pens, which were ranged round two sides of a large field, gave the poultry plenty of room. Grey *Dorkings* did not show to advantage—in fact, they were mostly in deep moult; but the Dark *Brahmas* were very good. Of *Spanish*, Messrs. Brierley and Beldon showed three pens that would stand well at any show. In *Game* fowls the noted pens belonging to Mr. Brierley carried everything before them. *Cochins*, both Buff and Partridge-coloured, were of great merit; but the *Hamburgh* classes were the strong feature of the Blackburn Show, the district being the home of the breeders of these beautiful varieties. All the classes of *Ducks* were as good as could be desired, and public attention was arrested by the exhibition of Whistling Ducks, Shovellers, Teal, Mandarins, Labradors, and a few other well-shown breeds. *Geese*, too, were perfection, and present in numbers, but not a single entry of birds of this year's hatch for the *Turkey* prizes was made, and only three for old birds. The classes devoted entirely to birds bred in 1871 were well filled with the choicest specimens, the successes of many of which will no doubt be heard of hereafter, as very few of the chickens were early-hatched ones. The Committee were most anxious to oblige everyone, and we congratulate them on their well-deserved success.

DORKINGS.—*Grey.*—1, J. Stott, Healey, Rochdale. 2, J. Robinson, Garstang. *White.*—1 and 2, J. Robinson. *Any colour.*—*Cock.*—1, T. Briden, Earby, Skipton. 2, J. Robinson.

BRAHMA POOTRA.—1 and 2, H. Lacy, Hebden Bridge. *hc*, H. Beldon, Goitstock, Bingley.

SPANISH.—1 and 2, C. W. Brierley, Middleton, Manchester. *hc*, H. Beldon.

GAME.—1 and 2, C. W. Brierley. *Cock.*—1 and 2, C. W. Brierley. *hc*, W. Perrin, Nantwich, Cheshire.

COCHIN-CHINA.—1, H. Lacy. 2, E. Leech, Rochdale. *hc*, F. H. Green, Windsor, Belfast, Ireland.

HAMBURGHS.—*Golden-pencilled.*—1, H. Beldon. 2, J. Robinson. *Silver-pencilled.*—1, H. Beldon. 2, J. Robinson. *hc*, J. Robinson; B. Bee, Goosnargh, Preston. *Golden-spangled.*—1, H. Beldon. 2, J. Robinson. *hc*, H. Beldon; J. Newton, Silsden, Leeds. *Silver-spangled.*—1, J. Robinson. 2, H. Beldon. *Black.*—1, J. Robinson. 2, C. Sidgwick, Keighley. *c*, C. W. Brierley.

BANTAMS.—1, S. & R. Ashton, Roe Cross, Mottram, Manchester. 2, H. Beldon. *hc*, H. B. Smith, Brooklands, Broughton, Preston; G. Hall, Kendal; G. Anderton, Accrington.

CRÈVE-CŒUR.—1, H. Beldon.

HOUDANS.—1, W. Hibbert. 2, F. H. Green.

ANY OTHER VARIETY.—1, H. Beldon. 2, G. Anderton. *hc*, H. Beldon; J. Robinson; T. Wakefield, Golborn, Newton-le-Willows: J. Kitchen, Blackburn.

GEESE.—1, S. H. Stott, Preston. 2, E. Leech. *c*, J. Honlker, Revidge, Blackburn.

DUCKS.—*Aylesbury.*—1, E. Leech. 2, S. H. Stott. *Rouen.*—1, T. Wakefield. 2, J. Scotson, Little Byrom, Lowton, Newton-le-Willows. *hc*, S. H. Stott. *Labrador.*—1, A. & J. Trickett, Waterfoot, Manchester. 2, H. B. Smith, Brooklands, Broughton, Preston. *Any other Variety.*—1, C. W. Brierley. 2, H. B. Smith (Mandarins). *hc*, H. B. Smith (Shelldrakes); S. & R. Ashton, Roe Cross, Mottram, Manchester; S. H. Stott: C. W. Brierley.

TURKEYS.—1, E. Leech. 2, J. Cunningham, Blackburn. *hc*, J. Honlker, Revidge, Blackburn.

CHICKENS.

DORKINGS.—*Grey.*—1, J. Robinson. 2, J. J. Walker, Kendal. *c*, W. H. King, Sandfield, Rochdale (2); E. Leech. *White.*—1 and 2, J. Robinson. *c*, M. Fairhurst, Woodlands, Ormskirk.

GAME.—1 and 2, J. Carlisle, Earby, Skipton. *hc*, C. W. Brierley.

COCHIN-CHINA.—1 and 2, C. Sidgwick. *hc* and *c*, J. Robinson.

HAMBURGHS.—*Golden-pencilled.*—1, J. Webster, Whitby. 2, H. Beldon. *hc*, J. Robinson. *Silver-pencilled.*—1 and 2, H. Beldon. *hc*, J. Robinson. *Golden-spangled.*—1, J. Robinson. 2, E. Brierley, Heywood, Manchester. *Silver-spangled.*—1, H. Beldon. 2, J. Robinson. *hc*, G. Brown, Sandhills, Walsall.

BANTAMS.—1, H. Beldon. 2, Rev. C. J. Perry-Keene, Halsall, Ormskirk.

GEESE.—1, S. H. Stott. 2, J. Houlker. *hc*, E. Leech.

DUCKS.—*Aylesbury.*—1, E. Leech. 2, H. Frankland, Church, Accrington. *hc*, B. Bee, Goosnargh, Preston. *Rouen.*—1, J. Scotson, Little Byrom, Lowton, Newton-le-Willows. 2, T. Wakefield. *hc*, P. West, Abram, Wigan; S. H. Stott; J. Newton, Silsden, Leeds. *Any other Variety.*—1, H. B. Smith (Labrador Ducklings). 2, A. & J. Trickett, Waterfoot, Manchester.

EXTRA STOCK.—*hc*, T. Wakefield.

RABBITS (Extra Stock).—*vhc*, J. Boyle, jun., Blackburn (Lop-eared). *hc*, J Irving, Blackburn (Tortoiseshell, Black, and White); J. Boyle, jun. (Silver Grey and Himalayan).

Messrs. Hewitt and Baxter were the Judges.

CROYDON POULTRY SHOW.

THIS Show was held on July 26th in Haling Park, the seat of J. Watney, Esq., who kindly allowed the Exhibition to take place amidst his noble Chestnut trees. The entries numbered 250 pens, an immense increase over last year's, and the Show proved a great success. Many of the best birds from all parts of the kingdom competed for the prizes. The visitors were very numerous, including many London exhibitors. All fanciers know how pleasant it is to meet one another, shake hands, and then commence discussing the merits of the different birds and the prospects of the young ones. These things they did at Croydon with evident pleasure to each other. The courtesy and exertions of the Honorary Secretary, Mr. Rowland, contributed largely to the day's enjoyment and success.

It was rather late in the day before the Judge was able to announce the winners; this was no doubt caused by the superiority of the birds and the close competition in many of the classes. The judging on the whole was very satisfactory, and there were few grumblers amongst the disappointed ones. We were surprised to find that no prizes were offered for Pigeons, especially as so many Pigeon breeders and exhibitors live in Croydon, and there is there a very active Columbarian Society, but no doubt next year this omission will be rectified.

Grey *Dorkings* stood first; many of the birds were in deep moult, and the whole class was only moderate in quality. In the Any variety class a very poor pair of Whites took the first prize and Blues the second. We noticed a good pair of Silvers, but the hen had an enlargement of the crop, or they would have been differently placed. *Spanish* were an uncommonly good even class. One of the best-filled pens in the whole Show, No. 17, contained a good-faced bird with middling comb matched with a wretched hen. With one or two exceptions all the hens were inferior when compared with the cocks. Several winners at other shows had to put up with a high commendation here. Buff and Partridge *Cochins* were good, but several were badly shown and in wretched condition. In the Any variety class there was a wonderfully nice lot. The first-prize pair of Whites were beautifully white and clean in feather. What washing they must have had, and what immense trouble must have been taken in arranging their feathers after the bath! but their splendid appearance repaid the operator. The awards in Dark *Brahmas* were hardly satisfactory. All the birds were good and received notice, except two pens. The Judge must have been puzzled as to which was the best pair. Several of the Light looked yellow on the hackle and saddle feathers by plumage soiled, and would no doubt have looked better if washed. We wash our bodies for the sake of appearance and comfort, then why not wash a fowl to improve its beauties? Otherwise they were grand birds. *French* were divided into two classes. The first-prize Crêve-Cœur cock was an unusually good bird. All the *Game* were in excellent feather and condition. *Hamburghs* were numerous, but inferior, except the winners. *Polands* were few but good, particularly the first-prize pair, which were in fine condition and plumage. One of the best classes in the Show was the *Bantams*, the whole of which were well shown. The Any other variety class produced a numerous entry, but the awards were bad, going to a wretched pair of Black Hamburghs, white in the face, red earlobe, and the cock with a wry tail. The pair were hardly worth as many shillings as priced at pounds, and that was only £2 10s. This was the more to be regretted, as there were many superior birds in the class. *Ducks* and *Geese* were good, and a nice lot of young ones was exhibited.

A Grey Dorking was first in the *Single Cock* class, and there was a very rakish-looking Game bird, but he only received a high commendation. *Spanish* stood first in the hen class, being very good in face, and open in lobe. We heard £10 refused for them. The prize for *Bantam* hens went to a pair of this year's birds, very neat and small, slightly white on the ear, but very quickly claimed at the catalogued price, two guineas.

Although no prizes were offered for *Pigeons*, still there was a very pretty show made by the members of the Croydon Columbarian Society. Mr. Jayne exhibited some pretty Tumblers, and made us covet a little gem of a hen. We always have a liking for Tumblers. Mr. Wiltshire sent some grand Carriers; Mr. Corker Dragoons, which we much admired; Mr. Sutherland a number of Belgian Pigeons, similar to those started from the Crystal Palace a short time since.

The whole of the birds were exhibited in Mr. Billett's pens, and the neatness and general finish these pens always convey to the mind, add greatly to the appearance of the birds, and the attractiveness of the Show.

DORKINGS.—*Grey.*—1, G. H. Langford, Sherborne, Guildford. 2, J. Smith Shillinglee Park, Petworth. *c*, — Sutherland, Coombe Lodge, Croydon; J. Smith; F. Parlett, Great Baddow, Chelmsford. *Any other Variety.*—1, J. H. Nicholls, Lostwithiel (White Dorkings). 2, B. Fuller, Rookery, Dorking (Blue-speckled Dorking).

SPANISH.—1, Messrs. Nichols, Camberwell. 2, C. Howard, Peckham. *hc*, R. Wright, Holloway Road, London; E. Smith, Lark Hill, Timperley.

COCHINS.—*Buff or Cinnamon.*—1, E. Smith. 2, J. K. Fowler, Aylesbury. *hc*, J. Pares, Postford, Guildford. *Brown or Partridge.*—1, C. Howard. 2, H. Lingwood, Needham Market. *Any other Variety.*—1, E. Smith (White Cochins). 2, Mrs. A. Williamson, Queenborough Hall (White Cochins). *hc*, J. N. Whitehead, Gnaton, Torquay (White Cochins).

BRAHMAS.—*Dark.*—1, H. Dowsett, Pleshey, Chelmsford. 2, W. Stevens, Northampton. *hc*, H. Lingwood; H. Dowsett. *c*, E. Smith; J. K. Fowler. *Light.*—1, Mrs. A. Williamson. 2, H. M. Maynard, Ryde, Isle of Wight. *hc*, J. R. Rodbard, Wrington, Bristol. *c*, Dr. Campbell, Brentwood.

HOUDANS.—1 and 2, W. Dring, Faversham. *hc*, J. K. Fowler. *c*, Hills & Co., Great Woodcote.

FRENCH.—*Any other Variety.*—1, E. Smith (Crêve-Cœurs). 2, Rev. N. J. Ridley (La Flèche). *hc*, J. S. Price, Potter's Bar (Crêve-Cœur); J. J. Malden, Biggleswade (Crêve-Cœur); T. E. Hawken (Crêve-Cœur).

GAME.—*Black or Brown-breasted Reds.*—1, S. Matthew, Stowmarket. 2, W. H. Stagg, Netheravon. *hc*, F. Harding, Chingford; Rev. G. S. Cruwys, Cruwys Morchard, Tiverton. *Piles or Duckwings.*—1 and 2, S. Matthew, Stowmarket. *hc*, J. H. Salter, Tolleshunt Darcy, Kelvedon (2); Rev. G. S. Cruwys.

HAMBURGHS.—*Gold or Silver-spangled.*—1, E. Phillimore, Cheltenham. 2, H. Pickles, jun., Earby. *hc*, Miss C. E. Palmer, Odiham; H. M. Maynard; W. H. Tomlinson, Newark-on-Trent. *c*, G. Slade, Chiselhurst. *Gold or Silver-pencilled.*—1, H. Pickles, jun. 2, R. S. S. Woodgate, Pembury, Tunbridge Wells. *c*, W. K. Tickner, Ipswich.

POLANDS (Any variety).—1 and 2, W. P. Patrick, West Winch, Lynn. *hc*, H. Pickles, jun.; W. K. Patrick.

GAME BANTAMS.—*Black or Brown-breasted.*—1, Rev. E. S. Tiddeman, Childerditch Vicarage, Brentwood. 2, A. A. Vander-Meersch, Tooting. *hc*, Rev. E. S. Tiddeman; E. S. C. Gibson, Ryde. *Pile or Duckwing.*—1, A. A. Vander-Meersch. 2, H. J. Jones, Reigate. *Any other Distinct Variety.*—1, Rev. G. S. Cruwys. 2, A. E. Smith (Pekins). *hc*, P. Crowley, Waddon House, Croydon (Black); R. S. S. Woodgate (Japanese); E. S. C. Gibson (Japan Frizland); Rev. G. S. Cruwys.

ANY VARIETY NOT BEFORE NAMED.—1, J. H. Nicholls (Black Hamburghs). 2, A. E. Smith (Andalusians). *hc*, Rev. N. J. Ridley (Malay); J. Bissenden, Canterbury (Black Gueldres); J. P. Fearon, Burdhurst, Croyden (Japanese Silks); R. S. S. Woodgate (Silkies); W. H. Tomlinson, Newark-on-Trent (Sultans). *c*, Miss C. E. Palmer (Scotch Dumpies).

DUCKS.—*Rouen.*—1, H. Dowsett. 2, J. K. Fowler. *hc*, — Sutherland. *Aylesbury.*—1 and 2, J. K. Fowler, Aylesbury. *hc*, W. Jacob, Shepperdswell. *c*, S. N. Rowland, Caterham Valley. *Any other Variety.*—1 and 2, — Sutherland (Shell Ducks and Domesticated Wild Ducks). *Farmyard.*—1, — Sutherland. 2, M. Coleman. *hc*, J. W. & J. Hill. *Ducklings.*—1, J. K. Fowler (Aylesbury).

GEESE.—1, J. K. Fowler. 2, P. Crowley. *c*, J. H. Sheppy, Wallington, Surrey. *Goslings.*—1, J. K. Fowler. 2, J. Pares. *hc*, P. Crowley (2); J. H. Sheppy.

COCK OR COCKEREL.—1, J. Chisman, Rounham, Southampton (Grey Dorking). *hc*, — Whitehead (White Cochin); R. Hall (Game).

HENS OR PULLETS.—1, Messrs. Nicholls (Spanish). *hc*, R. S. S. Woodgate (Gold-pencilled Hamburghs); Mrs. General Dunn, Inglewood House, Hungerford (Dorkings); W. Dring (Houdans); H. Brown (Spanish); O. E. Cresswell, Hanworth Rectory, Feltham (Silver-Grey Dorkings). *c*, A. E. Smith (Spanish).

BANTAMS.—*Cock or Cockerel.*—1, W. Dring (Black Red). *Hens or Pullets.*—1, T. W. Anns, Clapham (Black-Red Game). *hc*, H. F. Nalder, Croydon (Pile Game Pullets).

SELLING CLASS (Any variety).—1, F. Brewer, Lostwithiel (White Cochins). 2, R. J. G. B. Knight, Wrotham, Sevenoaks (Houdans). *hc*, B. Mollett, Eccleston Square, London (Black Spanish).

Mr. G. Saunders Sainsbury, of Devizes, was the Judge.

THE OWL PIGEON.

WE trust that we may be excused for not replying more promptly to Mr. Harrison Weir's remarks (pages 17 and 18) on our notes respecting the Owl Pigeon. The opinions of our members assembled were taken on the subject: hence the delay.

We are pleased to hear that Mr. Harrison Weir gives us credit for our good intentions in placing before the fancy our views of the merits and demerits of the various breeds of domesticated Pigeons. We are also gratified that congratulations upon our efforts have been received by us from all quarters of England, and from various parts of America; and our pleasurable task is rendered still more delightful because we have ample assurances that we are not working in vain, but, on the contrary, are doing some good. We, of course, expect differences of opinion. It would be a remarkable exception if in the Pigeon fancy alone there were perfect unity. There

always has been a diversity of thought on all subjects, and it is well, too, that such exists; and were it not that Mr. Harrison Weir is looked upon as an authority on Pigeons he might still enjoy undisturbed his own views of a perfect Owl, and we would have simply requested fanciers to read our article on the Owl and Mr. Weir's remarks, and then draw their own conclusions. But as Mr. Weir is not only an accomplished artist, but an eminent judge of Pigeons, we cannot let his adverse opinions pass unnoticed. To do so might appear to some fanciers as equivalent to our conversion to his peculiar views, and might influence would-be fanciers in their search for choice birds of this variety. We will, therefore, again direct their attention to our article on the Owl (see vol. xx., page 429), and also to Mr. Weir's contrary opinions (see July 6th, pages 17 and 18), taking a few extracts from each to show in what respects the Birmingham Columbarian Society and Mr. Weir differ as to the qualities of a standard Owl Pigeon.

Our views are:—"From near the end of the lower beak should fall in nearly a straight line a loosely-hanging feather-covered skin or dewlap, terminating at its lower extremity in the gullet, from which should protrude evenly on either side a large and full-feathered frill or ruffle. This ornamental frontispiece should extend low down the breast, and finish off in a sort of rose or radiation of feathers, &c." To the above quotation Mr. Weir objects by saying, "The Owl ought not to have what is termed the gullet, nor a frill, but the head set on an evenly-rounded neck with no frill, but a circular patch of feathers on the breast that is called the rose." Thus it will be seen that we want rose, frill, dewlap, and gullet, whilst Mr. Weir is content with the rose, or patch of feathers as he terms it, and adds that the points above enumerated by us belong to the Turbit.

Let us see what "The Treatise," published in 1765, says—"The feathers on the breast open and reflect both ways, expanding something like a rose, which is called the purl by some, and by others the frill, and the more the bird has of that the better, with a gullet reaching down from the beak to the frill." Mr. B. P. Brent says (page 53), "The gullet of the Owl should be well developed, frill rose-shaped." And, again, we find in the old work on Pigeons, above alluded to, the following description of the Turbit, which the author says, "should have a round button head, with a gullet; and the feathers on the breast (like that of the Owl) open and reflect both ways, standing out almost like a fringe, or the frill of a shirt, and the bird is valued in proportion to the goodness of the frill or purl;" and apart from antiquated notions whether for or against our views, Mr. Weir has himself pourtrayed a pair of Owls, and the head study of another, in all of which the "dewlap" is conspicuous. We have also in support of our views most modern fanciers, and many veteran Pigeon keepers, many ancient records, and Nature herself for our guide, the study of which shows clearly that the Owl Pigeon has dewlap, gullet, frill, and rose. These birds are no strangers to us, no new variety, or obscure breed recently brought to light; they are an ancient race, and are also by nature frilled birds from neck to breast; and whatever strange twists and twirls such feathers sometimes take upwards, downwards, inwards, outwards, a study of this variety, as nestlings in pin-feather, will reveal clearly the course such feathers are intended to take, and will be more convincing to those who are inclined to be captious than an exhaustive volume on the subject.

We admire the rose on the breast of the Owl greatly, and consider such point indispensable, but for a perfect specimen we must have also a frill in continuation from the top of the rose, also gullet and dewlap, without which such birds are imperfect developments of the breed, and however much we may admire them as eccentricities, we do not think well to extol their merits as perfect birds. Pigeons of the Owl type possessing rose only are rarely to be found; they are, indeed, isolated specimens, freaks of Nature springing from the parent stock, and as such they should be regarded, and not held up as possessing the fundamental qualities of the breed. They should have their place with us, and command our admiration too; but such singular specimens must and should give place to those of higher merit of the true type such as we have described.

Mr. H. Weir says we (the Birmingham Columbarian Society) do not seem to know much about the Powdered Blue specimens, and kindly volunteers a little enlightenment as to the origin of the Powdered Blue variety and its name. Mr. Weir says, "This breed was produced by the late Mr. Matthew Wicking and myself many years ago (at least neither of us ever saw any until we bred them), and they were got from a Light Blue and a Mealy, and selected and bred on. We called them Powdered Blues, because the necks of the birds being of a bright blue, and the tips of the hackle feathers nearly white, it gave them a powdered look; hence the term Powdered Blue." That Mr. Weir may have bred the lighter-coloured or Powdered Blue Owls as he describes—viz., from Light Blues and Mealies, we do not doubt—indeed we know they are thus produced; we only wonder that Mr. Weir should take credit to himself and the late Mr. Wicking as the originators of this breed. It is true he has qualified such observation by the following addendum—"At least neither of us ever saw any until we bred them." Were there no enterprising and experimenting breeders prior to the nineteenth century who tried the amalgamation of Blues, Mealies, and Silvers? Did not chance ever bring them together and produce the same effect? Let us refer back just a hundred years and see what Mayor says. "The Blue ones," he writes, "should have black bars cross the wings, and the lighter they are in colour, particularly in the hackle, the more they are valued." And we find also in Mr. Tegetmeier's work on Pigeons, in speaking of the Owl he says, "It is to be regretted that the old Powdered Blue and Silver Owls, being of extreme beauty, should be allowed to pass away."

We must leave our readers to form their own opinions as to the originators of this breed; but we would simply say, Ask any old fancier if he knows what Silvery-hackled Blue Owls are and how long he has known of them, and he may perhaps have a long yarn to spin in praise of the beauties his great-grandfather had of that variety. We will not dispute the right or title as co-sponsor which Mr. Weir claims, in conjunction with the late Mr. Wicking, at the re-christening of the variety now known as Powdered Blue, for probably Mr. Weir did thus name them. This, although not of material importance, is news to us, and for such enlightenment we desire to express our thanks; in other respects we remain unmoved. Our views of an Owl of standard merit are unaltered; and, should such be necessary, we are prepared to give modern authority, ancient record, or ocular demonstration, in substantiation of the opinions we have promulgated.—THE BIRMINGHAM COLUMBARIAN SOCIETY.

I READ with interest the remarks on the properties of the Owl Pigeon by one to whom every true fancier is indebted for his services at the most important shows, and for his pencil productions; but allow me to ask him, Mr. Harrison Weir, on what ground was based the decision at the Crystal Palace? I have good reasons to suppose, only on the appearance of their best specimens, which by the trial they have undergone in order to be produced, "very finely powdered" and "forcing," or from being rather too weakly and close bred, have lost their most important property, the full frill, and not by a reference to the original breed and country, and their first breeders—the venerable Turks—who claim the honours of producing both the Owl and the Turbit, besides other rare beauties. What would the Almond breeders in England say, if some of the fanciers here breeding the Almonds, which I have imported into this country, should breed differently to what they should be bred, and establish to their own taste an improved standard?

The most venerable fancier I have known here (twenty years ago, then quite shaky, but still, to my delight, not more shaky now), who from boyhood inherited from his yet-and-for-ever venerated father, the most beautiful of Toy Pigeons, when I translated to him Mr. Harrison Weir's remarks on the Owl, most comically came out with a proverb, which exactly translated means, "Come my grandfather to show you your father's inheritance." In my twenty-five years' experience of the fancy, and in my travels, I have discovered that we are indebted to the Mahomedans for the best of our Toy Pigeons, but especially for the Owls and Turbits. This granted—and there is not the least doubt—I beg to give the original standard of the two breeds.

With the exception of markings and caps they should be one and the same breed, and I believe had Mr. Weir seen perfect Turbits, as he has the perfect Owls occasionally met with in England, he would alter his views. But unfortunately a perfect-shaped Turbit does not yet exist in England; you only meet the rather thin-beaked, not short enough, narrow-headed, mousey-shaped bird; while the head of a Turbit, according to the original producers of the breed, should be, with the exception of the cap, as beautiful as that of the Owl, and you may well imagine the beauty of a Turbit with such a head; and as

for the frill, the so-called rose, it is only a deteriorated frill, which unfortunately only the best, or rather close-bred Owls in England possess, and especially the small White; thus missing one of their most important points, the full—never too full—frill. Let us endeavour honourably to serve the uninitiated, instead of imitating the fox who lost his tail, because the best Owls in England are generally short of frill, to attach to it the fancy name of rose, and try to persuade the fancy to imitate this deterioration. I shall suggest, as this venerable Turk does, to my fellow English fanciers, to breed the Turbits as fine as the Owls in head, and both those handsome varieties as full-frilled as possible, and when they attain this object, let them compare them with the Owls possessing the rose and the now existing Turbits, and then decide. Specimens of perfect-shaped Turbits I have forwarded to our Society at Birmingham, though rather revolutionised in markings by the present fashion here.—H. P. Cariria, *Smyrna.*

The Birmingham Columbarian Society describe the eye of the Owl Pigeon as being orange red, a point Mr. Weir fails to catch, as diffarent from Mr. Brent's description of such eye, as pearl or gravel colour, though Mr. Weir corrects the Society on other points. Will Mr. Weir tell us the genuine colour of the Owl Pigeon's eye?—Reader.

VALUABLE PIGEONS STOLEN FROM EXHIBITIONS.

I agree with Mr. Hewitt and Mr. Graham that watchful eyes are the best safeguards. I would suggest that committees of shows should guarantee the safety of the birds while in their possession. I think that if they were to charge 3*d.* or 6*d.* per pen extra for the entries they would be able to have additional men to watch. As regards the chains and locks my opinion is that they would be useless, because those who intended stealing would effect their purpose unless a watch were kept upon them. My bird, value £20, was stolen from Romford at half-past four in the afternoon; this would have been impossible if the birds had been well looked after. Messrs. Jennison offered Mr. While £5 towards his loss, but the Committee of Romford Show have not offered me any compensation. I will give £5 for the recovery of my Carrier and the conviction of the thief, I will also give a guinea to any person who will by his evidence convict any thief or thieves stealing Pigeons from any forthcoming show this season, or will subscribe a guinea to any fund which may be formed having the same object in view.—H. Yardley, *Market Hall, Birmingham.*

DEATH OF MR. T. W. WOODBURY.

I little thought—when, on the 20th of this month (July), after an enforced cessation of some months, owing to severe and protracted illness, there appeared another of those papers bearing the signature so well koown to the readers of "our Journal" of "A Devonshire Bee-keeper," in which he most feelingly announced his partial but uncertain improvement, and his looking hopefully forward to permanent recovery, and in which he most gratefully tendered his "warmest acknowledgments and heartfelt thanks" to myself and others who had assisted him with the pen, and to numerous friends and correspondents who had expressed their warm sympathy with him during his illness—I little thought, I say, that this would prove to be the last contribution hearing his signature, or that before the succeeding week's number could reach us we should have been shocked to hear of his almost sudden death. It is, however, my sorrowful task to have to inform the editors, and numerous apiarian and other readers and correspondents of this Journal, of the melancholy fact. On the night of Wednesday, the 26th, soon after the time of his retiring to rest, he was seized with a violent internal pain, and in a very short time, before the doctor who had been sent for could arrive, he had ceased to exist.

Thus has the unbroken friendship of twenty-two years been severed. It was in the summer of 1849, in consequence of a short paragraph from my pen which appeared in one of our local prints, that I received a letter from Mr. Woodbury, expressing his interest in the communication. A few weeks after this he called on me, and from that time commenced an intimacy which soon ripened into warm friendship. We had both for some years been ardent bee-keepers, but our acquaintance and mutual interest in the beloved subject, together with our numerous walks and rambles connected with apiarian pursuits, added, if possible, fuel to the fire.

In the autumn of 1850 I removed to Ireland, and, of course, our personal inter-communication on bee matters received a check. I soon established a prosperous apiary in my new home, but my friend was not so fortunate. During the following year, chiefly owing to the knavery of the people in the country in whose garden he had kept his bees, his hives dwindled away to a very low ebb, and for a time he relinquished active bee-keeping in disgust. Still, however, his real interest in the subject remained.

I returned to reside in Exeter in the autumn of 1854, and very soon set to work to surround myself with a more extensive apiary than I had ever had before. Mr. Woodbury took a very great interest in all my proceedings, but he maintained that he should not himself again enter the lists as a bee-keeper. But example is contagious. Being interested in observing the prosperity of my bees, and in the progress of some beautiful supers which were being filled, he could not resist the impulse, and on one occasion of my calling at his house, I found him surrounded with planks and tools, busily engaged in making bee-boxes. He was the very best amateur carpenter or cabinet-maker that I ever knew; his workmanship was really beautiful. Whatever he did in this, as in other matters, he did thoroughly. Mr. Woodbury then informed me that he should not exceed four stocks of bees, and for some time he adhered to his resolution. With the ordinary bar hive he became so exceedingly expert a manipulator, that when the third edition of Langstroth's book was published, he could not at first perceive any advantages that moveable frames possessed over moveable bars. It was not until I had made several frame hives, somewhat after Langstroth's pattern, but previous, however, to my having had any of them stocked with bees, that he candidly told me that he had become a convert to the utilities and capabilities of the, to us, new principle, and that he should set to work at once to make some. By a happy combination of adaptation he utilised all his boxes, loose bars, and combs, and succeeded in turning out the form of hive which has ever since enjoyed so wide a reputation—viz., the Woodbury hive. From the time of his adoption of this hive, and of his introduction of Ligurians into his apiary, Mr. Woodbury greatly extended his operations, and his four original colonies soon became vastly increased. For the accounts of his introduction of Ligurian queens; of his first and subsequent attempts at their propagation; of his failures as well as his successes; of the history of the successful tranemiseion of Ligurian colonies to Scotland, Ireland, America, the Cape, Australia, and elsewhere, I can only refer our readers to the pages of past numbers of the Journal during the space of many years.

I have hitherto spoken of our departed friend chiefly in relation to his career and chara.ter as an apiarian, and it is with greater difficulty and diffidence that I approach the subject of his domestic relations. I have endeavoured, most imperfectly I fear, to describe him in the character of a warm, sincere, and enduring friend. To this must be added, and all who have known him intimately will bear me out in the assertion, that in all the relations of domestic life he was almost, if not quite, incomparable—a devoted son, sacrificing self for the happiness and comfort of aged parents, a most loving and affectionate husband and father. I felt it to be indeed no small privilege to be permitted to join the family circle with almost the freedom and non-constraint of a near relative.

In conclusion I have only to add, that I am sure that all the readers of the Journal, and all the contributors to its columns, whether interested as apiarians or otherwise, will experience deep feelings of sorrow for the loss of one who has for so many years contributed so largely to its columns, and I may be permitted to add, to its value and interest as a weekly periodical. Since the commencement of his illness, Mr. Woodbury expressed to me his deep regret that he had not during the time of health, given to the world the benefit of his large experience in a thoroughly comprehensive work on the honey bee. Still we may truet that in his numerous writings on the subject, "he being dead, yet speaketh."—S. Bevan Fox.

OUR LETTER BOX.

Mrs. Clarke, of Alconbury House, near Huntingdon.—W. Corbat, Esq, Strasbourg House, Castle Connell, Ireland, says—"I wrote to her in answer to her advertisement, for two Frizzled fowls and two Ptarmigan fowls, and sent her £2. She acknowledged having received the money, but said the fowls were sold, and in a short time would send me others. As she did not do so I wrote for the money; this she promised to send but never did, and in the end would not answer my letter."

POINTS OF DUCKWING GAME FOWLS (*G. H.*).—The hackle of a Duckwinged Game cock should be perfectly clear, the breast should be quite black, the tail also. The Duckwing should be distinctly marked in common and Silver Duckwings, but in the ordinary there may be and frequently is the copper saddle. The hackle of such a bird should be straw-coloured, but in the Silver it must be white. In all points of shape, carriage, &c., the rules are the same for all classes. The distinction is only in colour.

AGE OF MOULTING (*W. L.*).—Hens do not moult till the end of summer or beginning of autumn. That is the natural time after they have done laying and sitting. The old worn-out plumage of the summer, good and close enough for the hot and dry weather, would prove but a sorry protection against sleet, snow, and frost in the winter. Chickens, being chickens, do not moult, but their feathers change. We believe each new feather is a sort of Phœnix, and rises from the annihilation of its predecessor. One exception may be made, young cocks may be seen with their necks covered with huge stubs, as though they were moulting, but it is not so; it is to them like the visible whisker on the adolescent's face, taking the place of the scarcely perceptible down. You may set the eggs at once.

REMOVING TAR FROM FOWLS' FEATHERS (*J. L.*).—We believe chloroform will remove it, also naptha. We are not sure, as we have never tried it for the purpose. The presence of a little tar on the plumage is not a very serious objection, as it cannot for a moment be supposed it was put on purposely.

POULTRY HOUSE PERCHES (*C. T. S.*).—Pheasants never roost at the end of a branch. Almost all birds choose a large perch, and we are strongly in favour of it. We take a fir tree about 8 or 9 inches in diameter, and saw it in half. It is then placed on uprights 24 inches from the ground, with the bark on and round side uppermost. We have always thought crooked breasts indicated either weakness of constitution, or undue growth from stimulating or excessive feeding, or woful mistakes in perching, perhaps the combination of all these may succeed in producing the crooked breast. Perching is the natural rest. If the resting place be wide, but slightly rounded, there will be no Duck-heel. On such a perch as we have described little clasping is necessary. The bird well and naturally balanced rests on it; but if it be sufficiently narrow to make clasping necessary, the bird remains there by effort, and that is not rest. Young cocks, especially, are apt to be lanky; they become long on the leg, "for ever and anon," when on "their daily avocations," they leave off walking to sit down; they are neither tired nor lazy, but they are weak. Such birds on an improper perch clasp it to the extent of their power; but narrow and painfully round, there is not support until they get their breasts to rest upon it. That which will be bone is then only cartilage, and it takes the impression of the so-called perch. Procrustes was curious in roosts, and might have copied many we have seen advantageously for his system of suiting no one.

HEN WITH A BROKEN TOE (*M. R. F.*).—Bind it up in a large quill, or in any sort of splint you may prefer. It would, doubtless, heal if left alone, but it always remains enlarged, and is often very unsightly.

EXHIBITING CHICKENS (*H.*).—The last days of August are not very early for a chicken show. It allows you to show birds that are eight months old, and they are getting on towards maturity. In judging chickens early in the autumn, if age be considered, it is with a view to distinguish the earliest hatched, because early hatching is a great merit. Sufficient attention is not paid to that point. Apart from showing, the most remunerative breeding is that which is earliest. We think you may safely show your birds with every prospect of success. They are very good, and so far as weight is concerned, are above the average. The heavier but younger cocks are so weak and lanky, that they show to great disadvantage.

POLAND AND HAMBURGH HENS SITTING (*J. R. Y.*).—We can say to you, as to our former correspondent, We are much obliged by your communication. We shall be glad to receive all such. Polands and Hamburghs are subject to "*écarts*" in these matters. We have not before heard of Houdans having a weakness for a brood. We shall now send out our bellman, offering a reward for a sitting Spanish hen. We merely observe to those who marvel, that an exception does not prove the rule.

EGG PRODUCTION (*N. W.*).—If the eggs are only intended for the table the cock is quite unnecessary.

DISTINGUISHING THE SEX IN THE EGG (*E. E. F.*).—You must not think because we do not believe in the sexes of eggs, that we are not interested in the subject of which your letter treats. We dare not repeat the usual platitudes about "picking shells on the shore while the vast ocean," &c., or "that we know only enough to teach." &c. We believe we know a great deal about poultry, but we do not know all, and we are happy to learn. Our columns are open to such subjects; enter the lists. We will answer for fair play, and all our weapons are blunted. If at the end your cocks turn out pullets, and our pullets cocks, we will say, "Brother, brother, we are both in the wrong," and begin again.

SEBRIGHT BANTAMS (*Mrs. E. Wilkinson*).—I regret to hear of your losing so many of your Sebright chickens. One great difficulty, however, you surmount—viz., the difficulty of hatching, for few fanciers hatch many, as clear eggs are sure almost to be very numerous. There must be some cause for your great losses which you have not discovered. It is true that the season has been bad, but it is not so now. Your treatment seems good, save and except the pepper, which is wrong. My plan is this—the first few days chopped egg and bread, then bread and milk, bread just moistened with milk, and the egg also; then grits (whole grits) as soon as they can eat them, potato and gravy, and meat minced very small; grass cut with scissors into very short lengths from the first. I am careful to keep every kind of damp from them. When the chickens grow older I give them ground Indian corn and pollard, half-and-half, mixed thick with water or milk, varying it with oatmeal and pollard. Variety of food is, I am sure, good—no two meals alike. Ants' eggs are relished, and good; indeed, I fancy animal food is particularly beneficial to Bantams. Try to find out the cause of your deaths. I incline to think the birds must pick up something injurious. The chickens which have full range of the garden are remarkably healthy. Do not give up the beautiful Sebrights, but persevere.—WILTSHIRE RECTOR.

CURE OF LICE IN PIGEONS (*C. P. Davies*).—Cleanliness is the great preventive. As to getting rid of the lice, you may adopt various plans. Dust sulphur into or rather under the feathers, or Persian insect powder. Paraffin poured on the perches has also been recommended. A practical fancier once in these pages recommended the following method of treatment:—Take a small pot of sheep ointment, place it in a basin of warm water to melt it; then take a small piece of stick, cutting one end flat, dip it into the ointment, and put a small quantity just above and below the vent, under each wing, and under the throat or neck of the bird. One anointing of this kind would be sufficient. The ointment is mercurial, therefore but little should be used.

VARIOUS (*M. R. F.*).—If your Pigeons have had a wire cage in front of their new home in which to sit and see the country around, they will now probably keep where they are. It would, however, do no harm to confine them a fortnight longer. A loft is all the better for being light and airy. Blue Dragoons may have either the white or blue rump. It constantly happens among common Pigeons that a pair out of the same nest mate together and breed. So doing, however, fancy birds would deteriorate if done too often. Give your Pigeons old tares, small beans, peas, Indian corn, barley, either mixed, or change from one sort of food to another frequently.

MARKET FOR SURPLUS HONEYCOMB (*J. D. K.*).—We do not think you will meet with any house in London who will give you the price for honeycomb that you mention. Write to Messrs. Neighbour, 149, Regent Street, London.

A MAIDEN SWARM (*Darby*).—You did perfectly right in returning the swarm. The queen sent is apparently an old one, if we may judge from the ragged wings and its somewhat stunted size. The smaller bee is an ordinary worker.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

DATE. 1871. July.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	IN THE DAY. Shade Temperature. Max.	IN THE DAY. Shade Temperature. Min.	IN THE DAY. Radiation Temperature. In sun.	IN THE DAY. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 26	29.401	61.7	55.0	N.W.	60.8	67.8	53.0	113.8	51.3	0.055
Th. 27	29.714	64.2	55.9	N.	60.3	76.7	51.2	126.7	51.4	0.175
Fri. 28	29.720	59 6	58 8	E.	61.3	71.9	55.0	117.0	56.3	0.362
Sat. 29	29.895	65.4	57.9	S.W.	60.6	71.8	52 8	121.4	51.6	0.290
Sun. 30	29.629	60.9	55.4	S.W.	60.5	68.1	51.8	116.8	51.6	0.060
Mo. 31	30.000	62.5	57.2	N.W.	59.2	74.4	45.8	122.4	45.2	—
Tu. 1	30.076	63.8	56.6	S.W.	60.5	74.0	48.0	122 0	48.0	—
Means	29.776	63.3	56.7		60.5	72.1	51.0	120.0	50.8	0.342

REMARKS.

26th.—Fine, but very windy; two or three showers; a very fine sunset, but very cold.

27th.—Very fine all day.

28th.—Rain in early morning; fine shower between 10 and 11 A.M.; fine day, but very heavy shower between 8 and 9 P.M.; fine night.

29th.—Fine but windy; heavy rain at 4.20 P.M, fine after.

30th.—Rainy morning, at 6 P.M., and again at 10 P.M., fine after.

31st.—Fine all day, hot sunshine, but with nice breeze.

1st.—Beautiful day.

The total rainfall during July was 4.125 inches, and it fell on eighteen days, being in both cases above the July average. The total fall since January 1st is, however, only 15.823, being but slightly above the average, the early months being mostly dry, very little more rain having fallen in the first five months than fell in June and July.—G. J. SYMONS.

COVENT GARDEN MARKET.—AUGUST 2.

THERE is very little alteration to note here. Business remains much as usual: a slight diminution in the supply of Currants, Raspberries, and Gooseberries, but no alteration in price worth notice. Potato trade dull with a very heavy supply; prices range from 30s. to £5 per ton.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....½ sieve	1	6	to 4	0	Mulberries.....lb.	0	0	to 0	0
Apricots.....doz.	1	0	3	0	Nectarines.....doz.	4	0	12	0
Cherries.....lb.	0	6	2	0	Oranges.....℔ 100	6	0	10	0
Chestnuts.....bushel	0	0	0	0	Peaches.....doz.	6	0	15	0
Currants.....½ sieve	3	0	4	0	Pears, kitchen.....doz.	0	0	0	0
Black.....do.	4	0	6	0	dessert.....doz.	2	0	3	0
Figs.....doz.	3	0	6	0	Pine Apples.....lb.	3	0	6	0
Filberts.....lb.	1	0	0	0	Plums.....½ sieve	0	0	0	0
Cobs.....lb.	0	0	0	0	Quinces.....doz.	0	0	0	0
Gooseberries.....quart	0	6	0	3	Raspberries.....lb.	3	3	1	0
Grapes, Hothouse....lb.	2	0	5	0	Strawberries.....lb.	0	6	1	6
Lemons.....℔ 100	6	0	10	0	Walnuts.....bushel	10	0	15	0
Melons.....each	2	0	6	0	ditto.....℔ 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....doz.	4	0	to 6	3	Leeks.....bunch	0	4	to 0	6
Asparagus.....℔ 100	0	0	0	0	Lettuce.....doz.	0	2	1	0
Beans, Kidney.....½ sieve	3	0	4	0	Mushrooms.....pottle	1	0	2	6
Broad.....bushel	2	0	3	0	Mustard & Cress..punnet	0	2	0	0
Beet, Red.....doz.	2	0	3	0	Onions per doz. bunches	4	3	6	0
Broccoli.....bundle	0	0	0	0	pickling.....quart	0	0	0	0
Brussels Sprouts..½ sieve	0	0	0	0	Parsley.....sieve	3	0	6	0
Cabbage.....doz.	1	0	2	0	Parsnips.....doz.	0	9	1	0
Capsicums.....℔ 100	0	0	0	0	Peas.....quart	0	0	1	0
Carrots.....bunch	0	6	0	0	Potatoes.....bushel	1	6	3	0
Cauliflower.....doz.	3	0	6	0	Kidney.....do.	3	0	6	0
Celery.....bundle	1	6	2	0	Radishes..doz. bunches	0	0	1	0
Colewarts..doz. bunches	2	0	4	0	Rhubarb.....bundle	0	4	0	6
Cucumbers.....each	0	6	1	0	Savoys.....doz.	0	0	0	0
pickling.....doz.	0	0	0	0	Sea-kale.....basket	0	0	0	0
Endive.....doz.	2	0	0	0	Shallots.....lb.	0	6	0	9
Fennel.....bunch	0	3	0	0	Spinach.....bushel	3	0	4	0
Garlic.....lb.	0	3	0	0	Tomatoes.....doz.	2	0	3	0
Herbs.....bunch	0	3	0	0	Turnips.....bunch	0	4	0	6
Horseradish....bundle	3	0	5	0	Vegetable Marrows..doz.	2	0	3	

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 10—16, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
10	Th	Royal Botanic Society's Anniversary Meeting	75 1	51.9	63 5	19	40 af 4	31 af 7	57af11	32 af 3	24	5 10	222
11	F	Birmingham Hort. Show. [ing, 1 P.M	75 8	50.7	63 2	20	41 4	29 7	morn.	34 4	25	5 1	223
12	S	Sir William Hooker died, 1865.	75.4	50.5	62.8	16	42 4	27 7	33 0	30 5	26	4 52	224
13	Sun	10 Sunday after Trinity.	74 5	50.0	62.3	19	44 4	25 7	20 1	18 6	27	4 42	225
14	M	Length of night 9h. 22m.	72 9	50.8	61.8	18	45 4	23 7	17 2	56 6	28	4 31	226
15	Tu		73 1	50.0	61.6	17	46 4	21 7	22 3	28 7	29	4 20	227
16	W	Royal Horticultural Society, Fruit, Floral, and General Meeting	73.0	51.5	62.2	21	47 4	19 7	30 4	54 7	●	4 8	228

From observations taken near London during forty-three years, the average day temperature of the week is 74.2°, and its night temperature 50.8°. The greatest heat was 93°, on the 10th, 1844; and the lowest cold 33°, on the 11th, 1864. The greatest fall of rain was 1.14 inch.

PINE APPLE CULTURE AND JUDGING.

OCCASIONALLY one sees Pine Apples exhibited at the meetings of the Royal Horticultural Society, accompanied with the statement that they have been produced within twelve months from the time of potting the sucker. Mr. Perkins, of Stanmore, had two very handsome Queens recently produced in that way. Of course most experienced Pine-growers are aware that much depends upon the size of the suckers when they are taken from the parent plant. I have seen suckers from Pine plants nearly as large as the plants from which they were taken, and under generous and careful treatment these would most likely produce fruit in a twelvemonth, or less. A Pine plant will succeed well in an excessively high temperature combined with a moist atmosphere, it will sooner arrive at maturity; but it is very questionable if fruit ripened under such circumstances will be of good flavour. Some of our most successful Pine-growers maintain a very high temperature in their houses. My own treatment is opposed to a very high temperature, and as the Pine worthily holds the highest position amongst exotic fruit, a friendly discussion on the best means of attaining the greatest measure of success in its culture would be both useful and instructive.

Pines are not grown at this place to a large extent, and where the means are limited it is better to aim at obtaining a succession of fruit by starting a few plants at a time than it is to start a houseful, and have a superabundance of fruit for a month or two, and afterwards none for a long period. The fruit is most valued here at Christmas, and from our small stock of fruiting plants I always manage to obtain a few fruit at that time. I cut last winter about a dozen Smooth-leaved Cayenne and Charlotte Rothschild. As regards flavour, the merits of the two varieties were about equal, but having grown both sorts together during the last six years, upon the whole I prefer the Smooth-leaved Cayenne. The Black Jamaica is superior to either in flavour for winter, but the fruit is generally small, and not freely produced. I have cut this variety over at the level of the pot to induce it to throw up, and have found it start into growth again, and not throw up its fruit for twelve months. There are two varieties of this, as well as of the Smooth-leaved Cayenne, and there is also some confusion with Charlotte Rothschild. The true variety of this has broad leaves of a healthy dark-green colour; the other has much narrower leaves, and fruit of very inferior quality and size. The true Smooth-leaved Cayenne has likewise much broader leaves than the other. Of the Jamaica, the best variety has also broad leaves of a reddish colour, and the fruit has large pips, and is likewise redder. The Montserrat is often grown under the name of Jamaica. The best way to get out of the difficulty, and clear up the confusion that exists, would be for the Royal Horticultural Society to offer prizes for each sort separately, and to specially invite growers to send fruit.

I may briefly state the method of culture pursued here. Smooth-leaved Cayenne and Charlotte Rothschild do not produce suckers freely, and as they are valuable they are taken off as soon as they are strong enough, and potted. The Queens freely produce suckers, so that only the strongest of these are selected. I like them to be a foot or 18 inches long before taking them off, and I pot them at once in from 6 to 8-inch pots, according to the variety and size of the suckers. The pots should be plunged immediately in a brisk bottom heat, but no water should be given for six days afterwards, for they are liable to decay at the bottom if they are watered at once, especially in the winter. I had a very fine-flavoured Pine from Pernambuco in January, and wishing to raise some plants of it, I potted three suckers which sprang from the base of the fruit, and, by accident, they were, shortly after potting, watered with tepid rain water, and in less than ten days every one of them was in a state of putrefaction at the base, and in a day or two would have been past recovery. I cut every particle of decay clean off, repotted them in some sandy material, and placed a small portion of sharp sand round the base of each sucker. They all recovered, and have made fine plants. I formerly repotted the plants into 10 and 11-inch pots, shifting them into 13 and 15-inch pots to fruit them in, but I now give them only one shift, placing the Queens and Jamaicas in 11-inch pots, and Charlotte Rothschild and Smooth-leaved Cayenne in 13 and 15-inch pots.

The compost I use for Pines is turfy loam, to which is added a sixth part of decayed manure, and a small portion of pulverised bones and broken charcoal. In potting I ram in the compost firmly with wooden rammers, plunging the pots afterwards in a brisk bottom heat, and, as with the suckers, no water is given until six days at least after repotting Of course the ball of earth and the compost should be moderately moist at the time of potting.

This is the best time to add fresh tan to the beds, as, after the roots have reached the sides of the pots, the excessive heat that arises from a fresh tan bed, or fresh tan being added to the old, will, if the pots are plunged to the rim, sometimes burn the roots. I have found the tan in the beds almost spent, and that the temperature had declined to 80°, but by merely adding a few basketfuls of fresh tan, and turning the bed over, the bottom heat has been increased to 120°. I always take the precaution when turning over the tan to plunge the pots only to half their depth, and when the heat has declined I fill up the space to the rim of the pots with fresh tan, which will again cause a rise of temperature in the bed. It is not desirable to depend entirely on tan for bottom heat. Here the tan beds are about 7 feet wide, and 2 feet 6 inches deep, and at the bottom are placed two 3-inch pipes, and piers are built to support iron gratings, so that a chamber is formed of the depth of 10 inches, thus allowing 20 inches for tan. The desired amount of bottom heat can be obtained from the pipes alone, but I fancy a renewal of the tan is conducive to the health of the plants.

During their season of rest Pine plants should not be excited by very great heat; a temperature of from 55° to 60° is, perhaps, the best. When an under gardener I had

charge of several Pine houses, and one winter it happened that the fruiting house was required for another purpose, and the Pine plants were removed to a house where in severe weather the night temperature could not be kept much above 45°. They were as fine a lot of plants as I ever saw, and on starting them into growth about the end of January they were very unsatisfactory—few large fruit were produced, and many monstrosities.

Another matter which demands great care is watering. I seldom use manure water, and not at all after the flowering period. I have had more Pines deteriorated in quality through using manure water than from any other cause. If the plants are supplied with manure water after a certain stage of their growth the fruit will undoubtedly be black at the core, and will not keep long after it is ripe. I remember the late Dr. Lindley drawing attention in a leading article to a houseful of fine fruit being rendered worthless from the use of guano water when the fruit was swelling off; in every case the fruit was black at the core, showing that the source of decay had originated in the first place in the roots, and been transmitted from them through the stem. As to fruiting Pines in twelve months from planting the sucker, where this has been done, either the suckers have been of unusual size, or a high temperature has been maintained. The houses here, though not large, are well built, and of the most approved construction, and well provided with hot-water pipes, and I do not generally obtain Queens in less than eighteen months, Cayennes and Charlotte Rothschild in from eighteen months to two years.

I will now make a few remarks on judging Pines at exhibitions. At the leading exhibitions they should always be shown in classes; at the very least there should be a class for Queens and one for any other variety, and it would be well if there were a set of rules drawn up as a guide to exhibitors. I exhibited a very handsome Smooth leaved Cayenne some years ago at an autumn show, and the first prize was awarded to a Queen not half the weight, in much the same condition, and on drawing the attention of one of the judges to the award, he said that Queens were always preferred. At a recent fruit show in London a not-very-handsome, though tolerably good, Providence of from, I should say (the weight was not stated), between 8 and 9 lbs., was placed in a higher position than a really handsome well-ripened Queen of an ounce or two short of 6 lbs. I believe it was a wrong decision; the judges evidently were guided by size, and did not know the relative qualities of the two varieties. I hold that a Queen of 6 lbs. should be placed before a Cayenne of 8 lbs. or a Providence of 10 lbs. Of course whatever points or rules be laid down, much must be left to the judges, such as the condition of the fruit, the time of the year at which the exhibition is held, &c. A Queen Pine in winter might be expected to be dry and flavourless, when a Cayenne or Jamaica would be juicy and rich. The judges ought to be practical men who not only know the relative qualities of the same class of fruit, but also know something of the difficulties to be contended with in finishing off a house of well-coloured Grapes or in producing a well-swelled, fairly-proportioned Pine Apple.

I have made these remarks partly in the hope that some one better qualified than I am may have something to say on this subject.—J. Douglas.

THE SELECTION OF ROSES.

I have often seen inquiries in the Journal as to the selection of Roses, and in one point of view I have nothing to say against the selection given in reply to those questions. How could I when they have been in so many instances given by Mr. Radclyffe? But there are other points of view in which to look at the matter of selection. I see at Rose shows people taking out their note-books and putting down the names of any sorts that strike them as fine, without having any reference whatever to habit or constitution. Now I am about to plead on a different side to that which I generally do. Some call me "a bigoted old florist," because I so rigidly maintain the necessity of rating form and substance as the very first requisites in all florists' flowers. Will it be esteemed an inconsistency on my part, or a diminution of the estimate of my bigotry, if I now advocate the retention of some Roses in our gardens which both selections in the Journal and note-books ignore? Both are founded on the one notion, to take what are called exhibition flowers and to exclude all others. But this is surely incorrect in one point of view. All are not exhibitors, and we want variety as well as real merit as a florists' flower, and yet I see by degrees flowers excluded from our gardens which ought to be retained for some quality which they possess in an eminent degree, and I come forth now as the advocate of these condemned criminals.

Eugène Appert.—Well do many of us remember the sensation produced at Hanover Square Rooms at, I believe, the second National Rose Show, when Mr. Standish brought out a box of blooms of this splendidly coloured Rose. It is very irregular in outline, very rough, but in colour unapproached, I think, by any Rose, on account of the thick velvety character of its petals. Then its foliage is in itself a picture, and makes the Rose easily distinguishable from any other in the garden.

Général Jacqueminot.—Some three years ago my friend Mr. Radclyffe gave me what he had of this brilliant Rose, describing him as a "loose fellow," and discarding him. Some of the most brilliant flowers I have had this year have been from these very plants, while I have seen it exhibited in great perfection in many stands. For some reason the year has been favourable for it, and those who have retained it have been rewarded.

Jean Cherpin.—"Oh! a great deal too thin—not enough stuff in it." Quite true; but where have you such a colour? It is the nearest approach that we have to the old Tuscan Rose—that deep claret colour which we all admire. It is true that it soon fades, but when in bud and just expanding it is exquisite.

Baronne Prevost.—"A platter," "Flat as a saucer," &c. Yes, but with all that a fine old Rose. In form I think Cécile de Chabrillant the model; but then the Rose may have other forms. Charles Lefebvre is very different, yet it is a fine Rose; La France different from either of them, and yet how beautiful, especially this season. So Baronne Prévost, although quite different from any of the foregoing, is a fine Rose well worth growing.

Madame Guinoisseau.—This Rose is not to be found in some catalogues that I have before me, and yet it is a fine double Rose of a bright colour, much better than many which have elbowed it out.

Souvenir de Dr. Jamin never was and never will be a show Rose; too small for that, but of an exquisite colour—crimson shaded with violet, and worthy of retention.

Duchess of Norfolk.—Rarely seen, but a fine climbing or pillar Rose, and ought to be used for that purpose.

Fisher Holmes.—Another Rose of peculiarly brilliant colour, scarlet shaded with dark velvety crimson. It is sometimes disappointing, but yet it ought to be retained for its colour alone.

Professor Koch.—A deep rich crimson. It is true we have many of the same shade, and probably better Roses, but it is a vigorous and free-blooming variety, and I should be sorry to discard it.

President Willermoz.—A very vigorous free-growing Rose, with flowers of a most lovely shade of pink. I have seen it in some winning stands this year; but wherever I have been in gardens it seems almost unknown. It is not of more than three or four years' standing, and although not quite so full as one could wish, it is still a very striking garden Rose.

La Lisette de Beranger.—A Rose of 1868, I believe; exceedingly pretty and free, especially in the autumn. It is of a very delicate flesh colour, and later in the year the edges of the petals are margined with deep pink.

Prince Léon.—A very old Rose, somewhat delicate in habit, but when caught rightly a most beautifully shaped flower. Mr. Rivers, no mean judge, calls it one of the most beautiful of Roses.

Comte de Nanteuil.—How rarely now does one see this in exhibition stands, and yet it deserves a place in every garden, being a cupped, deep rose-coloured flower.

Monsieur de Montigny.—One of the largest Roses grown, and a very fine garden flower.

Such are some of the Roses for which I claim a place. There may be others, but these occur to me, and I hope if Rose lovers think of any others they will add them to this list. —D., *Deal.*

THE MORELLO CHERRY.

In an amateur's garden a few days ago I saw a Morello Cherry tree growing as if it were comparatively wild, against a piece of wall having a western aspect. The tree just looked as if it had not been touched in the way of pruning or training for at least the last two years, yet its branches were loaded with the finest fruit, and came out from the wall in the

manner described. Such an instance as this may serve to show that where well-trained trees are not required—though I should certainly not recommend this plan in every case—it is much better, so far as quantity of fruit is concerned, to let the trees have their natural freedom. Too much restricting of wall trees in some instances is apt to weaken their constitution, and it makes them much more liable to be attacked by different kinds of vermin which would not otherwise molest them.—ROBERT MACKELLAR.

A BIT OF SOUTH DEVON.—No. 3.

THE monks of the olden time were as wise—some people think they were wiser—in the care of their bodies as of their souls, and the monks of Tor were not less wise than their brethren. They built their abbey on the sheltered shore of a bay, where a greater variety and abundance of fish are caught than in any other spot of England's sea-boundary. I was at Brixham recently, not far from Tor Abbey, and saw such heaps of whitings, soles, and red mullets as I never before looked upon. Then these monks of Tor selected for their herb garden one of the best-soiled, best-watered, and best-sheltered plots; it is in a valley, with a stream of water sparkling through its whole length. Mr. Curtis, perhaps, thought they were trusty guides in such a selection; at all events he agreed with their estimate, and secured the ground for the site of his rosery. It is on the side of the road to, and close to Paignton. Who that knows anything of kitchen-gardening is ignorant of the Paignton Cabbage? He may have always seen it spelled "Penton," but Paignton is its true name, after that of the place of its origin. Who can say that it was not raised by the monks of Tor in this their garden? It has been known so long that, as lawyers say, "the memory of man runneth not to the contrary." It is just such a pot herb as monks would covet—large, firm-hearted, and strong-flavoured. It is extensively grown hereabouts, and is found to be produced finest when sea-weed is used to manure for it the soil.

This recurrence to Mr. Curtis's rosery may appropriately introduce the following additions and corrections he has sent to me:—

"A few Roses that were omitted in the list of good old varieties. *White and Cream.*—Alba Rosea, T.; Baronne de Maynard, H.P.; Niphetos, T.; and Souvenir d'Elise, T. *Blush and Flesh.*—President, T.; and Souvenir de la Malmaison, B. *Pink and Rose.*—Anna de Diesbach, H.P.; Centifolia rosea, H.P.; Colonel de Rougemont, H.P. (an improved Baronne Prevost); Elie Morel, H.P.; La France, H.P.; and Moss Laneii, S. *Carmine, Scarlet, and Light Crimson.*—Antoine Ducher, H.P.; Duchesse de Caylus, H.P.; Camille Bernardin, H.P.; Madame Caillat, H.P.; and Victor Verdier, H.P. *Crimson, Dark Crimson, and Purple.*—Duke of Wellington, H.P.; Général Jacqueminot, H.P.; Pierre Nottiog, H.P.; and Prince Camille de Rohan, H.P. *Yellow.*—Madame Falcot, T.; Solfaterre, N.; and Persian Yellow, S.

"The following were inserted by mistake, and should not be included among the best old varieties:—Clémence Raoux, Edward Morren, Charles Lee, La Brillante, and Laurent Descourt."

I have mentioned, in more than one sentence of my previous "Bits," the extreme luxuriance of the vegetation hereabouts. It is so everywhere around, but in no place more so than at Haccombe. And I must diverge here—I can't help it, for I am quite vagrant now—to observe, as I did previously at Ilfracombe, what a multitude of places combe-named there are in Devon. Fifteen are within a circuit of five miles round here; and well there may be, for "combe," being interpreted, is "a wooded valley," and most truly are they such to which the name is applied, and none more so than those of Haccombe Park. It is the most beautiful of the small parks that I have ever seen. It is a cluster of small well-wooded combes, the trees all noble, especially the Beeches. It is and has been the seat of the Carews for five centuries, one of the three old British families commemorated in the Devon historic lines intended for rhyme—

> "Crocker, Crnwys, and Coplestone,
> When the Conqueror came were found at home."

Leaving your card at the mansion you are admitted to the church adjoining. I wish your pages were archæological as well as horticultural, poultrycultural, and apicultural, for then I would pour out much of "notes of things that were" relative to the statues and brasses over the Haccombes and Carews of whom all that is mortal rests there. I will drag in, however, a note on the horseshoe and three-fourths of a horseshoe nailed to the church door. Tradition says that a wild Carew wagered Haccombe against another manor that he would ride on his horse whilst swimming to and back from some marvellous distance in the sea, won the manor, took off the horse's shoes, nailed them to the church door, and turned the horse out into the park to work no more. I don't believe it, any more than I believe that the bit of skin I once saw on Great Horkesley church door was part of that of a freebooter the people had caught and flayed. I believe that the shoes are testimonials of the superstition that witches and evil spirits could not pass where a horseshoe reversed, as these are, was affixed. Let it not be objected that such a guardian could not be needed for a church, for then and here the Devonians believed that all priests had dealings with the Evil One and were conjurers. One caught boys stealing Apples near the church, and by his magic kept them powerless in the tree until the congregation saw who were the culprits. That's a little bit relative to orcharding, so let me slide in another little bit relative to the Devonian superstitions, and you may be lenient because it gets within the confines of another of your departments. Fairy rings prevail in some of the very many pastures here, and I am assured that on moonlit nights a black hen and chickens may be seen within some of these magic circles; but my informant, not being learned in poultry classification, could not say whether they are Black Spanish! Let me add as I have mentioned the Fairy ring (though you and I know that Mushrooms not fairies make it), that the Devonian Fairy, or Pixy, is less modest than in other counties, for a local rhyme describes him—

> "Little Pixy, fair and slim,
> Without a rag to cover him."

There, now, I will for the remainder of this "Bit" be entirely horticultural, confining my notes to that which we all have on our hearts, the encouragement of cottage gardening.

During the past fortnight within two or three miles of Torquay have been held four horticultural and cottage gardeners' shows, and the reports I have from each is that it exceeded all previously held. This growing fondness for gardening among all classes is to be rejoiced over. "Our Journal" has aided much in this progress back to "the pursuit in Paradise." I could cover pages on the topic; but "WILTSHIRE RECTOR" and Mr. R. Fish, to which I will add an extract from an address delivered by a Devon rector, render any addition from my willing pen needless.

The four cottage gardeners' shows to which I have referred are St. Mary Church, Upton, Torre, and Paignton. Let me observe, to commend, that they offer prizes to be competed for by children. Bend the first shoot in the direction you would have the plant grow.

The following is an extract from the very excellent address of the President of the Paignton Society, the Rev. Prebend Hall, at the time he delivered the prizes:—

"The Society was not established so much to give prizes, as with the view of giving employment at vacant periods, and in that way aiding the industry of the competitors and their own respectability. One thing for which the exhibition has been distinguished is the distribution of prizes for the good culture of flowers, vegetables and fruits; and he hoped, in the observations he should make, that the one word which ran through his mind would run through theirs also, and that word is 'cultivate.' The love of flowers is inherent in the human heart. The child that could just walk, and the old man just tottering near the grave, welcomed the flowers as friends and as treasures which the spring and summer brought. Besides, too, he knew that many a man, the son of a labourer, who lived perhaps in this or other counties, when he went to the great towns, London, Birmingham, Manchester, or Leeds, very often carried with him a little flower pot, the plant in which he treasured, and which reminded him of his former home. In fact what is called 'window gardening' is carried on most successfully, and to a very great extent, in some parts of London, especially in Westminster, and among the Spitalfields weavers. If we have a few friends come to dinner, what do we do? We ornament the tables with flowers. If we have friends in our house we send to their rooms a bunch of flowers; or if, as it sometimes happens, a singer or an actress departs from the stage, they are, as one was recently, overwhelmed with bouquets of flowers. On the great festivals of the Church, also, we are glad to adorn our churches with flowers and fruit, and place the choicest on the Lord's table. In our marriages we place a coronet on the brow of the bride; and we weave a chaplet to the memory of some beloved one departed, and drop it on the grave with tender feeling and affectionate remembrance. This country is now celebrated for the production of flowers. It is but little more than 400 years ago that there were scarcely any flowers in England. A celebrated botanist (Linnæus) came from Sweden, and on passing through the wolds of Yorkshire, and seeing the country covered with golden Furze, was so delighted that he fell down on his knees and thanked the God of Nature for ornamenting the landscape so beautifully. Now, however, by means of cultivation and searching in different climes, we have added to our flowers a stock which makes England the country where there is the greatest exhibition of floriculture. Of

flowers. and 'flowers of the field,' we are reminded in many ways. Thus in Scripture we are told that 'we all do fade as a leaf,' and that 'we are like the grass of the field;' and our blessed Lord, when He delivered His sermon on the slope of the mountain, looking on the choicest of flowers growing on the plain beneath, said, 'Consider the Lilies of the field, how they grow, they toil not, neither do they spin; and yet I say unto you that even Solomon in all his glory was not arrayed like one of these.' Lilies, such as were thus described, are, however, not there to be found; but what the Saviour no doubt alluded to was the Anemone, which is a great ornament to that part of the world. The Rose, a plant now cultivated largely by us, was formerly scarcely known in England, and was imported into this country in the first instance from Provence. The Rose does not grow in the Holy Land; what is mentioned in Scripture as that flower is either what is now known as the Rhododendron, or more likely the Oleander. That mentioned as the 'Rose of Sharon' is a Cistus; and the 'Apples of Sodom' are more like Potatoes. There is a plant more recently introduced into this country and grows very well, the Benthamia. In the summer its leaf is a lightish green, but as the winter approaches it becomes leathery. The leaves did not fall off, but on watching it a little tinge of green would be seen on the stalk, and this would pass through the whole of the leaf, until at last it became as green as it was the year before. It might be a conceit of his, but he had thought, as we might take sermons from stones, why not take sermons from plants like this, which appeared to him to have something of a symbol of the resurrection?"

Shall I go on? No, but "I have not yet done with Torquay."—G.

THE ARRANGEMENT OF CUT FLOWERS.

In some minds the conception of the right method of arranging cut flowers, particularly as exemplified at horticultural exhibitions, is extraordinary, and certainly very surprising after the frequent opportunities afforded to the public by such exhibitions to examine and compare the sprightly elegance of a tasteful well-arranged bouquet with the heaviness and glare of the majority of its opponents.

Visiting an exhibition of a provincial horticultural society lately, I was forcibly reminded of this weak point in modern horticulturists by a particularly glaring example of bad taste—a centre stand for a dinner-table. The maker had evidently some inkling of the right principles of floral decoration, but it was only an inkling—no more, for it was equally evident that he had not mastered even the first principles of the art he essayed to practise.

It may be well to describe this flower-stand. It consisted of three circular pans or saucers, attached at equal distances, one above the other, to a centre stem of about 20 inches high; the saucers were almost flat, and well graduated in size, the bottom one measuring about 12 inches across, the middle one 9, and the top 6. So far all was as it should be, and one would ask for no better utensil for the purpose; but each saucer was packed with as many Roses as could be well crammed together, while from the edges projected a bold fringe of Maiden-hair Fern. It will, therefore, be understood that every requisite for the production of a chaste and elegant effect was present; but owing to the miserably faulty arrangement of the flowers, an unsightly effect, the reverse of what it should have been, was the result.

At no time would one ask for better materials for the decoration of a dinner-table stand than a well-assorted selection of partly-expanded Roses, with a fair proportion of buds and clean, healthy foliage. These should be so arranged that each flower may have ample space to show the full beauty of its combined charms of form and colour, both in foliage and blossom, and thus, while attracting attention as objects of rare beauty individually, the whole of the flowers used would contribute to the general effect in the best possible manner. A few Fern fronds may always be introduced with safety, and frequently with advantage. In the example I have quoted, if fewer flowers had been used and a little of the Maiden-hair Fern mingled with them, the flat heavy effect might have been altogether avoided. The crowding together of a quantity of cut flowers in a confused mass is opposed to good taste and offensive to the eye, which, instead of being attracted and interested, soon tires of the glare and confusion, and turns to objects of quiet grace and chaste simplicity for that enjoyment which it sought for and would have found in a well-made bouquet.

By way of application I will offer one or two simple rules for the arrangement of cut flowers.

1. In selecting the flowers, let the colours be few, distinct, and such as will harmonise with each other.

2. Do not crowd the flowers; let each have space enough to be fully seen. In doing this avoid extremes; looseness is just as objectionable as over-crowding. Our aim should be to produce a compact, graceful bouquet without stiffness or formality.

3. Use enough greenery among and in contact with the flowers to divide bright colours, and to impart the requisite air of quietness and repose. Everything in Nature is well-balanced; each cluster of bright flowers has its foil of green foliage, contributing much to its beauty.

4. In arranging the flowers there should be a leaning to massing those of the same kind in moderate quantities, rather than towards indulging in too much sub-division. This refers more particularly to the smaller kinds of flowers.

Lastly, in order to be really successful in this work, I would say to all learners, Use your eyes, and miss no opportunity of gaining instruction. Many of us have a feeling that we could do great things in the world if we had the chance; let us be sure, then, that no effort is wanting on our part to make the most of everything likely to improve our minds and add to our knowledge and skill. I am quite sure if this were so we should not see such repeated examples of unskilful practice, even in the arrangement of a few cut flowers.—Edward Luckhurst.

A PEACH-TREE BORDER.

"An old story retold." The excellent article of "J. Mc.D." in No. 540, page 85, has reminded me forcibly of the following article, written by Mr. Rivers in his "Miniature Fruit Garden," page 102, sixteenth edition, many years since. It seems so apposite and so in accordance with what should be in practice, that, with permission, I send it to you for insertion if you think it "a word in season" and worthy of a place.—Constant Reader.

"In our southern counties, where light sandy soils abound, the difficulty of making Peach and Nectarine trees trained to walls to flourish is well known; in spring they are liable to the curl and the attacks of aphides, in summer they are infested with the red spider, so that the trees are weakened, and rarely give good fruit; they seem, indeed, to detest light soils. The following method of preparing borders for them in such soils may be well known, but I have not seen it described by any gardening author.

"The idea has come to me from observing Peach trees trained to walls refuse to do well in the light sandy soil forming a part of my nursery, except near paths, and to grow and do well for years in the stiff tenacious loam forming another part. My bearing trees in pots, for which I use tenacious loam and dung, rammed down with a wooden pestle, also bear and flourish almost beyond belief, and so I am induced to recommend that in light soils the Peach-tree border should be made as follows:—

"To a wall of moderate height, say 9 or 10 feet, a border 6 feet wide, and to a wall 12 feet high, one 8 feet wide, should be marked out. If the soil be poor and exhausted by cropping, or if it be an old garden, a dressing of rotten dung and tenacious loam or clay, equal parts, 5 inches in thickness, should be spread over the surface of the border; it should then be stirred to 2 feet in depth, and the loam and dung well mixed with the soil. The trees may be planted during the winter, and in March, in dry weather, the border, all over its surface, should be thoroughly rammed down with a wooden rammer, so as to make it like a well-trodden path; some light half-rotten manure, say from 1 to 2 inches in depth, may then be spread over it, and the operation is complete. This border must never be stirred, except with the hoe, to destroy weeds, and of course never cropped. Every succeeding spring, in dry weather, the ramming and dressing must be repeated, as the soil is always much loosened by frost. If this method be followed Peaches and Nectarines may be made to flourish in our dry southern counties, where they have hitherto brought nothing but disappointment.

"The two grand essentials for Peach culture are stiff loam, or a very firm soil, and a sunny climate."

TACSONIA VAN-VOLXEMI.

Is the fruit of the above magnificent climber eatable? I have a plant which is producing an abundance of fruit about the size of a hen's egg and of much the same shape. The flowers are exceedingly striking and showy, on account of the brilliant crimson colour. The flower-stem, or stalk, is very slender, from 9 inches to a foot in length. This plant ought

to be trained festoon-fashion, the most graceful form for training climbers either out of doors or in the conservatory, more particularly those with pendulous flowers.—C.

[The fruit is eatable, and we have been informed by Mr. Van Volxem that he has enjoyed it when travelling under the influence of a tropical sun.—Eds.]

NATIONAL GOOSEBERRY SHOW.

This was held at the Sir John Falstaff Inn, Market Place, Manchester, on August 5th.

			dwts.	grs
Thomas Bradley ..	Premier prize	Rover	29	11
Edward Poulson ..	Stewards' prize	Mount Pleasant	28	7
George Addis	do.	Stockwell	26	6
Francis Soars	do.	Antagonist	27	16
Joseph Wynn	do.	Maccaroni	27	16
Thomas Lanceley..	do.	Drill	27	2
George Beckett	do.	Diadem	26	0
Henry Garside	do.	Overseer	26	13
William Heath....	do.	Clayton	25	20
Faithful Jamason ..	do.	Catherine	27	2
George Ridley	do.	Surprise	25	17
William Sandera ..	do.	Queen of the West	23	8
John Wynn	do.	Beauty	24	16
Thomas Yoxall	do.	High Sheriff	26	12
John Taylor	do.	Rough Green	23	4
Jos. Brotherton....	do.	White Seedling	25	0
Bradley Bradley ..	do.	London	24	4
William Jones	do.	Leveller	25	6
Thomas Shaw	do.	Matchless	22	8
James Tralfall	do.	Lady Leicester	24	16

RED.

Joseph Brotherton	Rover	27	18
Joseph Wynn	Clayton	27	13
Joseph Wynn	Maccaroni	25	22
George Ridley	Plonghboy	25	17
Francis Soars	Eskender Bay	24	17
Edward Poulson	Talfourd	24	2
Thomas Borrows	Beauty	23	21
George Beckett	Dan's Mistake	23	19
Edward Poulson	England	23	12
Thomas Yoxall	London	23	10

YELLOW.

George Addis	Catherine	27	18
George Addis	Leveller	27	10
Thomas Lanceley	Mount Pleasant	26	4
Thomas Shaw	Drill	25	0
John Barlow	Seedling	24	6
Francis Soars	Lord Scarborough	23	18
Thomas Lanceley	Leader	23	0
Edward Poulson	High Sheriff	22	23
William Heath	Oyster Girl	21	23
Joseph Wynn	Oldham	21	2

GREEN.

George Addis	Stockwell	26	0
Faithful Jamason	Visit	25	12
George Addis	Telegraph	25	11
George Beckett	Shiner	24	6
Thomas Lanceley	General	22	12
Francis Soars	British Oak	22	11
James Tralfall	Plunder	22	1
John Taylor	Thumper	22	0
William Heath	Surprise	21	23
Thomas Shaw	Matchless	21	22

WHITE.

Edward Poulson	Seedling	25	23
George Addis	Victory	24	17
John Taylor	Antagonist	24	16
Joseph Brotherton	Seedling	24	12
William Sandera	Hero of Nile	23	11
William Heath	King of Trumps	23	0
Thomas Shaw	Overseer	23	0
John Taylor	Faithful	22	12
George Addis	Freedom	21	11

—Thomas Dobell, *Seedsman, Northwich, Chairman.*

COVENT GARDEN MONOPOLISTS.

You will no doubt consider with us that the only fair, just, and reasonable criterion of market prices is the price at which market gardeners supply their customers; and judging by this standard, referring to our sales on account of gentlemen's gardeners, in comparison with those on account of professional growers, and with our daily purchases from the market gardeners attending this market, we can find no reason for the discontent recently expressed in your columns, leaving the enormous and increasing foreign supply out of the question altogether.—W. H. Gulliford, F.R.H.S., *Covent Garden.*

GARDENERS' RIGHT TO PLANTS.

About six years ago I bought Tricolor Geraniums Sunset, Italia Unita, and others. I asked my employer's consent to my raising seedling Geraniums, saying I should do so chiefly in my own time. I also added that I should be able to exchange and procure the new varieties as they came out. My employer's answer was, "I do not see why you should not, and I daresay you will get a trifle by doing so." Two years ago last May my employer allowed me to take them to the exhibition at Kensington. All was open and fair, I thought; I disposed of the duplicate plant to a nurseryman, and received new varieties in exchange; I also received a trifle for myself. I bought my own pots, and spent the summer evenings in growing the plants. I kept duplicate plants of my seedlings for my employer, and had a fine collection of Tricolor and other Geraniums. For doing this I was told I was to leave my situation, and have done so. I have written to my employer (an old lady seventy-seven years of age) for a character, but she declines to give it. Can I compel her to do so? I have served her eight years, and never had anything against me. I also brought to her excellent references from my previous employers. I never had a blot on my character.—An Old Subscriber.

[According to your statement your case is a very hard one. It only proves what we said a short time ago, that no man is safe to enter upon such a course of bartering, exchanging, and selling without a written agreement to that effect from his employer. A person said the other day, "Why, that would be like calling a lady's or a gentleman's word in question." "Well, do they not forget as well as other people? and surely my character and respectability are as much to me as a mere word can be to any employer." We think that the whole system of a gardener paying for pots to grow favourites, and then exchanging or selling them, borders, or rather more than borders, on the dangerous, and temptations are apt to come in the way which ought rather to be kept out of the way. Appearances, too, are to be consulted; and though it might be true that after buying pots, and counting your evening hours, and exchanging, there was little benefit to yourself, there would be no want of gossiping as to the "fine thing you were making out of the plants." Without a special written agreement, then, we say decidedly to a gardener, Be content to be a servant, and cultivate what your employer purchases. We have known cases where gardeners raised some good seedlings, and for quietly disposing of them got themselves into trouble. We would advise you to write again to the lady in the most courteous way, state shortly the facts of the case, and solicit as a favour that she would not decline to give a character to you after eight years' service. Unfortunately, however well conducted you may have been, and however faithful your conduct to your employer, you have no right to demand or compel an employer to give a character. Of this we intend to say something by-and-by. On the whole the gentry use their power well; but it is a hard case for a good servant to be entirely at the mercy of a mere whim or caprice of an employer, and especially of one who rarely gives a character to anyone. We have known some hard cases among gardeners, such as where a good deserving man might have starved if some of the head gardeners in the neighbourhood had not stood his friends, stated the real facts of the case to some of the leading nurserymen, and thus enabled him to get a much better place without applying for a character to his last employer. All such things, however, should be avoided, and you had better propitiate your employer even if you should be a little humble over it. Could you not bring to your help the good testimonials from former employers?—R. F.]

GLAZING WITHOUT TOP PUTTY.

I notice by your answers to correspondents, that you are frequently asked for a cheap mode of glazing without the top putty, which so soon cracks and looks bad. If the glass is bedded in putty in the ordinary way and well sprigged, the top putty may be omitted. I think you may recommend this mode. Mr. W. Paul, of Waltham Cross, has several houses so glazed, and there is no more drip—his foreman thinks less—than in those glazed in the ordinary way, and the appearance

is neater and cleaner. A large house 116 by 30 which we are now building for him will be thus glazed. The fillet of the rafters should be painted twice after the roof is glazed, and the brush run a quarter of an inch on the glass.—W. Rivett.

MR. SHEPPARD'S NURSERY, BEDFORD.

Having an hour or more to spare before the opening of the Horticultural Show, and having previously apprised Mr. Sheppard of our intentions, we—that is, Mr. Cadger and myself—had the place all to ourselves, and had a very pleasant walk round this neatly-kept, well-arranged nursery.

Amongst the things that first struck our attention on entering were some nice beds of Alpines and Stonecrops, now, happily, coming into fashion, arranged chiefly in rows, with a good-sized plant named at the end of each row. Among the newer subjects, as Echeveria secunda glauca and metallica, Sempervivum californicum, &c., were a fine lot of Stonecrops, including Sedum variegatum roseum, a fine variegated Sempervivum, and some neat little plants of Aubrietia purpurea variegata, with small, dense, white shoots and small leaves, just the plant for those who delight in the dwarf in floral display, and admirably fitted to come in as a hardy companion to the Alternantheras in small scrolls and edgings. Of itself this is a neat compact plant a few inches in height, but in contrast with such plants as Alternantheras it would be invaluable. Were I doing small scrollwork I should multiply it by hundreds.

Here, too, if I mistake not, I found what I have not lately seen, a lot of neat little plants of the Plumbago Larpentæ, named after Lady Larpent, and introduced from China about 1845. As far as I recollect Mr. Donald Beaton helped in his enthusiasm to bring this plant into rather too prominent notice as a bedding plant, which the fugaceous character of its thin petals and the lateness of its blooming did not warrant. Still the colour is a beautiful light blue, the habit of the plant good, and on a mound or a wild rockery it looks very pretty in the autumn. I had it in such a position for many years, but in recent changes I fear it has gone along with other good old plants. Mr. Knight, the predecessor of the Messrs. Veitch at Chelsea, had the stock and brought it out, and meant to make a little fortune by it, as, so far as I recollect, the first small plants were three half-guineas each. I was never deceived myself, for on visiting the nursery at the end of July Mr. Knight turned the key of the private house where the rarest plants were kept, and said, "There, Mr. Fish, what do you think of that? A beautiful healthy young stock." And so it was, a whole houseful of Plumbago Larpentæ; but what of the bloom? for hardly a single bloom was to be seen. And I added, "If the plant do not bloom freely out of doors before this time you will get yourself into trouble after such a sounding of trumpets." Mr. Knight was himself deceived; but, as a characteristic of the man, I believe he offered to all purchasers in other plants the value paid, such as Azaleas, Camellias, bulbs, &c. As the plants were not in bloom I may even now be mistaken as to its identity, but if true it is well worthy of a place on a knoll in the rockwork or select shrubbery.

Passing groups of Cytisus, Coronilla, Crassula, &c., in their summer quarters, and a fine group of hardy Ferns in pots in a shaded corner—among which Athyrium Filix-fœmina cristatum and Lastrea Filix-mas cristata preponderated—I must notice two dwarf yellow-flowering plants, of which there were a considerable quantity in pots and beds, anything but new, as they have been in the country for the best part of a century, but both would be useful for dwarf beds, especially to those who say they are forced to give up the yellow Calceolarias and substitute in their place yellow-leaved plants, as Tricolor Geraniums—very beautiful it is true, but still to my eye not filling up the place of yellow flowers. The first of these plants is Linum flavum, rarely growing more than from 6 to 9 inches in height, and producing its bright yellow flowers in great abundance. This plant is hardy in light well-drained soils, but in damp places it is well worthy of a little protection in winter, as a dry frame or a dry place in an orchard house. It is freely propagated by seeds and cuttings. It is very suitable for a dwarf yellow bed or dwarf edgings, and in a low regular figure would come in well with the low crimson and purple Alternantheras. The second is a low but strong-growing herbaceous plant, growing from a foot to 15 inches in height, but may be kept lower by trailing and pegging down. It is the Œnothera macrocarpa, bearing in great abundance its large bright orange flowers. Hardly anything will produce such a mass of dwarf colouring, and yet this fine old plant is getting to be comparatively neglected. It is not often that the seeds ripen perfectly, owing, I presume, to our not being able to give it the bright sunlight it enjoys in North America, but the plant is easily propagated by division just as growth commences in spring; still the best mode of propagating it is to slip off the young shoots in spring when from 2 to 3 inches long, and insert them in sandy soil under a hand-glass or other covering. A good white companion with large flowers, and the plant quite as dwarf, may be obtained in Œnothera taraxacifolia (or Dandelion-leaved), the foliage being cut and lobed.

There was one thing in which I was disappointed, and I deserved to be so, as I might have known I could not at this season of the year see what I expected. On my visit last year the houses were crammed with small bedding plants, &c. These were on shelves, tier above tier, and many on back walls, supported on moveable irons merely set in sockets, all the shelves and irons being removed when not wanted, so as to afford room to taller plants in summer. I thought I could do much in the way of makeshifts and cramming, but I felt I was far behind Mr. Sheppard, and wanted to see more of it, but, of course, these shelves were all gone, to come back again in winter.

Notwithstanding the large bed at the Show previously referred to, there were still a good many bedding plants to come and go upon, and there were planted out groups of the best Tricolor Geraniums and the best scarlets, including Vesuvius, a bright scarlet, which I will increase, and a good quantity of a dwarf, full-petalled, zonal-leaved, dark scarlet, called Glow. I have measured some of ours in a small bed, and find that from the surface of the bed to the top of the flowers is just 8 inches. I can safely recommend this beautiful variety for small beds or low edgings.

Amongst the combinations of grouping flowering plants—a very good thing close to a house, as affording hints to the possessors of the smallest gardens as to the most effective modes of arranging them—I was most pleased with a long parallelogram bed, as far as I recollect about 25 feet in length and 5 or 6 feet in width. This bed was formed into a sort of chain in the centre, the links formed of Perilla, and the longer pieces of three ovals. It was filled with Tricolor Geraniums; Louisa Smith at one end, Sunset at the other, and Italia Unita in the centre. All round the Perilla, kept dwarf, and the Tricolors, was a row of Golden Pyrethrum. The intermediate spaces were closely filled with Lobelia Erinus compacta and Alternantheras alternately, whilst the edging all round was planted thickly with Echeveria glauca. There was just one departure from strict symmetry, and this was at one corner; instead of the Lobelia there was the Leptosiphon roseus, a pretty little annual for miniature flower beds. Such an arrangement was more artistic and telling than planting in mere mixture or in lines, and could be diversified at will by circles, triangles, &c.

In walking round I noticed fine flowering plants of the feathery Sumach (Rhus Cotinus), Spiræa ariæfolia, the old Spiræa frutex with its upright mass of flowers, good quarters of fine young plants of Wellingtonia gigantea, Cupressus, &c.; but I must be content, in addition to neatness, with noticing two or three of the specialities of the nursery. By the sides of the principal walks there are stiff specimens of the best Cypresses, Pinuses, and evergreens, with room enough for every plant to grow freely without encroaching on its neighbour, and looking as if they were often lifted and replanted. The same rule seemed to be likewise carried out, not only as respects fruiting trees, &c., but to be extended to the commoner forest trees, even Spruce trees in general having room to develope themselves without crowding. Of course such plants could not be sold at the same money as those the same in height but drawn up thickly in lines. For all particular, and even general purposes, the plants that had room in the nursery, if fairly taken up, would prove to be the cheapest bargain in the end—a simple fact that many planters are slow to learn. Lastly, every piece of ground unoccupied by nursery stock was carefully filled with the best kinds of roots, vegetables, and fruits. No doubt these would help to supply the many orders received for such things at the elegant shop in the High Street. I can easily imagine that the changing of the crops from nursery stock into that which is eatable would greatly tend to keep the ground in good heart, and be especially suitable when the nursery was close to a town. We would no doubt have seen more if Mr. Sheppard had been with us, but my friend and myself found in his absence there was much to learn.—R. Fish.

Thomson on the Vine.—We are glad to see another and a seventh edition of this popular "Treatise on the Vine" of

which we have already had several notices in our pages. We have only to remark that this new edition has an additional chapter treating on the preparation of young Vines for planting, and that we hope it will meet with the same hearty reception which the former editions have enjoyed.

CRYSTAL PALACE SUPPLEMENTARY ROSE SHOW.—August 5th.

I have never been more impressed with the extent and successful culture of the Rose than by the Exhibition held on Saturday. We have had a most unfavourable season, we are in August, and yet I have never seen a more excellent lot of Roses than at this supplementary Show; never had a more difficult task in judging from the very excellence of the blooms, and never, I think, saw so few indifferent blooms. Let one proof of this suffice. In the large class for sixty blooms there were respectively the following indifferent blooms (not positively bad, but indifferent):—2, 5, 4, 7, 7, and this in August; while there were some magnificent examples of our finest and best Roses. It was the same, too, with amateurs. Probably the trusses exhibited by Mr. Baker, of Heavitree, last show were better than any on Saturday, but, as a whole, I never saw a more even lot of Roses; and although I have found fault with the term Hybrid Perpetual, has not the fact of a show being held at this time somewhat redeemed the title? Nor were the exhibits confined to one part of England—Cranston for Herefordshire, Paul & Son for Hertfordshire, Turner for Buckinghamshire, Keynes for Wilts, Harrison for Yorkshire, Cant for Essex, were all there, showing that the whole country could and did supply its quota.

There is yet one other fact about this Show which I must notice before I pass on to the table decorations, and that is the arrangement, a matter for which I was to some extent responsible, as I suggested it to Mr. Wilkinson. The boxes were arranged on double tables, and the space between them filled up with foliage plants, and most creditable was it to Mr. Williams, the in-door garden superintendent, that he was able to supply so large an amount of good plants for the purpose. It met with universal approbation, and will, I hope, be continued, although it entails much trouble.

And now as to the Table Decorations, a most ticklish matter to write upon, as anyone might have known who heard the various comments passed. The fact is, people have different standards to judge by. One person thinks that the amount of work ought to be the criterion of excellence, another simplicity, another the beauty of the flowers, without reference to arrangement; and so each person forms a standard of his own. Now, my judgment is that in nearly every instance the thing was overdone. I believe that it is because it has been overdone that so complete a revulsion has taken place in the best circles, and that a few simply arranged flowers or dwarf plants are now the only things permitted. It has, in fact, become a bore. Take nine-tenths of those exhibited on Saturday: they could not have been arranged under three or four hours by two, three, or even more persons, and who is going to spare their own time or their gardener's for this? The most simple and, I think, most effective vase for a drawing-room was one containing a couple of blooms of the white Water Lily and a few Fern fronds, and this deservedly had the first prize. Evidently simplicity ruled in this case. One table was arranged with plants inserted in the table, as recommended by "W. T." in the *Gardeners' Chronicle*, but in this case the plants were Stocks, utterly unfitted for the purpose, even if the plan be a good one, which for private use I do not think it is. It does very well for a large public institution, where trouble is not much thought of, and where it is of no great consequence to see your *vis-à-vis*. On many tables the March stands were made use of, while one had very tall stands with pendent glasses—very pretty, but not suitable for a private room. There were none that exhibited overcrowding in so monstrous a form as last year, and I believe the taste will become more refined, and hence all these competitions will do good. It is, I think, useless to attempt to describe table decorations—they must be seen, for even drawings give but a poor idea of them.

I cannot conclude this brief notice without bearing my testimony to the admirable manner in which Mr. Newman carried out the arrangements. He has, since Mr. Wilkinson has become Manager, taken his place, and I do not think that it is possible for a better selection to have been made.—D., *Deal*.

Our correspondent, "D., *Deal*," has so happily described the leading features of this Show, that he has left us only the mere matters of detail. The great improvement effected by Mr. Wilkinson by the introduction of plants of various heights, sizes, and characters along the centres of the naves, thus taking away the flat appearance which long lines of cut blooms present; the excellence of the Roses; the defects of the table decorations—all these have been so truthfully recorded, that we have nothing left to say respecting generalities.

In the nurserymen's class for sixty single trusses, Messrs. Paul and Son took the lead with stands in which there were but few trusses which could be found fault with, and many extremely fine. Among the latter we noted Xavier Olibo, François Treyve, Comtesse d'Oxford, Alfred Colomb, John Hopper, Elie Morel, Mdlle. Annie Wood, Maréchal Vaillant, Victor Verdier, Madame Laurent, Emilie Hausburg, finely imbricated; Camille Bernardin, and Leopold I. Mr. Cant, Colchester, took the second prize with fine examples of Paul Neron, Sophie Coquerelle, Alfred Colomb, Emilie Hausburg, Sénateur Vaisse, Ferdinand de Lesseps, Charles Lefebvre, Pierre Notting, Camille Bernardin, and Baroness Rothschild, with Souvenir de Conlommier, splendid in colour. Mr. Cranston, of Hereford, and Mr. Keynes, of Salisbury, were equal third, having fine examples of Souvenir de Malmaison, Madame Jacquier, Rushton Radclyffe, Marie Baumann, Louis Van Houtte, Duc de Rohau, and kinds already named. Mr. J. Durbin, Bath, and Mr. Harrison, Darlington, also exhibited in this class.

For three trusses of forty-eight varieties, Messrs. Paul & Son were again first, Mr. Keynes being second, and Mr. Cranston third. In this class there were splendid trusses of Camille Bernardin, Leopold I., Madame Moreau, Ferdinand de Lesseps, La France, Emilie Hausburg, Baroness Rothschild, Paul Neron, John Hopper, Marquise de Castellane, Victor Verdier, Abel Grand, Duchesse d'Orléans, Louis Van Houtte, Dupuy-Jamin, Reine de Midi, and Madame Charles Wood.

For twenty-four triples the awards went to Messrs. Keynes, Paul and Son, Cant, and Cranston in the order named, the varieties already noted being the most conspicuous. Reine Blanche, white, was noticeable in Mr. Keynes's stand. Mr. Durbin and Mr. Harrison likewise exhibited in this class.

Excellent stands of twenty-four single trusses from Messrs. Perkins and Son, of Coventry, Mr. Turner, of Slough, and Mr. Walker, of Thame, were respectively first, second, and third; and Mr. Jennings, Shipston-on-Stour, was fourth. Besides the varieties already named as fine, the most noteworthy were Madame Treyve, Madame C. Joigneaux, Duke of Edinburgh, Madame Victor Verdier, Edouard Morren, Baron Haussman, Madame Alice Dureau, Charles Rouillard, Marguerite de St. Amand, Abbé Girandier, and Jules Chrétien. Messrs. Coppin, Mann, Parker, of Rugby, Pilcher, of Horsham, and Woollett, of Caterham, also exhibited in this class.

In the amateurs' classes, Mr. Draycott, gardener to T. T. Paget, Esq., Humberstone Hall, and Mr. C. J. Perry, Castle Bromwich, were respectively first and second for forty-eight and thirty-six single trusses; Mr. Moore, gardener to T. Lloyd, Esq., Warwick, and Mr. Draycott being first and second for twenty-four. The other awards in these three classes went to Mr. Davis, Mr. Ingle, Mr. Farren, and Mr. Watson. The varieties most noticeable were the same as in the nurserymen's classes, and though excellent trusses were set up, they were not, on the whole, so good. For twelves, the two principal prizes went to Mr. May and Mr. Bridge, both of Stilsted, Braintree.

Yellow Roses were shewn in large numbers, but not in such perfection as in former years. They were of the usual kinds. The prize-takers were Messrs. Paul & Son, Keynes, and Cranston. For Tea-scented, Messrs. Cant, Keynes, and Paul & Son were the successful exhibitors in the nurserymen's class. Mr. Keynes had, among others, nice specimens of the new kinds—Madame Thérèse Levet, Madame Trifle, and Catherine Mermet; the first two seedlings from Gloire de Dijon, and greatly partaking of it in character. Mr. Stoddart, Mr. Bridge, and Mr. Chard were the amateur prizetakers.

Foremost among miscellaneous subjects, and a beautiful exhibition in themselves, were two groups of Phloxes exhibited by Messrs. Downie, Laird, & Laing, of Stanstead Park Nurseries, Forest Hill, and the Phloxes were bordered with, in their way, not less beautiful Bronze-zoned Pelargoniums. One of the best of the new Phloxes in these groups was Brian Wynne, dark purplish-crimson, fine in truss, and good in habit. Philippa Penglase is a fitting lighter-coloured companion to the preceding, with a very fine truss of deep rose, carmine-centred flowers. Other noticeable new varieties are A. F. Barron, rosy-lilac, with a crimson eye, extra fine in spike and habit; Shirley Hibberd, rosy carmine shaded with orange, dark centre; Mrs. Laing, soft rosy lilac, reflexed, about 2 feet in height, one of the best for pot culture; and Monsieur Caillard, rich orange salmon, very free-flowering and fine. Of older varieties we noted Monsieur W. Bull, very fine lilac with a white centre, very compact; M. Malet, lilac, white centre; Mr. Balfour, rosy crimson; Madame Domage, pale blush, rosy purple eye; Monsieur Maurin Saison, salmon red, with a metallic violet tinge, very fine and free-flowering; and Liervallii, one of the finest of the striped kinds. All these belong to the late-flowering section. An extra prize was given for these groups, and a similar award was made to Mr. Bristowe, gardener to R. P. Harding, Esq., Dulwich, for well-bloomed specimen Fuchsias; to the Rev. H. H. Dombrain, Westwell Vicarage, for excellent cut spikes of Gladiolus; and to Mr. Hooper, Bath, for a collection of Pinks, Carnations, &c. Mr. Mann, Brentwood, sent a collection of Zonal Pelargoniums; Mr. Donovan, gardener to R. Hibberd, Esq., Upper Norwood, some good Noblesse Peaches; and Mr. Perry, Castle Bromwich, had a fine stand of Verbenas, of which Emma Weaver, blush, with a large centre, had a first-class certificate. A similar award was made to Messrs. Downie & Co. for Maréchal MacMahon, a fine bronze-leaved Pelargonium, exhibited last week at Kensington. Mr. Young, Milford Nurseries, Godalming, again exhibited his golden Chinese Juniper, and received a first-class certificate. A remarkably fine stand of Alfred Colomb Rose came from Mr. Cranston.

NOTES AND GLEANINGS.

The Lindley Library, which by agreement is deposited in the rooms of the Royal Horticultural Society, at South Kensing-

ton, is open for the use of the public, under the following regulations :—

1. The library is open for consultation on all week days from 10 A.M. to 4 P.M.; except on the meeting and exhibition days of the Royal Horticultural Society.

2. The Trustees reserve the right of closing the library for purposes of re-arrangement, cleaning, &c., when such may be required.

3. The Fellows and officers of the Royal Horticultural Society shall have access to the library at all times, when it is open, on application to the Assistant Secretary, Royal Horticultural Society.

4. Gardeners and others, not Fellows or officers of the Society, must make application to one or other of the Trustees, or to the Assistant Secretary of the Royal Horticultural Society, for permission to use the library, and shall sign their names and addresses in a book provided for that purpose.

5. Persons requiring the loan of books to be taken from the library must make written application to the Trustees (addressed to the Librarian for the time being, at the offices of the Royal Horticultural Society, South Kensington), who are prepared to accord this privilege on the following conditions—viz. :

(*a*) That the borrower be personally known to one or more of the Trustees or officers of the Society, or at least shall produce satisfactory references.

(*b*) That the borrower sign a receipt for the volumes, before removing them from the premises, in a book provided for that purpose; undertake to restore the books in good condition, and generally to comply with the regulations laid down by the Trustees.

(*c*) That not more than three volumes be lent to one person at the same time.

6. The Trustees will exercise their discretion as to what books shall be lent out, but as a rule unbound periodicals, expensively illustrated works, and works of common reference, such as are likely to be in frequent requisition within the library itself, must not be removed from the premises.

7. All books borrowed shall be returned to the library within one calendar month from the date of issue, but an extension of time may be granted on application to the Trustees.

8. The Assistant Secretary or Acting Librarian is empowered to demand of the borrowers such books as are detained beyond the prescribed time, and to take such steps as may be necessary to secure the prompt return of the same.

9. The loss of any book, or any injury sustained, shall be made good by the person who has lost or injured the same.

10. The Trustees reserve the right of repealing or altering these regulations from time to time as may be required.

The Acting Librarian is James Richards, Esq.

— KNIGHT'S MARKLY ADMIRABLE PEACH.—We omitted to state in our report of the last meeting of the Fruit Committee, that the excellent Peach called Knight's Markly Admirable, exhibited by Mr. Knight, nurseryman, Hailsham, received a first-class certificate.

—— MR. RUCKER'S ORCHIDS.—The following are some of the prices realised at Stevens's Rooms on the first day's sale (August 8th), of this magnificent collection :—

Aërides Lobbi, splendid specimen, £12 12*s.*; Masdevallia species, bought by Mr. Rucker for M. elephanticeps, £5 10*s.*; Cymbidium eburneum, fine plant, £8 10*s.*; Masdevallia candida, £6 10*s.*; Saccolabium guttatum, Mr. Rucker's No. 3 variety, £8; Cattleya Dominiana, fine variety, showing flower, the finest specimen in the country, £21; Epidendrum vitellinum majus, best variety, very fine plant, in flower, £16 10*s.*; Odontoglossum triumphans Marshallianum, £7; Cattleya Ruckeri, very rare, fine plant, £15 15*s.*; Vanda Denisoniana, fine plant, fourteen leaves, £5; Cattleya labiata, autumn-flowering variety, the finest specimen in the country, £36 15*s.*; Vanda Batemanii, in flower, twenty-two leaves, £5 10*s.*; Phalænopsis amabilis, fine specimen, one of the three plants originally imported by Messrs. Rollisson, £8 10*s.*; Phalænopsis Schilleriana, £6 10*s.* and £4; Cattleya Devoniana, £15; Colax jugosus, very rare, £8 10*s.*; Aërides quinquevulnerum, fine plant, in bloom, twenty leaves, £7; Angræcum sesquipedale superbum, a fine specimen, £15 15*s.*; Oncidium Barkeri, £7; Cattleya Mossiæ superba, splendid specimen, £9; Dendrobium Wardii, fine plant, rare, £15; Cypripedium lævigatum, fine plant, two strong growths, £8 10*s.*; Aërides Veitchii, fine specimen, £22 1*s.*; Aërides Fieldingii, from Borneo, a rare variety, £14 10*s.*; Cattleya exoniensis, fine plant, £12 12*s.*; Epidendrum verrucosum or nemorale, £11; Vanda insignis, true, £12 15*s.*; Dendrobium Bensoniæ, a very fine variety, in bloom, £5; Dendrobium nobile pendulum, magnificent specimen, in basket, £15.

WORK FOR THE WEEK.

KITCHEN GARDEN.

PAY due attention to thinning-out and surface-stirring amongst all advancing crops. Gather and store seeds of such choice vegetables as it may be considered advisable to preserve, but anything very extensive in this way ought never to be attempted in gardens exclusively devoted to the purpose of cultivating vegetables for family use, as in most cases disappointment and inferior qualities will be the result. Anyone at all conversant with the nature of kitchen-garden produce is well aware how much the quality of vegetables becomes deteriorated when grown and seeded upon the same ground year after year. Prudence and economy would, therefore, suggest leaving seed-saving to those who make it both a business and a study. Whatever remains undone in the way of planting-out *Broccoli* and *Winter Greens*, must be finished without delay. Now is a good time to sow a few *Carrots* to stand through the winter. Sow also *Parsley* for winter and spring use. Still keep up successional sowings of *Lettuces* and *Radishes*, the growing crops of which must be liberally supplied with water. Sow also a tolerable breadth of winter *Onions*, the Strasburg and Tripoli are the best. Sow thickly for drawing young for salads and for transplanting. About the middle of the week is the proper time to sow Prickly *Spinach* for the winter; the ground should be good, but not too richly manured, as it is apt to make the plants grow too strong, which renders them the more liable to injury from frost. Seize the opportunity of a shower to sow another breadth of late white *Turnips*.

FRUIT GARDEN.

Peaches, Nectarines, and Apricots, must have constant attention in keeping them well nailed to the walls to guard against high winds; the fruit, also, must be exposed to the action of the sun as much as possible to secure fine flavour and good colour. Continue to make fresh plantations of Strawberries; let the ground be deeply trenched, and apply, if possible, a good portion of fresh stiff loam. Strawberries generally succeed best on ground with a cold bottom.

FLOWER GARDEN.

Propagation of the stock for next season should be commenced at once, and carried on with expedition, so as to secure a lot of strong, well-established plants before winter, and without the necessity of keeping them so close and warm as to induce weakly growth and a watery habit. To be able to winter bedding stock safely with ordinary care, the cuttings should be put in sufficiently early in the autumn to allow of having them well established and fit to be exposed to the open air by the middle of next month. Hollyhocks are very general favourites, but do not afford cuttings freely. These should be examined often for any cuttings which they may afford, as those rooted about this time will make fine strong plants for next season. Attend to the tying of these and Dahlias, and go over the masses of Verbenas, &c., frequently, for the purpose of regulating the growth, and preserving order and neatness. Sow at once Ten-week and Intermediate Stocks for spring-flowering; also transplant Brompton and Queen Stocks, and if the situations in which they are to flower are not at liberty prick them out in nursery beds, allowing them plenty of space to prevent weakly growth. Proceed with all expedition to layer Carnations and Picotees. Remove decayed petals from those pods in which seed is formed. Plant out seedlings in beds where they may stand through the winter for blooming. Plant out Pink pipings on rich prepared beds. The amateur must recollect that if he requires fine laced flowers they must be planted and well established before autumn. Water Dahlias; at this season they require a good supply. Auriculas and Polyanthuses in pots must not be forgotten amid the many demands on the amateur's attention at this season. Keeping in a shady place and clear of dead leaves and weeds, will be sufficient. Attend to saving choice perennial and biennial flower seeds; these should be watched daily, and collected as they ripen. I do not urge this operation being carried out to a great extent, as the returns would not be adequate to the expense and trouble of collecting and cleaning, except in the case of those showy species and varieties some of which every flower gardener possesses and cultivates. Take the opportunity of fine days for collecting; tie them up into bundles, and label them correctly. Those which have burst their seed vessels should be gathered into pans; place them in the seed room till a wet day occurs, when they can be rubbed out.

GREENHOUSE AND CONSERVATORY.

We shall soon have short, sunless, damp days and long nights; therefore look over the stock of pot plants, and see that none of them are suffering from want of pot room or other attention necessary to assist them to make young wood for flowering next season. Also see that proper care is afforded to any late-growing plants in the borders, for while in active growth much more water will be necessary, and insects will be much more troublesome than in the case of plants that have com-

pleted their growth. Look carefully after the Luculias, and keep them clear of their great enemy black thrips, affording them plenty of water at the roots, and give an occasional supply of weak clear manure water to old plants that may not be growing freely, until they have made plenty of wood to insure a grand display of flowers, but manure water should not be given to young specimens in vigorous health, as it is apt to induce too gross a habit, in which state they seldom flower profusely. The Luculia is amongst the most splendid and useful of our conservatory plants, and well deserving of every care and attention, and when planted in the border it is also one of the easiest to manage. To secure fine heads of blossom, however, the plants should be afforded a comparative rest of a few weeks after about the middle of next month, keeping the roots rather dry, and exposing the plants as freely to air as can be done without injuring the foliage, or the adjacent specimens. See that old large specimens of Camellias are not allowed to become too dry at the roots after they have set their buds, for this is what generally causes them to drop their buds, about which we hear so many complaints. Young vigorous plants, however, frequently require to be watered rather sparingly at this period to prevent them making a second growth. Cinerarias for early flowering should now be growing freely; attend to them with shifting, &c., as may be necessary, for if they are to form large specimens for flowering in winter, they must not be allowed to sustain any check after this time; also take off suckers and pot for spring flowering as they can be obtained. Herbaceous Calceolarias will now demand attention; put in cuttings of favourite sorts in order that they may be rooted as soon as possible. The stock of hardy shrubs in pots for next season's forcing, if their growth is completed, may be laid on their sides facing the south; this will assist to ripen their wood and prevent their making autumn shoots. After a short time remove them to the shade of the north wall for the winter.

STOVE.

Many hardwooded spring-flowering specimens when kept growing late in the autumn where there is not sufficient sunshine to properly ripen the wood, seldom flower strongly; therefore give every encouragement to such as have not made their growth, and use the shading very sparingly after this time. The twiners here will now be at perfection; keep them well supplied with water at the roots, and pay frequent attention to regulating the shoots and disposing the blooms in the most effective manner. The Allamandas are fine plants for pot culture, but to have them in perfection they must be planted out in the border of the stove, and trained to the pillars or back wall, where they flower magnificently during a great part of the year. The brilliant Clerodendron splendens, the Combretums, Echites splendens, Stephanotis floribunda, and many other first-rate plants do extremely well when treated in the same manner and trained near the glass.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

We prepared ground for sowing Cabbages, Lettuces, Endive, Turnips, Radishes, Spinach, and Onions. For all such crops that are to stand the winter, and produce heavily in spring, it is well to have the ground deeply stirred, the manure placed at the bottom, and the surface left a little firm, and rather poor in comparison. We believe we should have lost fewer of our Cabbages last winter if the first layer of soil had been less rich, and the plants had grown less in the beginning of the winter. If, however, we were sure of the weather, it would be quite different; for standing well it is advisable that plants should be encouraged to root deeply, and to take hold of the richest soil.

Peas have produced much more than common this season. Even Veitch's Perfection has been perfection as to quantity with us, which, when compared with others, it hardly was before. We have compared some of the new sorts with old ones, but taking size, colour, and flavour, we find as yet none equal to the Ne Plus Ultra or Jeyes's Conqueror; the only drawback is, that it will grow to such a height that in such a season as this poles as well as long sticks would be necessary to do it justice. From the kindness of a friend we hope ere long to see and form an opinion on some of the best new Peas which we have not grown ourselves. In the meantime, we are fortified in the above opinion from the simple fact that having sent for table fine Supremes and Perfections, a message came that they would do admirably for certain purposes, but if possible to send a good dish of the large blue Pea as the chief vegetable for dinner. This Conqueror Pea is almost the only one we know that needs no help, but a short boiling in soft water with just a grain of salt in it. It needs with soft water no carbonate of soda to keep it green, and it is so sweet that a dash of sugar spoils it, and we would say the same of any rich sauce or dressing.

Scarlet Runners we like to see covering tall sticks, as one of the prettiest sights in a garden when in full bloom and full bearing, but weight for weight of pods we have obtained as much from rows of Runners at the same distance apart that had their points nipped out several times, and which would thus without sticks get broad at bottom, and not be more than 18 or 24 inches in height. When thus grown, we have frequently placed a little long grass or litter along the sides of the row to keep the pods clear from the dashing up of earth by heavy rains. Unless, then, for a few rows of the dwarfer and earlier Peas, we would say that it would not be profitable for the cottager to grow them unless he could stake them; whilst, on the other hand, hardly anything would give him such an amount of rich nutritious food as the Scarlet Runner grown in rows, say 4 feet apart, and without the expense and trouble of staking; though a pinching-out of the points of the strongest shoots would be desirable, even if repeated twice or thrice after the plants showed bloom. The stopping causes the first blooms to set more freely, and rather helps others to show more quickly, and we hardly know of anything more ornamental than a dense row of such Beans, clothed from end to end with masses of bloom concealing the pods below, and the more freely the latter are gathered, so as to prevent the ripening of the seeds, the more freely will successions of bloom and pods come.

Merely as an ornamental row, or as part of a ribbon-border, we would much rather use these Scarlet Runners, stumped in, so as to show masses of bloom—which they will be sure to do if the pods are rather closely picked—than use Beet or coloured Greens, which, however beautiful, remind one too much of the salad and the kitchen, which the mere masses of flowers do not. For masses of scarlet where the ornamental and the useful must be combined, commend us to the Scarlet Runner grown as a mass without staking.

Even here as to masses of bloom, much will depend on closely picking off the young pods. One pod allowed to ripen its seed perfectly, will exhaust the plant more than a score of pods with the seeds just forming. Some cottagers have done well by sowing their Runners in boxes, or in a place where they could protect them with a cloth in April, hardening off, planting out early, and protecting with a few leafy twigs at first, and then they would be satisfied with moderate gathering, and save the seed for sale to neighbouring seedsmen. In some seasons this paid well, but on the whole where there is a family to supply, it will generally be most economical to allow as many pods to ripen as will furnish enough of well-matured seeds for the following year, and gather all the rest when comparatively young.

We have tried taking up the roots late in autumn and packing them closely in dryish earth during the winter, and then planting them out at the beginning of May, but, on the whole, we came to the conclusion that it was the more profitable plan in the long run to depend on the seeds, and in a very cold and backward spring to give the young plants a little simple protection. The most prolific varieties of the Kidney Bean are very economical for the cottager, such as the Negro, the Cream-coloured, Sir Joseph Paxton, and the Newington, when the pods are used whole; but even if small rows of these are grown 2 feet apart, they will not yield such an amount of nutritious food as dwarf rows of Runners 4 feet apart.

Whilst for small cottage gardens in the country, then, we recommend these dwarf unstaked rows of Runners, we cannot forget seeing many small court gardens in London and other large towns, and in thickly-populated suburban districts, where the Runners, planted against the boundary fences of brick or wood, and encouraged to mount up on so many cords or pieces of string, made you forget for several months that you were in a sooty atmosphere, and in imagination, at least, you could find yourself in the country with all its attractions, whilst the food obtained from such a lovely covering of fences anything but pretty, was very considerable. An old friend of ours, now at the Antipodes, used to grow the Runners, Rhubarb, Sea-kale, and the bulk of our common vegetables in a small garden, in a very close neighbourhood just over the bridges in London. He was hemmed-in with buildings on every side, but there was an opening for the pretty free entrance of

sunlight from the south-west. These Runners, and many other plants, will do well with a little extra care if there be an opening from east or west, but better still one to the south. If the opening is only to the north, little or nothing could be expected, though even in such cases we have seen fair returns. The great secret of success in the case referred to was simply this—after warm days in July, August, and September, as there was plenty of water laid on, he used a syringe, engine, or watering-pot with a fine rose, to wet and partly wash the leaves of the plants.

For the benefit of all our young readers who, living in towns, mean to try for a prize at a flower show, we would let out the great secret that though soil, and watering at the roots, and general attention are all necessary, the keeping the leaves clean by sprinkling, washing, and sponging is the most important of all. With such care it is rarely that an insect will have the rashness to show itself. Clear water is also the best antidote against a sooty sulphurous atmosphere. Of course a minimum of such attention is required in the clear atmosphere of the country. Our friend in London, however, used to say that after even valuing his odd hours of labour spent on his little garden, he could have small salad, Lettuces, Cabbages, and Scarlet Runners at about half the money he would have had to have paid the greengrocer; but then what was to be bought was not worth half of that which was fresh gathered or cut just before using.

Peas proved a poor return in such a close, shaded, sulphurous, and sooty atmosphere. Nothing on the whole paid better than the Scarlet Runners. We well recollect that on the gable of an outhouse they were fully 20 feet in height, and some hoops thrown over the walks in several places put one in mind of Eden's bowers, and caused grimy London to be out of mind for a time.

It may be here worth noting that our first acquaintance with the Scarlet Runner when a boy in Scotland, was seeing it treated as a flowering plant by some cottagers, who in matters of taste were far in advance of their fellows. We looked upon the beautifully-marked seed as something wonderful, and we clearly recollect how they sowed two or three seeds in a 7-inch pot in April, kept the pot inside the window until the plants were a foot or more in height, and then turned them outside on the sill, one at each corner, and trained them to a string fastened to a few nails up and round the window, and most beautiful they looked with their masses of green leaves and bright flowers. We presume any pods that appeared were plucked off, and we question very much if these lovers of the beautiful knew how to use them, if they had permitted them to grow.

No doubt matters have greatly altered since then in this respect, but it has often appeared to us somewhat singular that a people, and more especially, perhaps, the peasantry and artisans, should have been so distinguished as the Scotch for rugged moral force and intellectual vigour, and yet have so little love—nay, a sort of contempt, for that which would have so ministered to the variety, and the healthiness, and economy of their dining-tables. We can recollect that when a well-to-do weaver grew his fine Lettuces, and used them as an accompaniment for breakfast and tea, and at other times, there was a sort of looking-down upon him as a mean epicure, who wished to imitate "the gentility." The last time we had the chance of looking in on cottage gardens in Scotland there was a great advance in the variety of vegetables grown; but even then they were not up to the mark of what may every day be seen in the cottage gardens of the south, though the owners of the latter may not be so distinguished as the former for general knowledge and intellectual vigour. We do not see why a certain amount of mental vigour should not be accompanied with that refinement that enables one to enjoy and appreciate the blessings that Providence has put within our reach. We do admire the self-restraint in the young, which leads to a stern denial of what otherwise would be pleasing, in order to attain a good definite purpose; but we have no sympathy with that real or affected narrow stoicism, which treats with indifference the blessings and enjoyments that Providence has placed within the reach of honest industrious effort. There can be no doubt that variety of food is not only pleasing, but greatly contributes to health and enduring strength. In contradiction to this, we have been referred to the ploughmen in Scotland, so robust and muscular when young, though the chief items of their living used to be milk and oatmeal; but in answer we could also have referred to the great number that became prematurely old and enfeebled.

The *Celery grub* greatly disfigures Celery by leaving so many brown lifeless spots on the leaves. Nothing can reach it, secure as it is between the two skins of the leaf, except squeezing or nipping-off and burning. The fly that deposits the egg from which the maggot comes is easily kept away, if a little fine soot is dusted over the leaves. Soot-watering is not so effectual, as the smell does not continue so long. We have reason to think that a few fresh spruce branches stuck among the branches keeps the fly away. We have scarcely been troubled with this maggot annoyance since we gave a slight sprinkling with fine soot once or twice during the summer.

FRUIT GARDEN.

Some *Peach trees* have suffered so severely that all which remains to be done is to take the crop which they yield and replant in fresh soil. We have known fine walls that wanted renewing thus three times in something more than thirty years, the trees standing healthy only fourteen or fifteen years after planting, and generally less or more succumbing after a winter more than usually cold. Where only slightly affected, care must be taken to secure healthy growth by removing all unhealthy parts, curled and blotched leaves, stopping any strong shoots that the healthy sap should be more equally diffused, freely using the syringe early in the afternoon after a bright day, and assisting the roots by mulching, and in some cases fresh soil. In most cases where the trees have suffered most this season, the roots had nothing to do with it, the extreme cold with warm intermissions, and then cold again with damp, having injured the wood to the core. In many cases the trees showed little signs of what they had passed through until the blossom began to open, but the channels of communication had been so injured that in many cases small shoots and even branches died-off outright. Such a season shows the importance of a glass covering for walls for keeping the trees dry, and a still atmosphere around them in the most severe frosts.

Our Apricot trees suffered a good deal, but more in the wood than in the blossom-buds, as though some gaps have been left, and several branches now are threatening to give way, the crop on the whole is heavy but late. Few Apricots would be gathered ripe in July this year much north of London, at least we should say so, judging from what we have seen. As soon as possible we shall go over our bush fruit and shorten and thin summer shoots. It is difficult to get done what we wish to do.

Cut off young Strawberry plants preparatory to placing them in fruiting pots in an exposed place. Our fruit is getting thin, and when over we shall have the rows and beds cleaned, dressed, and mulched as soon as possible.

Grapes that are ripe may now have plenty of air and be kept cool. Late Grapes swelling freely, and even beginning to show signs of colouring, will be all the better of a little additional heat in this dull weather. In a bright day it will hardly be wanted. Let us bear in mind, that Grapes ripe by the middle of September will be better to eat, and will keep hanging better through the winter, than those we gave fire heat to to ripen later. Singularly enough the red spider is more apt to make its appearance in houses in such a variable season as this, than when the sunshine is more regular and bright, and that, perhaps, because we are less thoughtful of atmospheric moisture than in bright weather. Hence, sulphur on open parts of the wall where sun would strike, or on the heating medium, be it pipe or flue, is of importance for keeping that little enemy away even in late houses; but let it be clearly recollected, that in placing sulphur on a heated medium, the heat should not be above 160°, rarely reach 170°. Even when leaves escape, many kinds of Grapes suffer in the berry if the heat is higher than the above temperature. Many plants also suffer, and especially fine Ferns like the various Maiden-hairs.

The first part of the season was good for Melons. What we have lately passed through has scarcely been so good. We hope there will be a bright autumn for the benefit of those who love this rather trying fruit. It is well so to regulate the shoots by disbudding, as not to have too much foliage exposed to a declining sun. The Melon shrinks more from the knife than the Cucumber does, and therefore more should be done by disbudding than knifing or cutting the shoots off. Melons, too, when grown in pits or houses heated by hot water are more sensitive to sulphur fumes than Cucumbers. In such pits, and even frame boxes, it is safest to use it with a little lime to wash the walls inside exposed to the sun's rays, and not to put the sulphur on the heating medium.

ORNAMENTAL DEPARTMENT.

Never did the lawns show a richer green, and never could a

season be more propitious to fresh-laid turf. Even now, however, our Pelargoniums, though fair, are not up to the mark in massiveness of bloom. They delight in a warm soil and bright sunshine. We want more sun also to give massiveness as well as colour to the Coleus. A good judge the other day greatly preferred the Coleus Verschaffelti edged with the white-leaved Centaurea to that edged with the Polemonium cæruleum variegatum, which we had recommended as the best edging. We must say there was rather more than mere fancy in the opinion of our friend. Last season, in the full blaze of the sun, the Polemonium was splendid. This season, so comparatively dripping and dull, the Polemonium is not so bright, and has more green and less of white and yellow in its beautifully cut foliage. In a favourable season we still think that nothing can surpass it, but this year as yet we must own the Centaurea is quite as effective. The Coleus as yet is even darker than usual.—R. F.

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

Books (*S. R.*).—Pearson on "Orchard Houses" you will find to convey all the information you require. It can be had from our office for nineteen stamps. (*C. Adams*).—The only book on subtropical gardening in the English language with which we are acquainted, is Mr. Robinson's. On geothermal culture there is no separate work, but you will find much on the subject in the early volumes of this Journal. (*H. B. H. Turner*).—The "Farm Manual" may be had from the office for sixty-four stamps. "Roses in Pots," by William Paul, is the only work on pot Roses.

Cucumber (*Am I right?*).—No doubt the presence of green fly is accompanied with a slow growth, but not necessarily with a weakness of constitution. The cause of the slow growth may be atmospheric and not constitutional. Your friend is right who kept his bed warm and his plants in a growing condition.

Gros Colman Grapes Cracking (*Kew*).—Your Grapes are cracking in consequence of the humidity of the house caused by syringing the Azaleas and Camellias.

Strawberries in Ground Vineries (*H. R. Du Pré*).—You may grow Strawberries in pots in your ground vineries along with the Vines, but it is not desirable, as by the time the Strawberries are ripe the Vines will require all the space. The Strawberries will likewise in all probability introduce red spider to your Vines. You should lift the plants with a ball of earth and pot them at once. We like fruiting-pots of Strawberries to be well filled with roots before the middle of October. You will find instructions for the management of pot Strawberries in the Journal for August 3rd. You must use 8-inch pots, and these must be plunged during winter in order to prevent the frost from injuring the roots, introducing the plants into the ground vineries about the 1st of March. Set the pots on the slates.

Chrysanthemums (*Brisbane*).—If your Chrysanthemum is a Pompon, it is not unusual for a stray flower to appear so early in the season. There is a class of summer-flowering Pompons.

Various (*A Young Gardener*).—We believe the reason for cutting off the leaves of Leeks or any other plants when they are planted out, is to prevent too great evaporation before the root action begins. Filmy Ferns are so called because of their thin and translucent fronds. Orchids and orchidaceous plants are synonymous terms to designate plants which belong to the natural family of which Orchis is the type.

Grapes Shanking (*T. H.*).—Doubtless the roots of your Vines have spread into an unsuitable material, but we would not destroy the Vines as they are only five years old, and the wood and foliage are in good condition. Have they been overcropped in previous years? as this is a frequent source of shanking. As no border has been made we would make one, and we would do it at once if the present crop of Grapes is not worth saving. Begin by marking off the extent of your border; 9 feet wide will do; dig a trench 3 feet 6 inches deep just outside the border, and turn out the old soil with forks, working from the trench towards the front wall, and saving all healthy roots. The fresh compost should be prepared and be at hand ready to be wheeled in directly the old material is removed. Maintain a moist close atmosphere in the house, and shade if the sun is powerful. The Vines will establish themselves before winter, and you may expect a moderate crop of fruit next year. We would plant a few young Vines at the same time to make sure, although we have great faith in renovating the old ones.

Rose Bessie Johnson (*T. W. Johnson*).—Write to Mr. Curtis, Devon Rosery, Torquay, ask him when it is to be placed in commerce, and order one for that time.

Manure Scarce (*H. C.*).—In such a hungry soil as yours artificial manures soon lose their force, unless assisted with rougher organised decomposing material, which you say you cannot purchase either from farmers or cow-keepers, which shows they know the value of such manures. We do not know how you are situated otherwise, but were we in your place we would make the most of weeds, mowings of short grass—a powerful manure, dressings of the sides of roads, edgings of walks, throw all together to ferment and decompose, and add half a peck of salt to what would make a cartload of material when partly rotted down, but not too much decomposed. Your subsoil being merely stirred up and left, such material would greatly enrich the top soil, and the saline matter introduced would help by attracting and retaining moisture. With such aid we do not think you could use any artificial manure that would be safer and better than dissolved bones or superphosphate of lime. If you could not obtain such material as the above, you might add a little of the nitrate of soda to give you bulk of produce, and the refuse of that would all come in again as valuable manure. You will be in no danger from the superphosphate. For a lasting manure nothing beats bones ground or crushed into small pieces like peas and beans, but such manure does not tell the first season like the superphosphate.

Rolled Glass for Plant Houses (*W. T.*).—We would prefer the patent rolled glass for the roofs of all kinds of plant houses. We should not object to the front glass being the same, except for this—that you would not see in or out. On the whole we would prefer the front to be sheet glass merely on that account. In the case of fruit houses we prefer the clear sheet, as in dull seasons the most direct light is needed. We may be prejudiced, however, in this. For plant houses there is enough of light from rolled glass, and no shading is necessary. We must add, however, that our experience has been more limited with fruit houses, but it led us to the above inference.

Arrangement of Small Lean-to Greenhouses (*An Old Subscriber*).—We think you should have considered all matters before building your front wall. If that wall had been on arches or piers we would have had a border inside 2 feet wide, planted the Vines there, and let the roots go out. In this case we would have the border a few inches from the wall-plate inside, and sloping from the same height outside. As your wall is built, and your proposed flue does not interfere with such an arrangement, we would have a border in front 2½ feet wide, well drained, and within an inch of the wall-plate, there plant the Vines, and keep them there with surface mulching. A 4½-inch wall separating the border from the pathway would take up altogether nearly 3 feet of your space. This border we would span over with slats of wood on which to set the pots. Then you could have a 3-feet table or stage at back, and a 2-feet pathway. If the flue is in the way of the above arrangement, then plant the Vines outside and introduce them through the wall or slits in the wall-plate; but daily we witness the havoc made by vermin on the stems of Vines planted outside, otherwise for such a house the Vines will do well. (*H. P.*).—Your proposed arrangement will answer very well. As in answer to another correspondent, we would advise the front wall to be arched, and to have a narrow border inside, in which to plant the Vines, so that the roots may pass out, whilst the stems are safe and protected. From 20 to 24 inches is a good depth for Vines. Below that there should be a drain and at least 6 inches of rubble, unless the ground is drained naturally. Good rotten turf is the best soil for a Vine border, with half a bushel of bruised bones and two bushels of lime rubbish to a cartload of soil, with a little rotten dung; but we prefer, instead of using much dung in the soil, to give strength by annual mulching or top-dressing. For your place we would have four Vines, and, on the whole, there is nothing better than the Black Hamburgh. If you liked a musk flavour you might have one Muscat Hamburgh and one White Frontignan. The Royal Muscadine would give you larger bunches, but not the Muscat flavour. When you have proved your Vines, and feel so disposed, you may let one Vine fill the house, but we would plant at least four at first.

Lobelias (*A. E. F. C.*).—The Lobelias were far too much gone for us to distinguish them. We think what you call the grassy one is gracilis, best for hanging from baskets, vases, &c. The other, we think, is a variety of L. Erinus compacta. The best compact blue is speciosa, and one of the best varieties is the Trentham Blue. Our London nurserymen keep these very good and true.

Covering North Wall of a House (*J. J. S.*).—We are sorry that we cannot recommend you a pamphlet on house ventilation, and we do not know what the house referred to is—a dwelling-house or a plant-house. For plant houses the subject has been frequently noticed in our pages; the great point is to give air at the highest point early. The same rule holds good in a dwelling-house, only draughts must be avoided. To cover the northern side of a house surrounded by Laurels, nothing is better than Ivy, and you may choose very pretty-leaved varieties. Nothing so much tends to a dry wall inside as covering the outside of the wall with Ivy. If flowering plants are desired, then the hardier Rhododendrons would do, but not like Ivy.

American Blight (*G. M. F.*).—From your description we have no doubt of its being American blight. At this season the best remedy is to syringe forcibly with 2 ozs. of soft soap to a gallon of water, directing it with such force as to wash the insects off. Or you may apply spirits of turpentine to the branches infested, taking care that it does not drop on the leaves, for it will destroy them, and when the leaves have fallen dress the trees with paraffin oil, applying it with a brush, and working it into every crack and crevice.

Fuchsia Origin (*Idem*) —No Fuchsia is a native of Britain. The kinds now cultivated have been obtained by hybridising and cross-breeding, and mostly from F. gracilis, F. macrostemon, and F. tenella, all introduced from Chili. The other species are from Mexico, Chili, Guatemala, Brazil, and New Zealand.

Tacsonia Van-Volxemi (*T. B.*).—The fruit is eatable; but previous to use it should be perfectly ripe. We have no doubt of its making an excellent preserve if treated like Melons. Tacsonia mollissima fruit is excellent for the same purpose. They should be ripe.

Scott's Wasp Destroyer (*W.*).—It may be purchased of most of the principal seedsmen. There is no danger attending its use to the plant.

Onion, Leek, and Carrot Grubs (*J. M.*).—We know of no effectual cure after they have taken possession. Strong lime and soot water will modify the evil, but if put on strong enough to dislodge them all, the remedy would be almost as injurious as the disease. The only preventive is to sweeten the ground well before sowing, and if there is a little doubt as to worms, to add some fresh lime and incorporate it well with the soil, or some ammoniacal liquor from the gas works. Several times on a piece of ground—say 40 feet by 20, we have scattered a gallon of tar, in the beginning of winter, and that was all sweet enough before sowing time, but incorporating it with the soil caused the destroyers to shift their quarters, if it did not kill them.

Insuring Vines Growing Equally well (*Idem*).—Nothing more can be done than giving them all similar care and attention. How with all that care some out of the number refuse to grow like the rest, is one of the things that no one can understand. As an M.D. you must often see how strangely children differ that started life seemingly with the same vigorous constitutions, and from healthy parents, and yet some will continue strong and robust, and others will become puny and weak, notwithstanding even

the extra care. We are just as ignorant of the change in habit and constitution that takes place in plants. Generally our attention will be rewarded with health and vigour, but often we are disappointed, and unable to assign the reason. A very little difference in the treatment of a Vine after planting will make a great difference as respects growth. Not so long ago we saw young Vines that seemed rather going backwards than forwards, and all on the surface seemed right enough, but on poking down with a stick for 3 inches or so, the cause was obvious—the water given had never reached the bulk of the roots.

PREVENTING RED SPIDER (*Idem*).—The best preventive against red spider in a house, where Peaches and Grapes are grown, is the free use of the syringe with clear water, and then the next best where such water cannot be applied, or even along with it, are the fumes from sulphur, provided the body on which the sulphur is placed, be it pipe or flue, or empty spaces on the wall of a house where the sun strikes, shall not be above 160°, or very little more; all above that in temperature is verging on the dangerous. The fumes of sulphur when ignited will kill every living thing. Fumes thrown off at 160° are safe, and with a moist atmosphere for a short time the red spider cannot endure them.

SELAGINELLA (*W. S.*) —A Selaginella is not a Fern, and consequently cannot be shown in a collection of Ferns; and Tomatoes, though fruit, are not so in the sense of a collection of fruit for exhibition. You would not expect the fruit of the Egg Plant to be admissible in such a collection, and why should you wish to show the Tomatoes?

ORCHARD HOUSE (*J. C. H.*).—The Strawberries fruited in your orchard house this season will do very well in the open ground next year if planted out now. Hoya carnosa and Oleander are propagated by cuttings.

CUCUMBER SEEDING (*W. E C.*).—There is no need to allow the fruit to hang after it is ripe, which you can tell by its becoming yellow.

STEPHANOTIS FLORIBUNDA (*E. G.*).—We cannot possibly say what the value of the seeds of Stephanotis floribunda is. You should ask a seedsman. The prices of Grapes in Covent Garden you will find in our market report.

APPLE (*Bell & Thorpe*).—Your seedling Apple is very handsome, and has a powerful fragrance. The flesh is very white, and the skin coloured with a delicacy of a Peach. The flavour is brisk, and has not the spicy aromatic character of the Irish Peach and Early Harvest, which are now in season.

NAMES OF PLANTS (*H. J.*).—We should be most happy to serve you, but we cannot undertake to name florists' flowers. (*W. R. N.*).—We cannot undertake to name varieties of Achimenes. (*Robert Maitland*).—Cuscuta Epithymum, var. Trifolii.

POULTRY, BEE, AND PIGEON CHRONICLE.

DE OMNIBUS REBUS.

WE are not sure Captain Marryatt's carpenter was altogether wrong when he said that everything repeated itself once in a given number of years. He recollected somewhere about twelve hundred years before having been on the same spot, under the same captain, and in the same storm. It is said that Lord Melbourne affirmed that if letters were locked up in a drawer for a month they answered themselves. [Query? Editors J. OF H.] The lord and carpenter may both have been wrong, but if it be true that "history repeats itself," there was something of truth in their theories; and history does repeat itself, and it will repeat itself so long as seasons come in their due course, and breeding comes on at its natural time, and people eat eggs and poultry. We were led into this train of thought by the presence of many letters and queries, and by application from one we could ill spare for a holiday. We have somewhere read of an old lady, a grandmother, who was sitting in her son's parlour, when a pet grandchild was brought in. He had fallen from an apple tree, and broken his arm. It gave the old lady a turn. "Don't say so," said she; "bring him to me." They did so, and she administered a sound box on the ear. "Mother, mother," said the father of the child, coming in, "what is that for?" "Oh! dear, dear," cried the old lady, "now you are coming to worry me. The child's always breaking his arm." So we said to our right hand, "You are always wanting a holiday." "I don't always get it, then," he said. "I have not missed a day's work since this time twelve months." "Very well; then take your usual holiday," said we, and fell into the reverie which heads this chapter. It is wonderful how much we may learn from observation. Thus we are convinced, and we know hundreds who agree with us (being on the subject of holidays), that when we are on our trip the days get shorter every day, and when we return they suddenly lengthen. We should like to make a bargain with Time. Let us go to the hatter. "If you knew Time as well as I do," said the hatter, "you wouldn't talk about wasting it. It's him." "I don't know what you mean," said Alice. "Of course you don't!" the hatter said, tossing his head contemptuously. "I dare say you never spoke to Time!" "Perhaps not," Alice cautiously replied; "but I know I have to beat time when I learn music." "Ah! that accounts for it," said the hatter. "He won't stand beating. Now, if you only kept on good terms with him, he'd do almost anything you liked with the clock. For instance, suppose it were nine o'clock in the morning, just time to begin lessons; you'd only have to whisper a hint to Time, and round goes the clock in a twinkling. Half-past one, time for dinner!" "That would be grand, certainly," said Alice, thoughtfully; "but then I shouldn't be hungry for it, you know." "Not at first, perhaps," said the hatter, "but you could keep it to half-past one as long as you liked."

Unfortunately this is only a theory; if it were not we would, in our present idle mood, keep it at Monday morning for the next month. We would write nothing. The very weather is like the dormouse in the book we have just quoted, sleepy. Heavy and continuous rain yesterday; bright hot sun to-day, rather pale and watery; the veriest whisper among the leaves; atmosphere heavy, and some of the shady plagues just waking up at times sufficiently to sting.

Seedy and worn out, ought to lie by and moult. Beautiful process. Summer heats are passed; days get shorter, nights longer. The temperature lowers; and Nature, good mother, rewards her followers by providing clothing meet for them. It is the moment of their rest. The year's work is done; the eggs are laid, the chickens are hatched, reared, and able to take care of themselves. All the energies of the hen must be devoted to clothing. But all our fowls are not kept in a state of nature, and consequently some little care is necessary. The production of the new plumage is a hard work. Thus, it is seen, everything gives way to it. The comb perishes for a time, the old feathers become shabbier every day, and the hen apparently is losing health and condition. It is not so. The reproductive process is going on within. For every feather that falls there is a blue and red pipe, called a "stub," waiting to take the place of the feather, to fill up the hole left by the quill, and by growth to supply a substitute yielding warmth, protection, and beauty. The lower end of this stub is red, being full of blood. The blue upper part is composed of a very fine outer lining, containing the feather folded up; this will pierce the lining and grow to its natural length. The feather of the smallest of the West Indian or tropical birds and the 6-feet feather of the tail of the Reeves's Pheasant, or the longest and handsomest feather in the Peacock's tail, alike originate in the small stub.

We sometimes hear that birds do not moult. Their bodies are not in a fit state. A heated condition is fatal to moulting. The body must be cool and well nourished. All these stubs are like flowers in a garden; the body is the earth in which they are planted, and from which they must derive their moisture and nourishment. Ground foods, such as ground oats, are best for them. Lettuces, such as are run to seed, are excellent. Meat, hempseed, canary, buckwheat—all foods should be avoided. Helping through the moult by medical treatment is like making fowls lay by stimulants. You accomplish a fact in a short time, but it is not done as well as it would have been had Nature been left without assistance.

It was a very old idea with the early poultry-keepers that hempseed was good during the moulting season. Nothing can be so bad. It is the most heating of all seeds; it dries up and impoverishes the skin and fevers the body. The stubs are burnt up in their sockets; the feather ceases to develope; it dries and perishes, becomes a plague and an itching, and the bird scratches it off. This is most frequently the case with small birds, as Bullfinches, Canaries, larger ones as Parrots of all tribes. An old friend of ours, a physician, always used to ask young ladies brought from school to consult him, what they liked to eat. They always said they did not know. "But I do," said the good old man; "slate pencil, sealing-wax, paper, string, spice, especially cinnamon, sweets of all kinds, lemon and orange peel, cocoa-nut. That is why you come to see me." Just so. When we see the Parrot, or Bullfinch, or Canary with naked neck and poll, wings with only quill feathers, and the apology for a tail, we say, "Hempseed, canary, sugar, and biscuits." When we hear of a yard moulting badly and find the birds out of condition, when we see the new clothing certainly worse than the old, we think of hempseed, canary, meat, beer, carefully cooked food, and everything done to tempt them to eat: hence their nakedness. Poor Pheasants and Partridges! The first gorgeous in his resplendent plumage, the latter with his bold eye and bright horseshoe, and nobody to look after them!

Hempseed not only interferes with moulting, but where it is given the plumage becomes much darker. We have seen a light brown bird turn nearly black in two moultings when fed with it. Canary seed does not cause heat but immense fat. It takes away all desire for action, causes the feathers to decay, and the bird to pass its time squatting drowsily about.

Call this a poultry paper! "All this sack to a pennyworth of bread!" All we can learn from it is to let our fowls alone during the moulting season. We all know that; so we do, but we do not all practise it. It is not easy to let things alone. You tell the surgeon you have a feeling of heat and pressure amounting to pain at the back of your neck. He says, "We shall see to-morrow, but above all leave it alone, do not touch it." You are sure you know as much as any of the wise ones of "our Journal," and you are sure a little so-and-so would be good for the fowls when moulting. If this paper prevents one from giving it we shall be satisfied. We had intended to touch on other topics, but must defer them till next week.

THE POULTRY AND PIGEON SHOW OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND.

At this Show, held in Dublin on the 1st, 2nd, 3rd, and 4th inst., there were 342 entries of poultry and Pigeons, and considering the time of year, the birds were mostly in excellent trim. Silver-Grey *Dorkings* took the lead, and among them were some good birds. The chickens of this variety were a large class, but they were not in a forward state. Coloured Dorkings were good, as also the chickens, but we regret to say some small adult birds were found in this class, and they were immediately thrown out of competition. In adult *Spanish* were some good hens, but the cocks were not noteworthy. The chickens were a capital class, some of the birds being very forward and of unusually good quality in face and drop. The *Game* were few in number but good in quality. The whole of the classes were for adult birds only. There were some good Buff *Cochins* in both classes, some of the chickens being very good in shape and leg-feathering. The Partridge-feathered were very good, but the chickens were poor. Both classes of Dark *Brahmas* were well filled, and were good in quality. The first-prize adult hen was remarkably good in marking, but the male bird was suffering from moult. The second-prize hen was very fine in ground colour, but wanting in lacing. The chickens were also good and forward. Light Brahmas in the adult classes were but poor, but the chickens much better. There was but one class for *La Flèche*, and the birds were all old except one pen, and of unusually good quality. The first-prize birds were about the best pair we remember to have seen since the introduction of the variety. The first-prize *Malays* were very large and sound in colour, and the *Crève-Cœurs* also good. *Houdans* were good, but the White-crested *Polands* not nearly so fine as we saw at some of the first shows, and the Gold and Silver birds of that variety were in very bad feather. *Hamburghs* were good in both classes, the first-prize Golden-pencilled being of great merit. These birds were shown, the Pencilled in one, and the Spangled in the other class, but we think a division of the colours advisable. The first-prize Game *Bantams* were Red, correct in all particulars; but the second-prize pen was out of feather. There were some good birds in the Bantam variety class, the first being black in fine plumage, and the second a neat pen of Golden Sebrights. In the class for birds not previously specified, Scotch Greys were first, and Sultans second.

In the classes for *Single Cocks*, the Dorkings were good, and the Spanish but moderate. Of Game, the first-prize bird in Black Reds was a fine close-feathered bird as good in hand as in the show-pen; and the first in Brown Reds, though a young bird, was good in all properties. The first prize in Cochins was a Lemon Buff extremely good in all points; but in this class, we regret to say, a most marked case of tail-trimming was discovered. The first-prize Brahma cock was in faultless condition, and one of the most perfect birds we ever saw; he was claimed immediately the Show opened. The Malays, Crève-Cœurs, and La Flèche were all very good, but there was no award made in the Poland class.

The more substantial varieties of poultry—viz., the table fowls, *Ducks*, *Geese*, *Turkeys*, &c., were exceedingly good and of almost uniform quality, the contest in all the classes being extremely close, and the entries large, although the varieties were well divided. In Turkeys of this year there were several pairs of male birds, and one undoubted pair of adult birds.

The classes for *Pigeons* were not numerous. In Pouters, Blue Pied were first, and Whites second, and we also noticed an extremely promising pair of young birds of that colour, which, though squeakers, ran close for the second honours. Carriers were but poor, but the Tumblers good, the first being Almond, and the second Blue Baldpates. Fantails were well shown, and the Nuns very good. The two winning pairs were perfectly free from trimming, although one pair was passed by, as the crests of both birds had undergone manipulation.

Among Ornamental *Water Fowl* there was a very pretty pair of Bahama Ducks.

Dorkings.—*Silver-Grey.*—1, G. N. Purdon, Killucan. 2, S. Mowbray, Mountrath. *hc*, J. C. Cooper, Limerick; R. P. Williams Glaslinn, Clontarf. *Chickens.*—1, W. G. Mulligan, Belfast. 2, J. C. Cooper. *hc*, S. Mowbray; Mrs. Warburton, Kill, Naas. *c*, Mrs Warburton.

Dorkings.—*Coloured.*—1, G. A. Perrin, Chantilly, Longhlinatown. 2, S. Mowbray. *hc*, Mrs. Warburton. *c*, G. A. Stephens, Dublin. *Chickens.*—1 and 2, J. C. Cooper. *hc*, S. Mowbray. *c*, F. H. Green, Windsor, Belfast.

Spanish.—1, J. C. Cooper. 2, E. J. Poer, Limerick. *c*, J. C. Cooper; R. P. Williams. *Chickens.*—1, W. G. Mulligan, Belfast. 2, J. Barlow, Chapelizod. *hc*, S. Mowbray; J. Barlow; W. G. Mulligan.

Game.—*Black-breasted Red.*—1, G. A. Perrin. 2, T. Haffield, Bray. *c*, Miss Perrin. *Brown-breasted Red.*—1, G. A Perrin. 2, T. Haffield. *hc*, E. J. Poer. *Any Variety.*—1, G. A. Perrin. 2, T. Haffield (Duckwing Birchen Grey). *c*, E. J. Poer (Duckwing Game).

Cochin-China.—*Buff.*—1 and 2, W. H. Perrin. *hc*, J. K. Millner, Cherbury, Blackrock; Mrs. Hay, Spike Island, Queenstown. *Chickens.*—1, F. H. Green. 2, W. H. Perrin. *c*, W. H. Perrin (2); J. T. Downmann, Kingstown; F. H. Green.

Cochin-China.—*Brown or Partridge-coloured.*—1, Mrs. Taaffe, Milton. 2, G. A. Stephens. *c*, R. P. Williams. *Chickens* —1 and 2, F. H. Green.

Cochin-China.—*Black or White.*—1, Mrs. Taaffe. *Chickens.*—1, F. H. Green. 2, Miss L. Warburton, Kill, Naas.

Brahma Pootra.—*Dark.*—1, G. A. Stephens. 2, R. W. Boyle. *vhc*, Mrs. Warburton. *hc*, W. G. Mulligan; Mrs. Taaffe. *Chickens.*—1, J. C. Cooper. 2, L. F. Perrin. *hc*, Mrs Warburton (2).

Brahma Pootra.—*Light* —1, J. T. Downman. 2, Mrs. G. Mulligan. *c*, Dr. Duncan, Finglas. *Chickens* —1, W. M. A. Wright, Braganza, Dalkey. 2, J. T. Downman. *hc*, W. M. A. Wright. *c*, J. T. Downman.

La Flèche.—1, 2, and *hc*, G. A. Stephens.

Malays.—1, Hon. J. Massy, Limerick. 2, T. Haffield.

Crève-Cœur.—1, Hon. J. Massey. 2, J. M'C. Pickering, Dundrum. *hc*, E. J. Poer.

Houdans.—1, G. A. Stephens. 2 and *hc*, J. C. Cooper.

White-crested Black.—1, W. G. Mulligan. 2, R. P. Williams. *hc*, J. K. Millner. *Gold or Silver-crested.*—1 and *hc*, G. A. Perrin. 2, R. P. Williams.

Hamburghs.—*Golden or Silver-pencilled.*—1, S. Mowbray. 2, F. Connor, jun.

Hamburghs.—*Golden or Silver-spangled.*—1, S. Mowbray. 2 and *c*, F. Conner, jun.

Bantams.—*Game.*—1, G. A. Perrin. 2, G. Downman. *hc*, E. J. Poer.

Bantams.—*Any Variety* —1, G. A. Stephens (Black). 2, F. Connor, jun. *hc*, T. Reynolds, Dundrum (Sebrights); E. J. Poer (White Rose-combed).

Any other Variety.—1 S Mowbray (Scotch Grey). 2, J. C. Cooper (Sultans). *hc*, J. C. Cooper; S. J. Kennedy (Common Pheasants).

Ducks.—*Rouen* —1, W. G Mulligan. 2, R. W. Boyle. 3, J. C. Cooper. *hc*, Mrs. C. L. Ellison; J. K. Millner *c*, S. Mowbray; R. P. Williams. *Aylesbury.* —1, R. P. Williams. 2, Hon. J. Massy. 3 and *hc*, S. Mowbray.

Geese.—*White.*—1, S. Mowbray. 2 and 3, Mrs. Warburton. *hc*, Hon. J. Massy. *Goslings.*—1, S. Mowbray. 2, J. C. Cooper.

Geese.—*Grey or Mottled.*—1, R. P. Williams. 2, J. C. Cooper. 3, W. H. Perrin. *hc*, J. C. Cooper; W. H. Perrin. *c*, J. C. Cooper. *Goslings.*—1, 2, and 3, J. C. Cooper.

Geese.—*Any other Variety.*—1 and 2, R. P. Williams (Sandwich Island and Cereopsis Geese). *hc*, Mrs. Warburton.

Turkeys.—1, S. Mowbray (Cambridge). 2 and 3, J. C. Cooper (Cambridge and Norfolk). *Cock* —1 and *hc*, J. C. Cooper (Cambridge). 2, S. Mowbray (Cambridge). *Poults.*—1 and *hc*, J. C. Cooper (Cambridge). 2, 3, and *c*, Miss L. King, Geashill (American).

Ornamental Water Fowl.—1, R. P. Williams (Bahama Ducks).

Cottagers' Prizes. — *Any Distinct Breed.* —1, M. Magrath (Dorkings). 2 and 3, W. Magrath, Blessington (Silver-Grey Dorkings and Brahma Pootras). *Ducks.*—1 and 2, M. Magrath (Rouen and Aylesbury). 3, W. Magrath (Aylesbury).

SINGLE COCKS.

Dorking.—*Silver-Grey.*—1, J. C. Cooper. 2, R. P. Williams. *hc*, S. Mowbray. *Coloured.*—1, F. H. Green. 2, Mrs. Perrin. *hc*, Hon. J. Massy.

Spanish.—1 and *c*, J. C. Cooper. 2, R. P. Williams. *hc*, F. H. Green.

Game.—*Black-breasted Red.*—1, T. Haffield. 2, G. A. Perrin. *Brown-breasted Red.*—1, G. A. Perrin. 2, T. Haffield. *Any other Variety.*—1, G. A. Perrin. 2, C. Reynolds (White). *hc*, R. P. Williams (Gold-crested Polish); E. J. Poer (Duckwing Game).

Cochin-China.—*Buff.*—1, Mrs. Hay. 2, J. C. Cooper. *hc*, W. H. Perrin; F. H. Green. *Any other Colour.*—1, Mrs. Hay (Partridge). 2, Mrs. Taaffe. *hc*, J. K. Millner (Partridge.)

Brahma-Pootra.—*Dark or Light* —1, Mrs. Warburton (Dark). 2, Hon. J. Massy (Dark). *c*, T. Felton.

Crève-Cœur and La Flèche.—1, E. J. Poer. 2, Hon. J. Massy.

Malay.—1, Mrs. Taaffe.

Houdan.—1, G. A. Stephens. 2, F. H. Green.

Hamburgh —*Gold or Silver-pencilled.*—1, F. Connor, jun. 2, Hon. J. Massy.

Bantams.—1, F. L. Perrin. 2, E. J. Poer. *hc*, Mrs. Taaffe.

Pigeons.—*Pouters.*—1, E. A. Seale, Kilgobbin, Co. Dublin. 2, J. Dowling, Blackrock. *hc*, F. W. Zurhorst, Dublin. *c*, J. K. Millner; J. Dowling. *Carriers.* 1 and 2, J. Dowling. *c*, E. A. Seale. *Tumblers.*—1, 2, and *hc*, E. A. Seale. *Fantails.*—1, 2, and *hc*, E. A. Seale. *Nuns.*—1, E. A. Seale. 2, J. Dowling.

The Judge was Mr. Hutton, Pudsey, Leeds.

GREAT HORTON POULTRY SHOW.

The second annual Show of the above Society took place on the 5th inst. In point of numbers there was a considerable improvement as compared with last year, and the day being fine the visitors were very numerous.

In the *Game* the single Black Red cock shown by Mr. Fell, and the Brown Red by Mr. Hodgson, were especially fine. The entries in *Hamburghs* were but poor, but the quality good. The cup for the best pen was given for an excellent pair of Buff *Cochins*, closely pressed by the Brown Reds previously named. A cup was offered for Game *Bantams*, and was won by Brown Reds, although the second-prize pair of Black Reds were of equal merit, the decision being based upon the rarity of the first-named colour. In the class for Any other variety of Bantams, Blacks won both prizes, the first being chickens of this year, and the second adults.

Of the *Pigcons*, the Carriers were of moderate quality. The Pouters were good, and among the Dragoons there were many good birds but badly matched. In Owls the winners were Blue English, and White Foreign. The first-prize Yellow Turbite were of rare excellence, and the Tumblers good, both pairs being Almonds. The cock in the first-prize pen had the most perfect head we ever saw. Jacobins were moderate, and the Fantails good, but the Barbs poor, and the Antwerps were good, but not in the best feather. In the Variety class, Black Trumpeters were first, and Porcelain Swallows second.

Game.—*Cock.*—1, W. Fell, Adwalton. 2, C. Naylor, Horton. *hc*, J. Duxbury, Clayton. *Hen.*—1, W. Fell. 2, J. Smith, Horton. *hc*, H. Jennings, Allerton. *Black-breasted and other Reds.*—1, J. Hodgson, Bradford. 2, R. Hemmingway, Shelf. *Duckwing.*—1, H. E. Mason, Drighlington. *Any other Variety.*—1, W. Fell.

Hamburghs.—*Gold-spangled* —1, H. Bowker, Keighley. 2, H. Beldon, Bingley. *Silver-spangled.*—1 and 2, H. Beldon. *hc*, H. Bowker. *Gold-pencilled.*—1, H. Beldon. 2, H. Bowker. *Silver-pencilled.*—1 and 2, H. Beldon. *hc*, H. Bowker. *Black.*—1, H. Beldon. 2, H. Wood, Lidgett Green.

Spanish.—*Black.*—1, H. Beldon. 2, J. Powell, Bradford.

Cochin-China.—Cup and 1, H. C. Mason. 2, H. Beldon.

DORKINGS.—*Any Colour.*—1, W. Malton, Bowling.
POLANDS.—1, H. Bowker. 2 and *hc*, H. Beldon.
BANTAMS.—*Game.*—1 and *hc*, J. Blamires, Horton. 2, J. Elam, Horton. *c*, E. K. Fox, Great Horton. *Any other Variety.*—1 and *hc*, H. Beldon. 2, J. Preston, Allerton. *c*, H. Bowker.
SELLING CLASS.—1, J. Powell. 2, J. Duxbury.
RABBITS.—*Any Variety.*—1, J. Buckley, Bradford. 2, S. Johnson.

PIGEONS.

CARRIERS.—1, J. Holden, Wibsey Slack. 2, F. Horner, Harewood. *hc*, H. Yardley, Birmingham; E. Horner. *c*, H. Snowden, Great Horton.
CROPPERS.—1 and 2, E. Horner. *hc*, Clayton & Bairstow, Girlington; J. Thresh, Bradford.
DRAGOONS.—1, E. Horner. 2, H. Yardley. *hc*, J. Greenwood, Queensbury; G. W. Robinson, Halifax.
OWLS.—1, J. Holden. 2, A. H. Jubb, Halifax. *hc*, E. Rhodes, Great Horton; E. Horner.
TURBITS.—1, Clayton & Bairstow. 2, W. Poole, Bradford. *hc*, J. G. Dunn, Newcastle; Clayton & Bairstow.
TUMBLERS.—1, E. Horner. 2, H. Yardley. *hc* J. Thresh. *c*, J. Holden.
JACOBINS.—1 and 2, E. Horner. *c*, H. Yardley; Clayton & Bairstow.
FANTAILS.—1, H. Yardley. 2, Clayton & Bairstow.
BARBS.—1, H. Yardley. 2, E. Horner.
ANTWERPS.—1, Clayton & Bairstow. 2, J. W. Collinson. *hc*, Clayton and Bairstow; E. Horner.
ANY VARIETY.—1, J. Thresh. 2 and *hc*, Clayton & Bairstow. *c*, A. Murgatroyd, Bradford.

JUDGES.—Mr. W. Cannon, Bradford, and Mr. E. Hutton, Pudsey, Leeds.

WAKEFIELD POULTRY SHOW.

THE following prizes were awarded at this Show, held July 29th:—

GAME.—*Black or Brown Reds.*—1, G. F. Ward, Wimbury, Nantwich. 2, C. W. Brierley, Middleton, Manchester. *Any other Variety*—1, C. W. Brierley. 2, B. Jarvis, Mansfield. *Chickens.*—1 and 2, B. Jarvis.
SPANISH.—*Black.*—1, C. W. Brierley. 2, H. Beldon, Goitstock.
COCHIN-CHINA.—1, H. Lacy, Hebden Bridge. 2, C. H. Wood, Accrington.
BRAHMA POOTRA.—1 and 2, H. Lacy.
HAMBURGHS.—*Gold-spangled or Pencilled.*—1 and Cup, H. Beldon. *Silver-spangled or Pencilled.*—1, H. Beldon. *Any other Variety.*—1, H. Beldon.
GAME BANTAMS.—1, E. Payne. 2 W. Adams, Ipswich. *Any other Variety.*—1, H. Beldon. 2, S. & R. Ashton, Mottram.
CHICKENS.—*Any Variety.*—1, B. Jarvis. 2, C. & J. W. Mason, Drighlington.
DUCKS.—1, C. W. Brierley. 2, E. Leech, Rochdale.

PIGEONS.

CARRIERS.—1, H. Yardley, Birmingham. 2, E. Horner, Harewood.
POUTERS.—1, H. Yardley. 2, E. Horner.
BARBS.—1, E. Horner, 2, H. Yardley.
DRAGOONS.—1, H. Stanhope, Eccleshill, Leeds. 2, F. Graham, Birkenhead.
TOUMPETERS.—1 and Cup, E. Horner.
TURBITS.—1 and 2, E. Horner.
JACOBINS.—1 and 2, E. Horner.
NUNS.—1, J. Watts, Birmingham. 2, H. Yardley.
FANTAILS.—1, J. Walker, Newark. 2, H. Yardley.
TUMBLERS.—1, E. Horner. 2, H. Yardley.
OWLS.—*English.*—1, R. Brudley. 2, H. Adams, Beverley.
ANTWERPS.—*Short-faced.*—1, E. Horner, 2, W. Jarvis. *hc*, J. W. Collinson, Halifax; H. Stanhope. *Long-faced.*—1, H. Stanhope. 2, J. W. Collinson. *hc*, E. Oldroyde, Osset (3); C. Ambler, Wakefield. *Six Working.*—1 and 2, E. Oldroyd. *hc*, H. Drake, Wakefield.

RABBITS.

SPANISH.—1, A. H. Easten, Hull. 2, H. Cawood, Thorne, Doncaster.
ANGORA.—1, J. Barron, Castlemere, Rochdale. 2, A. H. Easten.
HIMALAYAN.—1, J. Boyle, jun., Blackburn. 2, A. H. Easten.
SILVER-GREY.—1, S. Greenwood, Hebden Bridge. 2, J. Boyle, jun.

JUDGES.—*Poultry, Pigeons, and Rabbits:* Mr. W. Cannon, Bradford; and Mr. E. Ackroyde, Eccleshill, Bradford.

LONG SUTTON POULTRY SHOW.—We have received a prize schedule of the Show of poultry, Pigeons, and Rabbits to be held at Long Sutton, on the 4th and 5th of next October. The general arrangements of commodious tents for the careful protection of all the specimens will be carried out just as in former years, and admit of no improvement. The prizes offered are most liberal. Fifteen silver cups of the value of five guineas each are offered for the principal classes, and prizes in the general classes of 20*s.* and 10*s.* are also given. A class for ornamental birds, each pen to consist of any number, will, doubtless, cause not only a very heavy but most attractive entry. A five-guinea cup to the most successful exhibitor, to be awarded by points, will secure many extra competitors, and doubtless the next Show will eclipse its predecessors. A very stringent rule against trimming will be strictly enforced. In certain classes, 28, 29, 30, and 49, the prize and commended birds will be disposed of under the hammer, and any sum obtained beyond the price at which they are entered in the catalogue, will be equally divided between the Committee and the exhibitor.

MELTON MOWBRAY POULTRY SHOW.

THIS Society dates the institution of a Floral, Horticultural, and Fruit Show from some three years back, but it was not until the Show of last Thursday that poultry, Pigeons, and Rabbits formed part of the Exhibition. This new feature added much to the general attraction, and a remarkably fine day amply secured the financial success of the undertaking. The Show took place in the park directly opposite Lord Wilmot's hunting box, and perhaps a more lovely place for such a purpose has rarely been chosen. The acting Committee, though quite inexperienced in poultry matters, carried out all their arrangements as methodically as though conversant with the management of a poultry show for a long series of years. They worked well, both as a body and individually, and deserved the success they attained. The tents were very spacious and well ventilated, and Messrs. Turner, of Sheffield, supplied all necessary exhibition pens.

Dorkings were in many cases of very high character, but were as a rule in deep moult. *Spanish* were as good a class as any in the show tent; and although only a couple of entries were made in the class for *Cochins*, Mr. Woodcock and Mrs. Williamson may dare competition at almost any meeting. Mrs. Williamson's Light *Brahmas* we have scarcely seen equalled throughout the season, their condition and markings being first-rate. *Hamburghs* were one of the weakest points in the whole Show; they appear to be almost unknown in the district, but one or two annual exhibitions will quickly alter this shortcoming. *Game fowls* were good but mostly out of condition, and unexpectedly the Game *Bantams* were far below par.

The *Water fowls* and *Turkeys* were all good; and among the *Geese* a pen of White Spanish, a scarce variety, were shown in capital condition.

Pigeons, with the exception of the Pouters, were not good, but we must except a pair of winning Archangels in the Variety class. A little different arrangement of the prize schedule would much improve this section of the Show in future years.

Rabbits formed a first-class show, and there was a numerous entry.

Mr. Edward Hewitt, of Sparkbrook, near Birmingham, was the Judge.

CROYDON POULTRY SHOW.

CONSIDERING the number of poultry shows to which our attention is now invited, and the consequently large choice offered to exhibitors, it may be well to know to which not to send our birds. It is always painful to complain, and it has never but once before been my lot, in a considerable experience, to feel forced so to do about any poultry show management. In the points which I am about to enumerate I believe the mismanagement of the late Croydon Show to have been so great and so reprehensible that silence would be equally unjustifiable.

On Wednesday, July 26th, I made my way to the Show, which was held in a park. At the lodge a policeman informed me that it did not open till one o'clock; that there was no objection, however, to my going to the tent, though it then wanted half an hour to the time. Arrived at the tent I found the same privilege accorded to several others, acquaintances, apparently, of the authorities there, which I have not the honour to be. We were supposed not to go more than a certain distance inside—quite far enough, however, to give a view of the whole tent, and to reveal several particulars hardly satisfactory to exhibitors—1, That then (about 12.45) the judging of the 250 pens had not advanced far, supposing the Judge to take the classes in order, and to finish one before he began another. 2, That a list of the pens and their exhibitors—in fact, a proof sheet of the catalogue—was posted up in the tent while the judging went on. 3, That the rain came through the tent like spray on to the birds, the pens, of course, being open at the top. A policeman in charge informed me, with more satisfaction to self than me, that he had been obliged to keep his waterproof cape on all night in the tent. 4, That the larger number of the baskets were piled up in the open air, and after a drenching night were saturated through linings and straw, and their labels rendered almost illegible.

This was the first act in the proceedings. At one o'clock I was advised to return to the lodge to purchase a ticket of admission. This I unwisely did, for once outside the gate it was impossible to get back. No ticket-vendor arrived till long after the time announced, and in the meantime I stood in dripping rain at the gate. When at last he put in an appearance he was not allowed to sell tickets on account of the Judge's delay. At last, about 1.40, I was allowed to have one, and proceeded towards the tent; but, though "Admission from one till five" was printed on the ticket, I was soon called back, reprimanded for going near the tent, in which I had been an hour before, and deprived of my ticket. A few minutes later tickets were generally sold. I once more proceeded to the tent, bought a catalogue (with no awards), and found no prize cards up. At last these came, and were irregularly put up at intervals for half an hour. I had already seen enough of the Show to make me despond on the subject of awards. I will not animadvert on them, as I might be partial. I never heard such dissatisfaction before. The above is a plain and accurate account of what happened, and, I need hardly say, shall not happen to me again at Croydon.—O. E. CRESSWELL.

P.S.—I may add, 1, That through the Secretary's carelessness in not numbering class and pen on my labels I never felt certain that my birds would be penned till I saw them. 2, That I have heard from a great patron of the Show that his birds arrived from Croydon dripping "as if from a washtub," and one with roup, hitherto unknown in his yards.—O. E. C.

I VENTURE to trouble you with some few remarks upon certain points connected with this Show which may not be unworthy of the attention of the Committee, of the subscribers to the funds, and of exhibitors. The schedule of prizes issued by the Committee was undoubtedly good both with regard to the number of classes and to the amount of the prizes offered for competition in each class. A very fair number of entries, and an exhibition of poultry quite up to the average in most instances in point of quality, were thus secured; but I am inclined to

think, that unless more attention and care are in future bestowed on various details, the Show will soon become a thing of the past. The tent in which the birds were arranged was much too small, as well in height as in width and length. As regards its height, it was so low that in walking under it one felt almost inclined to stoop, whilst it was so narrow that there was not sufficient space between the rows of pens to admit of the spectators passing round in two lines; and in consequence of the want of length the pens were placed two and even three high. The result of the latter arrangement was not only to bring the birds in the top row much too near the canvas, but to place many pens either too high or too low for being seen properly. It should also be noticed that there was a great want of ventilation, and that the spectators, instead of being made to enter the tent by the right hand and to go out by the left, were permitted to enter and to walk about at their pleasure, a circumstance which caused much jostling and confusion. In several pens, moreover, the birds were not only without water, but without any vessel for containing it.

The judging, too, was by no means satisfactory. I am aware that this is a delicate subject with which to deal, and that it may be supposed that I write as a disappointed exhibitor. I would beg leave, however, to say that I write under no such feeling, and that, as I had the opportunity of being an eye-witness of how other exhibitors fared at the hands of the Judge, I can well understand how the birds which I exhibited there, and which have taken prizes at larger shows under Mr. Hewitt, Mr. Tegetmeier, and Mr. Baily, were not successful. In order to point out how the Judge did his work, I may mention that in several classes prizes and honours were given to the worst pens, or to pens which possessed absolute disqualifications for them. In the Variety class the first prize was awarded to a pen of Black Hamburghs, the cock in which had not only imperfections in his comb and large streaks of red on the earlobes, but also a wry tail, whilst the hen had an imperfect and a lop comb! In the classes for Bantams, a pair of Duckwings obtained the second prize, although the cock was about the worst in the Show. In the classes for Brahmas, too, the awards would probably be acquiesced in by few, whilst amongst the Spangled Hamburghs they were quite in keeping with that in the Variety class already mentioned; red earlobes, lop combs, and an almost total absence of bars on the wings, with other imperfections, constituting apparently no drawbacks to distinction. I positively saw one hen in a highly commended pen which had a comb which was not only a lop-comb, but which was also almost oval, large, pretty nearly destitute of both spikes and pike, and having a large hollow in the centre.—OBSERVER.

I WAS first with White Dorkings, and first with Black Hamburghs in the Any variety class. Your reporter states that the Dorkings "are a very poor pair," and the Hamburghs "a wretched pair, white in face, red earlobe, and the cock with a wry tail," and hardly worth 2*s* 6*d*. I hope you will, as you always do, promote fair play, and not allow my reputation to be damaged. They are not wretched, nor red in ear, neither are they white in face, nor wry in tail; and, moreover, these two pairs of birds so depreciated by your correspondent I have exhibited ten times, and won ten first prizes—that is, they have won first prizes wherever exhibited, and are fit to win anywhere in the kingdom. Mr. Hewitt has judged them twice and called them very good birds—J. H. NICHOLLS.

[In reply to Mr. Nicholls's communication, I beg to state my remarks on his pens of poultry exhibited at Croydon were quite correct, as I can substantiate by the evidence of four other gentlemen, who are well able to form an opinion. The Hamburghs were certainly most inferior, with face and ear as I described, and even Mr. Nicholls himself seemed to think but little of them, as he only priced them at 50*s*., a very poor price for a pair of birds which had been exhibited ten times and won ten first prizes.—YOUR CORRESPONDENT.]

THE LATE MR. WOODBURY.

No expressions we could employ would more forcibly or more correctly express our deep regret for the loss of our friend, than that outpouring of genuine feeling which was contributed to our columns last week by Mr. Bevan Fox. We can now add but little to the following biographical notes:—

THOMAS WHITE WOODBURY was born in London on December 14th, 1818. His father, an eminent linguist, was then resident there, but subsequently removed to Exeter, and entered into partnership with the late Mr. Woolmer, proprietor of the *Exeter and Plymouth Gazette*. Our friend, also, was connected with the *Gazette*, and took an active part in its management. On retiring from his connection with the *Gazette*, and after a residence of two years in Birmingham, Mr. Woodbury returned to Exeter, and having a sufficient private fortune did not again enter into any business. But he never was an idle man, and among other pursuits he devoted a considerable portion of his time to the study of bees. In the year 1854, Mr. and Mrs. Woodbury suffered severe affliction by the death of their only son, and she survives, with two daughters, to mourn their still greater loss.

Of Mr. Woodbury's contributions to our columns no other comment need be made than that they were invariably the results of practice; his replies to correspondents were characterised by sound judgment and courtesy, and even when he exposed the mistakes of "The *Times*' Bee-master," he wrote without asperity, and was contented when he had established the truth. No man showed less consciousness of superiority, although as an observer of Nature he was so sufficiently publicly known as to have been approvingly noticed by Mr. Darwin. What he was in private life Mr. Bevan Fox has told, and a neighbour says, "To see him amongst his bees was no small pleasure, so gentle and patient and kind was he, and so willing to convey to others the store of information acquired by years of observation and research."

SUPERS—DRONE SLAUGHTER.

I HAVE been a disciple of a "COUNTRY CURATE" for a number of years. I began this year with two stocks, a black and a Ligurian. The black has been very strong, and yet I have prevented its swarming. The Ligurian hive was weak and required feeding, although at the end of 1870 it was very strong in bees, and weighed 6 lbs. more than the black stock. I have taken a glass of honey from the black stock, June 9th and on June 26th part of a small box, but in all not more than 6 lbs. of honey. Since then the weather has been very bad and I have let them keep what they have.

I did not expect the Ligurians to swarm, but I found that they increased in numbers very rapidly at the beginning of July; on the 12th I placed a small glass on the hive, which they occupied at once, but on the 20th they swarmed, and I found had not made any comb in the glass.

I placed (*à la* "COUNTRY CURATE") the swarm in the old stock's place, to prevent a second swarm. The bees at once began to kill the drones, and did so up to twelve o'clock yesterday (July 28th), when a second swarm issued. They are still killing the drones, although their use cannot yet be dispensed with. Is this usual? I have seen cast out of the hive three queens which were quite healthy, and I have returned them. I have collected eight perfect young queens, which have been cast out of the hive.—APIS.

[In the first place we should fancy your supers are too small to be of much real use either in preventing swarming or in obtaining good quantities of honey. Killing off the drones at such a time generally shows that there is little or no honey in the flowers to be collected, but there will most probably be a sufficient number of drones, either from your own or from other hives in the vicinity, left to fulfil all the duties required. At so late a period of the summer as when your first swarm issued, we should not be disposed to advocate the removal of the stock and the putting the new swarm in its place.]

LATE SWARMING.

I HAVE had some very late swarms from my apiary this season, and the issue of some of them, I think, it would have been difficult to have prevented. During the last week in July I had no less than four swarms, each of them large enough to fill an ordinary straw hive. I was always under the impression that late swarms were generally very weak ones; however, in this case, it is quite the reverse. The ungenial weather we have had here during the last two months has, I think, been the cause, it having been either dull or very windy the greater part of the swarming season, and, consequently, the bees have been prevented from taking wing at the proper time. A few bright days would bring the second crop of clover in flower, which would be a great help to the bees. With feeding twice or thrice a-week I have no doubt I shall be able to save them. I should be glad to know whether any of the readers of "our Journal" have had such late swarming, and if so, can they account for it?—T. J. HARRISON, *Farndon, Cheshire*.

[Late swarming has been very prevalent in all parts of the country this season, but the majority of the swarms will not survive the winter.—EDS.]

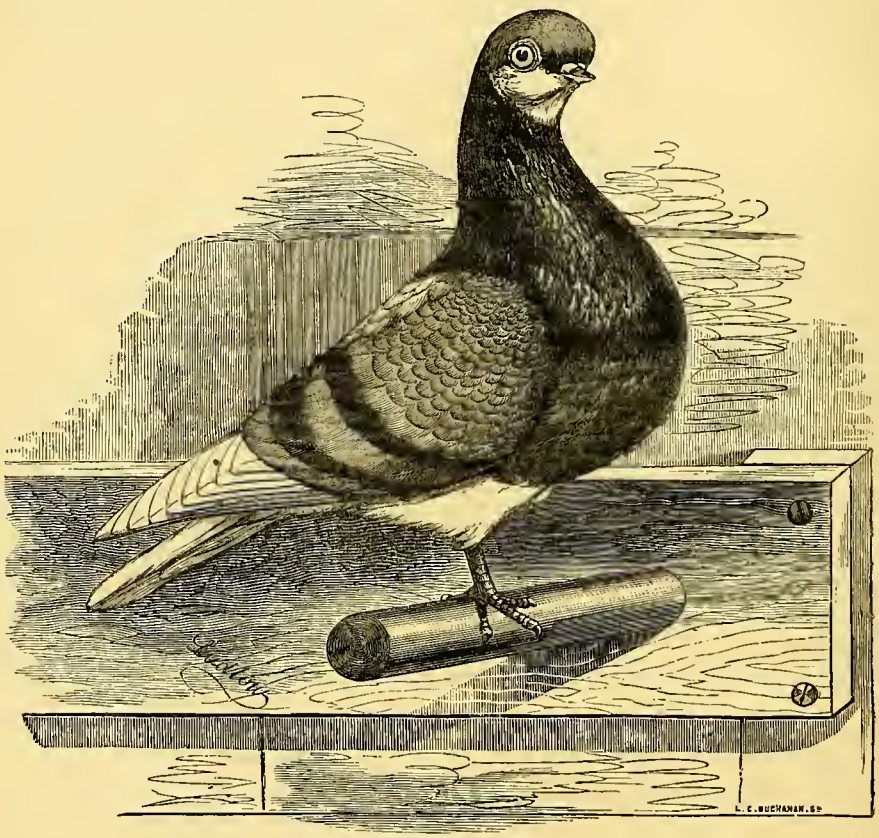
THE BALDHEAD AND BEARD PIGEONS.

WE have this week the pleasure of placing before the readers of THE JOURNAL OF HORTICULTURE the portraits of two of the prettiest and most interesting varieties of our fancy Pigeons—the Short-faced Bald and Beard Tumblers, two varieties which we have no hesitation in saying have not of late years received that attention and consideration to which their beauty and merit deservedly entitle them. We very much question

if there is any fancy which possesses greater attractions and interest for the breeder than the one in question. A prettier sight we are certain it is impossible to gaze upon, than a first-class loft of these charming and sprightly little pets, when the plumage is rich and clean, and the colours of the several varieties evenly represented. In a great measure we suppose this apparent neglect must be attributed not so much to want of appreciation, as it is to the one characteristic which they in common with all their Short-faced brethren more or less participate in.

In answer to the question often put, "If you admire the varieties so much, why do you not keep them?" the invariable answer nearly always comes, "Oh! because they require so much attention and are so difficult to breed good, even if you can breed them at all." Now, this difficulty of rearing the progeny of all the Short-faces, as we remarked with regard to the Almond, is more imaginary than real. The impression seems somehow to have got abroad amongst the fancy of the present day, and serves to turn in another direction the inclination of many a fancier, and in nearly every instance without a trial. We have only emphatically to repeat that this impression is entirely unfounded, and that if the right system is pursued, the breeding of Short-faces is, so far as our experience goes (and it is not inconsiderable), a far easier and more pleasing task than the rearing of high-class young Carriers and Pouters. Yet how many are there who persevere in that direction! We will, however, say a little more on this point further on, and in the meantime turn to the primary object of these notes.

In setting forth the points of the two varieties in question, their similarity, with one exception, will render only one description necessary. As colour is in our opinion the most im-



The Beard.

portant property, we will commence by remarking that the standards are red, yellow, black, blue, and silver, the latter two possessing the black bar common to all their brethren of these colours. Richness and depth of colour are essential features, and more particularly is this so in reference to the three first-mentioned. To obtain this with the correct marking will be found a task of no easy accomplishment. The eye should be white, or what is termed the "pearl eye," bright and full. In structure the birds should be as small as possible, compact, and short in the body, flights, and tail; the neck short and tapering into a full broad chest; the legs short, and the feet small and neat.

Regarding the shape of the head we have a word or two to say, merely by way of suggestion. As in all Tumblers, it should be as round as possible, with a short, fine, and straight beak. We must confess, however, that it is a matter of surprise to us that no ardent enterprising lover of the Bald and Beard has endeavoured to place upon them the broad and lofty skull of the Almond. That it would enhance their beauty and value we think no one will deny. In this direction we think there is ample scope for improvement; but fanciers of late years do not seem to hold this opinion, very little, if anything, having been done by them to improve the varieties in this particular, or, perhaps, we might also add in any other. Small and beautiful enough in colour and marking we do frequently see them, but in every other respect they are merely their longer and larger *confrères* repeated. The answer may, and no doubt will be made, that all this is very fine, and very much more easily talked about than done. But has it not been done with the Almond by our fathers? Why cannot we repeat it in the Short-faced Bald and Beard. Surely we must not conclude that there are not as much ability and zeal in the fancy now as there was fifty or one hundred years ago. Veterans tell us so, but we will not believe it, nor that the birds of their youth far excelled anything of the present day.

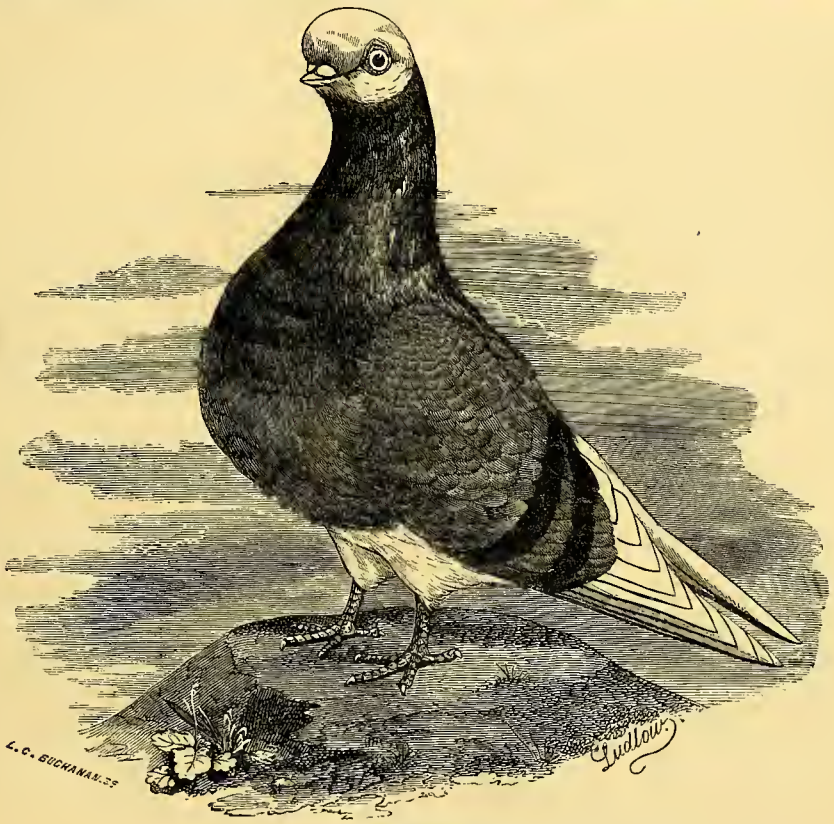
And now as to the markings. The body should be self-coloured; the first ten flight feathers in each wing, together with the rump, tail, belly, and thighs, of a pure white, as shown in the portraits. And here the similarity in the two varieties terminates and the distinctive characteristic steps in which gives to each its name. The head of the *Baldhead*, as far down as the ear and just under the lower jaw, should be white; the line of demarcation being clearly and evenly defined, or, as it is termed by fanciers, they must be "clean cut." The head of the *Beard* is the same colour as the body, but it should have a crescent-shaped band, or beard-like marking, of white

feathers on the throat immediately under the lower mandible, as will also be seen in the admirable sketch, which we think fanciers generally will agree with us equals, if not excels, any former production from the pencil of our able and esteemed Secretary, Mr. J. W. Ludlow.

We have now, we think, said all that is necessary to lead to a right judgment in reference to the varieties before us, but by way of conclusion we think a few remarks in reference to Short-faced breeding will neither be unacceptable nor out of place. As far as regards the Bald and Beard in particular, there is no doubt but they are much better nurses than the Almond and other Short-faces, as in many instances we have known them rear their own progeny strong and well. They are not, however, to be depended upon even in the most favourable weather —it is, in fact, the exception and not the rule; so that if anything like success is to be achieved a staff of nurses is an essential requirement, as, in fact, it is to every breeder of high-class birds.

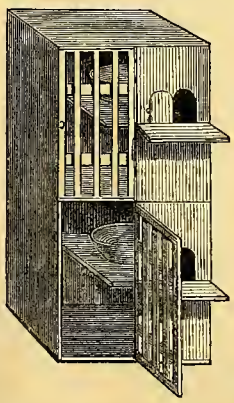
For this purpose none are better than the flying or common Baldheads. We do not allude to the excessively long-faced birds, but to a medium between them and the Short-faces, known as "pleasant-faced" birds.

All that is necessary in reference to nests, hatching, shifting, &c., was fully explained in our article upon the Almond; it is, therefore, unnecessary to repeat it here. What we more particularly wish to say at present is upon a most important and neglected feature in connection with Pigeon-breeding, the providing of proper accommodation for the nurses or feeders. The common notion is that any out-of-the-way hole or corner is quite good enough for them. Their requirements are generally the last to be attended to either as regards cleanliness or food, whereas common sense ought to make it apparent that the



The Baldhead.

very opposite treatment should be their lot. The warmest, driest, and most comfortable portion of the loft should be set apart for them; and if convenient they should be allowed full liberty in the open air, the benefit of which will soon be perceptible in the manner in which the important functions allotted to them are discharged. A hopper of vetches and a constant supply of pure fresh water should always be at their command. Our experience is, that by keeping them to one kind of grain they feed better and keep their young better supplied than by feeding in any other way, and no food is more wholesome or more suitable for Short-faces than tares. In our own lofts on this principle the death of a young one is a rare occurrence, and then it is from no neglect of the nurses; on the contrary, many of them are constantly rearing three and even four young ones, and always in the kindest possible manner. But for the pens such a loft should be provided with. They should be 2 feet in height and length, 18 inches deep. Half the front, as shown in the diagram, is closed with a board or blind, and the other half with a wicket or wire gate. Inside from the blind to the back is fixed a shelf 1 foot from the floor and the same width, on to which opens through the blind a small door for the egress and ingress of the birds, with a ledge for them to alight upon. On the shelf is placed the nest-pan, and as soon as the old birds are ready to lay again, it should be shifted with the young to the floor beneath, and a clean one substituted.



The advantage of the above plan must be apparent at a glance. The young birds cannot disturb the old birds while sitting, it puts them entirely out of danger when they begin to leave the nest, causes them to learn to feed themselves early, so that when they are able to ascend to the shelf they are ready for removal to the general loft. These pens have, amongst many other advantages, those of being readily and thoroughly cleaned, they give the loft a neat and uniform appearance, and in every way add to the pleasure of the fancier in ways unnecessary to detail. Notwithstanding that we have never seen these pens in use in any other loft, we wish to claim nothing original or novel in their production. It is possible

that they may be in use in many breeding establishments; but for those who have not adopted them, and want to be successful Pigeon breeders, especially of Short-faces, we have only to say, "Try them and you will not be disappointed in the result."—Birmingham Columbarian Society.

OUR LETTER BOX.

Mrs. Clarke, of Monk's Wood House, Huntingdon, writes us in reference to what appeared in "Our Letter Box" last week, that she "could not send Mr. Corbet a pair of White Ptarmigan and a pair of White Friesland fowls, valued at quite £5, for £2 the four birds." In that case we think Mrs. Clarke ought to have returned the money.

Hamburghs at Croydon Poultry Show.—"Mr. Reginald S. S. Woodgate wishes to state that in the Pencilled Hamburgh class at the Croydon Show his birds were highly commended, while those of Mr. H. Pickles, jun., took first and second prizes." [Mr. Reginald S. S Woodgate ought to have satisfied himself as to the facts before making so positive a statement as that which induced us to alter what was correct to that which was incorrect, but that he was honest in making that statement we fully believe from his expressed regret and the whole tone of his letter.—Eds.]

Spanish Hen Sitting (*Constant Reader*).—We thank you much, and hope many will follow your good example.

Breeding Lemon Buff and Cinnamon Cochins for Exhibition (*A. J.*).—It is exceedingly difficult to breed cocks and pullets fit for exhibition from the same parents. There is not much difficulty about colour. If the parents are correct in that particular, and are pure-bred, there is little doubt of their producing perfect birds in that respect. To produce the Lemon, the most beautiful of all colours, you have to watch the parents narrowly. There is a tendency to a darker shade of hackle in the hen, and to a white patch on the wing of the cock. Both these end in Silver Cinnamons. The original Cinnamons are hardly to be found The hen had a very dark brown hackle, and a body very much the colour of a dark Cochin egg. The cock was all over the colour of wetted cinnamon. As a rule, all fowls take more after the hen than the cock, and you should mate accordingly. Scan the size of the future cup bird closely, and see in what he is deficient, remedy it in the hen you choose for his mate. Do the same in breeding your pullets. Breed from none with capital defects, they are sure to be hereditary.

Eggs for Table (*P. H. S.*).—You do not require to keep a cock, but if you object to that course, borrow one once a-fortnight. You will do quite as well without one. You may choose between Cochins, Brahmas, and Crêve-Cœurs. We think the second.

Agate Cock and Kite Hen (*An Exhibitor*).—Your birds not matching would, we fear, greatly diminish your chance of a prize.

Pigeons Diseased (*W. T. S.*).—Your birds have roup—cold is the cause; Pigeons will bear any amount of heat, but cold weather or cold draughts injure them. Some strains of Pigeons are very much inclined to roup, so it would seem to depend partly on bad constitution. Mix hemp seed in the food Roup is very hard to cure; indeed, there is no certain cure. "Some get rid of it," says "A Foreigner," "by a dose or two of charcoal powder, some by a dose of carbonate of soda or a pinch of alum, and some by a dose of flowers of sulphur. Some are recovered by one remedy, some by another, and some never." We believe this to be the truth. Warmth keeps the roup away, and cold brings it on. Loss of an eye is no absolute disqualification for a bird.

Keeping Rabbits not in Hutches (*W. H. H.*).—Rabbits may be kept with success in so-called pits, or artificial warrens; perhaps a circular one looks the best. It may be of any diameter, from 8 to 12 feet, according to the number of Rabbits intended to be kept, and about 4 feet deep, in a sandy soil. One half the diameter should be left at about 2½ feet from the bottom of the pit for the Rabbits to burrow in and make their nests. The bottom and sides of the pit should be boarded or protected with wire netting to prevent the Rabbits burrowing outwards or downwards, and so escaping. The whole should be covered with a roof—it may be of straw to give a rustic appearance—at 6 feet from the ground, to admit air and prevent too much wet. Surround the open space with wire netting to prevent the entrance of enemies. A door in the netting and ladder will be requisite for feeding and capture. Rabbits may be kept with success in "courts" walled round on the cold sides, and having mounds of earth thrown up against the wall to a height of 3 or 4 feet, and 2 or 3 feet in thickness from the wall, all the rest being an open space, in which they can caper about in a half-wild state, and thus treated they will no doubt pay for the expense. We should suggest as the best varieties to turn out, either in a pit or court, the Belgian Hare Rabbit and Silver-Grey, or either of these or both mixed with a few common Rabbits. The two varieties named are now introduced into warrens, the Belgian for its size, as it weighs from 8 to 10 lbs., and the Silver-Grey for its more valuable skin.

Bullfinches Losing their Feathers (*C. J R.*).—The looseness of feather may possibly result from hunger and their exposure to cold, inducing a general derangement of the system. The true moulting season is now just at hand. Keep them warm, and encourage them to moult in earnest, and most probably they will take care of their new clothes. The diet is excellent.—W. A. Blakston.

Canary not Singing (*A Fancier*).—You should have detailed your sorrows earlier in the season, as it is now too late to make up lost time. A whole season's good conduct on the part of a Canary is no guarantee for the future, any more than a protracted period of misconduct of the most flagrant character should be accepted as evidence of worthlessness. I could enumerate instances without number in which apparently sterile parents have developed into fruitful vines; cruel, selfish, indifferent mothers into most affectionate nurses; and even cannibals into decent, well-conducted members of society. And the converse is equally true. It by no means follows because the vendor of your bird got three nests from him last season that the same success must of necessity attend him this year. Such a warranty—a mere dealer's puff, should not have been given, nor should any credence have been accorded to such an assertion. But beyond this (and it is just these little annoyances which make purchasers look with suspicion on dealers), the fault rests entirely with the bird "He was a capital singer"—itself an evidence of health, but continued to sit panting on the perch, has never begun to sing, and is now going to moult. It is only an everyday instance of the fact that Canaries are a precarious stock. Very little disarranges them. A sudden change in the weather, a draught, a chill will prove the fallacy of counting your chickens before they are hatched. Keep the bird warm and away from draughts; indulge him occasionally with a drop or two of sherry in his water; be kind to him, because he claims the attention at your hands, but when you have nursed him through the moult my advice is, Give him away.—W. A. Blakston.

Uniting Expelled Bees (*C. G.*).—The time for taking up hives varies according to the district, some, such as heath countries, being later than others, but, on the average, the end of August is as good a time as any. It is not necessary to capture the queen, but if you can do so without much trouble all the better.

Transferring Bees from Straw Hives to Woodbury Hives (*G. F. Tabram*).—Provided you transfer all the combs of the straw hives into the frames, and give liberal feeding in addition, there is no reason why you should not be able to effect the transfer at once; but we should prefer leaving it until April of next year, when the operation will be found attended with much less difficulty. We have not been in the habit of reducing the size of our hives by putting in dividing frames, but see no objection to your doing so. We prefer having hives of different sizes, and shifting according to the strength of the colonies.

Drone Slaughter (*C. A. J.*).—Your bees slaughtering their drones does not prove that the hives have or have not queens. It is usually considered to be a sign that the best of the honey season is over, at least for the time.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. August	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 2	29.981	66 6	58.2	S.E.	61.0	79.5	47.2	127.5	47.0	—
Th. 3	29.760	63.5	60.0	N.E.	61.2	80.3	49.3	124.0	49.1	0.060
Fri. 4	29.720	61 5	58 4	N.W.	62.0	64.0	56 2	120.2	55.0	0 010
Sat. 5	30.109	63.2	56.2	N.W.	60.8	73.8	46 2	125.4	47.0	—
Sun. 6	30.239	68.8	64.2	N.	61 9	80.2	59.5	126.8	56.4	—
Mo. 7	30.210	66.4	64.5	E.	63.0	81.3	54.2	124 5	52.2	—
Tu. 8	30.128	70 0	64.2	N.E.	63.8	79.6	55.0	123 3	54.2	—
Means	30.021	65.7	60.8		62.0	77.0	52 5	124.5	51.6	0.070

REMARKS.

2nd.—Beautiful day, rather too warm, there being no wind to temper the heat. Cloudy between 4 and 5 P.M., but no rain.

3rd.—Hazy in early morning, very fine after 11 A.M.; fine sunset; a little more wind in the evening, and consequently cooler.

4th.—Rain in the night and early morning, showers during the day, fine evening.

5th.—A lovely day throughout: sunshine, pleasant breeze, and no rain.

6th.—Rather cloudy in morning, but a lovely day; hot, but a little wind.

7th.—Dull early, but a splendid summer day; breeze from north in the afternoon.

8th.—Hazy in early morning, sky nearly cloudless all day, very little wind till evening.

The warmest week this summer, and yet not oppressive, there being a nice air, especially in the evening.—G. J. Symons.

COVENT GARDEN MARKET.—August 9.

The supply of soft fruit has much moderated this week, and Currants and Gooseberries are nearly over. Good samples now command rather high prices. Importations are very heavy, and comprise Peaches, Nectarines, Green Gage and other Plums, Apricots, and Melons. Grapes and Pines are quite sufficient for the trade.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	0	to 2	6	Mulberries lb.	0	0	to 0	0
Apricots doz.	1	0	3	0	Nectarines doz.	4	0	12	0
Cherries lb.	0	6	2	0	Oranges ₱ 100	20	0	0	0
Chestnuts bushel	0	0	0	0	Peaches doz.	6	0	15	0
Currants ½ sieve	3	0	4	0	Pears, kitchen doz.	0	0	0	0
Black do.	4	0	6	0	dessert doz.	2	0	3	0
Figs doz.	3	0	6	0	Pine Apples lb.	3	0	5	0
Filberts lb.	1	0	0	0	Plums ½ sieve	3	0	6	0
Cobs lb.	0	0	0	0	Quinces doz.	0	0	0	0
Gooseberries quart	0	6	0	8	Raspberries lb.	0	6	1	0
Grapes, Hothouse lb.	2	0	5	0	Strawberries lb.	0	6	1	6
Lemons ₱ 100	6	0	10	0	Walnuts bushel	10	0	16	0
Melons each	2	0	5	0	ditto ₱ 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	4	0	to 6	0	Leeks bunch	0	4	to 0	6
Asparagus ₱ 100	0	0	0	0	Lettuce doz.	0	3	1	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms pottle	1	0	2	6
Broad bushel	2	0	3	0	Mustard & Cress punnet	0	2	0	0
Beet, Red doz.	2	0	3	0	Onions per doz. bunches	4	8	6	0
Broccoli bundle	0	0	0	0	pickling quart	0	0	0	0
Brussels Sprouts ½ sieve	0	0	0	0	Parsley sieve	3	0	6	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	2	1	0
Capsicums ₱ 100	0	0	0	0	Peas quart	0	6	1	0
Carrots bunch	0	6	0	0	Potatoes bushel	1	6	3	0
Cauliflower doz.	3	0	6	0	Kidney do.	3	0	6	0
Celery bundle	1	8	2	0	Radishes doz. bunches	0	6	1	0
Coleworts doz. bunches	2	0	4	0	Rhubarb bundle	0	4	0	0
Cucumbers each	0	6	1	0	Savoys doz.	0	0	0	0
pickling doz.	0	0	0	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	0	0	Shallots lb.	0	6	0	9
Fennel bunch	0	3	0	0	Spinach bushel	3	0	4	0
Garlic lb.	0	3	0	0	Tomatoes doz.	2	0	3	0
Herbs bunch	0	3	0	0	Turnips bunch	0	4	0	8
Horseradish bundle	3	0	6	0	Vegetable Marrows doz.	2	0	3	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 17—23, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
17	Th		72.7	50.1	61.4	23	49 af 4	17 af 7	44 af 5	15 af 8	1	3 56	229
18	F	Keighley Horticultural Show.	73.2	50.7	62.0	16	51 4	15 7	59 6	36 8	2	3 43	230
19	S		73.1	49.2	61.2	21	52 4	13 7	15 8	55 8	3	3 30	231
20	Sun	11 Sunday after Trinity.	72.8	50.6	61.7	20	53 4	11 7	31 9	12 9	4	3 17	232
21	M	Twilight ends 9.29 P.M.	72.6	49.7	61.2	14	55 4	9 7	50 10	33 9	5	3 2	233
22	Tu	Malvern Horticultural Show.	71.6	49.7	60.6	17	57 4	7 7	after.	55 9	6	2 48	234
23	W	Burton-on-Trent Horticultural Show.	71.3	49.0	60.4	21	59 4	5 7	31 1	24 10	7	2 33	235

From observations taken near London during forty-three years, the average day temperature of the week is 72.5°, and its night temperature 49.9°. The greatest heat was 92°, on the 18th, 1842; and the lowest cold 38°, on the 18th, 1866. The greatest fall of rain was 0.81 inch.

VINE BORDERS AND YOUNG VINES.

NO set of rules or directions, however comprehensive, can be framed to meet all requirements or to suit every case, no matter for what particular purpose or process of cultivation they may be required. In the very numerous articles published in the pages of "our Journal," and the varied directions given in separate works on the culture of the Grape Vine, each writer appears to, and undoubtedly does, put forth cultural rules deduced from his own experience. Some are brief, comprehensive, and to the point, while others are more discursive, and even go so far as to enter into the most minute details, each kind of soil for the border being weighed and measured to a nicety. The latter method is all very well as far as it goes; but such advice is only really valuable to those who are able to procure the sorts and quantities of soil indicated. Where it is not so, such strict rules must often prove very puzzling to those who, knowing little, if anything, of the accommodating nature of the Vine, and the ease with which it may be cultivated successfully, are left in doubt whether, in the event of their not having the desired materials, they may venture to infringe these rules by substituting the best soil they can command. I think, therefore, that in laying down such rules while naming the most suitable soils, it would be well to state in what a variety of soils the Vine is known to flourish, and that if the border is so made that the roots may have an abundance of sweet fertile soil to ramble in and feed upon, with ordinary care in culture success is almost sure to follow.

The large number of young Vines planted every year is surprising. One of our largest growers of pot Vines told me last season that his stock, numbering many thousands, was nearly exhausted long before the season for planting was over. It is therefore certain that there are every season numerous beginners in Vine-culture; and having made a border for a range of vineries last season, in which the Vines have grown in a very satisfactory manner, it may be useful to some if I give a few of the chief details of the work.

The soil and subsoil on the site of the border were first of all thoroughly examined. The soil proved to be a poor shallow loam, and the subsoil a very stiff retentive clay saturated with moisture. It was, therefore, quite evident that the soil was worthless for the purpose, and that means must be adopted to guard the roots from contact with the cold wet subsoil. In making the border I was allowed to use an abundance of turf taken fresh from a bed of red loam strongly impregnated with oxide of iron; a large heap of old pond mud was also at my disposal. This had had a quantity of lime mixed with it; it had been lying in a sunny corner for a number of years, had been turned once or twice, and had become so thoroughly pulverised and sweetened that it was in reality an excellent, strong, friable soil. To these two kinds of soil was added a quantity of bricks, which, from some cause—probably from being badly tempered—had become completely shattered to fragments in the burning, and were therefore useless for building; but they were, I thought, admirably adapted for mixing with the Vine soil, which would thus be prevented from ever settling down into a close inert mass. In mixing the soil no stated quantity of either kind was used, but care was taken to let the turf largely predominate. Crushed bones were used at the rate of 1 cwt. to each foot in length of the border, which, I should state, is 20 feet wide, 3 feet 6 inches deep at the back, and 2 feet deep in front. This quantity of bones may appear excessive, but I do not think it will be thought so when I have explained how they were used, as I will now proceed to do.

The bottom of the border was concreted in the usual way, and made to slope well from the back to the front. Rows of 2-inch drain-pipes were laid upon and across the concrete at regular distances, and connected with a row of pipes running along the front of the border; then came a layer of rubble several inches deep—among this a few bones were cast; and instead of covering it with rough sods, as has been so often advised, enough bones were scattered over it to keep the soil from working down among the stones. My motive for doing this was, that although the turf at first prevents the soil from mixing with the rubble, yet as the turf decays, so surely does the soil gradually settle down among the stones. The bones, while preventing all this, will offer a rich store of food to the roots for a long time. It is well known how soon Vine roots reach the bottom of a border; it seemed to me, therefore, that by using some crushed bones as I have stated, the border would be more thoroughly drained and more durable. The quantity of bones given will afford enough for this purpose, and a fair quantity for mixing with the soil.

In selecting Vines for planting care should be taken that each plant is as vigorous and healthy as possible; they cannot well be too strong. Stout fruiting canes are altogether preferable to the weakly "planting canes" as they are called, and which are so frequently used, though costing nearly as much as the stronger plants. Fine fruiting plants of the choicest kinds can now be had for 7*s.* 6*d.* each; it must therefore be granted, I think, that it is true economy to purchase such in preference to others costing nearly as much, and yet so weak as to require at least an additional season to bring them into a fit state for producing good fruit.

Whatever kind of canes are used, it is of the highest importance that the whole of them should be uniform in size and strength, because the treatment under which strong Vines with plenty of sound roots will flourish, is often very hurtful to weakly plants. The cause of this is very apparent. The fine prominent buds of the strong Vines, excited by the steadily-increasing temperature, break forth into vigorous growth; and the abundant healthy roots form spongioles so quickly that when the stored-up sap in the canes is exhausted, or nearly so, the roots are ready to supply the demand made upon them. So the Vines, sustaining no check, mount the trellis quickly and with surprising vigour. Not so the weaker plants; they will

indeed burst into growth as freely as the others, but they have not the requisite strength to produce rootlets so fast as the larger Vines, and consequently, after growing a few inches in length, the shoots, not being supplied with sap nearly so fast as they require it, and yet being subjected to the lively temperature so suitable to their stouter neighbours, grow slowly and so weakly that the delicate foliage is destroyed by the first hour or two of bright sunshine. Thus the Vines sustain a shock so severe that they take all the season to recover from its effects. It is, therefore, very certain that such weak Vines ought to have a house to themselves, where they can be kept at a temperature suited to their strength, so that, growing slowly at first, they may pass unscathed through the critical period of the formation of the first young roots, and produce canes of tolerable size, though altogether inferior to the more robust Vines.

One other point in the culture of young Vines is so important that it cannot be too often reiterated—it is that those having the care of them should keep themselves as thoroughly and constantly acquainted with the condition and progress of the roots as they do of the shoots, so that the Vines, being freely supplied with water when they need it, may be kept in full vigour throughout the growing season.—Edward Luckhurst.

DENDROBIUM CHRYSANTHUM.

In the rich collection of Orchids at Ferniehurst, Baildon, near Leeds, several plants of the above-named Dendrobium are now clothed with their magnificent golden yellow flowers; but most worthy of our notice are two exceedingly sturdy growths, one of which measures 4 feet in length, bearing seventy flowers, the other 5 feet 6 inches, and bearing eighty flowers, forming two splendid strings of bloom. This is a plant which deserves more attention than it generally receives, newer introductions having put it a little in the shade; but although it has been in the country for upwards of forty years, it is still one of the most lovely and attractive Dendrobiums we have. The plants referred to are rendered still more attractive than they otherwise would be from their retaining the foliage, which greatly improves the appearance of the flowers.

Dendrobium chrysanthum is a plant of easy culture, which should be in every collection. It succeeds best when grown in a hanging pan or basket filled with peat and moss, good drainage being provided. It requires a moderate amount of heat and moisture during the growing season, after which it may be removed to a cooler house, where it will amply repay the cultivator by producing a profusion of its rich flowers.

At Ferniehurst, in another house, there are a few pans of Disa grandiflora superba in excellent condition. In one pan I noticed thirteen spikes. The plants are growing close to the glass, by which means the flowers, which are bright scarlet and crimson, veined with pink, are brought to perfection. There are not many, I think, who meet with great success in the cultivation of this lovely Orchid; but in the Odontoglossum house it seems quite at home, and better health could not be attained. Close to it are some good specimens of Oncidium macranthum; on five plants I counted one hundred of its rich flowers, forming quite a mass. Two or three are excellent varieties; one of the plants flowered some time ago, and had, I was told, a spike 12 feet in length bearing forty-four flowers. Of all Oncidiums yet known I think this the most lovely and interesting. It was introduced into this country by Messrs. Backhouse & Sons, of York.—N. G. S.

PROTECTING FRUIT TREES.

There was an interesting article at page 29 about the protection of fruit trees from frost, and I can entirely endorse the opinions therein expressed. My garden is unfavourably situated in a county where neither soil nor climate is adapted for high-class wall fruit. It is at a considerable elevation, and near mountains, the mists from which give us too much moisture, and hide the sunlight. We have very cold spring winds and frosts. Few in this neighbourhood are so adventurous as to attempt Peach-growing on open walls, but owing to my having a warm, well-sheltered, snug corner, I planted on the south wall a Malta Peach, which had become a fine healthy tree, and blossoms well yearly, but had never set a fruit. This spring my gardener, seeing it covered with splendid bloom, suggested, as our Cherry netting was then lying idle, that we should hang a couple of the nets, so as to be double, from the wall coping, which projects 4 or 5 inches, and support the double thickness at a little distance from the wall on a few rough sticks over the tree. The netting is of a large mesh, and seemed so very transparent and so slight a protection when put up that I had no hope it would effect the end in view, but the event proved otherwise; for I need not tell you that the late spring, from its cold and damp, was particularly unfavourable for fruit-setting, but the result is that my Malta Peach tree was so covered with fruit that we have been obliged to thin it heavily more than once, and its present crop is, I think, thicker than it strictly ought to be.—C. R.

THE POTATO DISEASE.

I hear of this from all quarters, but hope that the extent of the evil as yet is greatly exaggerated. It manifested its presence here (near Luton) a few days ago by the withering of some of the leaves when they ought to have been very green, but very few of the tubers are as yet affected. Still, I am never sure of those which have been taken up and housed in a seemingly clean and healthy state without a speck or flaw, as in former years I have found the apparently sound Potatoes have been tainted, and the taint spread in the store heap however dry the earth with which they were covered. The crops seem to be unusually heavy, and if only a few tubers become diseased the loss will not be much felt, and the price will not be much raised. I have been looking for the visitation for weeks after such dull showery weather, and more especially as my rows were closer together than they ought to have been, and often planted as intermediate crops, and therefore having the least instead of the greatest amount of sun and air.

Judging from what has come under my own observation, I think there is nothing very alarming as yet, though the reports that reach us rather belie such hopes. I am unable to do more in the way of advice than to give a hint, and that founded on two experiments in former years, and therefore too few to enable one to say surely whether the result might be cause and effect, or merely a fortunate coincidence.

In almost all cases I believe that the disease first attacks the stems and leaves, and it will do this all the sooner in proportion to the vigour and luxuriance of the plant, the richness of the soil, and the continued extra moisture and decreased direct sunlight in the atmosphere. After plants have been slightly attacked I have known them throw off the disease, and put out fresh foliage if there was a sudden change in the weather from close, moist, and dull to the breezy, bright, and warm. In the majority of cases, however, when once the evil commences it goes on less or more even as respects the tops, and ere long begins to affect the roots. The great object then is to limit its action on the roots, and the two cases I have referred to seemed to show that by removing the tops as soon as they were tainted the tubers beneath suffered less. The sooner this is done the better, so that the disease should not pass as far down the stem as the surface of the ground. Of course all action in the tops being thus taken away, the tubers will grow little or nothing afterwards, but they will ripen and mellow a little more after the tops are withdrawn. Late Potatoes, where the tubers have scarcely become even waxy when attacked, will scarcely ever, if even the tubers are not seized with the disease, be fit for the tables of any but those who delight in a waxy Potato. It is strange what different tastes exist on this subject. I like a mealy Potato, not a bit of the outside boiled away, and soft and mellow to the heart when cooked. A friend of mine, a lady, and a good general cook too, cannot bear a Potato unless it is juicy and waxy, and has what she calls something of a stone at the heart or centre when cooked. Now as regards removing the haulm as soon as it is much affected. On a nice piece of Potatoes, seemingly as much alike as possible, I let one part remain, as the tubers were not ripe; the second part I cut down close to the ground; and the third part I treated in the same way: but having some quicklime and a heap of burned and charred refuse a little warm, and containing a considerable quantity of ashes from weeds, &c., I had a number of barrowloads mixed together, and threw the mixture on the top of the stems thus cut down. On taking the Potatoes up, the part left to itself had fully one-fourth of the tubers diseased, and after housing and covering with dry soil, charcoal refuse, &c., more than another fourth turned out unfit for use. In the part cut down, one-twelfth of the crop was bad, and about one-tenth of those stored went wrong in the heap. Of those cut down and roughly dressed with what is an enemy to all fungi, about one-thirtieth was spotted with the disease, and of those stored hardly one was affected.

Such simple facts are too limited to permit one to draw a safe inference, but they might afford a hint in a promising direction in the case of all late Potatoes where the tubers are far from ripe. When the tubers, as in the case of the early kinds, are mature, it would be the wisest policy to take them up at once and keep them dry and cool.—R. Fish.

CULTURE OF CLIANTHUS DAMPIERI.

Until this year I have failed to flower this most lovely plant. It is known by the name of the Parrot-beak Plant and the Glory Pea of New Zealand. The first and the only time I saw it in flower was at one of the Regent's Park Shows in 1861. I was so struck with its beauty that I determined to grow it, but I have failed from then until now. I sowed seeds year after year as recommended in the catalogues and books. The seedlings came up, attained 6 or 8 inches in height, and then damped off.

This Clianthus is an annual or biennial. Some sow it in the autumn and flower it in the following summer, treating it, in fact, as a biennial—a bad plan, as the chances are that it will not survive the winter. I now give what I consider to be the whole secret of success. On the 1st of February put two seeds in the pot in which the plants are intended to flower—an 8-inch pot is quite sufficient. For soil use turfy loam and a little well-decomposed dung, with a mixture of silver sand; charcoal drainage is good, and a little turfy fibre to surround the collar of the plant I consider is of great importance. Plunge the pot or pots to the rim in a brisk bottom heat, and if a square of glass is placed over them the seeds will germinate sooner. If one seed come it is well, but if two vegetate it is better. By no means separate them, as two plants make a splendid specimen, or rather a better display. Over-watering is fatal; give only a little when they are in need of it. Plenty of light and air must be afforded.—C. M. McCrow, *Nash Court, Faversham.*

THE BROAD-LEAVED DANDELION AS A WINTER SALAD.

Chicory and Endive are, as Mr. Record observes in his paper on winter salads, very useful and excellent, but it is nothing as compared with the new hybrid Dandelion introduced into this country by Messrs. Stuart & Mein. This is a decided improvement on the Chicory, and is equal to and as fine-looking in the salad-bowl as the Broad-leaved Batavian Endive (Scarole of the French). The culture recommended by Mr. Record for the latter will suit this well in an ordinary way, but when this Dandelion is two years old it is extraordinarily large and fine. Sown even now, the plants by next year's winter will fill a bushel measure.

Instead of lifting the roots we put pots or boxes over the crowns, and cover them with a little litter or leaves as with Sea-kale. The same plants, of course, will last for several years, whereas the Scarole requires to be sown every year. I should be glad if Mr. Record would try it, and I am confident he and others will thank me for bringing it to their notice. I used to be amused to see the cultivated beds of Dandelion at the *potager* of Versailles; and when I left France my friend, Mr. Hardy, told me he expected this large-leaved Dandelion, which was then newly introduced, would prove a great acquisition to his salad supply. I have no doubt but it will be used extensively everywhere in France, and especially about Paris, where diuretics are much required by the people. M. André Leroy once told me he employed hundreds of people in his department to gather in spring immense quantities of the Dandelion for the Paris markets. It is a remarkable fact that most French people study the medicinal qualities of everything they eat more than we do. Asparagus they eat, not so much as a matter of taste, but because it is good for the system. I am not speaking of Parisians, who are very like ourselves in liking doctors and medicine always in sight, but of the genuine French country folk, who understand at least the preservation of health in its natural simplicity. I never saw a country house, for instance, without a bag of Lime flowers to use as a tisane, or the garden without the *guimauve* or Marshmallow, the roots of which make a most valuable wash in a family in certain cases, whether for a cold in the head or any annoyance where the mucous membrane is affected.

But I find I am wandering from what I really had to say—simply to recommend the improved Broad-leaved Dandelion to the notice of gardeners generally as quite a superior thing in its way; and I would further impress on those who constitutionally require a diuretic to use this as a salad in a relishable form, grown and blanched as has been recommended by Mr. Record.—H. Knight, *Floors.*

POT-VINES.

In the following paper I will relate what has been my successful experience in growing pot-Vines with limited convenience in one place for several years, and although I may not describe anything uncommon, my remarks may prove of interest to some of your readers.

It is usual in many gardens during spring to have one, two, or, perhaps, even three, hotbed frames put up in the course of the season. In the first of these, then, among the other things a lot of Vine eyes are inserted in a pan in the usual manner. As they become nicely rooted, they are placed singly in small pots. They are still kept in a corner of the frame, and grown on. As they advance they are encouraged in similar quarters, and by-and-by, perhaps, shifted into a fresh frame where there is a greater heat.

They are kept as long as possible under such circumstances, and about the middle of May, or when the bedding plants are getting out of hand, they are transferred into ordinary-sized cold frames. In these a row of plants is set along the front of the frames, almost as close together as the pots will stand. A few pieces of strong cord are tacked tightly across the frame to act as a trellis to keep the canes off the ground, and at a regular distance from the glass. When placed in these quarters the Vines are encouraged as much as possible by good attendance, shutting-up early to husband sun heat, and I have often seen many canes with roots and tops "as sound as a bell," produced in this way by the end of the season.

Canes thus grown may not be nearly so good-looking nor so strong as those reared in bottom heat in houses by themselves, or in other hothouses, all through the season, but for their size they are often by far the best; for second-sized canes with good sound roots and well-ripened stems produce often better crops of Grapes than others twice the size and apparently sound enough. I could prove this by an instance under my own observation at the present time.

These canes in the cold frames in a good season can be ripened to perfection. The sashes, according to the weather, can be moved at convenience, and any amount of air can be given. When their full season of growth is over it is generally the plan to take them away to a back place and plunge the pots in coal ashes to insure the roots from being injured by too sudden changes of temperature, till the time arrived for their being put into the forcing-pit, which was generally in November. They have always done well, producing very good dishes of Grapes in May.

This plan of growing young canes would certainly not be resorted to if I had better conveniences, but in many cases we have to make the most of things as they are. In this instance there is a small stove for fruiting the Vines in, but not another for growing a young lot of Vines. I have known of other cases in which good fruiling pot-Vines could have been reared in a similar way, but the attempt was not made. —Robert Mackellar.

CUCUMBER FAILURES.

Cucumber plants well established, with healthy growth, large green foliage, and the soil filled "with fine, white, clean, healthy-looking roots," and yet without sufficient stamina to produce or rather to mature any fruit—what can one infer from such a statement but the presence of a faulty soil or temperature, or both? Will "D., *Deal,*" thin the vine, only retaining the strongest shoots, apply soil, and feed with liquid manure, as I have suggested, and tell us the result after the trial, for which there is still abundant time this season. I detest mysteries, and do not believe we have one in this instance. Is it possible that the soil used is of too light a nature? I have now four large plants clothed with huge green foliage, and laden with fruit in all stages of growth. They are in 10-inch pots, which were long ago concealed from view by the sods of turf packed around them, layer after layer of turf having been added as often as the roots became visible, and the plants are maintained in full vigour and fruitfulness by the constant use of sheep-dung water, as much as six gallons having been given to each plant daily during the late hot weather. The sods are completely laced together by the roots,

and it would be rather a difficult matter to thrust one's hand far into either of the heaps.—Edward Luckhurst.

I have lost many Cucumbers this year in the manner described by "D., *Deal*," and attribute the cause to woodlice eating the blossom and a little way into the end of the young fruit, and so making the latter decay at the end. I have since placed toads in my frames; they have diminished the numbers of these insects, and in the same proportion the number of spoiled fruit. In other respects my Cucumbers have done well, and I have cut more than the usual number of very fine fruit.—H. J.

[We are glad that you have found out the cause of failure in your case; but such failures as those referred to by "D., *Deal*," and others are not so easily cured, as they are more the result of a too vigorous or a too languid root-action, and without seeing the plants it is not easy to say which. This is supposing that the dread disease is not present. Of its cause and cure everybody is quite ignorant, at least every one feels so when his plants are attacked. In such a case, the young fruit will go off and nothing will make them swell.—R. F.]

ROYAL HORTICULTURAL SOCIETY.

August 16th.

The Show on this occasion was not large in any department. The Gladiolus and Hollyhock, however, which were the flowers to which the Show was mainly devoted, were good, though not numerous. In other seasons we have seen better spikes of Gladiolus, but never a better lot of seedlings.

In class 1, for the best twenty-four cut spikes of Gladiolus, three prizes were offered by the Duke of Buccleuch, the President of the Society. The first of these went to Messrs. Kelway, of Langport, Somerset, for excellent spikes, of which we noted Robert Fortune, Clarissa, Lacépède Araximenes (first-class certificate), Orphée, Legouvé, Virginia, Astrea (first-class certificate), orange scarlet, violet purple centre; Yellow King, cream ground, purple feather and flame, yellow-tinged throat (first-class certificate), Phidias (first-class certificate), fine violet purple cream throat, and white line upon each of the upper petals, Ophir, yellow, marked with purple; Lord Bridport (first-class certificate), pale lilac, purple feather; Madame Vilmorin, lilac rose, white centre, carmine markings; Rival, Miletus; Archelaus (first-class certificate), splendid white purple feather, and Adolphe Brongniart. Mr. Douglas, gardener to F. Whitbourn Esq., Loxford Hall, was second with one of the finest lots of seedlings we have ever seen, together with excellent spikes of established varieties. Mr. Wheeler, Warminster, took the third place with a good stand, and the Rev. H. H. Dombrain, Westwell Vicarage, Ashford, had also very good spikes, taking an extra prize.

In the next class, for twelve spikes, Mr. Douglas took a decided lead, exhibiting besides several well-known kinds, the following seedlings, all of which received first-class certificates—viz., Francis Whitbourn, rosy purple and white; William Earley, cream veined with rose; Mrs. Francis Whitbourn, large and very fine, white feathered with purple; and Talisman, magenta purple. Mr. Welch, gardener to J. Marshall, Esq., Belmont Park, Taunton, was second with good spikes; and Mr. Dombrain third.

For six, Mr. Douglas was again first with splendid spikes of Madame Desportes and several seedlings, Mr. Dombrain being second, Mr. Warren, Wellesley Road, Croydon, third; and Mr. Welch equal third. Messrs. Carter, Dunnett, & Beale exhibited a fine collection not for competition.

For six cut spikes of Hollyhocks, Mr. Chater, Saffron Walden, was first with excellent spikes of Fair Ellen, rose; Hercules, yellow, tinged with blush; Majestic, crimson; Peri, very fine, delicate pale yellow; Fascination, lilac; and Bullion, buff, tinted yellow. From the same exhibitor came Cygnet, a fine white; Queen of Yellows, one of the finest of that colour; and Othello, fine dark maroon.

Mr. W. Chater, of Saffron Walden, was first, for twenty-four blooms, with Nonpareil, Invincible, Incomparable, Walden Primrose, Carns Chater, Fred Chater, Majestic, Enchantress, cream, beautifully tipped with purple, Competitor, Splendidum, Eclipse, Hercules, Alfred Chater, Marvellous, Champion, rich ruby, Bullion, Conquest, Constance, William Brand, Joy, Leviathan, Prince Albert, Marion, and Mochanna. Messrs. Paul & Son and Mr. Wheeler, Warminster, were respectively second and third. The latter set up his bloome with laced paper, which was certainly a disadvantage as compared with a plain white card gnard. Of twelve, Mr. Porter, gardener to Mrs. Benham, Sion Lodge, Isleworth, was the only exhibitor, and was first with fair blooms, but not remarkable.

Phloxes were not numerously shown. The best twelve cut spikes came from Messrs. Downie, Laird, & Laing, of Stanstead Park Nurseries, Forest Hill. It is to be regretted that the Phloxes were not required to be shown in pots, as cut spikes in this warm weather so soon fade. Among the best varieties we noticed Madame Pepin, rich rosy crimson; Amabilis, salmon; M. H. Low, splendid spike, magenta crimson; Joseph Heine, fine spike, salmon rose; Madame Billy, large flowers, lilac rose, crimson eye; Monsieur C. Turner, splendid spike, rose, crimson eye. Messrs. Paul & Son were the only other exhibitors; Madame Domage, white, purple eye; Princess Ghika, rosy purple; and Sultan, white crimson eye, were very fine.

Of miscellaneous subjects, Messrs. Lee, of Hammersmith, had specimens of about 150 sorts of hardy ornamental trees and shrubs. To do these justice they would require a special report, so numerous, so varied, and so good were they. We can only here signalise as a few of the most noteworthy. Alnus cordata, A. glutinosa laciniata, handsome leaves; Catalpa syringæfolia aurea; Cercis Siliquastrum variegatum; Cornus sanguinea elegantissima and sibirica variegata; Fraxinus aucubæfolia, F. nigra; Negundo fraxinifolium variegatum; Robinia hispida, with beautiful rose-colored flowers; a pretty Golden Elm, and Ulmus viminalis superba. These would be a great ornament in any garden. Messrs. Carter & Co. exhibited some very fine examples of French Marigolds. The only other object worthy of notice was Mr. Shenton's Flower of Eden Pink, which has been several times exhibited before, and on this occasion did not show off to much advantage.

Fruit Committee.—G. F. Wilson, Esq., F.R.S., in the chair. After reading the minutes it was reported that the Peach called Markly Admirable, which received a first-class certificate at last meeting as a superior early Peach, had been exhibited under a misapprehension as to the season of its ripening. The house in which it had been grown was not in reality a cool house in the true acceptation of the term, and the crop when ripened would not in a cool house be ripe till the middle or end of September. Mr. Pearson, of Chilwell, reported that the seedling Grape Chilwell White, which he exhibited last year, and to which a first-class certificate was awarded, had disappointed his expectations this year, and that, notwithstanding the great expense to which he had gone in cultivating it, he felt it was his duty to the public to withdraw it from sale and to destroy the stock. He therefore begged to be allowed to return to the Committee the certificate awarded to the Grape last year. The Committee thereupon passed a vote of thanks to Mr. Pearson for the highly honourable course he had taken. Mr. Thomas Thornton, Heatherside Nursery, Bagshot, sent a box of Heathereide Cucumber, a handsome variety, which the Committee desired to have in January, as it was of opinion that it would be valuable if in use at that season. Mr. J. Meakes, gardener to R. Fowler, Esq., Petersham, Surrey, sent a brace of large Cucumbers grown in a two-light box. The Rev. M. J. Berkeley exhibited the Early White Naples Onion and Giant White Tripoli, to show that they are distinct varieties, an opinion which was confirmed by the Committee. Messrs. Carter & Co. exhibited specimens of Trifolium cæruleum, a new forage plant.

Mr. Thomas, gardener to S. Chamberlayne, Esq., Cranbury Park, Winchester, exhibited a pair of very handsome Queen Pines, which received a special certificate. Mr. W. P. Roberts, gardener to Lady Derby, Holwood Park, Beckenham, sent bunches of Frankenthal Grape from Vines a hundred years old. Mr. William Earley, gardener at Valentines, sent bunches of a seedling black Grape, the berries of which are small, and have a slight Frontignan flavour. Mr. Pearson, of Chilwell, brought bunches of Ferdinand de Lesseps Grape, to which a first-class certificate was awarded last year. The Committee remarked that the flavour was much like that of fresh honey, and that the bunches were improved in size since last year. Mr. Pearson also exhibited a large bunch from a Vine raised from Duchess of Buccleuch, which has a distinct Frontignan flavour, but it was not quite ripe. Another seedling from Duchess of Buccleuch very much resembled Foster's White Seedling, with a thin delicate skin, and a sweet flavour and thin juice. He exhibited a seedling evidently raised from Black Morocco, not ripe, but very promising. It was requested that Mr. Pearson should exhibit it later in the season. A variety raised from Mrs. Pince, also unripe, promises to be a Grape of great excellence. The berries are large and oval, the flesh firm, and with a slight Frontignan flavour. A variety, also a seedling, with a large oval berry and a very thick blue bloom, was much admired. Its flavour is that of the Black Hamburgh. Mr. Donovan, gardener to J. Kettlewell, Esq., Upper Norwood, sent a dish of Morello Cherries. Mr. Foote, gardener to Sir A. H. Elton, Bart., Clevedon, Bristol, sent two dishes of Morello Cherries. Mr. Craddock, Compton Verney, sent fruit of a Red Currant, which appeared to be the variety called Raby Castle. Mr. Gardiner, gardener to E. P. Shirley, Esq., Lower Eatington Park, Stratford-on-Avon, sent a very meritorious dish of Peach Apricots. Mr. Tillery, of Welbeck, sent fruit of St. Ambroise Apricot, also a splendid dish of Barrington Peach, to which a special certificate was awarded, and a fine dish of Violette Hâtive Nectarine. Mr. J. Douglas, of Loxford Hall gardens, Ilford, exhibited fine dishes of Royal George and Grosse Mignonne Peaches and Washington Plum from trees grown in pots, to which a special certificate was awarded. A dish of Shanghai Peaches was sent under the name of Noblesse by Mr. Donovan, gardener to J. Kettlewell, Esq., Beanmont, Upper Norwood.

Prizes were offered for the best dishes of Apricots; the best came from Mr. Craddock, gardener to Lord Willoughby de Broke, Compton Verney; the second best from Mr. Smith, gardener to the Earl of Gainsborough, Exton Park. Both were Moorpark. Prizes were also offered by Messrs. Carter & Co., for the best collection of vegetables,

to include their Champion Runner Beans, Peas, &c., but no one came forward to claim them.

Mr. Young, Milford Nurseries, Godalming, sent a fasciated Cucumber vine, bearing fourteen fruit.

Floral Committee.—Dr. Denny in the chair. Mr. Williams, of Holloway, exhibited two good specimens of Erica Turnbullii, showing its late-blooming qualities. From Mr. Croucher, gardener to J. T. Peacock, Esq., Sudbury House, Hammersmith, came a small collection of Agaves, of which Mr. Peacock possesses a large and valuable selection. First-class certificates were given for A. Simsii, with very large leaves, and for A. imbricata. Mr. Lamb, gardener to G. T. Davey, Esq., Colston Bassett, exhibited an Amaranthus with yellow leaves, flushed with purple, but not so showy as Bicolor and other kinds at present cultivated. Mr. Wheeler, Warminster, sent Gladiolus Duke of Buccleuch, but the flowers and spike were small; also Hollyhock, Royal Prince, but though good, not sufficiently distinct in colour from many existing sorts. From Mr. Macintosh, nurseryman, Hammersmith, came a hybrid Cereus, with pretty rose-coloured flowers, but not nearly so large and showy as those of some of the genus.

Mr. Young, gardener to F. Marshall, Esq., 28, Avenue Road, St. John's Wood, exhibited several seedling Hollyhocks, small both in spike and flower. The Rev. E. Hawke, Willingham Rectory, Gainsborough, exhibited a fine stand of Hollyhocks. From Mr. Shenton, Biggleswade, came double scarlet Pelargonium Mrs. Fisher, a poor specimen; and from Mr. Trusler, Farnham, a nicely variegated Carnation called Sensation.

Mr. Wilson, gardener to W. Marshall, Esq., Enfield, sent Lælia elegans Marshallæ; Mr. Speed, Chatsworth, Viola Lavender Queen, paler than Viola cornuta; and Mr. Wills, Sussex Place, Brompton, Pelargonium Duke of Edinburgh, with white-variegated leaves, of excellent habit, apparently a hybrid Ivy-leaf.

Mr. Green, gardener to W. Wilson Saunders, Esq., had a first-class certificate for Anthurium ornatum from St. Martha, with a large pure white spathe and a singularly beautiful pale rose and white spadix over 4 inches in length. Mr. Green also exhibited several other plants, as a handsome Dracæna from South Africa, Griffinia multifida with a small head of bluish lilac flowers, and Jatropha multifida.

PLANTS ATTACKED BY RABBITS.

Rabbits are fonder of the blue Lobelia than any other plant which I know; but with regard to plants which they will not eat, I must observe that there is scarcely one of those mentioned in the published lists which I have not found barked by them when fresh planted and young. For instance, the evergreen Berberry has been recommended for covers, and when it is established rabbits will rarely touch it, but put out young plants of it, and if the rabbits are numerous, scarcely one will escape being gnawed over at the ground: hence the importance of securely fencing at first. In a contemporary, Roses are mentioned among the plants which rabbits will not touch; with me Roses in a small rosery are so much attacked that until a rabbit-proof fence be put up I shall trouble myself no more about them. With standards as yet the rabbits do not meddle, but the dwarfs are regularly cropped—buds, shoots, and leaves forming a most delicious pasture ground—though there is plenty of sweet grass all round. About two-thirds of each young leaf is eaten off, the base part being left. As for young shoots and buds, they seem to be cut through chiefly for amusement, as they are left on the ground. There is hardly a plant (including the Laburnum), which has been said to be exempt from the attacks of rabbits, that I have not seen barked and peeled, especially when fresh planted. There is no security but a wire net, small enough in its meshes not to permit a young rabbit to pass through, and high enough to prevent an old one jumping over it. One must also look out for burrowing underneath. The mode described some time ago of fixing the netting would to a great extent prevent that being done. I have found that young rabbits will make their way through openings of 1½ inch, and soon become too large to be able to return.—R. F.

Liliums.—How varied are the habits of the different species of Liliea! The old common white Lily (L. candidum), has already bloomed this season, and the stems and leaves have died, and the bulbs are now at rest; consequently, it is the proper time to take them up and transplant. If it is not done soon, it will be too late for this season, because in the course of three or four weeks the bulbs will again put forth leaves which remain fresh and green during the winter. A few other species like the Lilium umbellatum have also bloomed, but the flower stems retain their freshness, and will for weeks, while several species of the Japan Lilies have not, as yet, shown flowers. And still all were planted at the same time last fall, and in the same bed; but they are different species, coming from various parts of the world, and change of climate does not change their natural habits. One species may require transplanting in midsummer, like the L. candidum; another in the autumn, while still another class is seldom successfully removed except in spring; and all these variations in habit must be known to secure perfect success. Florists, and other dealers in bulbs, are compelled to bestow more care and skill in preserving them to an unreasonable time for planting, in consequence of the ignorance of their customers, than they do in cultivation and propagation.

DAVENHAM GOOSEBERRY SHOW.

This was held on July 31st at the Bull's Head Inn, Davenham.

			dwts.	grs
George Beckett....	Twins	Antagonist	38	10
George Beckett....	Premier prize	Clayton.....	28	20
T. Dobell	Steward's prize	Mount Pleasant	25	4
William Riley	do.	Stockwell	23	7
Richard Forster ..	do.	Antagonist	24	1
Faithful Jameson..	do.	Duke of Sutherland ..	22	17
J. Sanders.....	do.	Catherine	24	17
G. Plant.....	do.	Thumper	22	5
J. Such	do.	Lion's Provider	20	11
	RED.			
T. Dobell		Clayton	27	15
G. Beckett.....		London.....	26	6
G. Beckett.....		Rover.....	25	0
T. Dobell		Lord Liverpool	23	22
W. Ryley		Companion	22	10
W. Ryley		Lion's Provider	21	6
	YELLOW.			
G. Beckett.....		Leveller	26	10
G. Beckett.....		Ringer	25	11
W. Ryley		Oldham.....	23	10
F. Jameson		Seedling	22	9
T. Dobell		Mount Pleasant	22	1
W. Ryley		Stella	21	7
	GREEN.			
G. Beckett.....		Matchless.....	25	0
G. Beckett.....		Shiner	24	16
F. Jameson		Visit	22	6
J. Sanders.....		Telegraph.....	22	3
F. Jameson		Rough Green	22	4
T. Dobell		Plunder.....	21	20
	WHITE.			
G. Beckett.....		Antagonist	25	20
W. Ryley		Overseer	22	19
T. Dobell		Alma	22	18
W. Ryley		Freedom	22	12
G. Beckett.....		Victory	20	19
F. Jameson		Free Trade	20	10

—Thomas Dobell, *Seedsman, &c., Northwich, Secretary.*

HOP CULTIVATION FOR ORNAMENT AND USE.—No. 6.

Hop Poles.—Hop poles being so large an item of expenditure, attention is anxiously directed to them. As soon as possible after the Hops are picked, and very often immediately afterwards, the bine is stripped from the poles, and these are set up conical fashion in piles of about three hundred poles each, or as many as are wanted for a hundred hills; and these cones, being placed regularly over the ground, give a peculiar appearance to the landscape. The mode of setting them up is to tie four poles together at about a foot or so from their tops, and to spread them out at bottom, so as to present an angle of about 60°, and the rest of the poles are piled against them in four groups, which is necessary to save the hills being occupied by them. If the ground should be planted in triangles, six groups of poles will be required to a stack, as the pile is called, instead of four, as will be understood by the position of the plants, one plant being always immediately under the apex, and all the plants clear for dressing when the time arrives. The stacks of Hop poles resist the winds unless the weather is exceedingly stormy, and a wind which blows down the stacks of Hop poles is a hurricane to be remembered.

The great expenditure arising from the decay of poles has led of late years to the almost universal custom of charging their lower ends with creosote, which prolongs their durability. This is technically called dipping, and poles so treated are said to last about double the time which they otherwise would do. The mode is this. A strong iron tank, 6 or 7 feet long, by 4 or

4½ feet wide, and 2 feet deep, is fixed in brickwork, so as to allow of a fire beneath it; in this the poles are placed as thickly as possible, with their tops upwards, a sort of rough framework keeping them in position at the top; but previous to putting them into the tank creosote is poured into it in sufficient quantity to reach the top, or nearly so, when the poles are all put in. A fire is then applied underneath, and kept burning for about twelve hours, when the poles may be taken out and others put in. The creosote is said to enter the pole at the bottom, which, of course, is ready sharpened, and to ascend through the wood considerably above the point of immersion. A pole that would only last in an ordinary way five or six years will now last nine or ten. I believe nothing in Hop cultivation has become so universal a practice in so short a time as dipping the poles, and the apparatus for the purpose is to be met with everywhere.

The demand for Hop poles is so great that all kinds of coppice wood of sufficient size and straightness are used, but the most popular are Chestnut and Larch, many thousands of the latter being imported into Kent. They are certainly the straightest and neatest-looking poles of any, but it is questionable whether they will last so long as Sweet Chestnut. Next in order come Ash, Willow, and Maple; and Beech, Birch, Lime, and Alder are often met with, the dipping process rendering the last two almost as enduring as better poles, but they swallow up a large quantity of the dipping material. Hop poles, however, have always been costly, and plots of ground are frequently planted with Chestnut expressly for the purpose of producing them, and the trees being cut about once in ten years often realise from £40 to £50 per acre, the purchaser cutting and finding all the necessary labour, &c. Plantations of Larch are also occasionally made for the same purpose, the trees being planted about 18 inches or so apart, and the whole cut at the end of twelve years or so; the ground is then returned to tillage purposes. But the facility of obtaining poles from a distance having of late years so much increased, planting such ground is now not so much practised as formerly, but steep banks, and Willow and other pollards by the sides of ditches and other places, are made to yield poles of some kind. The demand for them is so great, that those a little crooked are not objected to. To increase their durability the bark of all kinds of poles is shaved off, excepting Ash, which, clinging so closely to the timber, seems almost a part of it. The poles are sharpened at the stout end, and every season, before being inserted in the ground, all old ones are tried, whether they are strong enough or not, by being struck sharply with the foot near the bottom while being held in a slanting position, and all not bearing this ordeal are sharpened afresh, and if too short for the place they are in are employed for another class of Hops, and if too short for these, are used for firewood. The annexed table gives the average prices of Hop poles per hundred.

	16-feet poles.	14-feet poles.	12-feet poles.	10-feet poles.
Chestnut	40s.	32s.	21s.	9s.
Larch	40s.	30s.	20s.	8s.
Ash	35s.	26s.	16s.	8s.
Oak, Birch, Beech, Willow, Alder, Lime, and others, mixed	24s.	16s.	12s.	7s.

It is almost unnecessary to remark that prices vary, but the above may be regarded as a fair average. I cannot say what the cost of dipping will be, but I expect from 6s. to 10s. per hundred may be set down.

New Mode of Training.—Although in general the poles for supporting the Hops are simply set upright in the ground, other modes have been tried. A few years ago a gentleman patented a plan for having only one stout pole standing about 7 feet high from each hill, stringa being stretched horizontally from the tops of these poles both at right angles and diagonally, and the Hops were trained to the strings, but the plan was little adopted, and did not seem to answer. A method invented by Mr. Coley, near Maidstone, promises better, and through the kindness of Mr. Coley I was shown his garden, and nothing could look better. I believe he, also, has patented his mode of training—not in more than one case in twenty, a prudent course as regards anything connected with cultural matters, but the perfection to which he has brought it deserves public recognition.

Mr. Coley's mode is this:—A plantation at 7 feet apart is recommended, and on each hill two poles are placed upright, about 20 inches apart at the bottom, and a few inches more perhaps at the top, for these poles are to be permanent in the ground. A cross piece of wood at 4 feet from the ground is nailed to each pole, keeping all together, and a wire loop at the side of each pole allows of the end of another slender pole being inserted, while the opposite end of the pole rests in a sort of fork, also made of stout wire, at the top of the pole on the adjoining hill. This rafter-pole, as it may be called, does not touch the ground anywhere, but is fixed between the upright poles at an angle of about 45°, and its top often goes past the top of the poles it rest on to the extent of a couple of feet. In training the Hops to poles so erected, four Vines are taken to each pole starting from the ground, and when these have grown high enough, two of them are trained to the rafter-pole where it is inserted, and the other two continue their course up the poles they started on. The advantages of this system are twofold. First, the whole plantation being united together in the way indicated when the Hops reach the tops of the poles, high winds have little effect—and the damage done by these is often very serious. Only last year a neighbour of mine estimated his loss by the wind on September 10th at £80 or £90, on a plantation of little more than five acres, and others were nearly as badly off. Now, Mr. Coley's system certainly does afford great protection from wind. A second advantage is, that instead of the strings of Hops being all clustered together and crowded round an upright pole, they hang downwards, free from each other, from the rafter-pole, like so many enormous bunches of Grapes. Mr. Coley has called this mode of growing them "The Vinery System." Assuredly nothing could look better than the Hops in his garden about the end of August, when I had the opportunity of seeing them. Many of the strings of Hops reached the ground, and great care having been taken to select straight Larch poles, and the workmanship being perfect, the appearance, looking down the alleys, was that of a perfect wall of Hops on each side, and the sky-line quite clear the whole length of the garden—200 or 300 yards. How far this system may receive public support remains to be seen, but Mr. Coley's attention has been directed to perfecting it in all its points—as in the preparation of the loops, fork-ends, &c., of strong wire, for which purpose he has provided suitable tools, leaving nothing to be desired, except that all Hop poles should grow straight. His own garden was a model in every way.

Hops have also been tried at greater distances apart than are generally allowed, and some years ago it was urged that a rather close row of Hop plants, but the rows 10 feet apart, was the best mode of planting. Only a few, however, adopted this system, and they soon departed from it. Other modes have been tried from time to time, and now and then with more or less success; but the bulk of the Hops grown in 1870, and that was one of the largest growths on record, were mostly on upright poles placed around plants 6 feet from each other, and that distance may be set down as the most common one at which Hops are planted.

Concluding Remarks.—The popular notion that for Hops the weather can never be too hot and dry, received a check in 1868, when the drought certainly told upon them, and for the first time red spider became a formidable enemy. This insect, however, did not appear in 1870, which was one of the most favourable seasons on record, and the crop, with the exception perhaps of that of 1859, the most abundant of any picked of late years, but that of 1826 was, perhaps, as good. These seasons will all be remembered as being very dry. Why the crop of 1868 should not have been better it is difficult to say; in fact, there seems to be something bordering on capriciousness in the Hop. Occasionally unexpected recoveries from blight have taken place late in the summer, and a fair crop has been the result; on the other hand, a promising crop has taken a turn the other way just at the same time, so that the occasional remark of the most experienced growers, that they know "nothing at all about them," is not altogether self-disparagement. The uncertainty that hangs over this crop prevents more growers embarking in Hop cultivation, and invests it with an amount of anxiety which no other crop causes, instances of great wealth and great losses being on record. Nothing deteriorates more by keeping than Hops, and old ones are often unsaleable, and when they paid an excise duty of some 18s. 8d. per cwt., great hardships were sometimes endured by the growers, for unless the Hops were exported the duty could not be refunded. Some growers have paid shippers a few shillings per bale to take the Hops out to sea and throw them overboard, in order to regain the remaining shillings of duty. On the other hand, fabulous prices have sometimes been made, and great crops secured. Even last year there was a gentleman who had a growth of upwards of 300 tons in one parish, on

somewhat more than that number of acres. But "all is not gold that glitters;" the expenses are enormous, and persons having old Hops on hand, will most likely be willing to part with them at less than the cost of picking.

Land having the reputation of being good for Hops is eagerly sought after, and commands high prices when in the market. Foreign competition, which it was feared would undersell the home grower, has not yet been able to do so, although there is little doubt but it will prevent in blighty seasons those fancy prices which were not unusual years ago. I may, however, mention as one item of home expense not yet alluded to, that Hop land pays a tithe of from 15*s.* to 20*s.* per acre more than the ordinary rent charge that may be affixed to it, and large as this sum is, it is, nevertheless, regarded as one of the small tithes, adding another to the peculiarities, if not anomalies, of this singular branch of culture.—J. ROBSON.

GROUND LEVELLING AND PRACTICAL GARDEN PLOTTING.—No. 21.

DRAWING PLANS.

To draw *fig.* 44. Draw the centre line *a* 6, and divide it into six equal parts, as 1, 2, 3, 4, 5, 6. Draw lines 7 7, 8 8, 9 9, and 10 10. From point *a*, with radius *a k*, draw arc *k*, meeting lines 7 7 and 10 10. From the same point, with radius *a h*, draw arc *h*, meeting lines 8 8 and 9 9. From point *a*, with radius *a c*, draw arc *c*, and also circle *b*. From points 1, 2, &c., draw arcs and circles corresponding to c and *b*. From points *f* and *d*, being the points where circles *a c*, 1 *c*, &c., cut each other, draw arcs *g* and *e*, and from corresponding points draw corresponding arcs.

To transfer *fig.* 44 to the ground. Take a line and insert stakes in the ground, as at points *a* and 6, the distance between being 48 feet. Divide the line *a* 6 into six equal parts, as 1, 2, 3, 4, 5, 6, and insert pegs at the points thus found. The distance between the pegs will be 8 feet. On each side of the centre line *a* 6 measure 7 feet 4 inches, and insert pegs as at points 7 7 and 10 10. From the same point measure 5 feet 4 inches on each side, and insert pegs as at points 8 8 and 9 9. Lay lines connecting points 7 7, 8 8, 9 9, and 10 10. From the stake at point *a*, with a string 7 feet 4 inches long, trace arc *k*, meeting lines 7 7 and 10 10. Reduce the string 2 feet and trace arc *h*, meeting lines 8 8 and 9 9. Reduce the string 1 foot and trace arc *c*. Again reduce the string 2 feet and trace circle *b*. From centres 1, 2, 3, 4, 5, 6, with radius *a c*, trace arcs corresponding to arc *c*; and with radius *a b*, which is 2 feet 4 inches, draw circles corresponding with circle *b*. Where the arcs meet each other insert pegs, as at points *f*, *d*. From the pegs at points *f*, *d*, with a string 3 feet 5 inches long, trace arcs *e* and *g*, and so on, until the border is traced. The lines and dotted parts indicate Box. B indicates beds; W, walks.

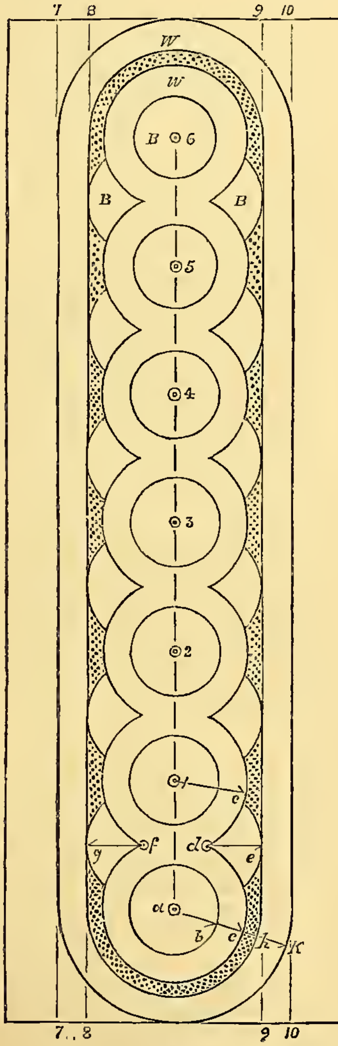


Fig. 44.
Scale 12 feet to the inch.

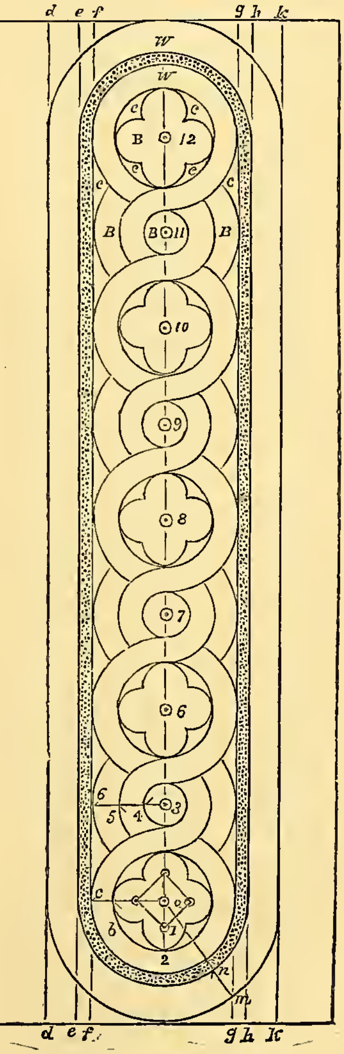


Fig. 45.
Scale 16 feet to the inch.

To draw *fig.* 45. Draw centre line *a* 12, and divide it into eight equal parts, as 3, 6, 7, 8, 9, 10, 11, 12. Draw lines *d d*, *e e*, *f f*, *g g*, *h h*, and *k k*. From point *a*, with radius *a m* draw arc *m*, meeting lines *d d* and *k k*. Draw arc *n*, meeting lines *e e* and *h h*; draw arc c, meeting lines *f f* and *g g*. From point 3 draw circle 4, uniting with arc c. From the same centre draw arcs 5 and 6. From points 6, 8, 10, 12 draw arcs and circles corresponding to those drawn from point *a*; and from points 7, 9, 11 draw arcs and circles corresponding to those drawn from point 3. To draw the quatrefoil inside the circle it is necessary to form a square, as shown inside the circle drawn from centre *a*. From the angles of the square draw the lobes, meeting each other on the sides of the square, and find the corresponding figures 6, 8, 10, 12 in the same manner.

To transfer *fig.* 45 to the ground. Take the line and insert stakes into the ground, as at points *a* and 12, the distance between being 64 feet. Divide the line into eight equal parts, as 3, 6, 7, 8, 9, 10, 11, 12, and insert a peg at each point. The length of each division thus found is 8 feet. On each side of line *a* 12 measure 9 feet 9 inches, and lay lines *d d* and *k k*. On each side of the same line measure 7 feet 3 inches, and lay lines, as *e e* and *h h*; again on each side of the same line measure 6 feet 3 inches, and lay lines, as *f f* and *g g*. From the peg at centre *a*, with a string 9 feet 9 inches long trace arc *m*, meeting lines *d d* and *k k*. Reduce the string 2 feet 6 inches, and trace arc *n*, meeting lines *e e* and *h h*. Again reduce the string 1 foot and trace arc c, meeting lines *f f* and *g g*. From the same peg, with a string 4 feet long, trace circle *b*. From the peg in centre 3, with a string 6 feet 3 inches long trace arc 6. Reduce the string 2 feet 6 inches and trace arc 5. Reduce the string 2 feet and trace circle 4. From the pegs in 6, 8, 10, 12 trace arcs and circles corresponding to *a b* and *a c*, and from pegs 7, 9, 11 trace arcs and circles corresponding to 3 4, 3 5, 3 6. To

trace the quatrefoil in the circle it is necessary to form a square, as shown at centre *a*, the side of which is 3 feet 6 inches, and insert a peg at each angle of the square, as shown at point 1. From the peg at point 1, with a string 2 feet long, trace arc 2. Trace corresponding lobes or arcs from the other three angles. Find beds 6, 8, 10, and 12 in the same manner. The lines are of Box; the dotted compartment stone kerb; w, walks; b, beds; *c*, coloured materials.—M. O'Donnell, *Gardener to E. Leeming, Esq., Spring Grove, Richmond.*

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 15.

The genus Gracillaria contains a good many species, though pigmies in their dimensions. The moths, when resting in the day on palings or trees, may be unmistakeably identified by the posture in which they place themselves. "The head and the anterior part of the body is elevated, the first pair and the middle pair of legs stretched out a little sideways, and the third pair of legs are placed against the side of the abdomen." The antennæ, also, are generally laid back, and partially hidden by the wings. As long ago as 1736 Réaumur had observed with much interest the habits of two at least of the species of this genus. If the reader wishes to introduce himself to one of these, he has only to walk now to a spot where grow some Lilac bushes. On the leaves, or reposing close by in some nook screened from the wind, will be found small moths, owning to the name of G. Syringella, and showing to the unassisted eye a not very distinct tracing of yellow and brown. About London we find the species also haunts the Privet.

Mr. Stainton has given the life history of G. Syringella with great accuracy, commencing with the eggs, which he states are deposited in little clusters. The young caterpillars begin their proceedings by forming small mines in the leaves, which have the appearance of blotches, within one of these are found from four to a dozen feeding in company. As they grow they journey in company, making a new blotch in another part of the leaf, or passing to another leaf, when the colony, perhaps, may divide into two parties. At last they come out, and feed outside, rolling up the leaves in a seemingly clumsy manner to afford themselves concealment. The leaves are rolled laterally, and fastened sometimes, though not always, by cords of silk fixed outside as well as within. After a time the foliage begins to turn brown, and, gradually, should the caterpillars be numerous, many of the leaves fade and fall off. Cone-like structures, which are much neater than those made by G. Syringella, are manufactured by other caterpillars of the genus, as, by the rather singular G. phasianipennella, the caterpillar of which cuts strips from the sides of the leaf, and duly fastens them together, tailor-like. The young caterpillars of our Lilac-feeder are remarkable for the very transparent appearance they have; afterwards they become tinged with greenish brown, the dorsal vessel showing distinctly. When of their due size they spin cocoons, which are tolerably thick, and hide the small chrysalis from view. There are two successions of this insect annually, the caterpillars being found feeding in June, and again in August and September; and owing to the early fall of leaves in the vicinity of London, the second brood will be sometimes deprived of food ere they have completed their growth. One reads with some interest the statement that in Switzerland G. Syringella has been noticed to extend for some distance up the Alps, occurring there, I presume, upon the Ash.

Another Gracillaria, scientifically named stigmatella, occurs in gardens and shrubberies, and the moth is one of the visitants to the Sallow bloom in spring, mingling there with the crowd of bees and flies, and its moth brethren of a larger growth. The caterpillar begins its career rather late in the season, mining for a short time the leaves of Willow or Poplar, and then constructing cones on the top or edge of the leaf. It moves freely from place to place, so that when we are looking at a tree which has been attacked by it, we are sure to find a large proportion of empty cones. This caterpillar is of a greenish-white colour, with two brown spots on the sides. The moth has derived its name from a whitish, rather conspicuous triangular mark on the upper wings.

It is very seldom that we see any species amongst our larger beetles occurring on the wing in any quantity, except the common Cockchafer. Such species for instance, as the well-known Dor, the Stag, the Musk Beetle, the various Carabi, are seen singly, or, perhaps, two or three together, and this is also generally the case with the Rose Beetle (Cetonia aurata). Once, however, I witnessed a flight of these insects, which was truly astonishing. The date was some day about the middle of June, 1857, and the scene of it a winding narrow lane which intersected some market gardens at Fulham. The sun shone brightly at the time, and the attraction which had drawn them together was the Privet bloom. I should say, without exaggeration, that hundreds might easily have been secured, and the sight was a pleasing one, for their elytra reflected the sun's rays, while the air resounded with the sonorous hum they made. Doubtless they had recently emerged from the pupa, having bred close at hand in the fields. Latreille asserted that this beetle does scarcely any injury to vegetation, because it seeks the flowers for the honey they contain. On the contrary, the Rose Beetle does actually nibble the petals, especially those of the Rose, though it is in no respect scrupulous, and if these are not to be had, contents itself with other species. One gentleman reports that in 1870, where he had an opportunity of observing it, as early as May it had begun to attack the blossoms of the Weigela and Syringa; also, he says "it is particularly fond of the early white Pink, tearing the petals with its curved mandibles and hooked feet."

The Rose Beetle, or Rose Chafer, has also been called the Copper Beetle from the hue of the elytra or wing cases, and, without very good authority, it has been supposed to be the Golden Melolontha of Aristotle. A popular writer upon natural history comments upon the species in the following ludicrous manner. He believes that it has its name "because it is an insect of refined habits, and chiefly dwells in the bosom of white Roses. Yet it loves earth, too, and in pursuance of its mission falls from its Rose to earth, and there digs a receptacle for its future progeny. But though in earth, it is not of earth, and, burrow as it may, it returns to its Rose without a stain upon its burnished wings." Why the Rose Chafer should be supposed to affect white Roses in particular I cannot say, and as to its "dwelling in the bosom" of a Rose I feel rather incredulous. However, this much is true in the account, that whether it "digs a receptacle" or not, the eggs are usually laid on or near the earth. That the larva is sometimes found in decaying wood, as stated by some authors, or even in ants' nests, I would not deny, but it also, if not invariably, feeds on the roots of various plants. I regard this as proved to a demonstration by the occurrence of the imago in spots where neither rotten wood nor ants' nests afford a nidus for the larva. This I hope to confirm by a discovery of the larva engaged in its destructive work upon roots, in which, as yet, I have been disappointed, nor have others been more fortunate—at least, I have heard of instances where a larva, thought to be that of the Rose Chafer, has been unearthed, but not reared to maturity so that it might be identified with certainty. Like that of the Cockchafer, it probably passes two or three years in its earlier stages of life, and burrows at times to a considerable depth. We may assume, therefore, that the species is injurious to the gardener, both as larva and imago, and really the only satisfactory mode of keeping it in check seems to be the destruction of the beetle.—J. R. S. C.

Local Names of British Plants.—It is desired to collect as many of these as possible, and the assistance is requested of all who take an interest in the subject, or who may have the opportunity of ascertaining and recording them. Any lists sent to Mr. James Britten, the Royal Herbarium, Kew, or to Mr. Robert Holland, Mobberley, Knutsford, will be thankfully received and acknowledged.

A NEGLECTED PRETTY FLOWER—LINARIA VULGARIS.

In the following notes I wish to call attention to a very chaste and pretty Toadflax of our neighbouring hedgerows, Linaria vulgaris. Are we not so very apt to be led off by the many and very beautiful exotics of our gardens that we are naturally inclined to pass by all our native plants—some of them most beautiful, and of many and pleasing associations—as unworthy? This pretty Linaria has several features of interest that may demand and are worthy of the cultivator's attention. It has slender-looking yet wiry stems, with smooth, narrow, light green leaves. But more particularly I wish to remark its pretty erect head, about 3 inches in length, of beautiful orange and lemon spurred flowers, reminding one of some of the forms in the flowers of the much-prized Orchid family.

Many gardeners have to send off by rail large quantities of cut flowers to great distances several times a-week, and in so doing sometimes there is a difficulty in finding enough of those

flowers which will always be sure to prove satisfactory on arrival; for this purpose it happens that some of our very prettiest and most popular of garden flowers are not well adapted, Geraniums and Fuchsias for instance; but the flowers of this Linaria would, I venture to think, be well suited for such a work at this time of year. Few flowers would, I believe, be better adapted for arranging for variety in many glasses of cut flowers. It would be a better yellow than most of our Calceolarias, and the fact of its being but a species of our own native flora should not detract from its other great merits. I intend to grow a good quantity of it next year, and I hope others may inspect it for themselves, and, if they find it useful, give it also a place.—R. Mackellar.

[Why should not this beautiful plant be used as a bedder instead of Calceolaria? and, being a perennial, it would not require renewing every year.—Eds.]

A BIT OF SOUTH DEVON.—No. 4.

"You ought to have nightingales in such woods as those of Berry Pomeroy." "No, they are afraid to come among us 'Devonshire Sirens'—we are so called because we excel them in singing." I am quite willing to believe the adage, and shall not reveal who uttered it; but be it true or be it not true, the said Sirens—excepting only those who preside at the turnpikes, for they are elderly, and extort sixpences profusely—are such fair, rosy, round-faced, plump damsels, that they ought to have soft sweet voices to match. Even the little woman who for twenty years has been the portress of Berry Pomeroy Castle, whither I was about to wander when I closed a previous note, is so kindly that I think she must have been a Siren thirty years ago, at all events she is still pleasant, and led me winningly to "The Wishing Tree." She told me that if I walked thrice aronnd it "without a word, smile, or sigh," whatever I wished would and should occur, and sundry jolly girls proceeded to test the efficacy of the charm. I also clambered round it—walking is an impossibility, for it is on the edge of a declivity—but it was for the less mystical purpose of measuring its girth, which I ascertained is 22 feet at 4 feet from the surface, and the height of the tree must be 80; the branches overshadow a vast circle. It is a noble Beech tree. Many Beeches may have trunks larger, but they are hollow, and this is perfect—not a decayed spot is to be seen on it. Let me ask, Why does not the Ivy nsually climb up the stem of the Beech? Is it because the bark is so smooth that there are no crevices for the Ivy's fibriles to penetrate? I know of no chemical constituent in the bark that can be offensive. The day of credence in plant-antipathies is passed, or we might conclude that the Ivy hates the Beech, as the Romans believed the Vine hated the Onion. Is this freedom of the Beech observable elsewhere? I never remember noticing the subject until I saw here the Oak, Ash, Elm, Sycamore, and the Pines, clothed profusely with Ivy, but the Beech never. An Ivy plant now and then is seen trying to ascend one, but always weakly. Nowhere does Ivy grow more luxuriantly than over parts of Berry Pomeroy Castle, and the stems are gigantic. It completely envelopes the towers and chapel-room of the noble gateway, and fittingly hides from view the arms of the founders—the Norman Pomerais—men that should be blotted out of memory, for they are renowned only for deeds of murder and suicide. The old rnin, vast and noble, retains so much stability and entirety as if for a memorial, that not time but a retributive power had wrought its downfall; and so tradition tells, for the Protector Somerset sought to sustain and enlarge the edifice, but the lightning scathed and overthrew it.

Passing over a few miles of Devon lanes, skirted by cider orchards, a ruin of a very different kind is to be visited. It is at Watcombe, the ruin of a residence never erected. This is no paradox. About twenty and two years since, Brunel the younger saw here a coombe, from the high grounds around which most extensive views inland and seaward are commanded. He purchased that coombe and its surroundings, wisely commenced planting forthwith, that the trees might be growing whilst the house was erecting. In the valley he plotted out the flower garden; on the hills around he planted his arboretum; he built a gardener's house; he formed an Italian garden, and adjoining it laid the foundation of a residence. It is said that foundation cost him three thousand pounds, and then he proceeded no further. Why he stayed proceedings your penman knoweth not, but he does know that some one needing a mansion and grounds suitable to his wealth should become the purchaser, and complete the work. When Mr. Brunel died the estate was purchased by two brothers named Vickery, residing at Newton Abbot; but they only purchassd to sell it again for a fairer price.

The gardens and plantations are kept in excellent order by Mr. Helstone, the intelligent and obliging gardener, and those plantations are worth a journey to wander among. The whole estate includes sixty acres, and of these the pinetum occupies twenty, and the Cratæguses nearly two acres. The Coniferæ are perfect specimens, so vigorous, so clothed with branches to the very soil's surface, and so well apart, that on every side they are symmetrical.

Mr. Helstone obligingly furnished me with a list of the three chief collections of trees. Those of the Coniferæ to which an asterisk (*) is prefixed are all well furnished with cones this year, and he thinks several will perfect seeds for the first time. He has raised thousands of seedlings, from seeds ripened here, of Cupressus macrocarpa and Pinus insignis.

CONIFERS ON WATCOMBE ESTATE AND HEIGHTS.

Abies alba, 2[illegible] feet high
glauca
*Douglasii, 50 feet
taxifolia, 20 feet
excelsa, 5[illegible] feet
Clanbrasiliana, 2 feet
stricta
elegans
Gregorii
*Menziesii, 35 feet
*Morinda
*nigra, 20 feet
orientalis
*Arancaria imbricata, 35 feet
Biota orientalis
aurea, 3 feet
compacta
glauca
incurvata
meldensis, 10 feet
tatarica
Cedrus argentea variegata, 20 feet
Deodara, 40 feet
viridis, 20 feet
Libani, 30 feet
Cephalotaxus drupacea, 10 feet
Fortunii
Harringtonii
Cryptomeria japonica, 35 feet
Lobbii, 20 feet
nana, 5 feet
Cupressus Corneyana
elegans, 20 feet
Goveniana
Lambertiana
Uhdeana
torulosa
lusitanica, 10 feet
Lawsoniana
macrocarpa, 50 feet
Juniperus chinensis, 12 feet
hibernica
excelsa
recurva, 12 feet
thurifera
aphærica
Sabina, 2 feet
Libocedrus Doniana, 8 feet
chilensis, 10 feet
Picea argentea, 20 feet
bracteata
*cephalonica, 35 feet
Fraseri
lasiocarpa, 10 feet
*nobilis, 25 feet
*Nordmanniana
Pinsapo
*Webbiana
Pinus austriaca, 30 feet
Laricio
Mugho, 15 feet
uliginosa
muricata
Pinea, or the Stone Pine, 20 ft.
pumilio, 10 feet
Benthamiana, 30 feet
insignis, 35 feet
Gerardiana, 20 feet
Jeffreyi
ponderosa
Sabiniana
tuberculata
ayacahuite
Cembra
excelsa
Hartwegii
Lambertiana
Montezumæ
monticola
Strobus
Retinospora ericoides
Taxus adpressa
baccata
canadensis
fastigiata
Dovastoni
elegantissima
Thuja gigantea, 10 feet
Lobbii
variegata
Thujopsis borealia, 20 feet
dolabrata, 5 feet
Wellingtonia gigantea, 30 feet

OAKS.

Quercus pendula
agrifolia
castaneifolia
Cerris
heterophylla
Lucombeana
variegata argentea
variegata
coccifera
coccinea
densiflora
faginea
glabra
Fordii
dentata
latifolia
rotundifolia
salicifolia
Quercus Mirbeckii
Ilex serratifolia
palustris
pedunculata
asplenifolia
purpurea
nigra
pterifolia
pyramidalis
macnlata
marginata
rubra
Suber
Turneri
imbricata
taraxacifolia
sideroxyla
virens

HAWTHORNS.

Cratægus apiifolia
Aronia
coccinea
crenulata
Crus-galli
Douglasii
flava
glandulosa
heterophylla
intermedia
latifolia
lobata
lucida
Macnabiana
macrantha
Oxyacantha
melanocarpa
fructû-coccineo
Celsiana
Cratægus neapolitana
nigra
odoratissima
orientalis
ovalifolia
mexicana
coccinea
Guthrieana
laciniata pendula
pendula alba
plena alba
stricta
prunifolia
purpurea
pyrifolia
glabra
tomentosa
trilobata
virginiana

BEECHES.

Fagus betuloidea
asplenifolia, or salicifolia
Fagus sylvatica pendula
purpurea

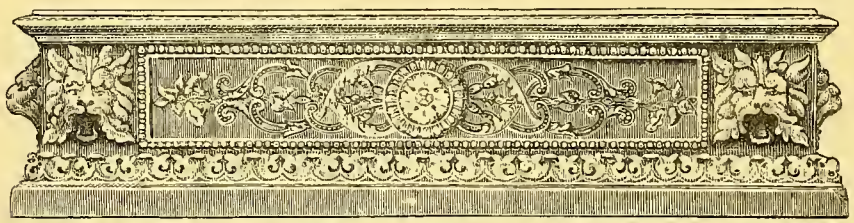
From those plantations I wended my way back towards Torquay, and one of my companions, had he known the per-

versity of human nature—at least of my human nature—would have said as we reached a certain gate about which were arranged busts and vases—"It's no use going in there, it's only a pottery," but he uncunningly said, "Let us go in there." So I, of course, said, "Oh! no—it's only a pottery!" Others of my companions being of the more pliant and inquisitive sex thought otherwise; so "the Ayes had it," and in we went, and glad I was, and glad I am, that I was outvoted, if it were only for the satisfaction I had of conversing with a man so courteous, so calm, and so obliging as Mr. Brock. He is the very fitting manager of the works of "The Watcombe Terra Cotta Clay Company."

Never did I expect to see such fictile work of English manufacture. I had been disgusted with the vulgar red figures in the arcades of the Royal Horticultural Society's Garden at Kensington, and thought that all home-made must be similar. The earth used at the Watcombe Pottery produces a ware of the pure, soft, classic terra-cotta colour, and the statuettes, busts, and vases constructed from it are worthy to stand by the side of the genuine Etruscan. The manufactory is not common pottery, but within its rooms are skilled artists. I saw the entire details of the manufacture from the washing of the earth—a red sandstone-tinted clay—the puddling of the dough, the turning of the vases, the baking; the artists (all women) with camel-hair brushes, adding the Etruscan patterns, and the sculptor designing forms and ornaments.

It is not a manufactory of the ornamental only, tiles, flower-pots, flower vases, window or Mignonette boxes, are among the utilities produced. The plain yet tasteful flower-pots are as

superior to the vulgar-shaped heavy pots commonly in use as



Hyperion was in grace the superior of a Satyr. Of the more ornamental flower-pots, vases, and boxes, the accompanying are specimens, but there are many others.—G.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Stir the surface of the soil among all growing crops where practicable. Trench or dig every spare piece of ground. Earth-up all the Cabbage tribe that are sufficiently advanced, and make succession plantations of *Brussels Sprouts*, *Buda Kale*, and *Broccoli*. Plant a considerable breadth of *Endive* and *Lettuces*. Prick out in nursery beds the *Cabbage* plants intended for spring use, that they may become stocky previous to their final planting. See that the *Celery* as it advances has every attention to weeding, the removal of offsets, and earthing-up, but in no case let the earth be raised so high as to injure or choke the heart of the plant. Collect and dry horse droppings for making a bed for *Mushrooms*. Keep the droppings spread thinly in a dry airy shed, and turn them frequently, for unless they are well dried it is difficult at this season to prevent the bed heating excessively, and this should be guarded against, as it exhausts the manure, and then there is only a poor chance of a good crop. Should a failure of the *Potato crop* occur, there will be an unusual demand for other vegetables in the spring. Let Stone and Dutch *Turnips* be sown on spare plots, and let all other vacant ground be planted with Coleworts, Brussels Sprouts, Cabbages, Savoys, &c. Ash-leaved Kidney *Potatoes* intended for seed may now be taken up and exposed to the sun till they are green. Should the disease attack the other sorts, let them be taken up at once, dried, sorted, and packed in dry earth or charcoal.

FRUIT GARDEN.

The prevalence of damp cloudy weather has caused free growth in fruit trees, and, excepting such as are bearing a good crop of fruit, they have in most cases already made as much or more young wood than there is much chance of their ripening in the course of the autumn. It will, therefore, be advisable to go over the trees and stop about half the shoots, beginning of course with the strongest, for a general stopping at this time would probably induce the production of a mass of useless spray, whereas stopping the stronger shoots, or those which incline to grossness, will divert the sap into the weaker ones, which will be strengthened, while the buds on the shoots that have been stopped will become full and plump without starting into growth. The only effectual method, however, of curing a gross habit of growth, when this is the case in ordinary seasons, is root-pruning, or keeping the roots within proper limits by means of shallow, well-drained borders. Should it be found that the shoots after stopping incline to start into growth, it will be advisable, as soon as the fruit is gathered, to open a trench at a moderate distance from the stem of the tree, cutting the strongest shoots. This will be of the greatest service in checking growth, and will probably do more towards securing ripe wood than anything else that could be adopted. Let the Strawberry plantations intended to stand for next season be trimmed as soon as convenient, cutting off and clearing away the runners, &c., so as to afford the leaves plenty of room.

FLOWER GARDEN.

In many neighbourhoods green fly is very troublesome on the Verbenas, &c. Tobacco water and soapsuds have been used with success. Nothing cheaper or more efficient can be used by those whose plants are infested. The strength of the mixture should be tested by dipping into it some of the shoots most affected; use it sufficiently strong to kill the insects, but not so strong as to injure the leaves. It should be applied in the evening, when there is a prospect of a dry night, using a

fine syringe or a fine-rosed watering-pot, and giving enough to moisten the whole of the foliage. Go over the beds frequently and remedy any defect that may be perceptible without loss of time, for the bedding-out plants are enjoyed but for a comparatively short season, and now that they are in full beauty every means should be used to render them as enjoyable as possible, by maintaining the most perfect order and neatness. When the stock is clean and growing vigorously this will involve considerable labour, as it will be necessary to go over the beds frequently, pegging down when necessary, removing decayed flowers, and cutting back such of the shoots as may incline to encroach upon the edgings of the beds. Keep herbaceous plants neatly tied up, and cut off the flower stems of any that are becoming unsightly. Take advantage of every spare hour to put in cuttings, and use all possible dispatch with this work until there is in a fair way of rooting a good stock of such plants as are known to be difficult to winter, except when well established. Keep climbers on walls within due limits. Propagate Hollyhocks by cuttings. Mark good seedlings, digging up all single and semi-double varieties. Take off the tops of seedling spikes if not already done; it throws strength into the remaining flowers, and encourages the formation and growth of the seed. Should hot weather continue, take care that newly-formed beds of Pinks and Pansies do not suffer from drought. Prick out seedling Pansies on well-prepared beds. Carnations and Picotees should be layered. Gentle waterings will be required, and the pots must be kept free from weeds; pull out decayed petals from those calyxes where seed-pods are forming, otherwise wet will lodge and the seed perish. Prepare the Tulip bed by frequent turnings; add, if required, fresh compost; avoid dung.

GREENHOUSE AND CONSERVATORY.

Repairs, painting, the examination of all flues, furnaces, pipes, and hot-water apparatus, should at once take place; the interior of the glass and woodwork should also be well washed and cleaned with hot water and soft soap; and the walls, &c., should have a couple of good coats of lime whitewash, made from strong newly-burned lime, with a good supply of sulphur vivum added, and every corner and crevice should be well washed with the above mixture. A wholesome structure for the reception of the plants will be thus secured. What is there that has a more negligent unwholesome appearance than dust and cobwebs, green walls, and dirty woodwork and glass? Let these matters be at once looked to, and thorough cleanliness be secured at this the most convenient season. The usual quantity for a season's supply of the kinds of soil used in potting should be laid-in as soon as convenient, and before the ground becomes sodden with the autumn rains, for even turfy soil should not be carted and stacked-up when saturated with water. The soil should be neatly put up in narrow ridges so as to be safe from wet, and exposed as much as possible to the action of the air. As success in plant-growing very much depends upon having suitable soil for potting, no trouble nor expense that may be necessary to procure this should be spared when well-grown specimens are expected. Loam of a moderately good quality may be secured in most neighbourhoods, but good peat is not to be obtained in many localities. This is absolutely necessary, however, for the growth of choice hard-wooded plants, and should be procured at the proper season, so as to have it in a fit state for use when wanted; for nothing is more disheartening to gardeners, nor worse economy on the part of employers, than being without suitable soil in a fit state to use for potting plants at the proper time. Plants intended to flower under glass during autumn and winter must now be looked to. Let the stock of Begonias have another shift if not already in pots sufficiently large. Keep the plants thin, that their foliage may be kept from injury. Attend to Chrysanthemums; water freely with liquid manure. Good specimens should be aimed at rather than a few fine blooms. The potting of the Hyacinths, Narcissus, &c., for forcing must soon occupy attention; about equal portions of good fibrous loam and decayed leaf mould, with silver sand, will be the best soil for them if for forcing, but well-decomposed cow dung must be substituted for the leaf mould when the bulbs are intended for late blooming. After potting place them on a dry bottom and cover the pots 2 or 3 inches deep with old tan or ashes, preserving them at the same time as much as possible from heavy rains. Under this treatment they will fill their pots with roots, and will be in readiness for forcing when wanted.

STOVE.

Plants flowering in the conservatory will require attention to prevent their being injured by damp, especially Achimenes and Clerodendrons, which should be gone over every day in cloudy weather, carefully picking off decayed flowers, &c. Any of the twiners on the roof which have done flowering may be thinned out so as to prevent shading the house too much, for after this season permanent shade should be avoided as much as possible. Apply fires but moderately, and that, too, principally in the morning, at the same time taking the advantage of admitting abundance of air.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

At last, and rather suddenly, we have something like a tropical climate, which has produced wonders after a rather cold, dripping summer. The vast yield of hay will make up in some measure for the way in which much of it was drenched and washed before being housed. The few days of bright sun have made a wonderful change in our corn fields and Turnip crops. The fields are whitening beautifully, and now, we should say, the Turnips have escaped the bane of mildew. On the whole we never recollect such a promising appearance of corn and root crops.

Celery.—With all the rains ours on the whole is stouter, but hardly so long as usual. We have just given it a good watering with sewage, and then followed overhead with clean water from the rose, as the leaves are rather sensitive to sewage. We earthed up a piece for early use, as we find we could not go on from July as we used to do, and therefore send it in later. The watered part we will examine for suckers, on the first fine day tie up the most forward plants, and scatter some fine soil from the sides to encourage rooting and to keep the moisture in. We mention this watering chiefly for the purpose of putting the less experienced on their guard. When Celery is grown, as ours is, in beds, the rains have a much better chance to tell on the roots; but even ours were much drier than we expected when we tried the soil with our fingers and dug down with a knife and stick. When Celery is grown in single rows the rains are very apt to be thrown off by the large leaves, and the roots do not receive their fair proportion. We have several complaints before us of Celery running and bolting, and the wonder is expressed that such should take place in a moist season. We should say that the bolting is greatly owing to the dripping season, and chiefly because it is so apt to beget in us a confidence and security which otherwise we should not feel. For such a ditch plant we should never disdain to try the ground about the roots with our fingers. Many a fine pot plant might have escaped bad health and shortened existence if it were ascertained that the soil was damp throughout instead of for an inch or so at the surface. We have known fine broad Cauliflower plants flagging in bright sun after a heavy rain, because the large slate-sized foliage carried the bulk of the rain away from the chief mass of roots, and that which was thus thrown off had sunk into the ground without reaching them. We noticed lately that some Cauliflowers were dry at the roots notwithstanding the rains; and so with the Celery. We have for years had scarcely a single bolted head. We see no appearance of any as yet, and if any do come we shall blame some time when the roots were extra dry independently of the rains.

Watering.—The change in the weather has rendered this necessary in many cases, as it is amazing how quickly a few days' powerful sun dry up the ground. The farmer can take his ease, whilst the gardener suffers, and must exercise care and anxiety every day. In the one case the crops have been committed to the soil, and have taken hold of it so as to sustain themselves in any weather; in the other case, constant succulent successions are wanted, and therefore there is need of shading, of sprinkling, and of good waterings to keep all going on, so as to have no breaks in the supply. In watering growing crops, as Celery, &c., it is best to water thoroughly, and shortly afterwards to spread a scattering of dry soil over the surface to keep the moisture in. In sowing in such burning weather seeds of Lettuces, Cabbages, Onions, &c., if thickly broadcast, it is best to dig, tread, and rake the ground ready for the seeds, then level, sow, and slightly pat them down with the back of a clean spade, covering all over with a sprinkling, say from one-eighth to one-quarter of an inch, of dry riddled soil. The dry covering will keep the moisture in, and the seedlings will come through healthy and strong.

FRUIT DEPARTMENT.

Besides attending to trees, washing late Cherry and Plum trees, potting Strawberry plants for forcing—all of which

matters have been lately alluded to in detail, one of our chief items of work has been

Clearing the Covering from a Vine Border, that the strong sun might heat the soil well. A thin covering of leaves and litter had been put on in the autumn, and a little more was added in April, when we made the whole border a receptacle of bedding plants, to receive less or more protection before being turned out. In general seasons this covering would have been removed at latest early in July, but the season was so wet and cold that we thought it was better to let it remain, as it so far defended the border from the cold heavy rains, and the weather was too cold to heat the soil of the border to any great extent. With a very porous, well-drained border, we question if all the rain that fell, if passing freely, would do harm. But in other cases, where the border was at all different, we feel certain that many of the stoppages of swelling and colouring recently referred to have been chiefly owing to too much cool moisture stagnating about the roots. Be this as it may, it operated with us as a reason for allowing most of the covering on the Vine border to remain, and more especially as the rains that would pass through it would be rather enriched before getting into the soil. We are also able to serve two purposes in the moving—exposing the surface of the ground to the sun, as stated above, and mulching many things in the kitchen and flower garden that needed that help to save frequent watering. Mulching is best applied after the ground is sufficiently heated. Applied too soon it keeps heat out. A little fresh surfacing placed over the border will cause all to look clean and neat, and prevent cracking, and in extreme cases of heat we shall be tempted to mulch slightly, and very likely water the late Vines. Above all things, however, extra watering should ever be avoided, unless the drainage is very good, and no mere surface inspection should be deemed satisfactory, but the soil should be carefully examined for several inches in depth. We have known Vines planted inside houses that seemed at a standstill, merely because the soil was watered once or twice a-week, and the moisture had never penetrated to the bulk of the roots, but was confined within 3 inches of the surface.

ORNAMENTAL DEPARTMENT.

We have had a very busy week in fresh regulating, cleaning, nipping-out decayed bloom, and, above all, in *watering*, especially the outsides of beds, from which all traces of moisture seem to depart at once. Before the bright weather came we had to soak several times vases filled with Scarlet Geraniums. Rains must not be depended on in such cases. The plants when thick and the leaves filling the space, throw the rains over the vase instead of into it, and, therefore, even after a heavy shower, it will often be found that the soil at the roots is very dry. The fingers or a stick should often be used to see in what state the under soil is. For plants in beds a minimum of water has been needed this season before the hot weather came. To make safe we watered most things except those that were growing quite as strongly as we wished, having previously stirred and loosened the soil where we could get at it, as it was hard on the surface from the rains. Then, wherever it could be done, we followed with a *mulching* from the Vine border. This in many cases had to be confined to the sides, as the centres were too close and full to permit of much in this way being done. Calceolarias had been thus treated some time before, so that helped to keep the ground cool and moist about them, the very thing to enable them to thrive in a bright sun. The material on the border, from being turned several times, was pretty well decomposed, and when thrown into a heap was broken small rather easily with the points of a fork, and this did well for the central parts of beds. The looser this is so as to be neat, the more effective it will be as mulching for keeping moisture in and heat out, as the ground is now warm enough. For placing near the outsides of beds, the most important part of all, we pass the material through an inch sieve so as to secure more neatness. The rains will pass through such surfacing easily, and carry much nourishment with them, and the open texture of the mulching soon drying on the surface, will help to prevent the moisture evaporating. Before mulching, the beds and rows that needed it most received a good watering of sewage water not over-strong. Readers are aware that we have more faith in one good watering than in many paltry applications. It should also be remembered that this enriching, even by surface mulching, has a very different effect as respects free blooming than digging manure in the soil, which too often encourages great luxuriance of growth. Some people keep their bedding plants in such a miniature state, that we should not be able to know them. Now, we like to see something of healthy luxuriant growth, strong plants meeting each other, and keeping the earth out of sight, but this free growth is of little advantage unless accompanied with density of blooming. Nothing tends more to secure these desiderata than a little surface manuring. The Polemonium cæruleum variegatum alluded to last week, is now putting on a brighter livery, and Geranium beds, lately scarcely so full and bright as desirable, are brilliant under the bright sun.

We pass over what would be a good deal of repetition, about potting, propagating, &c., to say a few words on

Burning Sulphur and Sulphur Fumes.—Like fire and water, sulphur is a good servant but a fearful devastating master. A keen amateur lately accosted us in great trouble about his Grapes just taking their second swelling nicely, but he thought there was red spider on them, and he used an iron stove in the house, put a small fire in the stove, and painted the outside of it with sulphur. We can well judge his consternation on seeing the leaves of his Vines, especially all along the top of the house, flaccid and drooping. We could only advise palliatives, such as to return at once and give air all along the top of the house, and as the sun threatened to be powerful, to make some whitening water in a pail, and throw it on the glass roof outside, thickly with a syringe, so as to shade the house; to moisten the floor inside, and to encourage fresh growth from laterals where the leaves were totally injured, and would require to be removed. As the gentleman said he used only a very little sulphur, there might be hope of saving most of the crop and tolerably good wood for next year. This is anything but the only instance of misconception as to burning sulphur this season. Our readers must bear in mind that no growing plant will stand the fumes of burning sulphur—no evergreen plant will stand them at any time. When deciduous plants have lost their leaves, and the wood is perfectly matured and hard, the fumes of burning sulphur for a short time will not injure the wood, but if the wood is at all green and unripened it will kill these parts to a certainty. Hence the care with which it should be used. We shall never forget the self-accusations of a patriarch in gardening when, after smoking his Cinerarias, and the fly not dying soon enough for him, he put a bit of sulphur in the pot with the tobacco, determined to do for the fly; and so he did, and for the plants too. Hardly one survived the ordeal. We often use burning sulphur in a pit or frame as a cleanser, destroyer, and purifier on finishing, say, a crop of Melons or Kidney Beans, before putting another crop in. A handful of sulphur placed on a few lighted cinders on a tile is generally sufficient, shutting the place, and shading and covering; but in doing this the greatest care must be taken that none of these fumes can reach by any mode the plants that are growing in neighbouring pits or frames. If there is the smallest opening between a smoked pit and one in which plants are growing, every leaf touched by the fumes will be killed or much injured. Even after such smoking it is well to expose the pit or frame for a day before preparing for another crop. We generally use that day for syringing walls, woodwork, &c., with hot water as near to the boiling point as possible, and we do all this on the principle that it is better to guard against insects than have recourse to means of killing them when they come. In all such cases prevention is better than cure, a fact that people seem slow to learn, or many advertisements would be rather an unremunerative affair.

So much for sulphur. When there is heat enough to burn it, it will kill, or nearly kill, every plant that is growing. It must be used with great care and judgment in the case of deciduous plants in a state of rest. Every soft, green, unmatured spot will suffer. For helping to keep red spider under, the fumes thrown off by a wall heated by the sun, from hot-water plates, or even warmed bricks will be useful; but if ever the body on which the sulphur is placed rises higher than from 160° to 170°, you get to danger-point. Hot-water pipes, even, may easily be made too hot for the sulphur placed on them to be safe.—R. F.

TRADE CATALOGUE RECEIVED.

B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, London, N.—*General Bulb Catalogue.*—*Catalogue of Fruit Trees, Roses, &c.*

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Books (*Joseph Millward*).—Keane's "In-door Gardening" will suit you. It may be had from our office for 1s. 7½*d.*

Royal Horticultural Society's Floral Committee (*G. Brooke*).—The next meeting is on September 6th. Address to the Secretary of the Floral Committee, Royal Horticultural Society, South Kensington, London. They must be delivered there not later than 10 A.M. on the day of meeting.

Tenant Removing Plants (*Tom Jones*).—Unless you are a nurseryman or florist, or have an agreement to the contrary, you cannot legally remove Rose trees and other shrubs and plants; you cannot dig up a Strawberry bed; but you may take up Tulips and other bulbs.

Collection of Fruit (*H.*).—Black and White Grapes must decidedly be "different kinds," and therefore within the latter of the schedule, and we believe its intention also. They are always admitted as such at the London shows.

Dracocephalum canariense Seedlings (*T. S.*).—The seedlings of this (the Balm of Gilead), planted in the open ground, will require to be lifted in autumn before frost, potted in light sandy loam enriched with leaf soil, and wintered in a greenhouse, giving no more water than enough to keep them fresh.

Cropping between Strawberries (*Idem*).—We do not think it would pay to plant Asters or have Onions between the Strawberry rows; indeed it would spoil the plants' bearing another year. As you cannot plant until March, why not take a crop of some early Potato, as Myatt's Prolific Ashleaf, which would be cleared by the early part of July? Then you could at once plant with Strawberries, and take pains so as to have the runners rooted early by layering. You would from a July planting have a good crop the following year, quite equal to a planting made in March; and the Potatoes would be profitable, and cause no injury to the coming crop of Strawberries.

Strawberries Dying Off (*W. P.*).—We could find no insect. Send us a specimen, and we will endeavour to help you. The gardeners are probably right.

Early Prolific Strawberry (*D. G. Goddard*).—Write to "The Gardener," Morningside, Kidderminster.

Chasselas Musqué and Golden Champion Grapes (*C. R. R.*).—Chasselas Musqué requires exceptional treatment to prevent the berries from cracking. It requires the same treatment as Black Hamburgh until the process of stoning is finished, then the atmosphere must be kept dry. A night temperature of from 65° to 70° must be maintained, with as much ventilation as possible both by night and day; and, as a further preventive, cut a notch in the branch quite in to the pith, just underneath the bunch. This checks the flow of sap to the berries, and will most likely prevent cracking. Golden Champion succeeds best when grafted on the Black Hamburgh. We then obtain plenty of bunches and the wood ripens well; but we have never had a bunch ripening off to a fine golden colour without a number of the berries being disfigured with dark-coloured spots just under the skin, nor have we seen any thoroughly ripe without this fault. Being a very thin-skinned variety it is more liable to rust than most other sorts. We have it grafted on Trentham Black; the berries are of immense size and nearly round, but they did not set well, and few of them are perfect.

Vines in Cool House (*C. R.*).—Your list will do very well, but you ought to leave out Mrs. Pince and Gros Colman, which require heat, the latter especially.

Grapes Scalded (*Staff Surgeon Major*).—The berries were quite shrivelled. But for your giving air all night we should have said that the Grapes were blotched and scalded by hot water. We fear, if the roots are near the surface, that the excess of rain on the outside border, with want of sun, has been the chief cause. Meanwhile we would let the sun play on the border, and give more air, even if you gave a little fire heat on a dull cold day. We regret we cannot give more definite advice. The great thing is to use preventives; when once scalded or failing little can be done. One of our best gardeners, finding his Vine borders getting too wet, had a lot of dry litter put next the earth, and turned other covering material over that, so as to keep the soil drier.

Grapes not Colouring (*A. W.*).—Too much water is as injurious as too little; retention of moisture is a fruitful source of shanking. If watered so frequently before, it would be well to see if the roots are damp enough at the colouring period. We would thin out, but not quite remove all laterals, those left encouraging healthy root-action.

Vine Leaves Withering (*Blue*).—See what has been said in answer to other correspondents. A great fall of rain on a badly-drained border in such a sunless season, would help to cause the withering of the leaves, and arrest the swelling of the fruit. That may be partly the cause, but in the case of Vine and Geranium leaves, we believe the chief cause is scalding or scorching, from want of air given early enough in a sunny morning.

Vine Roots Decaying (*A. W.*).—It is rather singular that the Vine roots should decay in an inside border in the manner stated. The wireworm, of course, would injure them, and should have been trapped and rendered uncomfortable with lime waterings, but they would not be sufficient to account for the decay. We fear that your watering once a-week has been too frequent, and we should not be surprised if fungus has been formed from the fowl dung, &c., supplied. The wireworm, however, had better be eradicated by trapping with sliced carrots, &c. Watering should ever be proportioned to the evaporation, and in such a dull season as this it would be easy to over-water Vines, and thus so far injure the roots.

Mushrooms (*C. W.*).—So far as the preparation and management of the bed have been conducted it appears to us that you have been most successful, and there can be little doubt that the spawn you have used has been spurious.

Chrysanthemums Growing against a Wall (*St. Bridget*).—Apply a mulching of well-decomposed farmyard manure to your Chrysanthemums at once. They will require a copious watering about twice a-week. If the ground is poor an occasional watering with weak manure water will be beneficial, but if rich we would not use it, or at least not before the flower buds could be seen; even then we have more faith in surface-dressings, allowing the water to wash the nutriment down to the roots. Decayed stable manure is most suitable.

American Blight (*G. M. F.*).—Slake some quicklime and add some salt; make a paint of it, and apply it with a brush in winter. If lichens or moss are on the trees it will cure that also. At Rushton I had several Rihston Pippin trees much affected by American blight. The above recipe cured them entirely.—W. F. Radclyffe.

Covering a North Wall of a House (*J. J. S.*).—Try Rægner's Ivy; it has heart-shaped polished leaves, and is very handsome. If you want flowers, put up a wire fence against the wall, and plant behind the wire Cotoneaster buxifolia; it has pretty white flowers and evergreen leaves; the fruit is coral red. It is always cheerful-looking. At Rushton I covered with it a north wall that was unsightly when seen from my dining-room. It is a strong grower, and will reach 8 or 9 feet high. Ivy is an excellent covering for a damp wall.—W. F. Radclyffe.

Wintering Castor Oil Plants in the Open Ground (*D. M.*).—This plant cannot be wintered out of doors even with protection, for it is destroyed by a few degrees of frost. Take up your plants on the first approach of frost, place them in a house from which frost is excluded, and keep them dry. If the plant has flowered throw it away. Perhaps the best plan to secure strong plants for planting out is to sow now, and have the plants established before winter in small pots in sandy soil, keeping them dry and near the glass during the winter.

Fern Fronds Losing Colour (*Idem*).—It is probably due to the plants being much shaded, and not having a sufficiently high temperature. It is usual, however, for the kinds you name, and, indeed, all those having pink fronds whilst young, to show less colour in the late summer and autumn months than in the spring and early summer months. We attribute the difference to the greater amount of light, the plants not being shaded until the sun's rays become powerful. The remedy will be more light.

Two-acre Garden (*Constant Reader*).—You and your one man have enough to do with this, the houses, frames, &c., if all is kept well; but much will depend on the style of keeping. Where fruit and vegetables are sold there is more labour involved than when all is consumed by the family. Early forcing, too, makes all the difference.

Melon Ripening (*An Irish Reader*).—To know when a Melon is ripe is no difficult matter. You may know when it begins to ripen by the perfume or aroma given off, and then you will notice a change in the colour. When it changes to one colour throughout—it may be white, yellow, or yellow tinged with red according to the kind—it is fit for cutting; and another good criterion is when the fruit commences to leave the vine by cracking or parting from the footstalk; it should then be cut. We consider it better to cut Melons under rather than over-ripe, and to keep them for a few days in a dry airy room before sending them to table.

Heating a Span-roofed Cucumber House (*Signature illegible*).—There need be no difficulty in taking your main flow-pipes at the sides of the house to join the return beneath the bed. Such things are done every day. You might thus, with the exception of the return, have your top and bottom heat independent of each other. A very simple mode of heating such a house would be to take the side and end pipes as flows, and make all returns in the chamber beneath the bed, but by this mode you must heat the sides before you could heat the chamber. The more flows and the fewer return-pipes, the more regularly will the pipes be heated. Assuming that the boiler is at one end of the house, and you can have only one pipe at the side, we would take that right round and drop at once to the return-pipe near the boiler; then, so far as this pipe is concerned, that would be quite under separate control by means of a throttle valve. That would not in early forcing be enough for top heat, and you would still have to borrow from the chamber for that purpose. With four or five pipes in the chamber, and the slides spoken of, you might dispense with side pipes.

Breakage of Glass (*C. Z.*).—With ordinary 15-oz. glass, we have lost few squares, size 20 inches by 12. We are sorry you have lost so much; the glazing must have been too tight. We would in respect to the large house leave well alone, and reglaze with 21-oz., say 20 by 12, or 20 by 15, not larger.

Second Early Potatoes (*Cottage Gardener*).—The Lapstone is the best second early Kidney Potato, and Early Oxford the best second early round kind. Neither has large haulm, though in both it is larger than in Myatt's Prolific. Large haulm is in a great measure due to the richness of the ground, and to giving manure at planting, or just before. We do not know of a second early having shorter haulm than those named. They are unequalled for quality and yield.

Transplanting Heather (*J. P., York*).—Transplanting pieces of young Heather over the burnt moor at a few yards apart should be done in autumn after the growth is complete, or between September and March in mild weather. The younger the Heather the better it will grow; but we are informed that the large pieces moved in October sooner cover the ground with Heather, for though they may not grow so well as young tufts, they seed much more freely. We should try both, and also cut off the Heather in full seed and strew it over the burnt portion.

Select Tall Phloxes (*Mrs. C.*).—Aurantiaca superba, vermilion orange; Madame Marie Saison, white, shaded red; Duke of Sutherland, dark rosy crimson; Etoile de Neuilly, white, with purple eye; Madame Andry, deep crimson; John Laing, rose, tinged with purple; Vierge Marie, white, purple eye; Miss Melville, light rosy crimson. They can be planted in autumn.

Insects (*J. W.*).—Your Willow branch is infested with numerous specimens of a species of aphis, just in the same way as Roses or Beans may be observed every day.—I. O. W.

Names of Plants (*A Lover of Flowers*).—You seem to have chosen your pseudonym very well; but if you do love your flowers we must ask you, when you next request us to name "the enclosed flowers," to send us a few more than you do now, or we shall think you selfish. Two flowers only did we find—one, a Campanula, No. 3 of list, not in a state in which we could name it; the other (No. 1), being that of Agapanthus umbellatus. No. 4 was Sedum Sieboldii; and as for No. 2, we can only say it is the leaf of a monocotyledon, probably a Lilywort, and possibly that of Solomon's Seal, Polygonatum racemosum, but this last is a mere guess. (*H. T.*).—The long leaf is that of Goldfussia isophylla, the other of Fittonia argyroneura. Both are stove plants. (*F. W. C.*).—1, Drynaria propinqua; 2, Phymatodes vulgaris; 3, Gymnogramma tartarea; 4, Adiantum hispidulum; 5, A. diaphanum; 6, A. Capillus-Veneris. (*Oswell*).—1, Selaginella Martensii; 2, S. Braunii (S. pubescens of gardens); 3, Chloris verticillata, an American Grass. (*Ben Bridges*).—1, Prunella vulgaris, Self-heal; 2, Listera ovata, Twayblade; 3, Phalaris arundinacea fol. va-

riegatis, common Ribbon Grass; 4, Lysimachia ciliata—at least it would appear to be that species. But you say "It grows wild here." Are you sure you are right in this? If so, be good enough to communicate your name and address to us, enclosing us a better specimen, and telling us what quantity of it you find, and where the locality is. (*Chesham*).—1, Linaria Cymbalaria; 2, Artemisia Dracunculus; 3, Corydalis lutea; 4, Euphorbia Lathyris; 5, Polypodium vulgare. (*Constant Reader*).—There can be no doubt this is the Stinking Morel (Phallus impudicus). It is common on the north of London. Strange to say, a short time ago we heard of a very similar case. The inspector of nuisances told us of a house infected with a frightful stench in the basement as if from putrid corpses, that could not be accounted for. On the boarding being taken up there was found a plentiful crop of this stinking fungus. It is difficult to say how it could be destroyed, unless taken up one at a time and burnt. (*E. K. L.*).—We cannot undertake to name florists' flowers. We had to pay 4*d.* for your parcel. (*E. T.*).—Samphire, Crithmum maritimum, red from the sun. (*Moulsham*).—The common Loosestrife, Lysimachia vulgaris. (*A. C.*).—The white Lily is L. longiflorum of Thunberg, native of Japan; the orange one is L. davuricum of Gawler, native of Siberia. (*Inceptor*).—Achillea filipendulina, one of the Milfoils, a well-known garden plant, and native of the East. (*E. G.*).—The plant you send is Lythrum Salicaria itself, true and proper. You must be magnifying differences. (*W. B. Ford*).—Your fronds are quite the same, and are extremely young fronds of Polypodium vulgare, the common Polypody. (*G. W. J.*).—Honckenya (or Honkeneya) peploides, the Sea Purslane.

POULTRY, BEE, AND PIGEON CHRONICLE.

POULTRY-KEEPING UNDER DIFFICULTIES.

No. 3.

Returning now more in detail to my limited space, and what may be done with it, I will first repeat that it measures exactly 67 feet long by 35 feet wide; and that as I, for reasons already given, find it best to make exhibition a secondary object, and rather to devote my small piece of ground to producing the greatest possible result, the problem to be solved every year is the breeding from four different pens of adult fowls, the hatching of between forty and fifty chickens, and the rearing about thirty of them to maturity. With some varieties more than this might be done; but my breed is Dark Brahmas, and it will readily be believed that very careful management is needed to preserve health in a space so crowded.

First, with regard to the permanent arrangements. These are not quite so good as might be, owing partly to the plan of the garden, and partly to the houses, &c., having been built piecemeal instead of on one regular plan. A gravel walk 4 feet wide runs up the garden, leaving a border 7 feet wide on one side. This being a few yards longer than the rest, is nearly 80 feet, and has a rude, quite open shed at each end, and a wire division in the middle, making thus two runs about 40 feet by 7 feet. The other side of the path, of course, measures 24 feet in width by 67 feet in length. The whole length, against the wall runs a shed 6 feet wide, part being only fenced with wire for dry rubbish, and part entirely enclosed for roosting-houses, and the whole is divided into four runs or yards, measuring in width 17 feet, 13 feet, 26 feet, and 11 feet respectively. Had I made the whole at once, I would have made the 17-feet pen narrower in order to have made the 11-feet pen wider. The first two pens have houses 5 feet wide, the rest of the shed being open. The large 26-feet pen has two houses 4 feet wide, and two sheds 9 feet, and the last pen a house 4 feet, and shed 7 feet wide. All the sheds on this side of the path have wire doors, and are wired up the front, so that the fowls can be confined at pleasure; but the sheds on the border are quite rough and entirely open. The divisions between the pens are boarded nearly 3 feet high, so that the birds cannot see each other, and wired above.

I put the whole up, as far as I remember, with my own hands, except a little help from a brother, and do not think the total expense was more than about £15. I had a pretty good wall to build against, and under such circumstances putting up houses is a very simple affair. The first thing is, by means of strong holdfasts, to fix pieces of scantling 3 inches by 4 all along the wall horizontally, at the height you have fixed for the roof, to nail the rafters on, and to fix uprights of the same at every partition you want, letting them about 2 feet into the ground. Opposite these you dig holes for and plant your front uprights, taking care that they are an equal height all along, and when you have spiked upon these another horizontal piece for the lower edge of the roof, and nailed two or three rafters to keep the whole in position, you have the rough frame complete, and can spike down the other rafters, and "timber-up" at leisure. It is quite unnecessary to spend large sums on even an extensive range of houses; and if every man would accustom himself to use tools, it would be better both for his health and his pocket, for he will never find a workman who will do in a given time half the work that he can do himself. I am sorry to say this, but I have always found it so.

All these pens are generally filled up to about the beginning of December, by which time I endeavour to sell all birds which I do not require, and clear, at least, the largest pen, which remains then entirely empty till the end of February. This run being devoted to the young chickens, it is thus tolerably fresh and pure for them, as I never set hens, from want of room, till the end of February or early in March. The border, also, I clear as soon afterwards as possible, and endeavour to give half of it at least a month's rest. When my four breeding pens are made up, one goes on half of the border, the other three in the smallest three pens on the other side. I have, of course, no trouble with my first two sitting hens, having the two houses and sheds in the chicken run at their disposal, and the ground there being fresh and clean, I go on hatching till I have often nearly forty chickens in the run. In order to do with such a number, the manure is, as far as possible, swept up off the ground (which they tread hard), two or three times a-week with a soft brush, and some disinfectant (lately I always use carbolate of lime), scattered in the houses. By the time the first chickens are six or seven weeks old, however, it is necessary to thin the numbers in the large pen, and fifteen to eighteen are drafted off to the unoccupied end of the border, which has been in its turn getting fresh for them. At the end of May, again, when the season for selling or setting eggs terminates, I sell at least one cock and a hen or two, thus bringing my four families into three, and emptying another pen, and as soon as possible, at leisure, I generally dispose of a few more birds so as finally to reduce my old stock to two pens. By the time this is done the last-hatched chickens are getting on, and room is thus made for separating the cockerels. I, finally, after eating two or three of the worst cockerels, generally divide the chickens into two pens of cockerels and two of pullets, retaining the best of the pullets in the largest run, as I find by experience that they need more space than the cockerels to keep in health.

Once or twice each year every pen in my yard is thoroughly dug up about 6 inches deep. I used to do it myself with a heavy Dutch hoe—a plan I can conscientiously recommend to stout gentlemen in want of exercise—but I soon got tired of it, and now have it dug over with a spade. The houses and shed are whitewashed at the same time with a mixture of lime and sulphate of iron, and all the nests, which are separate, are also washed with the same.

It is by thus giving each pen devoted to the chickens a few months' rest every year, and by digging over the whole, taking up always as much of the manure as possible, that I am able to do so much in the space I have. My two finest pullets this year weighed nearly 5 lbs. each at four months old; and though that is not equal to what I could obtain had I a grass run, I am certain few breeders can beat it. The number of pens is necessary to proper classification; for before I had so many divisions I could not do so much; but people who do not wish to sell eggs would require fewer breeding birds, and would have the more room for chickens. Such might be able, by sowing, to get a little grass each year in their chicken runs, but I have never myself been able to do any good in this way, though I have often tried, the short time I can give not being enough for it to grow.

The floors of all my houses are of concrete, or rather hard mortar, and much as it is condemned in this Journal, I prefer it for a floor, if sprinkled freely with earth or ashes. I have never had more than a few single deaths, which every breeder is subject to, and believe my yard is as healthy now as six years ago. The one difficulty I find is in getting that bright and clear white in the plumage which is so much admired, and for which nothing seems to equal the shade of living trees. I have heard that there are means known to some of bleaching birds tanned with the sun and acid atmosphere of a city; and I have tried chloride of lime with a little improvement, but I cannot say with success. If any breeder can enlighten us on this point he will remove one of the "difficulties" under which I labour, in common with many others who have to follow their "fancy" amid the smoke and glare of a town.—L. Wright.

GOLDEN-PENCILLED HAMBURGH HEN INCUBATING.

Mr. Hewitt tells us in the "Poultry Book" of two instances which he has known of hens of this breed incubating steadily,

but in each case the hen had stolen her nest in some out-of-the-way place where the eggs, of course, were left undisturbed until the number was completed and the hen had begun to sit. As the following differs from those cases, I think some may care to hear it. A Golden-pencilled hen, three years old last May, began to lay in 1871 on January 19th; she laid from that date till July 16th, never missing more than four days at a time, laying generally on two days and then missing one; but on the 16th of last month she remained on her nest all night, and being in it on the next morning, I placed seven eggs under her on the chance of her sitting out her whole time. She not only was most steady during her three weeks of incubation, but at the end of the time (August 6th) hatched out her chickens, and is now proving a most exemplary mother. I may add, the hen laid all her eggs from January 19th till she began to incubate, in the same nest, the egg being removed on the evening of the day on which it was laid. She is also perfectly well bred, herself a prize-winner, and the mother of many other winners. She has never shown the smallest desire to sit before, and now seems quite in her glory with her young family. —Reginald S. S. Woodgate, *Pembury, Tonbridge Wells.*

WARRINGTON POULTRY SHOW.

As this Show was instituted only a year ago, it is perfectly astonishing that so complete and varied a collection of both poultry and Pigeons could be brought together as there was on the 8th and 9th inst. The public support was freely given, and it was well deserved by the managing Committee, who did everything necessary to place the Show in the most favourable position. Colonel Wilson Patten, M.P., kindly allowed the use of his grounds, and between six and seven thousand persons were admitted on the first day, a result that was probably much aided by the day being observed in Warrington as a general holiday. The entries amounted to 438 pens, last year's entry being 383, showing not only an increase in numbers, but a wonderful improvement in the whole of the specimens exhibited. Large and most commodious tents were provided, and the pens were supplied by the well-known firm of Messrs. Turner, of Sheffield.

There was a grand display of *Dorkings*, but the adult birds were unfortunately deeply moulting, which caused the silver cup to fall to the chickens. In the *Spanish* classes there was an unusually good entry, the birds being excellent throughout; the adults secured the cup. Of *Cochins*, every variety was well shown. Mr. A. Taylor, of Manchester, was a very extensive winner in this division. The silver cup for Cochins was taken by this gentleman in a very severe competition, principally with first-prize pens. *Brahmas*, though mostly moulting, so far as the Dark-feathered were concerned were a very fair lot, and some of the Light-feathered were sent in unexceptionable condition. In *Game* most of our noted breeders competed; the birds were, as a whole, wonderfully good, and the cup was eventually awarded to a very fine pen of Brown Reds, the property of Mr. Brierley, of Middleton. *Hamburghs* were first-class throughout, Golden-spangled being successful for the Hamburgh silver cup. The silver cup for *Polands* was also taken by the Golden-spangled variety. The class for *French Fowls*, and the Variety class, were exceedingly well filled. Game *Bantams* are often better shown, but some very superior Silver-laced Bantams were competing. The classes for Waterfowl proved a very strong feature in the Warrington Show, and excited much interest among the sight-seers.

In *Pigeons* we were agreeably surprised to find that the liberal offer of numerous cups by the Committee induced many exhibitors of note to send their best birds to compete, although it must have given many of them trouble to find foster-parents for their produce at this the close of the breeding season.

In Ponters Mr. Fulton won the cup with a magnificent White hen, that for Carriers he also won with a Dun hen. In the Carriers under one year the prize given by the Secretary for the best bird under one year (which we would suggest another year ought to be given for the best bird bred in the year of the show), was also taken by Mr. Fulton with a bird of this season, but we were not struck with it. In Short-faced Tumblers he took the cup with a beautiful pair of Almonds; but the cup for the best pair of Barbs, Turbits, or Owls went to the first-named variety. In the next classes, for the best in Jacobins, Fantails, Trumpeters, Magpies, or Nuns, Mr. Fulton won with Jacobins, making five cups altogether. In that for Dragoons Mr. Holland won with a pair of Reds, also first honours in Blues and Silvers, and divided the remaining honours with Messrs. Graham and Mitchell. In a strong class of Antwerps the cup went to Birmingham, also second honours. In the class for Any new variety plumaged birds shown in beautiful condition took the cup. In the Selling class there were many good and cheap pens. Commendations were not bestowed by the Judge, not from want of merit, but we presume from want of time, as a better collection of all varieties it has not been often our lot to see. Many were the birds not noticed here we have seen decorated at other shows with high honours.

Dorkings.—1 and 2, J. Martin. 3, Mrs. Arkwright. *hc*, T. Briden. *Chickens.*—1 and Cup, Mrs. F. S. Arkwright. 2, J. Martin. 3, W. H. King. *hc*, R. H. Richardson; F. Parlett; E. Leech.

Spanish.—1, Cup, and 2, C. W. Brierley. 3, Mrs. Allsopp. *hc*, W. Woolley; J. Walker; H. Beldon. *Chickens.*—1, J. Walker. Equal 1, Mrs. Allsopp. 2, H. Brown. 3, N. Cook. *hc*, W. R. Bull; Clowa & Adkins.

Cochins.—*Buff or Cinnamon.*—1, Cup, and 2, W. A. Taylor. 3, Henry Lingwood. *hc*, H. Lacy; Mrs. Allsopp; W. Sanday. *Chickens.*—1 and 2, W. A. Taylor. 3, W. P. Rylands. *hc*, J. Sichel.

Cochins.—*Partridge.*—1, W. A. Taylor. 2 and 3, E. Tudman. *Chickens.*—1 and 2, C. Sidgwick. 3, W. A. Taylor. *hc*, Horace Lingwood; E. Leech. *Subscribers' Cup.*—Cup, E. Leech. *hc*, Horace Lingwood. *c*, E. Tudman.

Cochins.—*White.*—Cup, J. Sichel. 2, Mrs. A. Williamson. 3, A. D. Cochrane. *hc*, E. Fearon.

Brahmas.—*Dark.*—1 and 3, H. Lacy. 2, T. F. Ansdell. *hc*, Rev. J. Richardson; T. Raines; H. Beldon; G. A. Stephens. *Chickens.*—1 and Cup, W. A. Taylor. 2, J. Ashworth. 3, T. F. Ansdell. *hc*, T. F. Ansdell; Horace Lingwood. *c*, J. Thomson.

Brahmas.—*Light.*—1 and Cup, H. M. Maynard. 2, Mrs. A. Williamson. 3, Rev. N. V. Ridley. *Chickens.*—1, T. A. Dean. 2 and 3, J. Pares. *hc*, H. M. Maynard.

Game.—*Any Variety.*—*Cock.*—1, R. Ashley. 2, C. Chaloner. 3, C. W. Brierley. *hc*, G. F. Ward.

Game.—*Black-breasted Reds.*—1, C. Chaloner. 2, E. Bell. 3, T. P. Lyon. *Chickens.*—1 and *hc*, C. Chaloner. 2, B. Jarvis. 3, S. Matthew.

Game.—*Brown and other Reds, except Black-breasted.*—1 and Cup, C. W. Brierley. 2, H. M. Julian. 3, R. Ashley. *Chickens.*—1, C. W. Laxton. 2, J. Carlisle. 3, J. Fletcher. *hc*, B. Jarvis; J. Carlisle (2).

Game.—*Any other Variety.*—1, C. W. Brierley. 2, C. Chaloner. 3, S. Matthew. *hc*, F. Sales. *c*, H. M. Julian. *Chickens.*—1, C. Chaloner. 2, Barker & Charnock. 3, W. H. L. Clare.

Hamburgs.—*Golden-spangled.*—1 and Cup, J. Rollinson. 2, H. Pickles, jun. *hc*, H. Beldon. *c*, J. Rollinson; J. Statter. *Silver-spangled.*—1, H. Beldon. 2 and *hc*, H. Pickles, jun. *Golden-pencilled.*—1, J. Rollinson. 2, Rev. J. Richardson. *hc*, H. Pickles, jun.; H. Beldon; T. Wrigley, jun. *Silver-pencilled.*—1, H. Beldon. 2 and *c*, H. Pickles, jun. *Black.*—1, C. Sidgwick. 2, W. A. Taylor. *Chickens* (any variety).—1, H. Pickles, jun. 2, G. Brown. *hc*, H. Beldon.

Polands.—*Silver-spangled.*—1, H. Pickles, jun. 2, H. Beldon. *c*, Mrs. J. M. Procter. *Golden-spangled.*—1, Cup, and *hc*, H. Beldon. 2, W. Harvey. *Any other Variety.*—1, T. Dean. 2, J. Battye. *hc*, T. Wakefield.

French Fowls.—*Houdans.*—1 and 3, R. B. Wood. 2, J. Weeks. *hc*, G. W. Hibbert. *Any other Variety.*—1 and Cup, R. B. Wood (Crêve-Cœurs). 2, H. Beldon. 3, E. Williams. *hc*, Rev. N. V. Ridley; J. Sichel; C. H. Smith.

Any other Variety.—1 and Cup, F. Wilton (Black Cochins). 2, S. R. Harris (Minorcas). 3, Rev. N. V. Ridley (White Leghorns). *hc*, W. G. Mulligan. (Scotch Greys); Rev. A. G. Brooke (Malays); G. Anderton (Sultans); —Johnson (Anconas). *c*, Mrs. F. Teale (Japanese Silkies).

Game Bantams.—*Cock.*—1, T. Sharples. 2, Ellis & Buckley. 3, W. Adams. *hc*, J. R. Robinson.

Game Bantams.—*Black-breasted Reds.*—1, G. Hall. 2 and 3, T. Sharples. *Chickens.*—1, J. Eaton. 2, T. C. & E. Newhitt. 3, T. Sharples. *hc*, Rev. C. J. P. Keene; J. W. Morris.

Game Bantams.—*Any other Variety.*—1, J. Eaton. 2 and 3, T. C. & E. Newbitt. *hc*, Bellingham & Gill. *Chickens.*—1, T. Dyson. 2, J. Eaton. 3 and *hc*, Rev. C. J. P. Keene.

Bantams.—*Any variety except Game.*—1 and Cup, M. Leno. 2, H. Beldon. 3, S. & R. Ashton. *hc*, M. Leno; H. Draycott; T. Waddington; J. Sichel.

Ducks.—*Aylesbury.*—1 and Cup, W. G. Mulligan. 2, E. Leech. *hc*, H. S. Stott; J. K. Fowler (2). *Rouen.*—1, R. Gladstone, jun. 2, J. Scotson. *hc*, T. Wakefield (2); E. Leech; H. S. Stott. *Black East Indian.*—1 and 2, S. Burn. *hc*, H. B. Smith. *Any other Variety.*—1 and Cup, C. W. Brierley. 2, H. B. Smith. *hc*, W. Binns; C. W. Brierley.

Geese.—1, J. K. Fowler. 2, E. Leech. *hc*, H. S. Stott. *c*, R. Gladstone, jun.

Selling Class.—*Single Cock.*—1, B. Jarvis. 2, W. R. Park. 3, N. Cook. 4, W. T. Storer. *hc*, F. Bennett; C. W. Brierley; J. Mansell. *c*, H. M. Julian. *Pair of Hens.*—1, Birch & Boulter. 2, Mrs. G. Granville. 3, W. Whittaker. 4, T. Bellman. *hc*, W. Whittaker; F. Steel; H. Beldon; C. W. Brierley; E. F. Gardom; W. T. Storer; H. Wilkinson. *c*, W. G. Mulligan. *Cock and Hen.*—1, J. Mansell. 2, Birch & Boulton. 3, A. Bamford. 4, W. Speakman. *hc*, W. G. Mulligan. *c*, F. Cooper.

PIGEONS.

Pouters.—*Cock.*—1, F. Gresham. 2 and 3, R. Fulton. *Hen.*—1, Cup, and 3, R. Fulton. 2, F. Gresham.

Carriers.—*Cock.*—1, G. J. Taylor. 2 and 3, R. Fulton. *Hen.*—1, Cup, and 3, R. Fulton. 2, G. J. Taylor. *Cock or Hen under One Year.*—Medal and 2, R. Fulton. 3, W. Walton.

Tumblers.—*Almond.*—1, Cup, 2, and 3, R. Fulton. *Short-faced.*—1, F. Moore. 2 and 3, R. Fulton. *Long-faced.*—1, W. Harvey. 2, J. M. Braid (Baldheads). 3, F. Moore.

Barbs.—1 and Cup, for the best pair in Barb, Turbit, and Owl classes, G. J. Taylor. 2 and 3, R. Fulton.

Turbits.—1, G. Roper. 2, W. Kitchen. 3, Mrs. T. Robson.

Owls.—1, R. Fulton. 2, J. Fielding, jun. 3, W. Hardy.

Jacobins.—1 and Cup, for the best pair in the Jacobin, Fantail, Nun, Trumpeter, and Magpie classes, and 2 and 3, R. Fulton.

Fantails.—1, R. Fulton. 2, J. F. Loversidge. 3, W. Harvey.

Nuns.—1, T. Waddington.

Trumpeters.—1, J. Cundale. 2, Mrs. T. Robson. 3, W. Harvey.

Magpies.—1, J. B. Bowden. 2, T. Waddington. 3, W. H. Wright.

Dragoons.—*Silver or Blue.*—1 and 3, J. Holland. 2, F. Graham. *Any other Colour.*—1, Cup, for the best pair of Dragoons, and 3, J. Holland. 2, W. H. Mitchell.

Antwerps.—Cup, J. Wright. 2, J. J. Bradley. 3, J. W. Collinson. All the class highly commended.

Any New or Distinct Variety.—Cup, T. Waddington. 2, W. Kitchen. 3, W. R. Parke.

Selling Class.—Cup and 3, I. Bush. 2, J. Forde. 4, F. Kay.

Messrs. Hewitt, of Birmingham, and Teehay, of Preston, were the Judges of Poultry. Mr. Ridpeth judged the Pigeons. Mr. Hedley was referee, but his services were not called into requisition.

IDLE POULTRY SHOW.

This was held on the 5th inst., when the following awards were made:—

Game.—*Black-breasted or other Reds.*—1 and 3, W. Johnson, Idle. 2, H. Jowett, Shipley. *Chickens.*—1, H. Jowett. 2 and 3, W. Johnson. *Any other Variety.*—1, J. W. Thornton, Bradford. 2, H. Jowett. 3, J. Mason, Worcester. *Chickens.*—1, T. Noel, Baildon. 2, Brentnall & Kite. 3, H. Jowett.

Spanish.—*Black.*—1, H. Beldon. 2, J. Thresh. *Chickens.*—1 and 2, J. Thresh.

Cochin-China.—1, H. Beldon. 2, T. H. Readman, Whithy. *Chickens.*—1, C. Sidgwick. 2, Baxter & Dawson. 3, O. Stansfield.

Hamburgh.—*Silver-spangled.*—1, H. Beldon. 2, N. Pickles, jun., Earby. 3, T. Fawcett, Baildon. *Chickens.*—1, J. Wright. 2, T. Fawcett. 3, N. Pickles, jun. *Gold-spangled.*—1 and 3, H. Beldon. 2, N. Pickles, jun. *Chickens.*—1, N. Pickles, jun. *Silver-pencilled.*—1, N. Pickles, jun. 2, H. Beldon. *Chickens.*—1, H & J. Garnett. *Gold-pencilled.*—1, H. Beldon. 2, N. Pickles, jun. 3, J. Crabtree, Shipley. *Chickens.*—1, T. Garnett. 2, N. Pickles, jun. *Black.*—1, H. Beldon. 2, C. Sidgwick. 3, H. W. Illingworth. *Chickens.*—1, C. Sidgwick. 2, W. Fawcett. 3, H. W. Illingworth.

Brahma Pootra.—1, H. Beldon.

POLAND.—1 and 2, H. Beldon. 3, N. Pickles, jun.
FRENCH.—1, H. Beldon.
BANTAMS.—*Game.*—Cup, 1, and 2, W. F. Entwisle (Black Red and Poles). 3, E. Ibbetson, Idle. *Chickens.*—1, W. F. Entwisle. 2, E. Riley. 3, J. W. Thornton, Bradford. *Any other Variety.*—1, S. & R. Ashton. 2, H. Beldon. 3, N. Pickles, jun.
DUCKS.—*Rouen.*—1, H. Jowett. 2, T. Garnett, Idle. 3, M. Scott. *Any other Variety.*—1, S. & R. Ashton. *Ducklings.*—1, N. Pickles, jun. 2. M. Scott. 3, H. Jowett.
ANY OTHER VARIETY.—*Chickens.*—1, M. Sutcliffe. 2, W. Johnson. 3, J. W. Thornton.

PIGEONS.—*Carriers.*—1 and 2, E. Horner, Harewood. 3, H. Yardley, Birmingham. *Dragoons.*—1, H. Stanhope, Eccleshill. 2 and 3, F. Graham, Birkenhead. *Pouters.*—Cup and 1, J. W. Cannan, Bradford. 2, E. Horner. 3, H. Yardley. *Trumpeters.*—1 and 2, E. Horner. *Tumblers* (Short-faced).—1 and 3, E. Horner. 2, H. Yardley. (Long-faced).—1, E. Horner. 2, W. Lund, Shipley. 3, H. Yardley. *Owls.*—1, H. Yardley. 2, J. Thresh. 3, E. Horner. *Turbits.*—1 and 3, E. Horner. 2, W. Lund, Shipley. *Antwerps.*—1, H. Stanhope. 2, B. Lancaster, Baildon. 3, C. Smith, Idle. *Fantails.*—1, H. Yardley. 2, E. Horner. *Any other Variety.*—1, E. Horner. 2, W. Lund. 3, W. Ellis.

LITTLEBOROUGH AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE following are the awards made at this Show, which took place on the 12th inst. :—

GAME.—1 and 2, C. W. Brierley, Middleton. *Cock.*—1 and 2, C. W. Brierley. 3, J. Oldfield, Shibden. *Hen.*—1, C. W. Brierley. 2 and 3, T. Dyson, Halifax. *hc*, C. W. Brierley; W. Ormerod, Pexhouse, Todmorden.
BRAHMA POOTRAS.—1, J. Ashworth, Rochdale. 2, H. Lacey, Hebden Bridge. *c*, J. Ashworth; H. Lacey. *c*, J. Watts, King's Heath, Birmingham.
COCHIN-CHINA.—*Cinnamon and Buff.*—1. H. Lacey. 2, E. Leech, Rochdale. *hc*, A. Bamford, Middleton. *Any other Variety.*—1, E. Leech. 2, A. Bamford.
BANTAMS.—*Game.*—1, J. W. Morris. 2, G. Haworth. *Cock.*—1, S. Smith, Northowram. 2, G. Haworth, Holden Wood. *Any other Variety.*—1, G. W. Robinson, Halifax. 2, J. Watts. *hc*, S. & R. Ashton, Motram; J. Watts.
DORKINGS.—1, W. H. King, Rochdale. 2, J. Stott, Healey, Rochdale. *hc*, S. H. Stott; W. H. King.
SPANISH.—Cup, 1, and 2, C. W. Brierley. *hc*, J. Stott, jun., Bank, Wardle.
HAMBURGHS.—*Golden-pencilled.*—1, S. Smith. 2, T. Wrigley, jun., Middleton. *hc*, H. Pickles, jun., Earby, Skipton; T. Wrigley, jun. *Silver-pencilled.*—1 and 2, H. Pickles, jun. *Golden-spangled.*—1, J. Rollinson, Lindley. 2, J. Statter, New Brighton. *Silver-spangled.*—1, E. Vickup, Lumb, Newchurch. 2, H. Pickles, jun. *Black.*—1, C. W. Brierley. 2, J. Buxton, Rochdale.
POLANDS.—1 and 2, H. Pickles, jun. *hc*, P. Unsworth, Newton-le-Willows.
ANY OTHER VARIETY.—1, G. Anderton, Accrington.
SELLING CLASS.—1, J. T. Travis, Rochdale. 2, A. Bamford, Middleton, Manchester. *hc*, S. Buckley, Ending.
LOCAL CLASS.—*Any Variety.*—Cup and 1, J. T. Travis. 2, C. Whitehead, Ealees, Littleborough. 3, B. Hutchinson, Shaw Moss, Littleborough. *hc*, S. Renshaw, Gale, Littleborough; W. Butterworth, Light Alders, Littleborough; B. Hutchinson (2).
GEESE.—1, S. H. Stott. 2, E. Leech. *hc*, E. Lord, Littleborough.
DUCKS.—*Aylesbury.*—1, E. Leech. 2, S. H. Stott. *Rouen.*—1 and 2, T. Wakefield, Newton-le-Willows. *hc*, S. H. Stott, E. Leech; P. Unsworth; R. Hurst, Rochdale. *Any other Variety.*—1 and 2, C. W. Brierley.
TURKEYS.—1, Leech. 2, R. Hurst.

PIGEONS.

POUTERS.—*Cock.*—1 and 2, E. Horner, Harewood, Leeds. *Hen.*—1 and 2, E Horner.
CARRIERS.—*Cock.*—1, E. Horner. 2, J. Stanley, Salford, Blackburn. *Hen.*—1 and 2, E. Horner.
TUMBLERS.—*Almond.*—1, F. Moore, Burnley. 2, J. Fielding, jun., Rochdale. *Any other Variety.*—1, J. Fielding, jun. 2, E. Horner.
DRAGOONS.—1, E. Horner. 2, P. Unsworth.
FANTAILS.—1, H. Yardley, Birmingham. 2, J. S. Leversidge, Newark-on-Trent.
BARBS.—1, J. Fielding, jun. 2, J. Stanley.
JACOBINS.—1, E. Horner. 2, J. Taylor, Rochdale.
ANTWERPS.—1, J. Stanley. 2, P. Unsworth.
TURBITS.—1, A. Mangnall, Bronghton, Manchester. 2, W. Kitchen, Blackburn.
TRUMPETERS.—1, E. Horner. 2, W. Kitchen.
OWLS.—*Foreign.*—1 and 2, J. Fielding, jun. *English.*—1 and 2, A. Mangnall.
NUNS.—1, J. B. Bowdon, Blackburn. 2, H. Yardley.
BALDS OR BEARDS.—1 and 2, J. Fielding, jun.
ANY OTHER VARIETY.—1, W. Kitchen. 2, T. Waddington.
Cup for most points.—E. Horner.

RABBITS.

LOPS.—1, A. H. Easten, Hull. 2, J. Boyle, jun., Blackburn. *hc*, S. Greenwood.
ANGORA.—1, J. Baron, Rochdale. 2, J. Boyle, jun. *hc*, A. H. Easten.
HIMALAYAN.—1 and *hc*, J. Boyle, jun. 2, J. Butterworth.
SILVER-GREY.—1 and *hc*, S. G. Hudson, Hull, 2, S. Greenwood.
ANY OTHER VARIETY.—1, S. G. Hudson (Dutch). 2 and *hc*, J. Boyle, jun. (Grey and White Dutch and Belgian Buck.
SELLING CLASS.—1, J. Boyle (Silver-Grey). 2, A. H. Easten (Angora). *hc*, J. Butterworth (Yellow and White Lop).

JUDGES.—*Poultry:* Mr. R. Teebay, Fulwood, Preston. *Pigeons:* Mr. Ridpeth, Outwood Hall, Handforth, Manchester. *Rabbits:* Mr. C. Rayson.

GREETLAND AND WEST VALE POULTRY SHOW.

THIS was held on August 12th. The awards were as follow :—

BRAHMA POOTRA.—1, D. Spencer, Copley. 2, Dr. Holmes, Whitecoats, Chesterfield. *Chickens.*—1, Dr. Holmes. 2, J. Bailey, Earby.
COCHIN-CHINA.—1, J. E. Eastwood, West Vale. 2, J. Baldwin, Greetland. *Chickens.*—1, E. Day, Wakefield. 2, J. Greenwood, Copley.
SPANISH.—2, (no competition) R. Holroyd, Barkisland. *Chickens.*—2, G. Bettison, Scholes, Greetland.
HAMBURGHS.—1, S. Smith, Northowram. 2, W. Waterhouse, Upper Exley, Southowram. *Chickens.*—1, S. Hirst, Stainland. 2, S. Smith.
GAME.—1 and 2, R. Hemingway, Shelf. *Chickens.*—1, 2, and Timepiece for best pen in the Show, T. Dyson, Halifax. *hc*, R. Hemingway.
GAME BANTAMS.—1, W. Hansen, Greetland. 2, A. Bailey. *Chickens.*—1, T. Dyson.
ANY OTHER BREED.—2, T. Briden, Earby, Skipton. *Chickens.*—1, S. Hirst, Stainland. 2, T. Briden.
EXTRA PRIZES.—*Game.*—*Hen.*—1, W. Sugden, Rastrick. 2, T. Dyson. *Cock* (Local).—1, S. Farwell, Elland. 2, V. Barton, Greetland. *Any Breed.*—2, W. Hirst.
DUCKS.—1, J. Holroyd, Barkisland. 2, J. Fielding, Greetland. *ucklings.*—1, R. Sykes, Stainland. 2, J. W. Parr, Greetland.
GEESE.—1. C. E. Parr. 2, G. Bettison, Scholes, Greetland. *Gos ings.*—1, G. Bettison, Scholes, Greetland. 2, J. Maude, West Vale.
TURKEYS.—1 and 2, J. Sykes, Skircoat. *Poults.*—1, A. Smith, Old Lindley Edge. 2, J. Jackson, Old Lindley Edge.

OKMSKIRK AND SOUTHPORT POULTRY SHOW.

THIS was held on the 10th and 11th inst., and was on the whole good. The adult *Dorkings*, as a class, were rather weak, but the Dorking chickens remarkably good, and the competition keen. *Cochins*, both Buff and Partridge-feathered, were fully equal to, if not better, than anything we have seen in Ormskirk. *Brahma Pootras* were not so numerous as on previous occasions. *Game* were only poorly represented, with the exception of a few pens of good chickens. The Golden-spangled and Pencilled *Hamburghs* were few but excellent. Aylesbury *Ducks* were few, but remarkably good. Ronen Ducks formed a very strong and snperior class. Only two pens of *Turkeys* were exhibited. *Pigeons* were perhaps better than on previons occasions. The following is a list of the prizes :—

DORKINGS.—*White.*—1 and 2, J. Robinson. 3, M. Fairhurst, Ormskirk. *Chickens.*—1, E. Williams, Henllys Berriew. 2 and 3, J. Robinson. *Coloured.*—1, T. Brid n, Earby, Skipton. 2, W. H. King, Rochdale. 3, J. Robinson. *hc*, T. Hornby, Lsthom. *Chickens.*—1, R. W. Richardson, Beverley. 2, E. Leech, Rochdale. 3, W. H. King.
COCHIN-CHINA.—*Buff.*—1, H. Beldon, Bingley. 2, W. A. Taylor, Manchester. 3, T. Stretch, Ormskirk. *Chickens.*—1, T. Stretch. 2, W. A. Taylor. 3, C. Sidgwick, Keighley.
PARTRIDGE OR GROUSE.—1 and 2, T. Stretch. 3, W. H. Fowler, Southport. *Chickens.*—1, C. Sidgwick. 2, E. Leech. 3, P. Woods, jun., Ormskirk.
BRAHMA POOTRA.—1, H. Beldon, Bingley. 2, J. Sichel, Timperley. *Chickens.*—1, W. A. Taylor.
SPANISH.—1, H. Beldon. 2, H. Wilkinson, Earby, Skipton. 3, J. Sichel, Timperley. *Chickens.*—1, H. Beldon. 2, H. Wilkinson.
GAME.—1, M. A. Forde, Maghull. *Chickens.*—1 and 2, J. Carlisle, Earby. 3, M. A. Forde. *Any variety.*—*Cock.*—1, G. F. Ward, Wrenbury. 2, T. P. Lyon, Liverpool.
HAMBURGHS.—*Golden-spangled.*—1 and 3, H. Pickles, jun., Earby, Skipton. 2, H. Beldon. *Silver-spangled.*—1 and 3, H. Pickles, jun. 2, H. Beldon. *Golden-pencilled.*—1, H. Beldon, 2, H. Pickles, jun. *Silver-pencilled.*—1 and 2, H. Pickles. 3, H. Beldon.
BANTAMS (Any variety).—1, J. W. Morris, Rochdale. 2, J. Sumner, Holland Moor. 3, H. Beldon.
GAME BANTAM (Any variety).—*Cock.*—1 and 2, J. Sumner. 3, C. J. P. Keene, Halsall.
ANY OTHER VARIETY.—1 and 2, H. Beldon. 3, J. Sichel, Timperley. *hc*, C. Morris, Grassendale.
DUCKS.—*Aylesbury.*—1 and 3, J. K. Fewler, Aylesbury. 2, E. Leech, Rochdale. *Rouen.*—1, 2, and *hc*, R. Gladstone, jun., Court Hey. 3, J. K. Fowler.
GEESE.—*Any Variety.*—1, J. T. E. Fowler. 2, J. Bryers, Ormskirk. 3, R. Parr, Aughton. *Goslings.*—1, J. K. Fewler. 2, R. Parr. 3, J. Bryers. *hc*, E. Leech.
TURKEYS.—*Any Variety.*—1, E. Leech. 2, C. Morris, Grassendale.

PIGEONS.

CARRIERS.—*Cock.*—1, T. Waddington, Feniscowles, Blackburn. 2, T. Stretch, Ormskirk. *Hen.*—1, H. Yardley, Birmingham. 2, T. Waddington. POUTERS.—1 and 2, T. Waddington. *hc*, T. Stretch; J. Philips, Anfield. JACOBINS.—1, H. Yardley. 2, T. Waddington. BARBS.—1, H. Yardley 2, J. Philips. *hc*, M. Hatchforth, Croston. TUMBLERS.—1, H. Yardley. 2, T. Waddington. ANY OTHER DISTINCT VARIETY.—1 and 2, T. Waddington. *hc*, J. Philips; H. Yardley.

JUDGES.—Mr. E. C. Stretch and Mr. Hutton.

ALDBOROUGH AND BOROUGHBRIDGE POULTRY SHOW.

THE eleventh annual Exhibition was held in the park of Aldborough Manor, on the 1st inst.

DORKINGS.—1, R. Petter, Whixley. 2, Miss E. A. Dalton, Slenningford, Ripon. *hc*, R. F. Farrar, Greenhammerton Hall. *Chickens.*—1, Mrs. B. Pierse. 2, F. Parfitt, Londonderry, Bedale. *hc*, Miss E. A. Dalton. *c*, H. R. Farrar; H. S. Thompson, Kirby Hall.
SPANISH.—1, J. Robson, Thornton-le-Moor. 2, H. R. Farrar. *Chickens.*—1, H. R. Farrar. 2, J. Robson.
GAME.—1, J. Watson, Knareshorough. 2, J. Watson, jun., Knareshorough. *Chickens.*—1, G. Carver, Sandhill, Bedale. 2, J. Robson.
COCHIN-CHINA.—1, T. S. Turner, Boroughbridge. 2, W. Barnes, Thirsk. *Chickens.*—1 and 2, H. R. Farrar.
BRAHMA POOTRA.—1, Miss B. Pierse. 2, F. Horsman, Boroughbridge. *hc*, H. S. Thompson. *c*, F. Carver, Langthorpe, Boroughbridge. *Chickens.*—1 and *hc*, Miss B. Pierse. 2, H. S. Thompson. *c*, J. King, Boroughbridge.
HAMBURGHS.—*Golden-spangled.*—1, J. Watson. 2, R. P. Moon, Driffield.
HAMBURGHS.—*Golden-pencilled.*—1, W. Bearpark, Ainderby Steeple. 2, J. Watson. *Chickens.*—1, Miss E. M. Ellerby, Easingweld.
HAMBURGHS.—*Silver-spangled.*—1, J. Walker, Great Ouseburn. 2, G. Slater, Ripon. *Chickens.*—1, J. Robshaw. 2, J. Walker.
HAMBURGHS.—*Silver-pencilled.*—1, W. Bearpark. 2, Miss B. Pierse. *Chickens.* 1, J. Watson. 2, Miss B. Pierse.
POLANDS.—1, W. Bearpark. 2, C. Walker. *hc*, T. S. Turner. *Chickens.*—1, T. S. Turner. 2, C. Walker.
BANTAMS.—*Game.*—1, G. H. Pickering, Driffield. 2, W. P. Garrett, Dunsforth, York. *Any other Variety.*—1, E. R. Turner. 2, J. Watson.
FARMYARD CROSS.—1, R. P. Moon. 2, Miss Woodward, Minskip. *hc*, W. Bickerdike, Brampton Hall. *Chickens.*—1, H. S. Thompson. 2, H. J. Farish.
ANY OTHER VARIETY.—1, W. Bearpark. 2, Miss Barclay, Aske. *hc*, Miss B. Pierse (2); H. R. Farrar. *c*, J. Watson; E. H. W. Dickson, Little Ouseburn.
TURKEYS.—1, I. Moorey. 2, T. Smith. *Poults.*—1, W. W. Garwood. 2, I. Moorey.
GEESE.—1 and 2, J. T. Renton, Ripon. *Goslings.*—1, W. Bickerdike. 2, J. T. Renton.
DUCKS.—*Aylesbury.*—1, T. Carver. 2, H. S. Thompson. *Ducklings.*—1, H. S. Thompson. 2, H. R. Farrar. *hc*, T. Carver; H. R. Farrar.
DUCKS.—*Rouen.*—1 and 2, C. Graham, Aldborough. *Ducklings.*—1, C. Graham. 2, G. Sadler.
DUCKS.—*Any other Variety.*—1, G. Sadler, Boroughbridge. 2, F. Parfitt.
GUINEA FOWLS.—1, Miss B. Pierse. 2, I. Moorey. *hc*, J. Renton; W. Bickerdike.
SELLING CLASS.—1, Mrs. T. S. Turner. 2, J. Watson, jun.

PIGEONS.

POUTERS.—1, E. Horner, Harewood. 2, G. Sadler. *hc*, E. Horner; R. P. Moon.
CARRIERS.—1 and 2, E. Horner.

Trumpeters.—1, E. Horner. 2, J. Cundale, Copt Hewick, Ripon.
Jacobins.—1 and 2, E. Horner. *hc*, J. Watson, jun.; G. Sadler.
Fantails.—1, E. Horner. 2, G. Sadler. *hc*, J. Watson, jun.; C. Auton, York; G. H. Pickering.
Tumblers.—1, E. Horner. 2, C. Anton. *hc*, G. Sadler.
Barbs.—1, 2, and Cup for the best pen of Pigeons in the Show, E. Horner.
Nuns.—1, G. Sadler. 2, G. H. Pickering.
Turbits.—1, E. Horner. 2, G. Sadler. *hc*, C. Auton.
Antwerps.—1, J. Cundale. 2, C. Auton. *hc*, G. Sadler; E. Horner.
Owls (English).—1, G. Sadler. 2, J. Cundale.
Any other Variety.—1, E. Horner. 2, C. Auton. *hc*, R. P. Moon.
Selling Class.—1, G. Sadler. 2, J. Hardcastle, jun., Skelton, Ripon (Balds).

Rabbits.—*Any Breed.—Buck.*—1, C. Anton. 2, C. Taylor, Minskip. *hc*, I. Slade, Boroughbridge; G. Umpleby, Boroughbridge; T. Gargrave. *Doe.*—1, C. Anton. 2, T. Taylor, York. *hc*, J. Benson; C. Russell, Aldborough; T. Taylor: Master Dawson, Aldborough Manor. *Extra Class.*—1, W. Bickerdike (Peacock and Peahen). 2, T. S. Turner, Boroughbridge (Japanese). 3, — Brooks, Aldborough (Owl).

Judge.—Mr. Beldon.

[We publish this prize-list with great reluctance, seeing that so long a time has elapsed since the Show; and we must beg secretaries to send us prize-lists as soon as possible after the awards have been made.—Eds.]

ALLERTON POULTRY SHOW.

The seventh annual Show of the Allerton Society was held on the 12th inst., and was well attended by visitors, but owing to the reduction of the prize list and another Show being held on the same day, the number of entries was not equal to that of last year. There was, however, scarcely a class that did not contain some excellent birds.

In single *Game* cocks Brown Reds were first and third and Black Red second, and in pairs of birds Brown Reds won all the prizes. *Spanish* were good and well placed; and in *Cochins* Whites of great excellence and in the highest condition were first, Buffs second and third. The *Brahmas* were of moderate quality. *French fowls* were good, the first and third prizes going to Crêve-Cœurs, and the second to La Flèche. *Hamburghs* are seldom seen in such good feather at this time of year as they were at Allerton, and with the exception of the Golden-pencilled, which were faded in colour, the classes were of uniformly high quality. The *Bantam* classes were badly distributed, Game being allowed a class of their own, and also to compete with the other varieties, and in consequence the entries were unusually small.

In chickens, the *Game* classes contained some good birds, and in *Cochins* all three prizes were taken by one exhibitor, showing excellent specimens. The entries of *Hamburghs* were more numerous in the young than in the old classes. The first-prize Golden-spangled were a handsome pair, as also the Silvers; the cockerel of the latter pen was one of the best we have ever seen. The Golden-pencilled pullets were rather light in ground colour, but the Silver-pencilled were very good in colour and markings, and the Black Hamburghs were also a nice lot. The Red Game *Bantams* were shown in splendid order and full feather, and in the Variety class Blacks were first, Duckwings second, and Pekins third. Of *Ducks* there were some good Rouens, and also Bahamas in the Variety class.

A cup was offered to the most successful exhibitor of *Pigeons*, and this was easily won by Mr. W. Cannan with a fine stud of birds. Ponters stood first, Blues taking the place of honour, the cock bird measuring 20 inches in feather, and 7⅞ in limb, and the hen 18½ and 7 inches in limb. The Whites were second, measuring 19½ and 6½ inches, and 18½ and 6½ inches; third were Blues, 18¾ and 7 inches, and 18½ and 7½ inches; the latter were, however, a little foul-thighed and out of feather. In Carriers, Duns of extraordinary merit were first, although somewhat out of condition, and Blacks second and third. In Short-faced Tumblers, Almonds were first and third, and Yellow second. The first-prize pair were all that could be desired. A pair of perfectly-marked Red Mottles stood first in Long-faced Tumblers, closely pressed by Black Baldpates; and Black Mottles were third. The Owls were a mixed class, both Foreign and English competing together, and the first award was made to Foreign Blues, the second to Whites, and the third to Blue English, the whole being perfect of their kind, although the last-named were not clean. Turbits find their home in the immediate vicinity of Allerton, and scarcely a pen was shown which was not deserving of a prize. Yellows were first, Reds second, and Blues third. Jacobins were good, Reds being first and Yellows second and third. Fantails were good. The first-prize pair was very small. In Barbs, Duns were first, Blacks second, and Reds third. In Dragoons, Blues were first, although considerable doubt was felt by the Judge as to the sexes of the birds; but if these be a correct pair, we may congratulate the owner upon the possession of the best pen we have ever seen. Trumpeters were very good; a handsome pair of Black Mottles were first, Blacks second, and broken-coloured Black and White third. Of Nuns, Blacks were first and second, and Reds third. The most striking pair of birds, however, was left out on account of the severity of trimming. The heads and throats of both birds were denuded of every foul feather, and we would advise Mr. Yardley to give them a long rest before they again appear in the show pen. Antwerps were a good class, Duns being first, Red Chequers second, and Blues third. Magpies were good, with Reds first and third, and Yellows second. In the Variety class were some good birds. Porcelain Swallows were first, Porcelain Ice second, and Ural Ice Pigeons third. There were some cheap birds in the Selling class, notably the first-prize Black Magpies, which were perfect.

Game.—*Any Variety.*—1, J. Hodgson, Bowling, Bradford. 2, W. Johnson, Idle. 3, H. Jenninga, Allerton. *Cock.*—1, Miss Aykroyd, Eccleshill. 2, W. Fell, Adwalton. 3, J. Preston, Allerton. *Hen.*—1, J. Smith, Allerton. 2, W. Spencer, Haworth. 3, Miss Aykroyd. *c*, E. Redman, Northowram; W. Fell.
Spanish.—*Black.*—1, H. Beldon, Goitstock, Bingley. 2, J. Powell, Bradford. 3, J. Thresh, Bradford.
Cochin-Chinas.—1, J. Sichel, Timperley. 2, H. Beldon. 3 and *c*, W. A Taylor, Manchester.
Brahma Pootras.—1, H. Beldon. 2, J. Sichel. 3, J. Preston.
French Fowls.—1, H. Beldon. 2, Hon. C. W. Fitzwilliam, Wentworth Woodhouse. 3, J. Sichel. *c*, Hon. H. W. Fitzwilliam, Wentworth Woodhouse (Crêve-Cœurs).
Hamburghs.—*Golden-spangled.*—1 and 2, H. Beldon. 3, H. Pickles, jun., Earby, Skipton. *c*, J. Rollinson, Lindley, Otley. *Silver-spangled.*—1 and *c*, H. Beldon. 2 and 3, H. Pickles, jun. *Golden-pencilled.*—1, H. Beldon. 2, H. Pickles, jun. 3, J. Rollinson. *Silver-pencilled.*—1 and 3, H. Beldon. 2, H. Pickles, jun. *Black.*—1, C. Sedgwick, Keighley. 2, H. Beldon. 3, J. Smith, Gilstead. *c*, J. Preston.
Game Bantams.—*Red.*—1, G. Noble, Staincliffe, Dewsbury. 2, W. F. Entwisle, Cleckheaton. 3, F. Steel, Burnley. *Any other Variety.*—1, W. F. Entwisle. 2, H. Beldon. 3, J. Sichel.

CHICKENS.

Game.—*Red.*—1, J. Spencer, Clayton. 2, Miss Spencer, Clayton. 3, Miss Aykroyd. *Any other Variety.*—1 and 2, Barker & Charnock, Illingworth. 3, Brentnall & Kyte, Nottingham. *Pullet.*—1, J. Hird, Bingley. 2, J. Robertshaw, Thornton. 3, Miss Aykroyd. *c*, T. Briggs, Fearncliffe, Bingley.
Cochin-Chinas.—1, 2, and 3, C. Sedgwick.
Hamburghs.—*Golden-spangled.*—1, H. Pickles, jun. 2, H. Beldon. 3, T. Dean, Keighley. *Silver-spangled.*—1 and 3, H. Beldon. 2, T. Fawcett, Baildon. *Golden-pencilled.*—1, J. Smith. 2, H. Pickles, jun. 3, J. Preston. *Silver-pencilled.*—1, J. Preston. 2, H. Smith, Morton Banks. 3, H. Beldon. *c*, H. Pickles, jun.; H. Beldon. *Black.*—1 and 2, C. Sedgwick. 3, W. A. Taylor.
Game Bantams.—*Red.*—1 and 2, W. F. Entwisle. 3, G. Noble. *Any other Variety.*—1, H. Beldon. 2, T. Dyson, Halifax. 3, J. Sichel.
Selling Class.—1, J. J. Booth, Silsden. 2, J. W. Thornton, Bradford. 3, J. Berry, Silsden.
Ducks.—*Rouen.*—1, J. Newton. 2, A. West, Worsthorn, Burnley. 3, J. J. Booth. *Aylesbury.*—1, J. Preston. *Any other Variety*,—1 and 2, W. Binns, Pudsey.

PIGEONS.

Pouters.—1, 2, and 3, W. Cannan, Bradford. *c*, H. Yardley, Birmingham; E. Horner, Harewood, Leeds.
Carriers.—1, W. Cannan. 2 and 3, E. Horner. *c*, H. Yardley.
Tumblers.—*Short faced.*—1, E. Horner. 2, W. Cannan. 3, H. Yardley. *c*, J. T. Lishman, Girlington. *Any other Variety.*—1 and 3, W. Cannan. 2, J. T. Lishman. *hc*, H. Yardley. *c*, E. Horner.
Owls.—1 and 3, W. Cannan. 2, R. Wilson, Thirsk. *hc*, E. Horner.
Turbits.—1, J. W. Cannan. 2, J. T. Lishman. 3, T. Foster, Denholmegate. *c*, R. Wilson; W. Cannan; J. T. Lishman.
Jacobins.—1, W. Cannan. 2, E. Horner. 3, R. Wilson.
Fantails.—1, J. F. Loversidge, Newark-on-Trent. 2, H. Yardley. 3, J. T. Lishman.
Barbs.—1 and 3, E. Horner. 2, H. Yardley.
Dragoons.—1, H. Yardley. 2, W. Cannan. 3, J. W. Cannan. *c*, E. Horner.
Trumpeters.—1, J. Cundall, Ripon. 2 and *c*, W. Cannan. 3, E. Horner.
Nuns.—1, R. Wilson. 2, H. Yardley. 3, J. T. Lishman.
Antwerps.—1, J. W. Collinson, Halifax. 2, J. T. Lishman. 3, W. Cannan. 4, E. Horner. *hc*, J. W. Collinson; W. Cannan.
Magpies.—1, J. T. Lishman. 2 and 3, E. Horner.
Archangels.—1 and 2, H. Yardley. 3, W. Binns.
Any other Variety.—1 and 2, J. T. Lishman. 3, W. Lund, Shipley.
Selling Class.—1, A. Preston, Allerton. 2, J. W. Cannan. 3, W. Lund.

Rabbits.—*Common.*—1, J. Knight, Allerton. 2, E. Fairbank, Allerton. 3, F. Moore, Allerton.

Judges.—*Poultry:* Mr. J. Dixon, Bradford. *Pigeons:* Mr. E. Hutton, Pudsey, near Leeds.

LEICESTER AGRICULTURAL SOCIETY'S POULTRY SHOW.

The weather has been singularly favourable of late to the success of poultry exhibitions, and in no case more so than at Leicester; hence the financial success of this year's meeting will stand high in the records of this Society. Messrs. Turner's show pens, and capital roomy tents left nothing to be desired, and the courtesy of the Committee, with the care they gave to the birds, could not be excelled. In a general class for *Dorkings*, a pen of White took the first prize, a circumstance attributable to great want of condition in the Grey Dorkings generally. A very strong feature was the early chickens of almost every variety, while other shows have been remarkable for the scarcity of anything like really early chickens. *Cochins* throughout were such as had never previously appeared before the Leicester public, though a few pens were sadly amiss from being overshown. Whilst speaking of Cochins, we cannot but remark that some especially good Partridge hens were exhibited by the Honorary Secretary, Mr. Sheppard, at the low price of a guinea a-couple, in the sale class! Of these, of course, there was a speedy disposal. Many well-known *Game* cocks were shown that in bygone years were frequent winners, but which by age and accidents have become so faulty in the feet as to be only useful in future for stock purposes. Some fine young Game pullets, fully grown and close on laying, were to be met with in considerable numbers. A few very perfect *Hamburghs* were present, but the entries were limited. Game *Bantams* were a failure. The Selling classes contained generally a very cheap entry of good birds, and we are told the sales effected were considerable. Mr. Yardley had it pretty well his own way with a carefully-sent selection of *Pigeons*, and of *Water fowls* there was a good and large entry.

Dorkings.—1, J. Choyce, Atherstone. 2, W. H. Salt, Leicester. *Pullets.*—1, J. Watts, King's Heath. *Cockerels.*—1, J. Watts.
Spanish.—1, J. Stephens, Walsall. 2, M. Brown, Melton Mowbray. *hc*, H. Marshall, Cropwell Butler; J. Watts. *Pullets.*—1, M. Brown. *hc*, J. Stephens. *Cockerels.*—1, J. Stephens.
Cochins.—*Cinnamon and Buff.*—1, H. Yardley. 2, H. C. Woodcock, Rearsby House, Leicester. *hc*, J. Watts; H. C. Woodcock. *c*, J. Hassal, Leicester.

Pullets.—1, H. C. Woodcock. *hc*, J. Hassel. *Cockerels.*—1. J. Watts. *White.*—1, Mrs. Williamson, Queeniborough Hall, Leicester 2, H. E. Emblin, Oadby, Leicester. *Pullets.*—1, Mrs. Williamson. *c*, H. E. Emblin. *Cockerels.*—1, Mrs. Wiliamson. *hc*, H. E. Emb'in. *Any other Variety.*—1, J. Stephens. *Pullets.*—1, J. Stephens. *Cockerel.*—1, J. Stephens.

Brahmas.—1, W. Stevens, Northampton. 2. Mrs. Williamson. *c*, J. Allen; J. Watts. *Pullets.*—1. H. C. Woodcock. *hc*, J. Watts; Mrs. Williamson. *Cockerel.*—1, J. Watts. *hc*, W. Stevens.

Game.—1, H. Marshall. 2, W. E. Oakeley, Atherstone. *Pullets.*—1, W. H. Clare. 2, W. E. Oakeley. *hc*, W. T. Everard; W. E. Oakeley. *Cockerel.*—1, W. T. Everard. *hc*, Lord Manchline, Derby; W. E. Oakeley. *c*, W. H. Clare. *Cock.*—1, W. E. Oakeley.

Hamburghs.—*Golden-spangled.*—1, J. Stenhens. 2, J. W. Swallow, Northampton. *hc*, H. E. Emberlin. *Silver-spangled.*—1, J. Choyce. 2, No competition.

Game Bantams.—1, H. Yardley. 2, W. Brown, Cliff, Atherstone.

Bantams.—*Clean-legged, any other variety.*—1, W. H. Johnson, Braunstone, Leicester. 2, H. Draycott, Hunnberstone, Leicester.

Selling Class.—*Cock.*—1, H. Yardley. 2, W. E. Oakeley. *Hens or Pullets.*—1, T. Sheppard, Humberstone (Partridge Cochins). 2, J. Choyce (White Dorkings). *hc*, A. J. Hamel; C. M. Grundy; J. Watts; W. E. Oakeley; T. Sheppard (2). *c*, H. Yardley; H. Draycott; W. Nottage, Northampton.

Ducks.—*Aylesbury.*—1 and 2, J. J. Sharp, Broughton, Kettering. *hc*, H. E. Emberlin. *c*, J. Choyce. *Rouen.*—1, J. Wright, Melton Mowbray. 2, J. Choyce. *hc*, T. Burnaby, Pipewell, Kettering; H. Marshall.

Turkeys.—1, J. Watts. 2 and *hc*, W. H. Johnson.

Geese.—1, J. Watts. 2, J. Choyce.

PIGEONS.

Carriers.—1 and *hc*, H. Yardley. 2, J. Watts.

Pouters.—1. H. Yardley. 2, G. Sturgess, Leicester. *hc*, H. E. Emberlin; H. Draycott; J. Watts; G. Sturgess.

Fantails.—1. H. Yardley. 2. W. Choyce. *hc*, H. Yardley; J. F. Loveridge, Newark; H. Draycott. *c*, W. Choyce.

Turbits.—1, H. Yardley. 2, F. H. Paget, Birstall, Leicester. *c*, J. Watts; F. H. Paget.

Magpies.—1, H. Draycott. 2. H. Yardley.

Any other Variety.—1 and 2, H. Yardley. *hc*, H. Draycott; J. Watts (3); W. Nottage. *c*, H. Draycott.

Selling Class.—1, J. Watts (White Horsemen). 2, H. Yardley (Blue Horsemen). *hc*, H. Yardley; H. Draycott.

Rabbits.—*Lop-eared* (Any variety).—1 and 2. W. Cannan, Leicester. *hc*, J Smith, Leicester. *c*, G. W. Sturgess; Hon. P. Hastings. *Any other Variety.*—1, S. C. Pilgrim, Hinckley (Himalayan). 2, F. Sabbage, Northampton (Dutch).

Extra Stock.—*hc*, W. H. Johnson (Guinea Fowls).

Mr. Edward Hewitt, of Sparkbrook, Birmingham, was the Judge.

CROYDON POULTRY SHOW.

I am sorry to find such unjust remarks in last week's number concerning the above Show. Although living at Croydon, I have nothing to do with the management of this Show, which is connected with the Agricultural Society, and therefore I can speak as an independent exhibitor. In my opinion the arrangements were as good as they could be where an exhibition takes place under canvas. I agree with Mr. Cresswell, that the passages might have been wider, but as the day was unfortunately very wet, they were not unduly crowded, nor were the birds In two instances the pens were placed on the ground under the bottom tier, but in each of these cases the birds were evidently unexpected arrivals, as they were numbered 96a and 105a. I may add that in many shows that I have attended the arrangements have not nearly equalled Croydon, and that in old-established societies and fine weather.

The same correspondent also finds great fault with the police in attendance. My own experience was, that on presenting myself about 1 p.m., I was politely informed that the Judge had not quite finished his awards, and requested to wait a short time before entering. At that time the only persons in the tent were the Secretary with the Judge, also Mr. Billett, who was employed to pen the birds, and two or three local Pigeon fanciers, who exhibited their birds, but not for competition. Certainly the Judge had more to do than was anticipated, and it would have been very much better if the Secretary, when he found that the entries were three times as numerous this year as they were last, had appointed a second Judge. But is there one show in twenty which attains perfection in its second year? As to your correspondent's last remarks, I can only look on them as great exaggerations, for with a good canvas tent, as the tent in question was, it is perfectly impossible that any bird could leave it in such a state that it could reach home in a condition fairly described by saying it appeared to have just come from a washtub. How much fairer to have imagined that in such a wet time it had become in that state in transit home.

"Observer" speaks in very disparaging terms as to the judging. For my own part I thought the judging quite as good as usual, and I met there more than one good judge who did so likewise. As regards the Brahmas, with the judging of which he finds particular fault, there was hardly a bird in the Light class that was fit to be placed in an exhibition pen. They were nearly all in heavy moult, out of condition, and as yellow as Canaries—very good birds many, but not fit to show until over their moult. The first and second prizes went to those which had the best got over their moult, and were, therefore, in the best condition for exhibiting. "Observer" should also remember that July is the very worst of all months in the year for a poultry show, on account of the birds being in such deep moult, which also adds very much to the Judge's difficulty in awarding the prizes in such a manner as to give general satisfaction.

In conclusion, I do maintain that it is too bad to find such—I must say undeserved—fault with a show which has only once before been held, and this year obtains three times as many entries as on the former occasion. I must also add, that in my opinion the show was a great success in every way, except that on account of the soaking wet day I fear, from the Secretary's remarks, both ends will hardly meet. —Philip Crowley, *Waddon House, Croydon.*

QUEENS LEAVING THEIR HIVES.

It is difficult to prove a negative, but I agree with Mr. Lowe in thinking that fertile queens, which have entered fairly on their duties as mothers, do not leave their hives for an aërial excursion. At all events I have never had any proof of the fact, and if the circumstances mentioned by "B. & W." had happened in my apiary, it would not have occurred to me to explain them in the way that your highly-esteemed correspondent has done. Although Mr. Lowe sometimes steers his course alone, it is his fortune, or misfortune, to have me for a companion on the present occasion.

In regard, then, to the experience of "B. & W.," my conjecture is that the bees of the strong hybrid hive removed 40 yards off swarmed unseen, and that the swarm entered his Italian hive in which royal cells were commenced shortly after it was driven. Finding matters in this condition, this swarm made a second exodus on the 24th of May.

But it will be obvious that if there were other hives in the neighbourhood, it is not necessary to suppose that the swarm issuing on May 24th came originally from the strong hybrid Italian hive; it might have come from some other hybrid stock.

It is quite common for bees to swarm out of one skep into another, and the novelty of an instance which came under my observation many years ago caused it to be well remembered. Three hives were sited a few yards from each other—thus: A, B, C. First A threw a swarm, which was housed in a common skep; then B threw a swarm, which entered A without opposition. Immediately thereafter C threw a swarm, which entered B. I was an eye-witness of these doings, and I have an impression that the time occupied by them did not exceed half an hour. These hives, A and B, into which swarms had entered threw swarms on the third day following; and now when a swarm leaves a hive I do not conclude that the queen and followers properly belong to it on the mere evidence of having witnessed their exodus.—R. S.

[This would have appeared earlier had it not been among Mr. Woodbury's papers, and not found until some days after our friend's death.—Eds.]

UNITING BEES—SAVING THE BEES OF CONDEMNED STOCKS.

I have lately come into possession of three stocks of bees in rotten old straw hives, and of three or four swarms of June and July of this year, which were hived in common boxes of different sizes. I am desirous of establishing at least three good stocks to stand the winter, and also of taking some honey. The people about here have no idea in bee-keeping beyond stifling the bees with brimstone. I have picked up a little theoretical knowledge in your Journal, but being a lady cannot put it in practice myself. My man is evidently indisposed to try experiments.

Please tell me if—1st, I should drive the bees into new and improved hives? 2nd, When uniting two or three weak colonies should all the queens but one be destroyed? 3rd, If set about this month, will the bees have enough honey to live on through the winter? 4th, Would you recommend me to buy a Ligurian queen or swarm, or wait until I have had some little experience?

By answering these questions you will save the lives of many colonies which would otherwise be destroyed by the country folk, for when I have myself learnt, I intend to teach them the proper method of managing.—A Subscriber's Sister.

[1st, We should advise you not to attempt to establish stocks of driven bees in new boxes at this season of the year. You had better wait until next summer, and then hive the swarms into them, when you can break up the old hives twenty-one days after the issue of the swarms.

2nd. It is not necessary, when uniting two or three colonies, to destroy all the queens but one. If possible, drive the bees of both or more hives successively into one empty receptacle, knocking them out subsequently into the hive they are intended to occupy.

3rd, Without very liberal feeding, say from 30 lbs. to 40 lbs.

of sugar syrup, your expelled bees would fail in building comb or storing food sufficient for their winter requirements. If you take up any of your stocks, and desire to preserve the lives of the bees, you must unite them to stocks tolerably well supplied in every respect, making up any deficiency there may be in stores by feeding each stock until it weighs, exclusive of hive and bees, at least 15 lbs.

4th, You had better wait until you have had more experience, and have become an expert manipulator before you attempt ligurianising your apiary. We know many ladies who, with the protection of a proper bee dress, are clever and fearless operators.

Lastly, Do not trouble yourself about trying to indoctrinate the country folk with your improved methods of bee management. The attempt will end only in utter failure; besides which, it is very doubtful if, with their means and capabilities, their own plans are not the best for them.]

HINGES TO BAR-AND-FRAME HIVES.

The writer of the review of Major Munn's edition of Dr. Bevan's "Honey Bee" does not appear to understand this "cranky hive," and although a large number have been distributed over the country from my establishment, I venture to think your correspondent has never seen one of them.

I know nothing whatever of the hive which Major Munn presented to the Apiarian Society, and the hive might have been made by the "cheap country carpenter" at a cost to the Major of £7 or £8, and yet have merited the appellation of "a cranky hive," but I am unable to say whether its bar-frames were hinged or not; yet I may say that the bar-frames, as I make them, are not hinged to the hive. If they are hinged at all they are hinged to the glass observation-frame, into which any one of the combs can be lifted by a brass lifting-rod and made fast by a thumb-screw, and which can be removed anywhere for observation and returned to the hive without a single bee making its escape. The frames which I made in 1851 are interchangeable with those made in 1871.

Again, the frames of Major Munn's are not "triangular frames," the outer case or box being a semi-hexagon, or half a hexagon, into which the frames are made to fit, leaving a space of about three-eighths of an inch all round the frames, which must be of half-hexagon shape, and not triangular; and "every bar-frame on being raised into the observation-frame," requires to be held in a position by the brass lifting-rod until it is firmly fixed into it by a brass thumb-screw. Two broad zinc slides are then inserted, the one into the observation-frame, the other into the hive; these effectually close the aperture in the hive whence the comb has been raised.

"Sudbury" is quite correct in stating that the Major Munn hive in the Edinburgh Museum has its frames hinged to the hive, and, as the maker of this hive, I had nothing to guide me in its construction but Major Munn's pamphlet of 1851. I attached brass hinges to this hive (the first I ever made), for which I alone am responsible; but even this did not prevent the combs from being interchangeable.

Mr. H. A. King, that practical apiculturist of New York, has lately honoured me with a personal visit, and was so much pleased with the construction and arrangement of this "cranky hive," that he purchased one to take home to the New World, where I have not the least doubt but it will prove itself to be worthy of the patronage of the American people.

Major Munn's bar-and-frame hive was first made in England in 1834, patented in France in 1843, and (from a description in Major Munn's pamphlet of 1851), was first made at Dover in or about that year by—Wyatt J. Pettitt.

[We sent the above communication to Mr. Woodbury just previously to his death, and the following comment has the additional interest of being the last he wrote upon any subject connected with bee-culture.—Eds.

"Major Munn's bar-and-frame hive appears capable of assuming as many shapes as Proteus himself. We have ourselves seen and examined it whenever opportunity offered, and certainly always believed that the frames were hinged to the hive, whilst Mr. Pettitt himself declares that they are so in the case of the one first made by him and deposited in the Edinburgh Museum. Of one thing, however, we are quite certain—that they were always triangular, and that they are so represented in Major Munn's pamphlet as well as in every engraving of his bar-and-frame hive which we have met with, and which were all, or nearly all, issued by Mr. Pettitt. Mr. H. A. King is an American hive-maker who has been prosecuted by Mr. Langstroth for infringing his patent, and who, having made the journey to Europe for the avowed purpose of collecting evidence which may enable him to defeat that gentleman's claims, is, of course, but too happy both to praise and to purchase a hive which he hopes will aid him in accomplishing his object. Our reviewer spoke only of the bar-and-frame hive as described and promulgated by Major Munn, not as it may since have been altered either by him or by Mr. Pettitt, whose letter is therefore beside the mark. As the actual facts of the case seem to be perfectly understood on both sides, the correspondence may very well end here."]

COOKING VEGETABLES.

In reply to Mr. Fish's suggestion that some lady would give a few directions on the best way of cooking vegetables, I have ventured to send you the following:—

How to Boil Peas to Taste well and Look well.—Put two quarts of hard spring water into a pan that will hold three quarts; when the water boils put into it as much bi-carbonate of soda as will lie in a saltspoon, and a good teaspoonful of common salt. Then remove the pan from the fire until the water ceases boiling, pour in the peas, just shelled, from about half peck when in the pod, not more; put the pan on the fire again until it just begins to simmer, then remove it to the hob or cooler part of the stove, where it will remain at scalding heat, but not boiling; there let it remain until the peas are quite tender, which the very hardest will become if allowed to remain long enough. The length of time varies from a few minutes to half an hour or more, according to the age of the peas or the length of time they have been gathered.

Some little care should be bestowed on the shelling of peas, for it is impossible for any gardener to be quite sure that every pea is the same age, and a little careful judgment will easily detect what will not boil together; if there is but a single pea too old it is better left out, as the one pea would spoil the whole dish.

The cooking of vegetables is almost always considered of small importance, and few persons will give themselves the trouble to do it properly, even when they know how; and, strange to say, very few of those who do not know how will follow even written directions. They cannot imagine there can be any way but one, and that the way they have been used to. One great cause of failure is from the small quantity of water used; it is almost impossible to use too much. I have seen cabbage boiled, or rather cooked, and when done there was no water to pour from it; all that had been put in the pan was gone in absorption and evaporation. Of course it tasted more like cabbage water than cabbage.—Anna.

OUR LETTER BOX.

Liskeard Poultry Show.—We are informed that the remarks of "J. L." on this Show at page 93 are not altogether correct. The Judge on the occasion is well known to be thoroughly competent to undertake that office, and on being solicited to do so declined, because he knew that his son had entered the Game Bantams with which he took first prize at Truro. The Committee, however, importuned him till he did act; and we certainly do not see any great crime he committed in awarding the prize to his son's birds, especially as it is not contended that they were not the best in the competition.

Fowls Roupy (*J. R., Birmingham*).—Your fowls have the roup. Wash their heads once or twice daily with tepid water. Give them every day 1 grain of sulphate of copper mixed in oatmeal mashed in ale; also plenty of green food. Separate those affected from all others.

Treatment of Fowls while Moulting (*J. G.*).—It is not the first time doctors have differed, and we are happy for your sake that in this instance the patient did not die. We are, however, bound to say we believe the bird recovered in spite of your treatment rather than because of it. The writer of the article has, we believe, tried everything mentioned in it on a large scale.

Points of Light Brahmas (*Brahma Novice*).—You have omitted one point which may, and should be black even in a Light Brahma. The plumage should be white, save the flight hackle and tail. It is a very common thing for these birds to have spotted backs. Such spots must be called blemishes, but they will moult out as the birds become older, if they are few in number. If you intend to breed for exhibition you can, we think, safely do so, or you may show the birds themselves. If, however, the backs are so spotted as to make them deserve to be called mottled, we should advise you to change the strain, at any rate on one side. The weight you quote is a large one for a bird of the age. We repeat for your comfort, that being chickens it is probable the spots will be moulted out.

Soft Eggs—Fowls out of Health (*W. P. B.*).—Your fowls are evidently out of health. To make even a guess at the number of eggs you should have, it would be necessary to know the ages of all your hens. According to your description you have none of them so aged as to be

the most favourable layers. The one-year birds laid their early eggs as pullets last autumn. Those of two years old are in their best but not earliest laying, and the three-years-old are falling off. It is evident they either lack material for shell, or their secretions are at fault. They have lime, &c., in its mature state. We advise you to feed for a few days on whole corn entirely, and to do so very moderately. We think it likely it may succeed. Castor oil is very good treatment, given in doses of a tablespoonful every other day, but it would be necessary then to find out the delinquents. The hundred soft eggs are probably laid by three or four birds.

Fowls Making a Sneezing Noise (*J. C. S. R.*).—Alter your treatment, or you will lose all your Bantams. The turpentine down the throat is worse than useless; to be of any use it should be put down the trachæa. Let them have nothing but camphor julep to drink, and give them daily a pill of camphor the size of a small garden pea, to be continued till cured. The first dose often makes another unnecessary. Feed on ground oats, bread and milk, chopped egg, and meat scraps till they are cured, which will not be long.

Wen on Pigeon's Neck, and Antwerp Points (*A. C. E.*).—If we read your letter aright your bird has a wen outside its throat. Let it alone, or, if it be moveable under the fingers, you can cut the skin across and remove it. For points and full information, with accurate engraving of the Antwerp Pigeon, see our number for February 17, 1870.

Various (*H. H. B.*).—You can show a young and old bird together unless the schedule says to the contrary. Always read a schedule carefully; there are often some classes for old birds, some for birds of the present season. The Antwerp's wings should not droop. As to showing a single bird, read the schedule of the Birmingham Show and you will know. A schedule of a show is your guide in such matters, we cannot be.

Pigeon Stolen at Snaith.—Mr. O. A. Young, Middle Street, Driffield, had a White Pouter stolen at the Snaith Show. He tells us that if Pigeon fanciers will subscribe and enable him to try the liability of the Committee, then if he recovers from the Committee the value of the Pigeon, eight guineas, he will give that sum as a prize at some future show. He asks our opinion; therefore we add, that unless he could prove the Committee's negligence, we think that they are not liable for the loss.

Missing Pigeons.—"Seeing so many inquiries about lost birds at shows, I must state that I have a pair which came astray on the day of the Romford Poultry Show before the prize cock was lost. I cannot hear of anyone near here who has lost any Pigeons, but they seem to have private marks, so that the owner could describe them by letter only to Miss Julia Mashiter, *Priests, Romford.*" [This letter would have appeared before, but from having been improperly directed it has been travelling about London for several days.—Eds.]

Works on Fancy Pigeons (*John Grundy*).—The books that have been written on fancy Pigeons have not been many. First, Moore's "Columbarium," published in 1735. This book, scarce'ly more than a pamphlet is now very scarce and valuable; it is excellent, and the foundation of all our correct knowledge. Then followed the "Treatise on Domestic Pigeons," published in 1765. This is Moore's work enlarged, with illustrations of each bird. There is an edition of this work on larger paper and superior engravings, a copy of which I have seen. Next, in about 1800, came "The Complete Pigeon Fancier," by Daniel Girton, in substance like the two former, but enlarged. This book has illustrations. It may sometimes be bought for 1s. at a bookstall, being much more common than the two former. In 1802 was published a "Treatise on the Almond Tumbler" only. This was the next book in value after Moore's. It has a picture of a standard Almond of that date. Dixon's "Dovecote and Aviary," saw the light in 1851. It is prettily written, but no authority on high fancy matters; it is now out of print; its substance, with illustrations by Harrison Weir, may be bought for 1s., under the name of "Pigeons and Rabbits," being one of Routledge's "Books for the Country." Eaton's "Treatise on the Almond Tumbler," came out in 1851. It is now incorporated in his "Treatise on Pigeons," and since the death of Mr. Eaton is to be bought of its able illustrator, Mr. Dean Wolstenholme, Elizabeth Cottage, Archway Road, Highgate, price 10s. The "Pigeon Book," by Brent, with many illustrations, published at the office of this Journal, is a practical and able work. Tegetmeier's "Pigeons," with coloured illustrations, was sent out in 1868, price, I think, 10s. 6d. More recently the same author has published a shilling book on "The Homing or Carrier Pigeon."—Wiltshire Rector.

Mending Cracked Eggs (*Marian*).—I have not tried adhesive postage-stamp paper, but I mended an injured egg with goldbeater's skin, and succeeded in hatching a young one from it. The injury, however, must not be severe, and the application must be prompt.—W. A. Blakston.

Goldfinch and Canary Mules (*G. G.*).—You are to be congratulated and envied. A lady lately complained to me of having been bored by a *savant*, who talked her out of her depth into deep waters, where she floundered about in great tribulation. She said she regretted so much not being able to ask him a question which would puzzle him, and I ventured to suggest she might have inquired if he had ever bred a clean Mule. There can be no doubt whatever as to the bird in question being a Mule if, as you say, you have had the hen several months, during which time it has never been near a cock Canary, but always with a Goldfinch, and further, had one nest of empty eggs previous to this bird being hatched. But are you quite sure of all this? Do you attend to your birds entirely yourself? or do you ever have that duty performed by deputy? Do you keep a stock book, in which you enter all particulars concerning your birds? Do you ever change the eggs from one nest to another without making a memorandum, to show that B has a nest of five, made up of two from A, two from C, and one from G, and so on, or do you trust to your memory? And then you know that chubby little fellow with the wings, who is always going about with his bow and arrow, is not particular where he fires, and it is proverbial that he laughs at locksmiths. Are you quite sure there have been no clandestine meetings? I am only suggesting possibilities, not probabilities. Mistakes will occur in the best regulated families. I presume the bird is still in its nest feathers, and, if from a late nest, has not begun to moult. It ought to show more Goldfinch than Canary conformation about the beak. If a buff bird, the plumage will be very much whiter than in a Canary, and, whether buff or yellow, will be of a different texture. The difference will be patent enough when it moults. If a cock, it will have the Goldfinch "flourish" on the face, and more or less of the yellow of the Goldfinch wing. If you are disposed to send it to me for inspection you can do so with perfect safety, and I will empanel a jury of Mule-breeders to sit on the subject; indeed, I should much like to see it.—W. A. Blakston.

Gold Fish (*J. M. S.*).—Ordinary fish cannot be converted into gold fish by warm water. Their increase, and the disappearance of the other fish, are doubtless due to the high temperature. The gold fish and common carp are distinct species.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. August	9 A.M. Barometer at 32° and Sea Level.	Hygrometer. Dry.	Hygrometer. Wet.	Direction of Wind.	Temp. of Soil at 1 ft.	In the Day. Shade Temperatnre. Max.	Shade Temperatnre. Min.	Radiation Temperature. In sun.	Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 9	30.127	75.2	64.4	E.	64.0	85.2	54.3	122.3	52.5	—
Th. 10	30.145	73.8	65.3	E.	65.0	86.3	55.8	122.3	55.0	—
Fri. 11	30.137	73.6	64.4	N.E.	65.5	81.2	54.6	118.4	52.4	—
Sat. 12	30.097	77.0	69.3	N.E.	65.6	88.2	57.1	122.5	55.2	—
Sun. 13	29.959	77.2	69.4	N.E.	66.5	90.0	61.0	126.2	59.8	—
Mo. 14	29.950	74.3	67.5	N.	67.0	85.3	60.3	124.0	57.6	—
Tu. 15	29.939	69.3	62.5	N.	67.5	82.0	56.2	122.1	56.0	—
Means	30.051	74.3	66.1		65.9	85.5	57.1	122.5	55.4	—

REMARKS.

9th.—Very fine all day, and very warm, but with a little breeze, especially in the evening.

10th.—Another fine day, aurora-like clouds at sunset, reaching to the zenith, but colourless and motionless.

11th.—Hazy in early morning, warm day, looking storm-like between 8 and 9 P.M.

12th.—Very fine all day, slight breeze in evening.

13th.—Fine, but very warm till the evening, then a nice breeze.

14th.—Splendid clouds soon after sunrise, beautiful day, and rather cooler.

15th.—Very fine and much more pleasant from its being cooler.

A most splendid week, scarce a cloud to be seen, except those beautiful ones above mentioned, hot sun, but copious dews, and cool breezes in the evening.—G. J. Symons.

COVENT GARDEN MARKET.—August 16.

Supply moderate, and a steady demand. French consignments are heavy, comprising Pears, Apples, Melons, Figs, Peaches, Nectarines, and Plums, a large quantity of which are forwarded to the northern and midland markets daily. Cherries are nearly over, the Morello being the only variety now in any bulk. The Potato trade is heavy with large stocks.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	0	to 2	6	Mulberries lb.	0	6	to 1	0
Apricots doz.	1	0	3	0	Nectarines doz.	4	0	12	0
Cherries lb.	0	6	2	0	Oranges ℔ 100	20	0	0	0
Chestnuts bushel	0	0	0	0	Peaches doz.	6	0	15	0
Currants ½ sieve	4	0	5	0	Pears, kitchen doz.	2	0	0	0
Black do.	4	0	6	0	dessert doz.	2	0	3	0
Figs doz.	3	0	6	0	Pine Apples lb.	3	0	5	0
Filberts lb.	1	0	0	0	Plums ½ sieve	3	0	5	0
Cobs lb.	0	0	0	0	Quinces doz.	0	0	0	0
Gooseberries quart	0	6	0	8	Raspberries lb.	0	6	1	6
Grapes, Hothouse lb.	2	0	5	0	Strawberries lb.	0	6	1	0
Lemons ℔ 100	8	0	12	0	Walnuts bushel	10	0	16	0
Melons each	2	0	6	0	ditto ℔ 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	4	0	to 6	0	Leeks bunch	0	4	to 0	6
Asparagus ℔ 100	0	0	0	0	Lettuce doz.	0	3	1	0
Beans, Kidney ½ sieve	3	0	4	0	Mushrooms pottle	1	0	2	6
Broad bushel	2	0	3	0	Mustard & Cress pannet	0	2	0	3
Beet, Red doz.	2	0	3	0	Onions per doz. bunches	2	6	4	0
Broccoli bundle	0	0	0	0	pickling quart	0	0	0	0
Brussels Sprouts ½ sieve	0	0	0	0	Parsley sieve	3	0	4	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	3	1	0
Capsicums ℔ 100	0	0	0	0	Peas quart	0	6	1	0
Carrots bunch	0	6	0	0	Potatoes bushel	1	6	3	0
Cauliflower doz.	3	0	6	0	Kidney do.	3	0	5	0
Celery bundle	1	6	2	0	Radishes doz. bunches	0	6	1	0
Coleworts doz. bunches	2	0	4	0	Rhubarb bundle	0	4	0	6
Cucumbers each	0	6	1	0	Savoys doz.	0	0	0	0
pickling doz.	2	0	3	0	Sea-kale basket	0	0	0	0
Endive doz.	3	0	0	0	Shallots lb.	0	6	0	0
Fennel bunch	0	3	0	0	Spinach bushel	3	0	4	0
Garlic lb.	0	3	0	0	Tomatoes doz.	2	0	3	0
Herbs bunch	0	3	0	0	Turnips bunch	0	4	0	8
Horseradish bundle	3	0	4	0	Vegetable Marrows doz.	2	0	3	0

POULTRY MARKET.—August 16.

Poultry quotations will amount to very little during the next few weeks. The great heat will render them very difficult, because all the best prices will go to the neighbourhood of London, whence poultry can be had much fresher than from greater distances. It was too early when we went to press to give any notice to Grouse beyond saying the birds are forward, and in good condition.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls	2	6	to 3	0	Pigeons	0	9	to 0	10
Smaller ditto	2	0	2	6	Rabbits	1	5	1	6
Chickens	1	6	1	9	Wild ditto	0	9	0	0
Geese	6	0	6	6	Hares	0	0	0	0
Ducks	1	9	2	0	Guinea Fowl	0	0	0	0
Pheasants	0	0	0	0	Grouse	0	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUGUST 24—30, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
24	Th	Malvern Horticultural Show closes.	71.6	47.9	59.7	16	1 af 5	3 af 7	51 af 2	2af 11	8	2 17	236
25	F		74.1	49.7	61.9	16	2 5	1 7	8 4	50 11	9	2 1	237
26	S		72.5	48.4	60.1	15	3 5	59 6	11 5	morn.	10	1 45	238
27	Sun	12 Sunday after Trinity.	73.8	49.1	61.2	12	5 5	57 6	2 6	52 0	11	1 28	239
28	M		72.7	49.7	61.2	19	7 5	55 6	49 6	8 2	12	1 10	240
29	Tu	Banbury Horticultural Show.	71.2	47.6	59.4	16	8 5	53 6	10 7	27 3	13	0 53	241
30	W	Metropolitan Floral Society's Show opens.	74.5	48.2	61.3	11	10 5	51 6	33 7	49 4	○	0 35	242

From observations taken near London during forty-three years, the average day temperature of the week is 72.8°, and its night temperature 48.7°. The greatest heat was 89°, on the 25th, 1859; and the lowest cold 31°, on the 26th, 1861. The greatest fall of rain was 1.92 inch.

ROAD-MAKING UNDER DIFFICULTIES.—No. 1.

IF making a road were to consist of simply cutting a trackway and filling it with broken stones, it would be hardly worth while to devote a paper specially to the subject; and really, to glance casually at the matter, there does not appear to be very much more to be done. But this, like other work, when taken seriously in hand, resolves itself into numerous important details, all requiring careful attention, and which, if the work is to be brought to a successful issue, must be well studied and clearly arranged into a regular plan, so that each part of the process may be done in regular order, without one operation clashing with another; for, in such work, confusion invariably implies waste both of money and time.

When a road is to be made, the first thing to be done is to survey the land through which it is required to pass, in order to select the most favourable line. On an open plain, or a flat or tolerably level district, this is an easy matter, but in a hilly wooded country there are many difficulties to contend with in order to secure as short and direct a line as the gradients will admit of. Supposing the road is to run along a steep hillside down into a valley, to pass over a stream or river, and thence up and along the opposite side of the valley — if both hillsides are thickly clothed with underwood, interspersed with timber trees, with numerous springs of water bursting forth and forming tributaries to the main stream in the valley, and with the surface of the slopes broken up into a variety of inequalities, we shall have enough of difficulties to contend with to afford subjects for a very useful and instructive lesson. Let us proceed, then, to grapple with these difficulties, and see how we can overcome them.

It is best at starting to tiy from some commanding point to obtain a general view of both sides of the valley, in order to note all its most prominent features, of which a rough outline should be sketched in one's note-book for reference. It is also advisable to ascertain if any of these features are eventually to be brought more fully into view, or if there are to be any ponds, waterfalls, or a lake in the valley, because if parts of the road can be made to command fine or picturesque views of pleasing objects, without going far out of the most direct line, it is highly important they should do so. The land through which the road is required to pass must then be gone over and thoroughly examined, notes taken of all important undulations, such as abrupt ascents and deep dells; streams and bogs should also be noted, as they must be dealt with in due course. This is an arduous undertaking, it being very difficult to obtain a clear idea of the character of land covered with a dense growth of underwood; my own practice is to go over the land two or three times in order to make quite sure nothing of importance has been overlooked.

Next comes the important work of selecting and marking the line of road; in doing this all unmeaning curves should be avoided, and the road should proceed in as direct a line from one end to the other as the nature of the ground will admit of. For this work there should be six or eight men with ranging rods—that is, poles long enough to reach above the tops of the underwood, and with a small flag of white calico fastened to the top—also two men with hand-bills, a short ladder, or, if there are not many tall trees, a pair of high steps. Starting from one end of the line, the surveyor either mounts a tree or the steps at a suitable point for overlooking the whole of the first part of the line, he then arranges the men with flags in single file, and when this is done, one man starts from the surveyor's post and another from the flag farthest from him, each man cutting a slight track from flag to flag till they meet. This process is repeated piece by piece till the entire line is marked out.

The narrow track being made sufficiently clear, now comes the most important part of the survey. The natural levels are all taken with a theodolite or dumpy level, the last-named instrument answering quite as well for this work as the more expensive one, yet for general purposes the theodolite is, of course, to be preferred. A sketch or map of the road should be made showing all the inequalities of the line, with the streams or springs, below each of which a note should be appended, showing how the water is to be disposed of; if through pipes, state size and number, or if through a culvert, give its size, length, and form. The road must also be measured, and divided into as many lengths as there are to be gradients. The number of gradients will depend upon the natural levels and the manner in which they can best be reduced sufficiently. This part of the work demands much careful thought and a thorough knowledge of the dimensions of every mound to be levelled or hollow to be filled. As a general rule no gradients should have a greater rise than 1 foot in 18; in some instances 1 in 12 may be ventured upon to avoid or lighten heavy cuttings, but this rise should only be for short distances; for while aiming at economy of execution real efficiency must not be forgotten.

I should have said that the narrow track ought to mark the upper side of the intended road, as then it is an easy matter to measure off the real track. The eventual width of the road will, of course, be our guide in deciding what width is to be cleared of wood. For a grand avenue the road may be 20 or even 30 feet wide, and the front, or principal row of trees along each side, should stand back upon turf quite 50 feet from the centre of the road. For ordinary drives a space of 15 feet makes a wide handsome road; but when the line is beset with so many difficulties as to render the preparation of the levels a costly undertaking, the width of the hard road may be reduced to 9 feet; this width is not enough for two carriages to pass, but that difficulty is easily overcome by making the level space 15 feet wide, or 20 feet where the slope is very steep. Such a narrow road, although not suitable for a busy or public thoroughfare, yet answers very well for an ordinary private drive.

The levelling of the road, and grubbing of the underwood and timber, should be done altogether, and by the piece or yard. In deciding upon the price of the work all the inequalities of the entire line should once more be

passed in review, and one general price decided upon for the side cuttings, cuttings, and embankments, including the correct dressing of all slopes (batters) at a given angle; the outline of every curve being distinctly marked with stakes, and the depth and contents of every cutting given so clearly that no mistake can occur. The angle of the slopes must depend entirely upon the nature of the soil, which is sometimes so compact, or contains so much rock, that an angle of only a few degrees out of the perpendicular may be safely adopted; but where the soil is not very firm it is best to make all slopes of an angle of 30°—that is to say, at a gradient of 1 in 2, sharper angles being unsafe, as the soil is very subject to detrition from heavy rains or shattering frosts. When these slopes are made, as in this case, by cutting the solid earth away, they are done with the greatest ease and accuracy by first of all removing the soil only in a perpendicular line to the foot of the slope, and afterwards the face of the slope can be dressed to the required angle; but if this is attempted to be done as the bulk of earth is removed, a faulty batter is almost certain to be the result. This is important, because handsome slopes contribute materially to the appearance of a new road.—Edward Luckhurst.

NEGLECTED VARIETIES OF THE ROSE.

I am glad "D." has again called attention to the subject of neglected garden Roses. With nearly all that he says I can agree, but I think, with some few exceptions, the best exhibition Roses are also the best garden Roses. Of course it would not do for an amateur, book in hand, to note down every fine flower he saw exhibited, as there are many Roses that occasionally throw up a very good bloom, which, with shading and attention, form a great addition to a stand of Roses, and yet in an ordinary way will do no good at all. Alpaïde de Rotalier has with me been one of these. I saw it exhibited several times very finely the year it came out, but I have never cut a bloom of it in my own garden that gave me the least pleasure, and nine blooms out of ten have been worth nothing at all. But I believe, as a general rule, the Rose that is shown oftenest and in best condition at exhibitions is also the best for garden purposes. Take, for instance, Charles Lefebvre, John Hopper, La France, Baroness Rothschild, Alfred Colomb, &c.; these will give infinitely more pleasure to a Rose-grower than any number of Baronne Prévost or Duchess of Norfolk. I cannot, either, quite agree with my friend "D." in thinking Cécile de Chabrillant the model as to shape. It is, undoubtedly, of a beautiful shape, but I prefer both Marie Baumann and Alfred Colomb. Comtesse C. de Chabrillant does not show enough of the inner colour of the petals, which in nine Roses out of ten is the finest colour. It is in this point that such Roses as Alfred Colomb, Marie Baumann, Madame Caillat, and Charles Lefebvre have to my mind the advantage, that in unfolding the outer petals, while there are still a high centre and circular outline left, they show the full depth of colour of the inner petals. I remember, when at Manchester, a great Rose-grower admiring a three-parts-open Centifolia rosea, on account of its circular and shell-shaped petals, more than a grand bloom of Baroness Rothschild in the same box, which showed the full satiny depths of its petals, and yet was still a model of form. Opinions, consequently, will always differ as to the best models of form, and I have ventured to question "D.'s" opinion in order to elicit the opinions of others. Is not Madame Vidot quite as fine in its way as Cécile de Chabrillant?

Eugène Appert is decidedly a fine-coloured Rose, with very healthy foliage, but with me Duke of Wellington is even finer in that shade of colour. Colonel de Rougemont is a better flower than Baronne Prévost, but a bad grower, and in this respect the Baronne has much the advantage. I quite agree in all he says in praise of Fisher Holmes; it is very fine in point of colour, and a healthy grower, and, if disbudded, an exhibition Rose. Prince Léon is certainly an exquisite-shaped Rose, but so seldom caught, and so weak a grower that it is hardly worth retaining in an amateur's garden; it is, in fact, only a Rose for exhibitors to bud for the sake of getting an occasional bloom to help out a stand. Comte de Nanteuil and M. de Montigny are two Roses as fine as any grown, and ought never to be discarded from the garden. Jean Cherpin is fine in colour, but with me burns with the least approach to sun, so that, as in the case of Monsieur Bonceune, I hardly get a bloom fit to gather. "D." has omitted a few I should like to add, as La Brillante, good habit, free-blooming, a very smooth-petalled Rose; Madame Knorr, also a very free-blooming Rose, deep rose in the centre, blush outside petals; Duchess of Sutherland; and a few others.

I am rather amused at what "D." says with regard to Général Jacqueminot and the Rev. W. F. Radclyffe, as it accounts for his recommending the Général a few weeks ago, which I was otherwise rather at a loss to understand, as I never knew a Rose (at all events in these parts) that was such a universal favourite, so that it could not in my mind be considered a neglected Rose. I suppose Mr. Radclyffe was making up now, by his present recommendation, for his having given him away before as a loose fellow. It has been, as "D." says, a remarkably good year for the Général, and almost the best bloom I ever saw of it was exhibited by Messrs. Paul at York, and worthy of any stand of Roses.—C. P. P.

ERYTHRINA CRISTA-GALLI CULTURE.

I wish to call attention to the above-named plant as being very worthy of cultivation by gardeners generally. It is very probable that, as the plant has been in this country nearly a hundred years, it was at one time thought much of, and cultivated to a much greater extent than it now is. It is not the beauty of the plant alone that entitles it to more extensive cultivation, but its hardiness and ease of culture are qualifications sufficient, I should think, to induce all who have not grown it to give it a trial. I am particularly partial to it for conservatory decoration; it is a noble-looking object for either in-doors or out of doors in any part of the garden—just the plant, too, that amateurs can grow successfully, because it thrives with little attention. It is a species of Coral Tree, has very handsome foliage, and scarlet flowers, and with ordinary cultivation it blooms in August. It is a very good and suitable associate for Liliums at that time.

In some parts of England the Erythrina is to be met with as a border plant growing in common garden soil, and after flowering, and when the wood is ripened off, which is in autumn, the shoots are cut down to the ground, and the old stool or roots slightly protected during winter. This, however, is not the wisest treatment to adopt, for if the winter prove very wet, or severe frost occur, the roots are considerably injured, and the plant throws up weak and unhealthy shoots in consequence. My plan is to grow the plants in pots, and give them the protection of a pit from which the winter's frost is excluded, and after they start into growth, and fine spring weather sets in, the pots may be plunged along the south side of a wall. Afterwards, when suitable weather arrives, the plants may stand in the open ground, at all times to be well supplied with water. They require a considerable amount of room; a moderate-sized stool will throw up shoots sufficient to produce a plant 5 feet high and as much in diameter. Staking must not be neglected.

I have tried several mixtures of soils in which to grow the plant, but find none so suitable as rich turfy loam and very rotten farmyard manure in equal proportions. I usually pull the loam to pieces with the hand, and mix sand with it if it is a heavy loam. I then take the manure and rub it to pieces, sifting a little quicklime and soot over it, and well mix that with the hand. I finally well incorporate the two. Such a mixture will produce a vigorous growth, handsome and healthy foliage, and highly-coloured flowers.

Plants are raised from cuttings of the young shoots when about 2 inches long, or the flowering shoots may be made into cuttings. In either case bottom heat will assist them, with a bell-glass or hand-light over them. I once saw a grand display of this Erythrina, about four dozen large plants being arranged along the front of a range of vineries. The pots were plunged in the border by the side of the walk. The plants were uniform in height and size, and really looked very fine. These gave me a lasting remembrance of this really handsome and beautiful plant.—Thomas Record.

CUCUMBER DISEASE.

I have grown Cucumbers for the last six years, but not till this year have I had what I call full success. I have always grown them in peat, turf, and other light soils, and have been troubled with disease in the fruit, but this year I determined to try another soil, and composed it as follows:—Part of an old Cucumber bed, pig manure, fresh horse dung, and manure from a sewage well, the latter being the principal part. The variety which I grew was Telegraph. The plants began to bear at the beginning of March, I have cut an abundance of

fruit, and they are still bearing, though not so freely. The fruit has been from 18 to 26 inches in length, and has not exhibited a vestige of any kind of disease. I only water once a-day, and that about 7 P.M.

I leave it in abler hands than mine to find whether light soils have anything to do with the disease, but I intend to grow my plants in stiff soil for the future.—Learner.

BRASSICA OLERACEA.

No wonder the Romans and Greeks held the Cabbage in high esteem; it is a dainty dish, fit to please the palate of queen, emperor, or peasant, and no person seems ever to tire of it. This is the case with but few other garden vegetables. Reader, you may smile and say I am too lavish in my praises, but hold until you have made a voyage or two across the salt ocean. If you have made such voyages it will be easy to convince you that there is not a vegetable grown so fondly longed for. No matter what port a vessel may cast anchor in, Cabbage is the only vegetable inquired for by all on board, and by the passenger class specially.

Who that has ever seen the parent Brassica oleracea could imagine it would ever assume so many forms and variations? The last time I saw it was in the Isle of Sheppey. I had been planting some trees around the fortifications at Sheerness, and took an evening walk by the banks of the Medway. I found this Brassica growing in a corn field close to the banks of the river, and I found wild Celery growing very abundantly in a trench quite convenient.

Let us now take a glance at the sorts the farmer and cottager chiefly plant—viz., York and Drumhead. I would advise the cottager never to plant Drumhead; it exhausts the soil so much, that where a crop of it is grown, no matter how you may manure, you cannot get a moderate-sized crop of Potatoes off the same plot for two seasons afterwards, and as an article of food I hold it to be far inferior to the York Cabbage. It cannot have nearly the muscle-producing properties, nor contain the gum, sugar, and gluten that the York does, but the Drumhead contains more water, as is evident to any person who has seen it cooked. It is quite a mistake for either the cottager or the gentleman's gardener to plant such a robber of the soil, for you can have two crops of York to one of Drumhead; two lines to the one, and two plants to the one.

Then look to the sprouting properties of the York. We have just seen (supposing we do not allow sprouting) that we can grow about one dozen heads of the York Cabbage to the one of Drumhead. Theory says it exhausts the soil very much to allow sprouting to take place. Have the theorists who have written so taken into consideration the amount of food and nourishment one sort of Cabbage derives from the air as compared to another? I think they have not; and it is a subject that would be well worth testing. I hold, and many practical humble gardeners like me affirm, that the Cabbage which produces no sprouts is the sort that robs the soil much more than the sprouting kinds do, particularly the York. You will often find a plot from which a crop of the York Cabbage has been taken, but the stocks left sprouting; you will find them loaded with the most delicious sprouts, and when you pull up the stock you will actually find it in a state of decay, without the slightest particle of clay attached to any fibre. Well, let us take up and examine the roots of the Drumhead or non-sprouting kinds, and what do we see? a large ball of earth attached to the roots—enough for a man to lift. To bring the soil into condition again is almost like reclaiming that of a forest of Ash trees, so exhausted is it. Vegetable physiologists would enlighten gardeners very much by stating the number of stomates in a square inch of each of the foregoing varieties, to let the gardening world see their action as regards the atmosphere and soil; and chemists the properties of different varieties as muscle or fat-producing food; for in the midst of our cordon training, our restrictive and extension systems of Vine culture, and our blaze of bedding, Cabbage, the chief of the vegetables, should not be neglected nor forgotten.—J. McD.

LILIUM AURATUM.

Notwithstanding the great success we now and then hear of in the flowering of this capricious plant, certain it is there are many failures, and instead of the bulbs multiplying in the grower's hands, they often do exactly the reverse. There is one way in which I think Lilium auratum may be more safely depended on for doing well, and that is when it is planted out of doors in suitable soil. In such a place it succeeds well, and as far as my experience goes it is quite hardy. Some years ago I planted some out, and one of them showed upwards of twenty fully-expanded blooms at one time during the past season, with some others in bud and some going off. The stem, being stout and thick, did not require a stake, although it was fully 6 feet high. The site was an old Rhododendron bed, which must have been full of the roots of these plants, as well as of those of a large Elm tree growing near, which occupy the whole length of the bed; yet the plant has shown the robust health necessary to perfect the above number of fully-grown flowers. I would, therefore, say to those who often have to complain of losing their bulbs when kept in pots, Plant a quantity out of doors; they are less liable to mishaps then, and in general bloom much more strongly.—J. Robson.

A BIT OF SOUTH DEVON.—No. 5.

"You find it very hot at Torquay," is a sentence, half query half assertion, made in a letter received a few days since. I replied, "Yes, it *is* very hot." "Ah! you are finding it out," was the rejoinder. And my sur-rejoinder was, "It is found out elsewhere. A letter from Brighton tells, 'We sha'n't bear it many days longer.' A letter from Chippenham says, 'We are melting.' (I hope the writer will not become a large grease spot and heap of bones). A letter from Scarborough says, 'It is at midday like a furnace;' and a letter from the metropolis concludes my bulletins of temperature—the writer, evidently *in extremis*, concluding his very brief note with this sentence, 'London is stewing hot; the Venetians are down, yet I sit oozing at every pore.'" I adopted another course—proceeded to Totness, that quaint old town, so old that the stone is shown on which Brutus of Troy sat and uttered the rhyme—

> "Here I stand and here I rest,
> And this town shall be called Totness."

I did not stay—probably your readers will not either—to inquire as to the credibility of the legend, but I placed myself under the awning of the steamer Newcomen about to thread its way down the stream thus apostrophised—

> "River Dart! oh! river Dart!
> Every year thou claim'st a heart."

The rhyme is said by some to allude to the numerous drownings, and by others to its captivating beauty. Parts of it certainly are very beautiful, and it has been called "the English Rhine," which in my opinion is no praise. The Wye is far more beautiful, and more continuously beautiful, deserving the highest praise-name of "the British Moselle."

I should have liked to wander for hours in the woods of Sharpham, which have their lowest branches dipping in the Dart, and densely clothe the steep hillside. One of those trees is a Wych Elm, said to be the largest in England. Mr. Pender, gardener at this residence of T. Durant, Esq., says, "The tree stands on an area of 400 feet in circumference; some of its branches, in a horizontal line from the stock of the tree, are 80 feet; circumference of the stock of the tree, 16 feet; and some of the large branches measure 9 feet in circumference. Some of the branches which hang over the carriage drive through the park are supported with huge props, while others on the opposite side are lying on the ground."

A Plum abounds in the fruiterers and market here, known as the "Disham." I spell it as the Devonians pronounce it, and might have accepted the alleged derivation of the name to be "cause it's only good in the pie-dish." I was exasperated by a fat old woman on the steamer who would stand between me and the landscape, but forgave her so soon as she said "That's Dittisham; that's whence our pie and preserving Plum comes from. All those trees you see, and in every cottage garden there are some, are Plum trees." So I inquired further, and find that the oldest man living remembers trees that were very old when he was a boy; and on obtaining specimens of the Plum I think that it is now known as the Victoria, a name which ought not to have been applied, for it has been known for centuries in Sussex as the "Alderton Plum." Why with Devonians is "Plum" synonymous with "soft?" "A soft bed" with them is "a Plum bed."

On we glided to our voyage's conclusion—Dartmouth, native town of the inventor of the steam engine, after whom our vessel is appropriately named. I had been at Dartmouth previously, and in strolls noticed standard Fig trees in the gardens and hedgerows, where in the first-named they ripen fruit annually, and in the hedgerows occasionally. The peculiarity is that in

South Devon this is so general, not that it is peculiar, for there is an orchard of Fig trees at Tarring, near Arundel, in Sussex. It is peculiar, however, to Devonians that they call Raisins Figs. With them a Plum pudding is "a figgy pudding," and they have this nursery rhyme—

"When I brew and when I bake
I'll give you a figgy cake."

This application of the name of one of their own fruits to one of foreign growth, merely because they are alike sweet and have their seeds inside, is only a single instance out of many instances of their adoption of terms from their favourite pursuit, gardening. One more only will I quote, told me in reply to a query why a sailor no longer escorted a Torquay damsel, "Oh! she 's given him Turnips." Let me tell a tale of warning to others who may write "Bits" about Devon. Mr. Saunders, host of the Devon Arms in this city of villas, has harvested this season a noble crop of White Spanish Onions, averaging 17 inches in circumference. "He grew 350 lbs. in weight on two-thirds of a yard of ground," said our informant. "Dear me!" said an old gentleman from Cheapside, "they must have grown a-top of one another!" By "a yard of land" our informant meant what is elsewhere called a pole or perch, and Mr. Saunders's Onions were grown on a bed 35 feet long and 5 feet wide.

I have spoken of gardening as a favourite pursuit of the Devonians, and the evidence is everywhere. Each villa is set like a jewel in a garniture of gardening. Every cottage in every lane has flowers on and around it—and what lanes are they! banks 6 feet high, not 8 feet apart, clothed densely with Ferns and wild flowers, crested with Nut trees, and thickly overarched with the noblest of Beeches, Elms, and Oaks. A fine summer evening's wandering in the Cockington lanes is a luxury never to be forgotten—so beautiful, so refreshing, so cool, though not so cool as Kent's Hole, that storeplace of records for the anthropologists. The temperature there never varies, it is 52° day and night all the year round. Let that vagrant bit remain, for I will at once return to the love-of-gardening evidence by adding that little market gardens and vast orchards crop out everywhere—market gardens, the owners of which are unknown beyond their immediate vicinities. I travelled on to Berry Head; and there at some 300 feet above the sea's level, and on that furthest narrow promontory of Devon, I was brought to a pause by a board inscribed, "Cann, Nurseryman and Florist," and there within walled enclosures were acres of fruits, flowers, and kitchen-garden stuff.

Berry Head will be associated in my memory with the Helianthemum polifolium, for there for the first time I found that rare white Rock Rose; there grows also the Trinia vulgaris, Honewort. Of other not-common plants I noticed but few. Crambe maritima, Sea-kale, on Shapton Sands, I notice chiefly because it was thence Mr. Curtis obtained the plants from which he introduced it into our kitchen gardens in 1795. On the Paignton Sands is Erodium maritimum, Sea Storksbill, and on the banks near is Tamarix anglica, English Tamarisk, the sprays of which add such grace to bouquets. I know of no other places than Babbicome Downs and Daddyhole Plain near here where the Bupleurum aristatum, Narrow-leaved Hare's-ear, is found in England. Of Ferns, Stewart states that the Maidenhair, Adiantum Capillus-Veneris, is to be found in some crevices of wet rocks at Mudstone Bay, near Brixham; the Tunbridge Filmy Fern, Hymenophyllum tunbridgense, at Bickleigh Vale and Beckey Fall, and at the place last named the Hymenophyllum unilaterale. At Holne Chase, about twelve miles from Torquay, Mr. Stewart says, "I have gathered fronds of Osmunda regalis which measured 10, 12, and 13 feet." The Adder's-tongue, Ophioglossum vulgatum, is found about the Torre Abbey pastures.

I have just alluded to the orchards, and I will add that they would puzzle, astonish, and horrify even the "hairy" of you two "old Gooseberries." They would puzzle, because he would see thousands of trees in thousands of orchards, all differing and all nameless, because seedlings. The pips were and are sown wholesale, and the products are ungrafted. He would be astonished because of the numbers and size of orchards, all of Apple trees, that occur on each side of each lane for miles around Torquay. I regret to hear that they bear on the average this year less than half a crop, for this is the birth-district of the best cider. He would be horrified by the total defiance or ignorance of all fruit-culture evinced. Trees with crowded branches and crowded together are everywhere, and I have not seen one orchard so cared for that I could justly say, "That orchardist deserves a crop."

Now for "a few" breakfast, and then off for Coombe Royal, but before closing I need add that "few" is the Devonian for "little."—G.

DOUBLE LILIUM TIGRINUM—LARGE ANTHURIUM SCHERZERIANUM.

I HAVE sent you a flower of Lilium tigrinum flore-pleno, which is really uncommon as yet, and from its value and beauty deserves attention as a very fine addition to our Lilies. The flower sent is from a small bulb in a pot, which under this condition is most beautiful, and I expect when cultivated out of doors it will prove itself still more so. We have several pots of this Lily in flower just now, and some of them have been open three weeks, and are still beautiful.

I have also sent you a flower of our variety of Anthurium Scherzerianum, the spathe of which is 6 inches long; but this is not the longest, one of recent formation is nearly 7 inches long. The flower sent opened up last April, which shows the value of this splendid plant in all its varieties. The remainder of the flower-stem of the variety sent, which I have not put in the box, from want of space, is 17 inches long.—H. K.

[Both of these are very beautiful indeed, the Anthurium marvellously so; this is the finest spathe of Anthurium, and the Lilium is the most double, we have ever seen.—EDS.]

THE SOIL SUPPLY OF GARDENS.

WE recently commented on the water supply of gardens, and now we propose to offer a few remarks on the very important question of the soil supply of gardens. It need not be said that these twin elements rank of the very first and highest importance in nearly all the operations of the horticulturist. Destitute of them, he might give up his occupation; inadequately supplied with them, he is almost as badly off as the Egyptians when called up to render their tale of bricks without a supply of straw. It is on the plentiful supply of water, and soil of certain qualities, more than anything else, that the character of garden produce depends. At least all other appliances, however correctly handled, cannot insure success in the absence of good water and soils.

Gardeners have in numerous instances to put up with much that is most trying and unreasonable connected with their supply of soils for potting and other purposes. It would be as reasonable to expect the farm steward to send prime sirloins to the larder or fat oxen to a cattle show without supplying him with plenty of proper food to feed them with, as it is to expect the gardener to produce first-rate plants and fruits without a proper supply of soil. Fortunately for the farmer, he can manufacture or grow the greater portion of what his oxen require, but gardeners cannot manufacture "turfy loam" and "fibry peat." No nobleman or gentleman ever expects the farm to produce prize animals on dry bents or chaff, and yet such an expectation would only equal in absurdity the expectation that fine Pine Apples and other pot plants can be reared on road scrapings, or clay, or any other composts equally unsuitable to the best cultural results. That policy which compels gardeners just to take any sort of soil that they can get, and prohibits them from taking a supply of that which is proper, is not only an unreasonable but a short-sighted policy on the part of the employers. We have known gardeners connected with large landed estates obliged to take road scrapings to pot with, and to pot their Pines in clay mixed with chopped straw and leaves, while plenty of good loam could be had in the nearest meadows. Not only is this a stupid policy, but the apprehensions which lead proprietors thus to refuse proper soil are entirely delusive and without foundation. They will not allow the gardener to break into the meadow, because they fear that by so doing their lands will be sadly and permanently deteriorated. Even if he offers to replace it with a richer and better grass-producing soil, the offer is seldom reassuring, and in some cases not entertained for a moment. We are not now supposing cases for the sake of a purpose. Indeed, we venture to assume that a large proportion of gardeners can endorse from their own experience what we are stating.

We once held a situation where we were driven, as the saying is, "to our wits' end" for want of soil to pot with. At last, after a sort of special pleading, and a controversion of the ideas of the proprietor—and always, in this battle, his lieutenant the farm bailiff—permission was obtained to test our statements in the corner of an old meadow. Of course, it was not expected

of us that we could substantiate the assertion that the produce, and consequently the value, of the patch would be increased instead of deteriorated. On the contrary, the performance was regarded as a piece of impudent robbery, more especially as gardeners are not expected to know anything of farming or meadows. How can they? However, our success was complete. The yield of hay was nearly doubled, and in the autumn the grass was green and sweet, resorted to by cattle and sheep in preference to any other part of the meadow. The issue was that a regular supply was granted so long as the bargain was implemented in the same way. And what was the process? Simply first to mow as closely as possible the grass, then to skin off the turf as thinly as it would hang together and bear handling. Then the 3 inches of soil lying immediately underneath the thin skin, and which contained the roots of the grass, was taken for the garden. The space was filled up with old rich soil, such as is not very difficult to procure about most garden establishments; at least most gardeners will be glad to provide such, by hook or by crook, to exchange for maiden loam. The surface was rolled down firmly, turfed over with the same turf, and well rolled again; the soil exchanged, being much richer than the loam, yielding not only better but earlier grass, while it was utterly unfit for the potting bench. The result was, a grant of as much soil yearly as was required. Of course, it would have been much better, and quite as harmless, to have taken the turf; but we ran no risk of committing ourselves; and every gardener knows what a boon it is to get even that which lies immediately below the thin skin of turf, instead of being compelled to work with any rubbish he could otherwise scrape together. By this method not even a season's sward is sacrificed; but if the turf be taken, and the ground properly laid down firmly, and sown thickly with permanent grasses, and fenced round for a few months, it is difficult at the close of the season, except by close inspection, to know where the turf has been removed, unless it be by the rich verdure of the spot.

This question is one of vast moment to successful culture; and we feel confident that if many who, under an absurd dream, deny such a supply, were to submit to one trial, there would not in the end be any objections to take the requisite amount each season. And we are certain that many a just complaint from the gardener would be avoided, and the produce of the garden vastly improved.

While we thus point out the groundlessness of the idea that gardeners would deteriorate the value of grass land by the process we have described, it is but right on the part of gardeners to be as sparing and economical with soil so obtained as possible, and not to break into fields more extensively than is absolutely necessary; for we admit the process does create an eyesore and disturbance for a short time. We have known the loam shaken from old Pine plants, French Bean pots, from Melon and Cucumber pits, made no further use of, but either wheeled into an open quarter of the garden or to the waste heap, while it might perfectly well have been made use of for many purposes—such as mixing up for potting and boxing flower garden plants. Heaps of good soil are often collected with other rubbish under potting benches, and then taken to the waste heap. All such ought to be sifted, and the good soil separated from the other matter, and a place set apart for forming all soils collected in this way into a heap that can be profitably used in many ways, with which all gardeners are conversant. Hundreds would be glad to use what some refuse, and in refusing, and drawing too greedily and injudiciously on fresh supplies, are to some extent perpetuating the tenacity with which so many owners of land refuse their gardeners fresh supplies.—(*The Gardener.*)

DECOMPOSITION versus COMBUSTION.

At this time there is to be seen in the kitchen garden a large heap, consisting of many cartloads of vegetable refuse, such as hedge and Laurel clippings, old Strawberry plants, and cuttings of fruit trees of various sorts, the whole of which will be shortly buried at a depth of 18 inches below the surface of the earth. This vegetable refuse will form a stratum 6 inches thick, and will be well trodden in before the 18 inches of earth are placed over it. From an experiment I made last year I have come to the conclusion that this is the most economical mode of disposing of all vegetable refuse. The product of the large heap in the garden, if burnt, might be a few bushels of ashes, worth 5*d.* the bushel, the effect of which would only last one season, whereas the effect of a well-trodden-in 6-inch stratum of vegetable matter would last several years. The decay being very gradual, there would be a continual supply of carbonic acid in solution with water to the plants above. As might be supposed, the superstratum of 18 inches of earth becomes thoroughly drained, and if examined will be found to be full of rootlets, and I have observed that Strawberries grown in ground cultivated in this manner not only acquire a large size and very fine flavour, but do not flag in hot and dry weather.

This operation costs rather more than trenching, it is infinitely better, and, as it lasts several years, the cost per annum would be very trifling. Probably this woody matter should not be thicker than the little finger, but I should think there would be no fear of mycelium. If it be necessary to hasten the decay of this vegetable layer, a little lime on the surface of the soil would soon form lime water, and finding its way downwards thus effect the object.—Observer.

SHRUB BEDDING versus FLOWER BEDDING.

As we have arrived at that period of the season when the effect, either good or otherwise, of present arrangements and combinations in the flower ground can be taken into account, and the propagation and preparation of next year's supply of bedding stuff are being cared for, we purpose saying a few words with regard to an aspect of the bedding system that we should like to see more attended to than it is. We allude to what may be provisionally termed, shrub bedding. Instead of the custom which at present almost generally prevails of filling every bed in the flower or dressed ground solely with their usual gay but tender and ephemeral occupants, we strongly advocate a fair proportion of the beds being made objects of perennial beauty, by filling them with happy combinations of hardwooded, hardy, low-growing, persistent-foliaged shrubs, by the judicious and tasteful use of which effects can be produced quite as pleasing and far more lasting than can be had from the present system of flower-bedding only.

In the different beautiful varieties of Ivy, which are now available, we have material for the most varied and effective beds. Of the common and variegated Hollies the same may be said. The many varieties of low-growing Coniferæ afford subjects admirably adapted and easily available for the purpose. We have seen very telling beds formed by such simple combinations as the variegated Savin for the centre mass of a bed, and its Tamarisk-leaved variety for a marginal belt.

A bed of the golden Thuja aurea edged with the Tamarisk Savin, or *vice versâ*, is very effective. For setting in a belt of contrasting colour, miniature plants of the golden Thuja would be admirably adapted. Cupressus Lawsoni, which is most patient of the use of the knife, would make a good central mass in a comparatively raised bed, which might be belted with a glaucous zone of Savin looped at intervals with Thuja aurea, or the common Heath-like little Juniperus ericoides. The mention of Heath reminds us of a spot where just now a belt of the common Ling or Broom Heath forms one of the greenest and most refreshing-looking margins possible to a shrub bed. Many of the lovely evergreen American peat shrubs are well suited for our purpose. The neat little Pernettyas, with their tidy foliage, pretty little white flowers, succeeded by rich trusses of beautifully-coloured berries, may be used with good effect. In the way of variegated foliage, the shrub-bedder has material that can fully rival the flower-beddere' Golden Chain, Mrs. Pollock, Flower of the Day, and other popular bedding Pelargoniums, in such never-dying, frost-defying, and persistently beautiful subjects as the golden and crimson, and other variously-tinted Ivies, Euonymus japonicus variegatus, the white creeping E. radicans, Rhamnus Alaternus variegatus, and though last, far from least, that most recent and perhaps greatest acquisition of any, the beautiful golden variegated Coprosma Baueri.—(*Irish Farmers' Gazette.*)

Mr. Rucker's Orchids.—At the sale of these, which was continued on the 9th, 22nd, and 23rd inst., Mr. Stevens realised the following amounts for some of the specimens—viz., for

Pleione maculata, £7; P. Wallichiana, £5 5*s.*; P. humilis, £6 6*s.*; Aërides affine, Loddiges' old variety, £8 10*s.*; A. virens, Kenrick's variety, fine specimen, £5 15*s.*; A. Larpentæ, £5; A. Lobbi, £5 10*s.*; A. Fieldingii, a very fine specimen, thirty leaves, £15; A. rubrum, £5; A. Schrœderi, fine plant, £6 10*s.*; Cattleya Reichenheimi, £17 10*s.*; C. exoniensis, £12; C. labiata var. Sion House, £6; C. Schilleriana, magnificent specimen, £19 19*s.*; C. amethystoglossa, fine specimen,

£5; C. Leopoldi, £8 10s.; C. superba, £6 10s.; Lælia anceps Dawsoni, £6; L. anceps Barkeriana, £8 8s.; L. elegans, magnificent specimen, £20; L. elegans Turneri, £7; L. elegans Wolstenholmiæ, £5 10s.; Phalænopsis Schilleriana, £5; P. grandiflora, fine plant, £5 10s.; P. amatilis, fine plant, £7 10s.; P. grandiflora, nice plant, £7 10s.; Epidendrum vitellinum and vitellinum majus, £6 10s. and £5 10s., fine specimens in flower; Oncidium Rogersii, of which it is said there are only four plants in Europe, a piece of the original plant, £12; Cypripedium Harrisianum, £5 10s.; C. Veitchii, £7 and £5, fine plants; C. villosum, extra fine specimen, £10; Vanda tricolor, Rucker's No. 1 variety, very fine, £6; V. Lowii, magnificent specimen, £20; V. cærulea, fine plant, £6 10s.; Miltonia candida major, fine plant, £13 13s.; Masdevallia coccinea, £10 10s.; Odontoglossum nævenm majus, £6 10s. and £5 15s.; O. pulchellum, fine specimen, £12 10s.; O. Phalænopsis, splendid mass, £7; Dendrobium crassinode, £6 6s.; D. Schrœderi, fine plant, true, £12 12s.; D. thyrsiflorum, £12; Cymbidium eburneum, £73 10s.; C. Mastersii, fine specimen, first-rate variety, showing flower, £6 10s.; Angræcum sesquipedale, fine specimen, £5 5s.; Sobralia macrantha (Woolley's variety), very rare, £5 10s.; Dendrochilium filiforme, magnificent specimen, £18 10s.; Saccolabium guttatum, fine plant, £10 10s.

AUTUMNAL-FLOWERING CROCUS.

The Crocus, as one of the earliest ornaments of the flower garden, is universally admired, and, indeed, for neat, dwarf, and compact growth, and varied shades of colour, Crocuses are unequalled for margins or edges of flower beds or borders. They are among the first flowers that remind us of spring, but the autumn-flowering kinds have no such reviving influence. They tell of coming gloom, wet, snow, frost, dreary winter with its storms and blasts. Should we value them less for that? They flower, it is true, at a time when flowers are plentiful, if indeed, we may so term blazes of scarlet, yellow, and blue, representing about half a dozen species of plants, which are all we want as regards their profusion of bloom. But there is pleasure in variety, a charm that no repetition can effect. I think there is something very refreshing in autumn-flowering plants. They seem to revive, to give life and hope in the declining year. Springing-up close to plants that have been a mass of beauty, they are enhanced in beauty—they give to Nature beauty even in her decay.

Autumn-flowering Crocuses differ from those which bloom early in the spring, for, like the autumn-flowering Cyclamen, the flowers appear before the leaves. These plants grow in the dull autumn and winter months; in fact, all their growth is made and matured in the dullest, coldest half of the year.

All that these Crocuses require is well-drained soil, thriving best in a rich light loam over gravel. They succeed in the sunniest situation, and thrive equally well in partially shaded positions, doing admirably on the margins of shrubberies, and they are gems by the margins of woodland walks, and at the foot of rockwork; in fact, everywhere. They do not interfere with the summer-flowering plants, which may be planted between them. They should be taken up every second or third year, and the roots divided. This is best done when the leaves begin to fade. Enrich the ground with some well-decayed manure or leaf soil, and replant at once.

The autumn-flowering species are not numerous. So far as I know they are confined to three, or at most four—viz.:

Crocus speciosus.—Flowers large, purplish-blue, beautifully striped. It is the finest species of Crocus, being very free-flowering and beautiful. It flowers from the middle of September.

C. sativus.—Flowers large, pale purple, with long orange styles. It flowers in September. It is synonymous with C. autumnalis.

C. serotinus.—Flowers violet purple, with a yellow throat. It flowers in October, and continues to bloom in November.

I should like to know if there are any others to be had, except in their native habitats, and should anyone wish to form a collection of Crocuses I know of no place where more information is to be gained than from the late Mr. Beston's excellent descriptions, Vol. iii., New Series, pages 114 and 135.—G. Abbey.

CLIANTHUS DAMPIERI AND PUNICEUS—THE GLORY PEA.

In your last number is a communication upon the culture of Clianthus Dampieri. I beg to say that this is not the Glory Pea and Parrot-beaked Plant of New Zealand. I have travelled over the greater part of the island, and have never seen it. It is, rather, a native of Australia. Clianthus puniceus is the true Glory Pea of New Zealand, and its native name is Kohai ngutukaka, or Parrot's Bill. Its magnificent festoons of blossom are to be seen north and south. As far back as 1845 I sent seed to England, and on my return had the satisfaction of seeing it in full bloom upon a south wall of a house, where it remained several years, proving it to be hardy, and certainly not an annual nor biennial. I consider that it requires merely the ordinary care needed by a Tea Rose to keep it through our winter.

Clianthus Dampieri is much given to red spider, and should be grown quickly. Its flower is similar in shape, but different in colour, to that of C. puniceus.—G. E.

TEA ROSES.

It is common to suppose that the Tea Rose is hard to grow. True that it may require a little extra care in winter, but yon may rest comparatively happy during the summer. Out of three hundred plants, during the past winter I did not lose one, although they were planted close to the water. I have been driven frantic all the summer with every form of disease among the Perpetuals—aphis, mildew, rust, and now they look most ghastly specimens without a leaf. My Teas, however, have not known "an ache or a pain." They are now, and have been all the season, in full health and vigour. I have been most successful in my showing this year, and I am sure I owe it all to having plenty of Teas to cut. I am convinced that it has been the fair face of Niphetos, the delicate shading of Rubens, Souvenir d'Elise, and Madame Bravy shining out amidst the glorious colours of Charles Lefebvre and Duke of Edinburgh that have won their way to the judicial heart, and caused the premier prize to rest on my twenty-four or twelve, in preference to much larger and perhaps more brilliant stands on my right and left.

I was present at a show at Glastonbury on the 8th inst., and there I saw the Tea Rose in its fullest glory. Mr. Pavitt, of Rose Cottage, Bathwick, Bath, displayed six stands containing one hundred blooms of Teas. A more lovely sight I never saw. The day was intensely hot, the cut-flower tent injudiciously placed in the full glare of the sun. The giants in Mr. Keynes's prize twenty-four threes looked hot and drooping, their colour could not stand such a roasting. "The Perpetual season was past," "The wrong time of year for showing Roses," were the apologetic words. True, no doubt; but yet that we could have Roses in perfection, even in the midst of a burning August, was proved by Mr. Pavitt's cases. There stood Souvenir d'un Ami, Catherine Mermet, Niphetos, Mesdames Bravy and Willermoz, every form and colour, in perfect beauty. Neither were they in size just fit for the button-hole, the general destination of Tea Roses, but fine imposing flowers, any one of which would have graced a stand of twelve Perpetuals. I was much amused at the remarks made by the many who lingered before these stands. It was a new light to many a Rose-loving heart, and many a vow was made that for the future their rosariums should not be without a full complement of Teas. I give it as my advice to all amateurs whom it may concern, Have some Teas. Order the strong growers this autumn on short Briars, the more delicate on the Manetti in pots, to plant out the first week in May.—Stiff Soil.

CHEMICAL POWERS OF THE SUNLIGHT.

[The following is extracted from a paper by General Pleasanton, read before the Philadelphia Society for promoting Agriculture.]

At the request of my old friend and your respected President, I have attended your meeting at this time to impart to you the results of certain experiments that I have made within the last ten years in attempts to utilise the blue colour of the sky in the development of vegetable and animal life.

I may premise that for a long time I have thought that the blue colour of the sky, so permanent and so all-pervading, and yet so varying in intensity of colour, according to season and latitude, must have some abiding relation and intimate connection with the living organisms on this planet.

In the autumn of the year 1860 I commenced the erection of a cold grapery on my farm in the western part of this city. I remembered that while a student of chemistry I was taught that in the analysis of the ray of the sun by the prism, in the year 1666, by Sir Isaac Newton, he had resolved it into the seven primary rays—viz., red, orange, yellow, green, blue,

indigo, and violet, and had discovered that these elementary rays had different indices of refraction; that for the red ray at one side of the solar spectrum being the least, while that of the violet at the opposite side thereof was the greatest, from which he deduced his celebrated doctrine of the different refrangibility of the rays of light; and further, that Sir John Herschel, in his subsequent investigation of the properties of light, had shown that the chemical power of the solar ray is greatest in the blue rays, which give the least light of any of the luminous prismatic radiations, but the largest quantity of solar heat, and that later experiments established the fact of the stimulating influence of the blue rays upon vegetation. Having concluded to make a practical application of the properties of the blue and violet rays of light just referred to in stimulating vegetable life, I began to inquire in every accessible direction if this stimulating quality of the blue or violet ray had ever received any practical useful application. My inquiries developed the facts that various experiments had been made in England and on the European continent, with glass coloured with each of the several primary rays, but that they were so unsatisfactory in their results, that nothing useful came of them so far as any improvement in the process of developing vegetation was concerned. Finding no beaten track, I was left to grope my way as best I could under the guidance of the violet ray alone.

My grapery was finished in March, 1861. Its dimensions were 84 feet long, 26 feet wide, 16 feet high at the ridge, with a double pitched roof. It was built at the foot of a terraced garden, in the direction of N.E. to E. to S.W. by W. On three sides there was a border 12 feet wide, and on the fourth or N.E. by E. side the border was only 5 feet wide, being a walk of the garden. The borders inside and outside were excavated 3 feet 6 inches deep, and were filled up with the usual nutritive matter, carefully prepared for growing Vines. I do not think they differed essentially from thousands of other borders which have been made in many parts of the world. The first question to be solved on the completion of the frame of the grapery, was the proportion of blue or violet glass to be used on the roof. Should too much be used, it would reduce the temperature too much, and cause a failure of the experiment; if too little it would not afford a fair test. At a venture I adopted every eighth row of glass on the roof to be violet-coloured, alternating the rows on opposite sides of the roof, so that the sun in its daily course should cast a beam of violet light on every leaf in the grapery. Cuttings of Vines of some twenty varieties of Grapes, each one year old, of the thickness of a pipe-stem, and cut close to the pots containing them, were planted in the borders inside and outside of the grapery, in the early part of April, 1861. Soon after being planted, the growth of the Vines began. Those on the outside were trained through earthen pipes in the wall to the inside, and as they grew they were tied up to the wires like those which had been planted within. Very soon the Vines began to attract great notice of all who saw them from the rapid growth they were making. Every day disclosed some new extension, and the gardener was kept busy in tying up the new wood which the day before he had not observed. In a few weeks after the Vines had been planted, the walls and inside of the roof were closely covered with the most luxuriant and healthy development of foliage and wood.

In the early part of September, 1861, Mr. Robert Buist, a noted seedsman and distinguished horticulturist, from whom I had procured the Vines, having heard of their wonderful growth, visited the grapery. On entering it he seemed to be lost in amazement at what he saw; after examining it very carefully, turning to me, he said: "General, I have been cultivating plants and Vines of various kinds for the last forty years; I have seen some of the best vineries and conservatories in England and Scotland; but I have never seen anything like this growth." He then measured some of the Vines and found them 45 feet in length, and an inch in diameter at a distance of 1 foot above the ground; and these dimensions were the growth of only five months! He then remarked: "I visited last week a new grapery near Darby, the Vines in which I furnished at the same time I did yours; they were of the same varieties, of like age and size when they were planted as yours; they were planted at the same time with yours. When I saw them last week they were puny, spindling plants, not more than 5 feet long, and scarcely increased in diameter since they were planted, and yet they have had the best possible care and attendance!"

The Vines continued healthy and to grow, making an abundance of young wood during the remainder of the season of 1861.

In March of 1862 they were started to grow, having been pruned and cleaned in January of that year. The growth in the second season was, if anything, more remarkable than it had been in the previous year. Besides the formation of new wood and the display of the most luxuriant foliage, there was a wonderful number of bunches of Grapes, which soon assumed the most remarkable proportions—the bunches being of extraordinary magnitude, and the Grapes of unusual size and development.

In September of 1862 the same gentleman, Mr. Robert H. Buist, sen., who had visited the grapery the year before, came again—this time accompanied by his foreman. The Grapes were then beginning to colour and to ripen rapidly. On entering the grapery, astonished at the wonderful display of foliage and fruit which it presented, he stood for a while in silent amazement; he then slowly walked around the grapery several times, critically examining its wonders; when, taking from his pocket paper and pencil, he noted on the paper each bunch of Grapes, and estimated its weight, after which aggregating the whole, he came to me and said, "General, do you know that you have 1200 lbs. of Grapes in this grapery?" On my saying that I had no idea of the quantity it contained, he continued, "You have indeed that weight of fruit, but I would not dare to publish it, for no one would believe me." We may well conceive of his astonishment at this product when we are reminded that in Grape-growing countries where Grapes have been grown for centuries, that a period of time of from five to six years will elapse before a single bunch of Grapes can be produced from a young Vine—while before him, in the second year of the growth of Vines, which he himself had furnished only seventeen months before, he saw this remarkable yield of the finest and choicest varieties of Grapes. He might well say that an account of it would be incredible.

During the next season (1863) the Vines again fruited and matured a crop of Grapes estimated by comparison with the yield of the previous year to weigh about two tons; the Vines were perfectly healthy and free from the usual maladies which affect the Grape. By this time the grapery and its products had become partially known among cultivators, who said that such excessive crops would exhaust the Vines, and that the following year there would be no fruit, as it was well known that all fruits required rest after yielding large crops; notwithstanding, new wood was formed this year for the next year's crop, which turned out to be quite as large as it had been in the season of 1863, and so on year by year the Vines have continued to bear large crops of fine fruit without intermission for the last nine years. They are now healthy and strong, and as yet show no signs of decrepitude or exhaustion.—(*American Gardener's Monthly.*)

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 16.

Really it would be asking almost too much of human nature to expect anyone to answer this question affirmatively: "Will you do a good turn to a Bluebottle-fly?" It is very easy, of course, to theorise about the utility of this and that species of Musca, considered as scavengers, or on the place which each living organism holds in Nature's system, wherein, despite of what may seem to us its unpleasant peculiarities, we admit that it forms a link which could not be dropped out without interfering with the whole. But one of the points in the character of the Bluebottle which offends us most of all is the determination it shows to wander everywhere in and out of doors, and apparently for the express purpose of inflicting annoyance upon the huge biped man, against whom, were you putting him into the scale, you would have to heap many thousands of Blow-flies to serve as counterpoise, yet, strange to say, when the two come into collision, the Bluebottle keeps his temper, and the man does not. Really, you feel inclined to pardon the insect offender who attacks you or your property in a systematic way. The caterpillar which devours your Cabbages and Lettuces, as a rule, does not touch anything else; nay, even the aphis, common as it is on a variety of plants, shrubs, and trees, does not enter your house, except by accident, and is then glad enough to escape again with life.

But the Bluebottle, what is he? A predatory insect of the garden? Yes. Of the conservatory and hothouse? Yes. And more than this, he visits also our houses, not one room only, but every room to which he can gain admission. He is here, there, and everywhere, and not satisfied with plaguing you by haunting you in your moments of relaxation, and vexing your

ears by his hum, which some people think melodious—if they really do, I wish I had their ears—he flies at you desperately, and settles upon you in order that he may regale himself upon the moisture exuded from your skin. Why, the other morning, reader, a friend of mine lying half awake, engaged in a philosophical meditation, had to lift himself up eight times to chase off a determined fellow, who settled thus repeatedly, though driven off again and again; and at last, the sufferer having got up in despair, no sooner did the Bluebottle ascertain this fact than he took himself off to the ceiling, and "pitched" there, looking down serenely as if to say, "Now I have made you move at last, and, what's more, I have got to a position of security." I believe the first impulse in my friend's breast was to send to the lower regions of his house for a ladder which would enable him to reach the ceiling, and destroy his malicious though paltry foe, but, on reflection, he calmed down and consoled himself in a philosophical manner, allowing the Bluebottle to escape with a seeming triumph.

Behold the Bluebottles in the garden. If they are at home in the house, they are quite as much at their ease when they rove from one spot to another, regaling themselves upon fruit, and buzzing also in swarms about the flower parterres. With the ripening of Gooseberries and Currants we find attendant Bluebottles prepared to take their share of the produce. Strawberries and Raspberries they also affect; not, as I have noticed, so frequently meddling with the first of these, but the grand harvest of these insects is at the time of the maturing of Plums, Cherries, and wall fruit generally. "There's always something to be got about a garden" is their motto; and when other supplies fail Apples and Pears still remain, and late-ripening Grapes, on the strength of which the Bluebottle prepares for its hybernation, or at least this seems to be the case with a moiety of the species. Individuals hide away in nooks and crannies when winter has fairly set in, and occasionally a party of Bluebottles will be found reposing in company. A gentleman, having climbed a disused telegraph pole, shook out from a cavity in the upper portion dozens of these in a state of torpidity.

Another name given to the species before us (Calliphora vomitoria)—namely, the Flesh or Blow-fly, reminds us that it is one out of many species of the Dipterous order, which deposit their ova on meat. It is certainly not an agreeable idea, yet it is one which will suggest itself when we see a swarm of these insects buzzing about and settling upon fruit, that it is almost certain they have recently paid visits to animal matter in a state of putridity or nearly so. Flies are tolerably particular in cleaning themselves, but still we might, did the choice rest with us, decidedly wish that they should not approach us, or our garden produce, too soon after they had been engaged in the work of preparing for the continuance of their species. And, indeed, it has been suggested by some, that it is possible such insects may be the means of propagating contagion by carrying poisonous matter on their limbs or jaws from one object to another—a theory which is clever, perhaps plausible, yet one which I can scarcely receive as true.

The number of eggs deposited by the common Bluebottle is about two hundred, and if the weather is tolerably warm, the young larvæ emerge the same day. Unlike the majority of larvæ, which seem to require occasional intervals of quietude to assist digestion, these meat-eating individuals proceed without interruption, unless from external causes, and are, it is said, adult within the week. From the experiments of Redi, their increase of weight appears to be sometimes as much as two hundred-fold in the course of twenty-four hours. According to the writings of some of our entomological authors, Bluebottle larvæ, when desirous of becoming pupæ, quit their food and seek a retreat in the ground. This must, however, depend upon circumstances, for it is evident that as their powers of locomotion are very moderate, getting to earth may prove a very troublesome job—at least, I have noticed places where, doubtless, such larvæ obtain their favourite conditions, but in which earth is not to be found, and from whence I have not seen them performing migrations in search of it. I assume, therefore, that the pupæ are attached to any convenient object, though, should the carcase on which the larvæ have preyed be resting on the ground, they would descend there.

Our microscopists, to illustrate the anatomy of this species, usually prepare a series of ten or a dozen slides, and the most interesting of these is one showing the proboscis and lancets. This proboscis is retractile, and composed of two parts, its opening having two thick lips, and in these are a number of channels. As the fly is seen to bring these lips into close contact with any matter which it wishes to draw into the proboscis, while at the same time the pliant part is moved in a variety of ways, there is no doubt it is by the principle of suction that the food is taken up. It is a frequent supposition that "flies bite" in warm weather, when they settle upon the human skin, the fact being, I suppose, that the exhaustion of the air by the application of the proboscis of the insect occasions an irritation for the moment, though it is possible Bluebottles may actually make at times an incision, for there is enclosed in a case a lancet which is used to pierce the skin of fruits, &c.

The practical man will ask, "How can these insects be destroyed, and their injurious attacks prevented?" This is not easily answered. Bluebottles are not to be frightened off, they spurn the enticements of "fly papers," and though they may be beguiled by some sweet and odoriferous compounds, and thus drowned or poisoned, it is doubtful whether we do not draw an additional number which would not otherwise visit us, almost equivalent to those we kill. The removal or the deep interment of any animal substances to which these flies would be likely to resort is an important particular often overlooked. In one or two summers, when engaged in "sugaring for moths," by applying a syrup to the trunks of trees in my garden, I had the satisfaction of feeling that though my captures were not extensive, I was doing indirectly an act of kindness to my neighbours. Throughout the day hosts of flies resorted to the sugared trees, to feast upon what the moths had left, and other gardens must have been thereby benefited. It is noticeable that the ordinary garden spiders very rarely succeed in capturing these boisterous insects, which soon disentangle themselves from their meshes.

One of the earliest moths which we see about, not on the wing, but more generally at rest, or slowly crawling up a tree, is the Brindled Beauty (Biston hirtarius), and putting in an appearance as they do, about our London parks and squares, just as the Cuckoo reaches our shores, we might style it a "harbinger of spring." Just now, however, we shall detect it without much difficulty in the larval stage. The species is a singular one altogether, for though the caterpillar is a decided "looper" (or ground-measurer), and belongs, therefore, to the Geometrine family, there is much in the structure of this moth and a few others allied to it, which seems to connect them with the family of the Bombyces, of which the Silkworm Moth (B. Mori) is a well-known example. The imago of the Brindled Beauty usually emerges from the pupa or chrysalis state between the hours of 10 and 12 A.M., and in the afternoon on mild April days some dozens may be taken off the trunk of a single tree, and the female individuals are then probably busily engaged in depositing clusters of their green eggs, which are small in proportion, in the clefts of the bark. So strongly is this habit implanted in them, that they can hardly be induced to part with them otherwise. To reduce the number of the caterpillars by anticipation, there can be no better way than to knock the moths off the trees. It is rather a mystery how the young caterpillars, hatched as they often are, at a time when cutting winds prevail, manage to climb from the bark to the twigs; but at least a good proportion survive the perils of early caterpillar life, judging from the abundance of the species where it occurs, though in some parts of England it is unknown. The small sooty-coloured caterpillar at first gives little indication of the size it is to attain, and the appearance it is to present, and frequently it grows but slowly until the July warmth hastens it on. The arrangement of colours is curious; the ground colour of two shades of brown is broken into regular portions by black lines, there is a yellow ring behind the head, and yellow spots on the back and sides. By the paved roadsides these caterpillars are often found feeding on the Lime and Elm, and the stones beneath are very observably discoloured for some distance by the copious excretions of the individuals resting on the overhanging boughs. In gardens and orchards they resort to the Plum and Pear, and the latter especially is defoliated by them in some seasons. The pupa may be destroyed in autumn or winter by digging round the trees, as they are easily detected.

Biston hirtarius.

Going into an outhouse or greenhouse at early morning the

observant gardener is likely to notice several moths which, after their night's performances, are about to settle themselves down for their sunlight repose. Should he attempt to start them he will probably be astonished at the curious gyrations of the species known as the Mouse (Amphipyra Tragopogonis), should that be amongst them, as might be expected in August. From its peculiar shuffling movements it has received its English name. This is occasionally a garden species, and though the caterpillars have been found on various low plants, they have a great liking for Larkspurs. There is only one brood in the year, the eggs laid in the summer hatching, as I suspect, in the autumn, and the caterpillars hybernating. At any rate they are to be found feeding in May, being full-fed in that month. There is nothing very particular in the appearance of the caterpillar, the colour being a dull green, sometimes a little lighter, and marked with white and black.—J. R. S. C.

GROUND LEVELLING AND PRACTICAL GARDEN PLOTTING.—No. 22.

DRAWING PLANS.

To draw *fig.* 46. Draw line 1 7 and divide it into six equal parts, as 2, 3, 4, 5, 6, 7; the points thus found being the centres from which to describe circles and arcs to be defined hereafter. Produce the line until it reach the points c c. Draw lines *a a*, *e e*, *b b*, and *d d* as shown. On line c c, from centre 1, with radius 1 8, draw arc 8, meeting lines *a a* and *e e*; also from the same point draw arc 9, meeting lines *b b* and *d d*. From the same point draw arc 10 and circle 11. In drawing arcs 9 and 10, and all corresponding arcs, it will be found to be better to draw the circles complete with the pencil, as shown by the thick and dotted lines. When repeating the work in ink it will be easily seen where the curves meet the straight lines drawn from the outside of circles 1, 2, &c., and the line parallel with it, as shown in points *p r*. From centre 2 draw arcs *f f* and *g g*, also circle 12. From points *p r*, on the right side, draw straight lines to circle 11, and on the other side to circle 12. In drawing straight lines of this description between two circles, the lines must be drawn so as to touch the extreme edges of the circles, otherwise they will cause an abrupt angle, and so spoil the effect of the drawing. From centres 3, 4, 5, 6, 7 draw circles and arcs corresponding to those drawn from points 1 and 2, also straight lines as described.

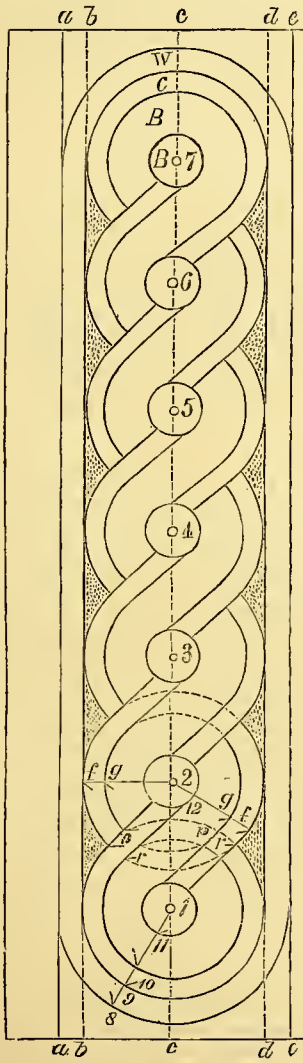


Fig. 46.
Scale 16 feet to the inch.

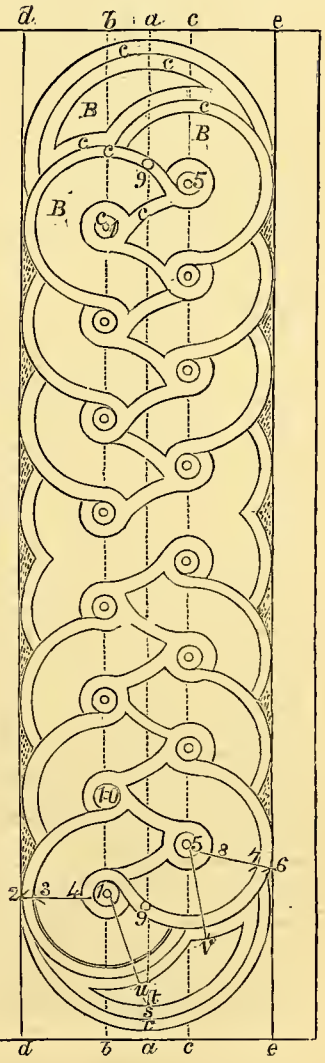


Fig. 47.
Scale 16 feet to the inch.

To transfer *fig.* 46 to the ground. Lay a line from centre 1 to centre 7, the distance between being 63 feet, and insert pegs. Divide the line into six equal parts, as 2, 3, 4, 5, 6, 7; insert a peg at each point. On each side of the centre line measure 9 feet 9 inches, and lay lines as in *a a* and *e e*; measure 7 feet 9 inches, and lay lines as shown in *b b* and *d d*. From the peg at point 1, with a string 9 feet 9 inches long, trace arc 8, meeting lines *a* and *e*; reduce the string 2 feet, and trace arc 9, meeting lines *b* and *d*; again reduce the string 18 inches, and trace arc 10. From the same peg, with a string 2 feet 2 inches long, trace circle 11. In tracing arcs 9 and 10 it is better to trace the circle as shown by the thick and dotted lines. From the peg at centre 2, with a string 7 feet 9 inches long, trace arcs *f*, *f*, meeting arc 9, as where the lines are cut in *p r*; reduce the string 18 inches and trace arcs *g*, *g*. From the same peg, with a string 2 feet 2 inches long, trace circle 12. From the point where arc 10 is cut in *r* lay a line to the extreme edge of circle 12, and lay a line parallel with it at a distance of 18 inches between, as shown, connecting arc 9 and circle 12. From where arcs *f* and *g* are cut lay a line to circle 11 in the same manner, and repeat the process from each point until the design is traced. W are walks. C indicates coloured materials or bulbs, and B beds.

To draw *fig.* 47. Draw centre line *a a*. On each side of line *a a* draw lines *b b* and *c c* at an equal distance, as shown; also draw lines *e e* and *d d*. Divide the lines *b b* and *c c* into seven equal parts, thus—divide line *b b* into seven equal parts, the first division being shown in 1 10; with radius 1 10, from points 1 and 10, describe arcs intersecting, as at point 5; with the same radius from point 5 set off seven equal parts on line *c c*. All the points thus found will form equilateral triangles with each other. From centre 1, on line *b b*, with radius 1 2, describe arc 2, touching line *d d*; from the same point describe arcs 3 and 4, also circle 1. From centre 5 describe arcs 6, 7, 8, and circle 5. Describe the remaining arcs and circles from their respective centres in the same manner. From centre 9, on line *a a*, describe arcs *r*, *s*, and *t*. From centre 1, with radius 1 *u*, draw arc *u*. From centre 5, with radius 5 *v*, draw arc *v*.

From corresponding points 1, 5, 9 describe corresponding arcs, and the design is complete.

To transfer *fig.* 47 to the ground. Lay a line connecting points 9, 9, the distance between being 63 feet; measure 10 feet 3 inches on each side, and lay lines *d d* and *e e* parallel to 9 9, and insert a peg at each point. Again on each side of line 9 9 measure 3 feet 6 inches, and lay lines *b b* and c c. With a line 4 feet in length describe an arc from centre 9; the point where the arc cuts line *b b* is centre 1. From centre 1, on line *b b*, set off 56 feet, and divide it into seven equal parts, as shown in points 1, 10; insert a peg at each point. With a line 8 feet in length (being one-seventh of 56 feet), from centres 1, 10, describe arcs intersecting on line *c c*, as at point 5. From point 5 set off 56 feet on line *c c*, and divide it into seven equal parts in the same manner as line *b b*, and insert pegs. From centre 1, on line *b b*, with a string 7 feet long, trace arc 2, touching line *d d*; reduce the string 1 foot and trace arc 3. With a string 2 feet long trace arc 4; reduce the string 1 foot and trace circle 1. From the peg at centre 5, with the same length of string, trace arcs 6, 7, 8, and circle 5. Trace similar arcs and circles from centre 10 and all corresponding points. From the peg at centre 9, on line *a a*, with a string 10 feet 3 inches long, trace arc *r*, meeting lines *d d* and *c c*; reduce the string 1 foot and trace arc *s*; again reduce the string 1 foot and trace arc *t*. From centre 1, on line *b b*, with a string 8 feet long, trace arc *u*. From centre 5, with a string 8 feet long, trace arc *v*, meeting arcs *u* and *t*. From corresponding centres 1, 5, 9 trace similar arcs, and the design is complete. c indicates coloured materials; B, beds.—M. O'Donnell, *Gardener to E. Leeming, Esq., Spring Grove, Richmond.*

WORK FOR THE WEEK.

KITCHEN GARDEN.

Unless we get a good supply of moisture from the clouds, watering and surface-stirring must be followed-up amongst *Broccoli* and *Cauliflowers* for autumn use, otherwise they will be forced into premature flower. Some time ago I saw a piece of Cape Broccoli which had a thorough soaking of water all over the ground early in the morning, and about the middle of the day the soil was all forked-up to the depth of 6 or 8 inches. They had completely covered the ground with foliage, thus preventing rapid evaporation, and were likely to be very productive, whilst others of the same sowing and planting, but not so well treated, were buttoning fast. Wherever, therefore, there are available means at command, these operations are imperative. Let there be no delay in getting in the main sowing of *Cauliflowers, Red Cabbage*, and Bath Cos *Lettuce* to stand through the winter. General experience proves that after the 24th success is precarious. If *Celery* has been well supplied with stimulants, which are very necessary during the present season, some of the early crops will now be sufficiently advanced for earthing-up. This should be performed on a dry day. Remove all suckers and useless leaves, and tie each plant separately with a piece of matting to prevent the earth from getting into the hearts of the plants. The earthing-up may then be proceeded with in the usual way, taking care to loosen the earth well about the roots. If they have a thorough good soaking of liquid manure the day previous, it will be of great advantage. These remarks will, of course, apply to each crop as it becomes ready for earthing-up; but in the case of early and main crops they should be left until within three weeks of the time they are required for use. *Dwarf Kidney Beans* and *Scarlet Runners* should now be kept well gathered, as if allowed to perfect seed most of the later blossoms will prove abortive. Keep the main crop of *Onions* well turned about to have them as soon as possible in a condition for storing.

FRUIT GARDEN.

Apples and Pears require constant attention now; gather the various sorts as they ripen, and let the operation be performed with as much gentleness as if they were eggs, for wherever an Apple or Pear is bruised it lays the foundation of premature decay. Peaches and Nectarines must be looked over every day and gathered as they ripen, as a fall, even when nets are suspended to receive them, is fatal to their flavour and appearance, if they have to be kept a day.

FLOWER GARDEN.

If beauty in summer be a desideratum in this department, great activity should now prevail, and all possible speed be employed in propagating a sufficient quantity of Verbenas, Petunias, Salvias, Scarlet Geraniums, and other bedding-out plants, as the summer beauty of the flower garden next season depends entirely, or in a great measure at least, upon the supply of plants prepared at this time. I will not attempt to propound a system to be followed in their propagation; this has been frequently brought before the readers of the Journal. Use every available means to raise a sufficient stock to preserve during the winter. When there is comparatively small space for wintering these plants, I would recommend boxes and square pans for the purpose. It would be desirable to dip those cuttings of plants liable to be affected with aphis, overhead in tobacco water before planting them out into the boxes, this will save much trouble and anxiety afterwards. Mowing will not be so frequently required as heretofore, once in three weeks will be sufficient. Sweeping will now be in great requisition, as the "sere and yellow leaf" is beginning to fall from the trees and shrubs. The lawn and walks should be gone over every morning. The roller, too, should not be forgotten. Attend to the destruction of weeds, hoeing and hand-picking; tie-up climbers; dress the edges of beds by pegging, or tying if encircled with basketwork; pay the greatest attention to order and good keeping. Some of the earliest Carnation and Picotee layers will now be sufficiently rooted to take from the parent plant. It will be advisable to choose damp weather for the operation. They may be potted in pint pots, placing them in a frame for a few days, taking care only to water the soil, not over the foliage. Few hardy plants are more impatient of a damp and confined atmosphere than these. On removing the layers from the stool, or stock plant, if the sort is valuable or scarce, it will be advisable to cut the stumps back, they will often emit shoots and make very desirable plants to propagate or save seed from during the ensuing summer. Tulips and Ranunculuses need no remark at present, except that the beds for next year's planting should be turned and sweetened at least once a-month. Pansies and Pinks planted out for next year's blooming will require considerable attention during the hot weather. Watering, shading, weeding, &c., must be carefully followed up. Give Dahlias liquid manure, mulching the soil with decayed Melon-bed manure. Do not relax in using every means to entrap earwigs.

GREENHOUSE AND CONSERVATORY.

Any inmates of these structures which have not been placed out of doors, will still be much benefited by being out, even for two or three weeks, more especially all those which appear long-jointed or somewhat pale. When plants assume this character it is plain they have been ill-treated. We do not find them thus in a state of nature when growing under proper circumstances. If drenching rains occur, any tender plants which are likely to suffer damage should be taken in-doors again. There is no occasion to house the whole stock at once. Plants impatient of moisture should not be kept out too long; the nights are getting long, the solar heat will soon become much diminished, and, of course, evaporation will become slower. These houses should now be gay with Fuchsias, Hydrangeas of various tints of colour, the best varieties of Scarlet and Variegated Geraniums, Balsams, Cockscombs, and Amaranths. Keep them removed, and have a quantity of late-autumn and winter-flowering plants duly shifted on.

STOVE.

Shift in due season a good stock of the beautiful winter-flowering Gesnera zebrina, no soil seems to suit better in inducing a luxuriant healthy growth than light fibrous loam, heath soil, and rough sweet leaf mould in about equal proportions, with a portion of charcoal both as drainage and mixed with the soil, adding to it a small quantity of sharp sand. The plants should be potted rather lightly, that is to say, the soil should not be rammed together too firmly to prevent a free circulation of air and water. Then, if the plant be placed for a time on a gentle sweet bottom heat, shaded from the sun when it is clear and powerful, and syringed pretty freely with clean, tepid, soft water, and the application of clear liquid manure is occasionally made to the roots when well established, it is astonishing what beautiful and rapid growth they will make. Euphorbia jacquiniæflora, too, should now meet with every encouragement, as it is also one of our best and gayest winter-flowering plants, and is particularly useful for furnishing bouquets, plants for the stove and conservatory, or the most sheltered parts of the mixed greenhouse. Pay every attention to such superior stove plants as Allamandas, Dipladenias, Stephanotis, Echites, Luculias, &c.

COLD PITS.

Young stock intended to flower next season should be exposed

to the midday sun in order to ripen the wood, taking care not to do this so rashly as to injure the foliage. This, however, will only be proper in the case of such plants as have already made plenty of young wood, but it is advisable after this season to be anticipating the approach of winter, and to use every possible means to forward the growth of valuable hardwooded plants in order to get it somewhat firm and able to resist damp, &c., as soon as possible, and this is especially necessary when the plants have to be wintered in these structures.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Sowing Seeds out of Doors in Dry Soil and Dry Weather in Summer.—At page 127, seventh line from bottom of second column, for "level" read water. Surface watering after sowing in all such cases is often worse than useless. We prefer, on the contrary, that the ground should be moistened for the seeds, so as to encourage them to germinate freely, and then the covering should be of dry earth to keep the moisture in whilst the dry weather lasts: hence, if we sow in drills we prefer soaking the drills before sowing, especially if we lead the seeds, pat these gently into the moist soil with the head of a rake, &c., and then cover with the dry soil. When we sow broadcast, as we are sometimes compelled to do from want of room, we prepare the ground as in the page alluded to, then give the whole a good watering, allow it to stand a little so that the surface may become friable; then scatter the seeds equally, gently pat them in with the back of a clean spade, and cover with dry soil to the depth, for such subjects as Cabbages, of one-fourth of an inch, most probably part of that depth being charred refuse. We are thus minute, because, by adopting this simple plan, hardly a seed fails in dry weather, and the young plants come up with a sturdiness which they rarely show when surface waterings have to be resorted to whilst the plants are very young. It will be found best in every way to secure moisture beneath them at first, and then the dry surface will be rather an advantage.

Even after this moist season, in sowing seeds after early Potatoes, &c., we found the ground very dry, and, therefore, the above precautions were all the more necessary. It reminded us how dry the ground must be in tropical latitudes, where little or no rain falls in the dry season; for less than a week of a high temperature turned our rather moist ground into something like baked earth, and but for the moving of the surface with the hoe, there would have been cracking and fissures in all directions, which in gardening ought, if possible, to be avoided, as besides the dry air thus entering freely, there is a great risk of roots being snapped and broken in the strain made by these open fissures.

In sowing seeds as above stated, the young seedlings generally grow at once, and you thus secure a more level crop of seedlings than by any surface watering. "But," said a friend the other day, "what about the rains wetting the surface of the seed-beds? Is not that much the same thing as watering on the surface?" No, we think it quite different, unless the conditions which attend the rain are always borne in mind, and such watering is always given in coolness and shade. We had a nice refreshing rain on the morning of the 17th, but there was no scorching air, no bright sunshine, and the effect, therefore, was very different from haphazard artificial surface watering. We would only here bring the same principle into operation, that we have recommended for years in the case of small valuable seeds sown in pots. It is best to prepare the pots, water well, and let the soil become rather dry on the surface before sowing, and then sow and shade a little until the seedlings appear. The shanking-off and damping-off of the young seedlings will to a great extent be prevented, as overhead watering is avoided. Many seedlings never appear, many go off at the surface of the ground because such simple precautions are neglected, and seedsmen are blamed when the blame should rest with ourselves.

Weeds.—The warm weather after the rains has brought up myriads of weeds, and the pulling-up of weeds is always, if it can be avoided, a great waste of time and labour. In nothing is the proverb more fully realised—"a stitch in time saves nine." A scuffle with a Dutch hoe when the weeds are 2 or 3 inches in height, will take little time, will leave a loose surface to prevent cracking, and the sun will soon shrivel the weeds out of sight, without giving any trouble in removing them.

To prevent the ground cracking we moved the surface among Broccoli, Greens, &c., where they were not too strong for us to get near them; though for Broccoli, besides this mere surface-stirring for young plants, we think the plants thrive better and stand the winter better when the ground about the roots is firm and solid instead of loose. A friend of ours generally plants with a crowbar in hard ground after Peas, and though his plants succumbed to a great extent to the frost of last winter, he generally has fine compact heads of Broccoli, and large sturdy plants in the spring.

Peas.—We have been clearing these off. A fortnight of tropical weather has brought in our Peas so fast that we fear our autumn supply will be less than usual. When mostly done with there is no beauty in looking at rows of withering Pea haulm, and yet frequently we let it stand longer than we ought to do for the shade which it affords. Thus, on the ridges between our Celery beds we have not removed the rows of Peas, which are of little use to us but for the shade they give from a bright afternoon sun. That little shade has saved us some waterings. There is nothing pleasing in the sight of the withering haulm; still we would rather keep it a little longer, as it is quite possible to overwater even Celery, and a little shade until the days shorten gives the plant one of its natural conditions of growth. We can recollect when young what a hurry-scurry there was in removing pea-haulm, weeds, &c., when the great Loudon was expected to take some gardens under his notice in a provincial tour. There can be no doubt that there is less care taken as respects neatness and high keeping in the autumn as compared with the early summer months, a fact too perceptible in most gardens; but still the great Loudon would not have looked upon such in a kitchen garden as a decided eyesore for which there was a seen and felt utility. With a continuance of such hot weather as we have lately had a flickering shade would be useful to the Celery beds. With little water to give ours last year we managed to obtain a good supply for the season, chiefly by shading.

We watered Cauliflowers, Lettuces, and late Peas, and mulched, using in some cases the short cuttings from the mowing machine.

Pickling Cucumbers and Vegetable Marrows have for some time been thriving well, but we have observed several leaves affected with red spider, and the last fortnight has been just the time to promote the activity of such an insect. We have syringed with clear soot and lime water, and most probably will follow with weak clear soft-soap water. Even these Gherkin Cucumbers when 4 inches long and young, are very sweet to those who like Cucumbers. Our first spring Cucumbers planted in a small bed in pots, and treated much in the same way as described by Mr. Luckhurst, and which we have adopted for years, are still bearing as profusely as ever. We think it but right to say, however, that even that system did not help us with the disease when it visited us; in fact, nothing helped or palliated, so as to enable us to have a moderate supply, except frequent sowing and planting. Hardy and tender kinds, in-doors and out of doors, in all conceivable soils and circumstances, in hot-water pits, in dung beds, on ridges, under hand-lights, in the open air, against walls and fences fully exposed—it was all the same, the disease would manifest itself after a few fruit were obtained, and the plants did little good afterwards. It never showed with us on Melons or Vegetable Marrows, but with pickling Cucumbers raised and transplanted, or sown at once in the open ground, it was all the same, and it is to us, though long free from it, as great a mystery as ever.

Let us add, that we wish to see the Vegetable Marrow generally grown by cottagers. It would thrive extremely well in any sunny spot, and especially in soil on a raised dung bed slowly decomposing. It will also succeed admirably against a paling or fence, and it will do so likewise in the open garden, and yield all the more quickly if a few barrowloads of hot dung, grass, and weeds, are placed in a hole, and then the earth returned in a sort of mound above it. The Vegetable Marrow is not so good for pies when ripe as some of the larger Gourds grown for this purpose by cottagers; but then used when young—say averaging 6 inches in length, it would yield a great amount of rich delicious food. Even in this state high and low spoil it in the cooking, by slicing and cutting before boiling. It is best to cut it with a good long stalk, and to boil it whole—when the points of a fork go into it easily, it is done; then cut the fruit in two lengthwise, remove the pulp, use pepper and salt, and if obtainable just a little butter, or better still meat gravy, and you have a dish that even a king might envy.

FRUIT DEPARTMENT.

The general work has been much the same as detailed in previous weeks' notices, finishing summer pruning, syringing

Plums and Apricots. The latter are not ripening so kindly as we would wish, but there is a heavy crop though the wood suffered considerably by the frost. We notice that the *ants* are beginning with them before they are so thoroughly ripe as to make first-rate jam. For bottling, &c., and keeping whole or in halves, it is well not to have them over-ripe. We wish we had a little guano from which to form a clear liquid, but in want of it we shall most likely very soon syringe or engine our Apricot trees heavily with clear soot water, beginning at the top and working down, and as soon as practicable repeat the dose, coming over the trees a second time. This will bring the most of the ants to the ground for safety, for next to guano they detest clear soot water, which can hardly be cleared without a little quicklime, and that, too, is such an abomination to the ants that we have made their colonies disperse by strewing quicklime in their runs. After the syringing to bring the ants down, it is well to run a brush with tar and oil along the bottom of the wall to prevent the ant going up again, for after once tasting the sunny side of a ripening Apricot, he will be anxious to get back again.

Orchard-house trees in pots have wanted a good deal of watering, and mulching has helped them and saved watering. The Grapes in the orchard house are doing tolerably well, but Peaches and everything else are later than usual, owing to the want of sun in the early part of the season, and we are doubtful if the later Grapes will ripen so well, though we shut up the house with sunshine when we can. It will be quite as serviceable to us if Peaches, &c., come in later. Out of doors, as previously stated, our Peach trees have suffered from frost; but for the wood giving way we should have had plenty of fruit notwithstanding, as the wood that stood is very fairly supplied.

Strawberries out of doors have been rather a short crop this season, and what was worse, the time of gathering was short. The heat of 85° and upwards in the shade seemed to dry and shrivel them up. Even the second crop from forced plants was considerably injured from the great heat, and declined to swell freely, when it could hardly have been suffering from dryness. But for having so many months of forced Strawberries that never did better with us on the whole, the glut of the Strawberry season would have been a short one. As opportunity offers we are clearing from runners and extra growth the beds and rows done bearing; then we run a hoe or merely the points of a fork along, just to loosen the surface soil, and we shall next mulch between with old hotbed and other dung. We have rarely been able to use horse droppings, but we should prefer that to all other manures for the strength and maturation to the buds for next year. The mulching, if raised a little in the middle of the interval between the rows, helps to protect the buds from drying frosty winds, and keeps the roots secure from the action of frost and dryness. Whatever care is bestowed now, even in watering in excessively dry weather, will be well repaid in general by the abundance of the crop next season. We do not recollect ever having the incipient bloom injured before the buds swelled, as no doubt was the case in the rapid changes of last winter.

We proceeded with potting Strawberry plants for forcing. The essential to success is drainage, not so much of it, as done well, with the convex or rounded side of the crock over the hole, which, with small crocks over it, will allow water to pass freely and yet not permit of worms passing in and upwards. A little sprinkling of bones in small pieces over the drainage is very good, and just a pinch of clean fresh moss over that, and a dusting of soot as much as can be raised between the thumb and finger for a pot. We use a little sweet rotten dung along with the soil, but not much, depending more for strength on clear weak manure waterings, as soon as the roots begin to meet the sides of the pot. Then much of the success will depend on fixing the bud but little lower than the rim of the pot, potting firmly, and placing the pot on a hard bottom as much exposed to the sun as possible.

ORNAMENTAL DEPARTMENT.

Before the rains of the 17th inst., with the help even of mulching, something like a score of our Calceolarias gave way to the dryness, but, on the whole, they have done very well. Coleuses in beds have also done well in rows. Owing to the long continuance of cold weather they have scarcely grown high enough for their neighbours, whilst in such a warm season as the last they would have needed stopping. For many purposes Iresine Lindeni will make a good substitute, as it is a close grower, of good habit and colour, bears pinching well, and is much hardier than the Coleus.

Scarlet Geraniums have been in their beauty after the hot weather, but the rains reminded us that they needed picking over, as a few spent blooms easily disfigure the rest when beaten by wind and rains.

We should hope that the *lawns* will now keep of a rich green for the season. We had heavy work in turfing and returfing in the spring, but the labour has been well repaid. The returfing consisted in taking-up an old lawn, levelling, and putting the same turf down again. When lawns have been made twenty or more years, and soil was added to make-up inequalities, heights and hollows will begin to show themselves, which are not so pleasant to the eye, the feet, the machine, or the scythe, as a uniform sweep or level. Much may be done in correcting these inequalities by relaying such bits by themselves; but we find it is best in every way to take off the turf entirely in autumn, winter, or early in spring, bring all such inequalities to a general level, and then replace the turf. Even then much will depend on taking-up the turf of a uniform thickness. This relaying helps to get rid of many rough weeds. Except in the case of turfing over large flower beds, where the grass has grown very strong, the relaid lawn does not retain any trace of the turfing, while the ease of managing it has almost made up for the trouble and labour.

We must make a commencement in propagating, but we are loath to meddle with the beds. We went on potting, tying, and hardening-off, as detailed in previous weeks' notices.—R. F.

TRADE CATALOGUES RECEIVED.

Kelway & Son, Langport, Somerset.—*Catalogue of Gladioli.*

J. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, S.W.—*Catalogue of Hyacinths and other Bulbous Roots.*

W. Catbush & Son, Highgate, London, N.—*Bulb Catalogue for* 1871.

Henry Curtis & Co., Devon Nursery, Torquay.—*Descriptive Catalogue of Selected Roses, &c.*

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

BOOKS (*A Novice*).—The "Cottage Gardeners' Dictionary," Thompson's "Gardener's Assistant," and Johnson's "Science and Practice of Gardening," will be a library for you.

THE FRUIT MANUAL (*J. E. B.*).—The new edition is not yet printed. We certainly would not rub a child with paraffin oil to keep from it "the harvest bug." We would try an infusion of Elder leaves.

MR. UNDERHILL (*F. L., Preston*).—His address is Sir Harry Road, Edgbaston, Birmingham.

PRIZE FOR THE BEST GERANIUM (*A. C.*).—The members of a committee cannot agree whether a Pelargonium should be allowed to be shown in this class or not. In our opinion, yes. If restricted to the botanist's genus Geranium, there would probably be no specimen admissible. In future we should recommend two classes. Accept the popular name "Geranium," and have a prize for Scarlet Geraniums and another for Geraniums of any other kind.

RIBBON BORDERS (*A. Y. Z.*).—In our "Garden Plans" you will find numerous plans for ribbon borders and how to plant them. You can have the volume if you enclose 5*s.* 2*d.* with your address.

KITCHEN GARDEN VEGETABLES FOR EXHIBITION (*A Constant Reader*).—Beet, Tomatoes, Celery, and Shallots are kitchen garden vegetables. To your query, "which are the best vegetables to exhibit?" we can only reply, those of which you have the finest specimens.

FANCY PANSIES (*C. Stuart*).—They are of an excellent strain, and many of them exceedingly pretty.

POPPIES AS A PROFITABLE CROP (*S. M.*).—We have made some inquiry amongst our correspondents, but cannot gain much information on the subject, but we believe that the bulk of the dried Poppies which chemists and others use are of foreign growth. We understand that although as fine-looking heads can be grown in this country as on the Continent, yet they lack the necessary properties which give the latter value, or rather the foreign-grown ones are of greater strength. In the absence of more correct information we are unwilling to advise their being sown; but if you are determined on a trial, and have a piece of fine sandy land ready for the purpose, we would say, Drop a few seeds on the surface of the ground, say half a dozen, in patches 18 inches apart, in rows the same distance from each other. Thin out the seedlings, and

treat them the same as other crops. The seed is probably cheap enough; certainly few plants furnish it in greater abundance; but we are strangers to the mode of harvesting the heads, and still more so to securing a market for them afterwards.

Various (*Horace Bell*).—1. The Campanula pyramidalis in 10-inch pots not flowering this year, would flower next season if afforded slight protection in severe weather, the pots being plunged to the rim in coal ashes; or you may plant them out in the borders. If you keep them in pots water well in dry weather, and next spring give 13-inch pots. 2. The specimen Geraniums for out-door decoration will need potting in March, at that time reducing the balls considerably, and returning them to the same or a smaller size of pot, and give their blooming-pots early in May. When the plants are housed in autumn you may turn them out of the pots, reduce the balls, and repot in a smaller size of pot so as to save room, and in that case you will not disroot in spring, but shift into larger pots in April, and at the close of May. 3 Maiden-hair Ferns are propagated by division of the roots or rhizomes, taken off with roots and fronds to each division, potting in small pots, or in a size proportionate to the size of the divisions. If the pots contain them comfortably they are large enough. March is the best time to divide the plants. 4. Pancratium illyricum bulbs just received may be at once planted out where they are to remain. It is necessary that the soil be freed of stagnant water, and be sandy loam enriched with cow dung and fibrous peat. The situation should be warm, and a slight protection given in severe weather.

Ivy for Covering a House (*C. H. M.*).—The quickest-growing is, we think, the Irish (Hedera canariensis), and that we should plant. We should procure good strong plants in pots, and we have had them with shoots 6 feet long, and otherwise well furnished. They may be planted at any time. The price varies with the size of the plants. For the size named we gave 30s. per dozen, for good well-rooted plants in pots 15s. per dozen, and for small but well-rooted 9s. to 12s. Plant at once. The plants will be well established for a good growth another season.

Privet for Hedge—Quick-growing Forest Tree (*Idem*).—The best Privet for a hedge is the Common Evergreen, but the Oval-leaved has much bolder foliage, and is equally good for hedges as for shrubberies. For an exposed situation no evergreen forest tree equals the Austrian Pine. If you want a deciduous tree, Sycamore will suit.

Transplanting Gooseberries and Currants (*Idem*).—You may safely transplant the bushes, four and five years old, in autumn, as soon as the leaves have fallen. If this be done carefully, as many fibres as possible being preserved, they will be more profitable than small young trees.

Pruning Wall Apple and Pear Trees (*J. Hamilton*).—You should now, if not already done, stop all the shoots of this year to within five or six leaves of their base, excepting always those at the extremities of the branches, which, being required for extension, should be left entire, and trained-in at their full length. If you have already stopped the shoots, do so again at the beginning of next month, stopping the shoots to two or at most three leaves above their origin. The final pruning should not be performed until the leaves have fallen, and the earlier after that the better.

Seedlings in Frame Eaten (*Idem*).—The seedling plants in a bed heated by dung are no doubt eaten off by woodlice. The remedy is to place a little dry hay all round against the inside of the frame, and to pour boiling water down by the sides of the frame every morning for a few days, wetting the hay thoroughly, and replacing it with fresh daily. The water will, of course, destroy any plants or roots it comes in contact with, therefore keep it from those, removing the pots from the sides of the frame. A barrel inverted over an Hydrangea in winter would be a sufficient protection, mulching round the plant with partially-decayed leaves or litter. Use the inverted barrel only in severe weather, removing it when mild. It will not answer to thus cover the other plants you name except in very severe weather. There is no work treating on what you name, nor, indeed, is one necessary, as flowers and vegetables are not differently grown for competition than for decoration and table. Superior examples are only aimed at, each only having a chance of a prize.

Leaves of Greenhouse Plants Turning Yellow (*A Subscriber*).—Had you sent us a specimen we could probably have given you a fuller reply. Without specimens or any particulars we can only conclude that the plants have not had proper supplies of water, or are infested with thrips or red spider.

Petunias Going Off (*Rather Puzzling*).—The plants being grown on a shelf in the Cucumber house is quite sufficient to account for their going off. They are living too fast, and their vital forces are exhausted. The supplies of water would need to be so copious as to cause them to go off at the collar or neck, and that we apprehend has destroyed them. They will not recover. Petunias do not require more than a greenhouse affording safety from frost, and in summer cannot have too light and airy a position in a cool house; indeed, they are better grown in summer in cold pits or frames, drawing off the lights, affording, however, protection from heavy rains, but then affording abundance of air.

Watcombe Terra-Cotta Company (*A Subscriber*).—There is a stand of specimens in the Arcade, next the Exhibition road, of the Royal Horticultural Society's Garden at South Kensington.

Preserving Dahlia Tubers.—A correspondent, "R. P. B.," says that dry cocoa-nut fibre refuse is most effectual for this purpose; the tubers to be packed in it.

Grapes Cracking while Colouring (*Amateur*).—A similar question to yours was answered in the number for August 17th. You do not say what variety is in fault in your case. Rust or mildew on the berries will cause them to crack; we also found the Gros Guillaume, and Trentham Black, had this fault when a rather moist atmosphere with little heat was maintained, while a high temperature and rather dry atmosphere prevented it.

Heating Ground Vinery (*T. W.*).—There is a difficulty in advising you how to heat a ground vinery 13 feet long, 4 feet in width, 30 inches high at back, and 24 inches in front, just because the place is so low and so small. Were gas handy, a small gas stove, with a pipe to take off the burned gas, would be best, or you might have an inch pipe from the stove to go along the front of the little house. A very small iron stove, with a smoke pipe through the roof, and a flat top to the stove to hold water, would also be sufficient, but then you would want an opening to feed and attend to it. A small furnace outside, and a row of earthenware pipes for a flue, would be more expensive, but would answer well if not made too hot. There is nothing so cheap as a little stove inside, but then it involves care and trouble. If your floor had not already been paved with Staffordshire tiles, and your place had been wider, we would have advised at once a small furnace at the east end, and a small flue beneath the floor, say a tile at the bottom, one row of brick-on-edge on each side of it, 4½ to 5 inches apart, which make the flue, a thin tile over it, and then the tiles of the floor laid in mortar. Three 4-inch pipes 2 feet in length, at the further end, would do for a chimney. You would thus lose no room, and you would have a nice mellow heat, and avoid all dust, &c., among your plants. In very severe weather it would be safer to put a little protection in the shape of a mat, &c., over the glass than use much fire heat. The plan you propose of taking the Vines out will answer well enough, but if you do not raise your little house higher in winter with fire heat than from 40° to 45°, the Vines will be safer inside. The very smallness of the place makes the heating and keeping the plants in winter more troublesome, as such a little place is easily heated and quickly cooled. If you did not heat it at all you could keep Lettuces, Endive, &c., over the winter. On the whole, were the place our own, we would put such a little flue beneath the floor and along its middle. The plants that stood over the flue we would place in saucers, as they would dry more than the others.

Soot and Guano for Roses (*Idem*).—Mr. Curtis informs us that at the Devon Rosery it is found best to supply soot and guano to the roots of the Roses in a liquid form in the proportion of half a pound of guano to half a peck of soot, mixed in about eight gallons of water, and applied twice a-week early in spring, giving one quart to a tree, more or less, according to the size of the tree. The young shoots and foliage may also be watered with the mixture, syringing it off the day following with clear water.

Sugar Beet (*E. R. P.*).—We cannot detail the mode of manufacturing sugar from it.

Stephanotis Losing its Leaves (*H. W.*).—No doubt the plant has lost its leaves owing to the cold. A cool greenhouse is unsuitable. It is a stove plant, and must have a temperature of 50° in winter, or that which it will have in your greenhouse in summer in dull weather.

Perennials for Beds (*Sunny*).—There are very few perennials that would serve your purpose in a satisfactory manner. The majority are too tall, or, if dwarf, are not continuous-flowering. You will find a detailed list of herbaceous plants in vol. i., New Series, page 274. It gives names, height, colour, and the usual time of flowering. "Flower Garden Plans" would suit you. It may be had free by post from our office for 5s. 2*d*.

Ivy for Border (*Idem*).—The cuttings recently put in will strike this autumn, and may be taken up next March and planted where they are to remain, but they would be better left until autumn. For speedily covering the ground they should be planted about 1½ foot apart every way. Peg the shoots down so as to keep them from twisting about with the wind.

Table Decorations at the Crystal Palace.—In page 105, first column, twenty-first line of third paragraph, for "Stocks" read *sticks*.

Blighted Apple Tree (*Probo*).—It is a very severe attack of American blight. See what was directed on page 109 of our number published on the 10th inst., and page 129 of the succeeding number.

Ribbon Border of Verbenas (*L. R. Elm*).—We have tried them both mixed and of the same variety, and are inclined to think that Verbenas judiciously mixed produce the best effect. Small beds of one kind, and edged, produce a fine effect. *Scarlets:* Brillante de Vaisse, Defiance, Géant des Batailles, Mrs. Woodroffe, and Lord Raglan; *Whites*, Smith's Queen and Mrs. Holford; *Rosy Purple*, Victory; *Pink*, Magnificent; and *Purples*, André and Purple King—the latter is by far the best. If you buy our "Garden Plans" you will see designs of ribbon borders, how to plant them, and how to cultivate this flower. You can have the volume post free from our office if you enclose 5*s*. 2*d*. with your address.

Various (*An Amateur*).—The Roses on the Manetti stock and their own roots should not be removed until the beginning of November, but you may lift them in a fortnight, if you do so carefully, covering the roots from the sun and air. Shade for a few days from bright sun, and water so as to keep the soil moist. We do not consider it good practice to remove any but the old leaves from bedding Geraniums. It no doubt causes weakness of growth, and increases the amount of bloom, but the flowers must be small as compared to those that are supported by good foliage. Dr. Hogg Strawberry, like many others, has been unusually pale this season from the dull useless weather, and the excessive growth of foliage that has kept the light from the fruit. The planting in February would not cause the fruit to become white. Of the Geraniums you name we should prefer Charlie Casbon, on account of its dwarf free habit, but the others have fine trusses of bloom, and are good.

Glazing without Outside Putty (*T. M. U.*).—As you are already glazing your orchard house we can hardly tell you how you can dispense with outside putty now. The best mode is that of Beard, where the glass rests on non-conducting material, as soft pasteboard, the same covering it, and a coping is then fixed over to hold the glass tightly, room being left for the glass to expand laterally. With rebates cut in the usual way we do not think it would be well to do without outside putty. The best way for common purposes is to fix the squares of glass in grooves deep enough to allow of the expansion of the glass, and pack the squares on the underside firmly with putty, or list, or india-rubber—anything that will keep the glass firm. In painting outside, the brush may also just come over the edge of the glass.

Arrangements of a Glazed House (*A Young Gardener*).—You may concrete or asphalt the walking space of your little house, but your chief remedies against damp will be to use the flue a little more in dull weather, to give more air, and to water carefully, especially in winter, so as not to spill a drop on the ground nor to run over the rims of the pots. Your proposed frame or small pit in front will do very well. In a 12-feet length we would have at least four openings with slides a foot long, and say from 6 inches deep. With only one small flue along the front of the house we do not think you could do any good with Cucumbers in winter. To grow them at that season you would require a rather large flue and a strong heat. You might bring on Strawberries with a mild heat, and fruit them in April, at the end of March, or earlier if the heat were sufficient. For cut flowers in winter, once you had the plants, the best paying would be Camellias, Epacrises, and a few Azaleas. For plants of your

own raising you could have Mignonette, Pinks, Perpetual Carnations and Picotees, Chinese Primulas, and Violets, especially The Czar. A little over 45° in cold weather would bring these in. Some annuals, as Collinsia bicolor, also come in well. As you are a young gardener, and you purpose doing all this where you live at a distance from the garden in which you work during the day, we would advise you to be careful to have everything you do straightforward and aboveboard. We say nothing of the principle involved; but some people would think that a man who worked so industriously for himself would not be the most suitable for them, and then they are apt to think about temptations.

Glass for Vinery and Orchard House (*H. B.*).—For a substantial house such as you speak of, we would not have it less than from 12 to 14 feet in width, and, taken altogether, no plan would suit you better than Mr. Beard's, and the glass we would use for such fruit purposes would be 21-oz. sheet. If wood is determined on for the roof, then you may either glaze in the old way or place the glass in grooves. We could not enter on the subject without more particulars. The best mode of ventilating would be by small sashes at the top and sashes in front, moved all at once less or more by wheel and racket or other means. The best mode of heating the three divisions would be by hot water; and if you made the central division the warmest you could place the boiler against that, and then by means of valves take the heat to either end-house as wanted. The cost of such a building will greatly depend on the material and the finish given to it. We could not help you better than by referring you to our advertising columns, where the prices of different kinds of buildings are given almost every week, but then you must make up your mind and avoid extras afterwards.

Heating with Hot Water (*Delta*).—There is no chance of your heating the house, if the sketch given is correct. However, it is less on the difference of 10 feet in level between B and A, than the difference between the level of the top of the boiler and the point A, that the difficulty will rest. If by taking the supply-pipe at once to the bottom of the boiler, taking the return-pipe also near the bottom of the boiler, and either sinking the boiler or elevating the pipes to the point A, so as to have that a foot or two above the top of the boiler, then the circulation will be secured. Under present arrangements we think you are sure to fail.

Red Spider (*S. R.*).—Syringing, keeping the air moist, and dusting with flowers of sulphur are the best treatment you can adopt. The "Garden Manual" will suit you. You can have it free by post from our office if you enclose twenty postage stamps with your address.

Tree Borer (*J. Green*).—The caterpillar that attacks your Apple trees is that of the Wood-Leopard Moth, Zeuzera æsculi.

Name of Plant (*Under-Gardener*).—Pilea muscosa.

POULTRY, BEE, AND PIGEON CHRONICLE.

DE OMNIBUS REBUS.—No. 2.

"Doctor, I am not well." "What have you been eating?" "Sir," said a friend of ours, "there is no doubt mine are among the best-bred chickens in England, and they are well fed, but they do not get on. Will you kindly look at them?" We did so, and found a large number with their care-worn faces, narrow bodies, large protuberant crops, long weakly legs sadly in-kneed, and preferring squatting to walking. "Very unsatisfactory," we said. "Get rid of all the cocks at once. May do something with the pullets. What is their food?" "Cabbage, sometimes raw and sometimes boiled; potatoes, always boiled; bran, Indian meal, rice, and some sharps." "Bad feeding," we said. "Well," replied our friend, who has only lately taken to poultry, "you must admit these are things they would not get in a state of nature." "Granted," said we; "but in a state of nature they would get a hundred things they cannot get here." "Well, then, please tell me what your idea of artificial poultry-feeding is."

It is very hard, say we, to consider poultry living in a natural state where their haunts are expected to be tidy. Clean dirt must be allowed. It is unpardonable to let the dirt of the birds lie about; but that for which we plead is the disturbance by scratching of heaps which have been swept up. We cannot ask that our feathered friends should be allowed the run of the garden, but if they can be permitted access to a shrubbery, or to a garden, or stableyard, where there are waste and dung heaps, they not only find food there, but they do much good. Their's is a searching inquiry. While the dark mass is turned over and over the busy beaks are at work every instant, picking food, invisible so far as we are concerned, not so to them; larvæ, embryos, grubs—all are devoured. Let us illustrate this. We once saw sixty-one grubs taken from the crop of a hen Pheasant. That was one morning's meal. How many thousands of similar pests had she destroyed? She had paid for the stray grains of corn she had picked up during her short life. It is the same with the fowls. The grubs, &c., are sent to feed them, and they are sent to eat the grubs. All things are thus equally balanced.

It is said the cause of the slow increase of lions is that the young lionesses die in teething, and so few survive, the males fight to the death over them; disabled young lions are frequently met with in the neighbourhood of water. Fancy musing over a wounded lion, after the fashion of Jaques and the stag! We prefer it should remain fancy. We have long thought it would be a pleasing mission if we, in "our Journal," tried to reconcile poultrymen and gardeners. A friend of ours, a clergyman, had an idea that food exercised a great influence on the nature and habits of birds. Game cocks were his hobby, but they would fight. He would try bread and milk diet. Twenty smart young Black Reds disported themselves together in a small paddock overlooked by his dressing-room. They were fed on bread and milk. They had the thew and sinew, the bright eye, the fearless demeanour, and all the properties of the Game cock; but the matutinal crowing ended in no disagreement, and all went well. Our friend thought their nature was altered. Every morning he rushed to his dressing-room window and threw a few crumbs to his friends. In his eyes they really seemed polite to each other, no chasing and scrambling after the food, almost making way for each other. Long success emboldened him, and he boasted of his experiment and the result. One morning on looking, "as was his custom," not a bird was visible. He rushed to the bell, but before he pulled it he heard a hurried knock at his door, and "Oh! sir, do come down," from his man. "What is the matter?" "Oh! sir." "Well, do tell me; what is the matter?" "The cocks, sir." "That's enough; I'm coming." Many lay dead, one only was trying a staggering walk in the middle of the pen, the others essayed to stand by leaning against the wall, and by using the ends of their tails and wings as additional supports. But what had caused this sudden change? A pullet had by some means or other got in, and—

"Like another Helen, fired another Troy."

The bread-and-milk diet broke down.

Under certain circumstances poultry and gardens agree. At the time of year when there are no chickens, when the days are about six hours long, and when the shrubberies and gardens are about as growing as a dining table, they agree; but as soon as one has some chickens, and the other a show of green meat, disagreements begin. "They plaguy chickin does more harm in a day than all the blights, frostasis, and grubs would in a week;" so says the gardener. The poultryman—"He'll be blowed if the garden aint a nuisance. There's as much row over a lettis as if it was gold, and as for dammidge, why look at the cottagers. They grows twice as much, twice as good, don't spend arf the money, and lets the chickin run anywhere. They believes, and they're right, as they does good." There is no doubt that in their examination of the rubbish heaps they devour much that would become injurious when developed, and that in the early spring they turn over the leaves and detect mischievous things as they approach the surface, cheered by returning light and warmth. We are disposed to think that, like the hen Pheasant we have mentioned, they pay well for that which they eat. One point, however, cannot be doubted; access to such places is, if not necessary, most beneficial to the health of fowls. A fowl will starve to death on the best corn that can be given if it be given under conditions of perfect cleanliness—*i.e.*, in a carefully swept paved yard or in a room, and if it be always of the same kind. They require change. We can learn much in the management of our fowls by consulting our own nature. If Fortune had been so kind, or so unkind, to us as to provide us with more than ample means, a sumptuous table, a large attendance, rendering it unnecessary for us to do anything for ourselves, we should not care for exercise, we should have little real appetite, we should be drowsy, and at last the doctor would declare we had an inactive liver. We do not, of course, mean this other than in the case of those who, without any vicious propensities, have sluggish minds and like to make themselves comfortable. So where fowls are over-fed they get fat and lazy, they loathe the good plain food given to them every day, and the man says, "Those fowls are not right, they don't feed." Change is tried till the whole list is exhausted, and eventually they die of "fat liver." If Fortune ceased her favours to the man, or the poultryman ceased to feed the fowls, a cure would be the result in both cases. In the first case labour and short commons would improve the appetite and restore the liver. Abernethy's prescription for gouty and dyspeptic men was a good one: "Live on two shillings per day and earn them." When the fowls won't feed, cease feeding. For a day or two the fat favourites will still sulk and squat about, but after that time they will begin to ask where the food is, and as it does not come to them they will seek it. Natural appetite returns, the liver begins to act, and they run

eagerly after food they loathed a day or two before. When they have reached it they devour it, and after that digest it. Keep them for some time on short commons. Half the fat fowls die of petting; they are unnaturally fat, and become diseased thereby. "MIRANDA" says she has made up her mind to give up poultry because they cost so much and lay so little. The two complaints are intimately connected. If the fowls had been fed less they would have cost less and would have laid more. To feed moderately is to save food in every sense of the word. You sow less, and you reap more; you spend less money in food, and you get four times as many eggs.

To feed poultry profitably for their health, beauty, and productiveness, choose an open spot for the process. Having mixed ground oats and water to such consistence that a piece will break and scatter when it is thrown on the ground, call your birds together and throw the food broadcast; they will wander in search of it. This should form the meal morning and evening. You must judge the quantity by ceasing to feed as soon as they cease to run after it, and observe this rigorously. One more meal, a mid-day one, will be necessary. This may consist of whole corn; barley is the best. If you have household scraps you may give them, but observe these must be in lieu of, not in addition to, the ordinary meal. This will keep your fowls as fowls should be kept.

POULTRY YARDS IN SUMMER.

WE have summer at last, and it has made a revolution in the poultry-yard. Two days after the hot weather set in, one of my Brahma hens had lost nearly every feather, and I was reminded of Sydney Smith's wish, that he could take off his skin and sit in his bones. The fowls do next door to it, and now look like "porkypines." I look at and envy them, and with the thermometer at 80° to 90° in the shade, am tempted to wish almost that the primitive British costume, consisting of a thin wash of indigo in lieu of clothing, might be restored. Thus lightly and elegantly attired the heat might be even enjoyable. Meantime we are all martyrs to our ridiculous summer costume, and the old fowls have the best of it.

The chickens are less fortunate, *their* plumage is getting daily closer and more perfect, and they suffer much, lying about even in the shade with their beaks open as if panting for air. My purpose is to suggest again (for I have done it before) a few little matters which add much to their comfort and well-being. A poultry-fancier, however hot he may be, has no business to lie down and cool himself till he has done all he can for his fowls.

Take a pot or garden engine, and give all the pens a good drenching once a-day. If some of the water goes on the chickens all the better; great drought is never good for them, and leads to bad feathering. See that the fountains, whether empty or not, are refilled with cold water at least once daily. Those big things that hold a week's supply are bad even in winter; in summer they are almost death to the chickens, and many a case of so-called "cholera," had no other cause. See also that the fountains are either kept, or if that cannot be done, regularly moved, so as to be in the shade all day. And last, but not least, let the house doors stand wide open all day, and all night too. Fresh air is very life to the fowls in this weather, and the most delicate will not be injured by it.

In small pens like my own abundance of green food must more than ever be now provided. For a few pence I get children to bring me fresh grass daily, which is cut into green chaff, and not only thrown down, but mixed plentifully with the soft food in the morning. I know of no better plan where a grass run cannot be had, and it keeps the birds' appetites up wonderfully. A little sulphur in the food now and then is also very beneficial, say once a-week or so.

Now, too, is the time for the purification, which ought to take place at least once a-year in every poultry-yard. If some sulphate of iron be mixed in the limewash it will be far more effective in the destruction of vermin. Wash the nests out with the same if of wood, and throw away all the old straw and hay every three or four weeks at least. Carbolate of lime sprinkled twice a-week will keep the smallest houses beautifully sweet and wholesome.

Now also is a good time to get fresh loads of road dust, sand, or dry ashes to replenish the dusting sheds. At this time of year they will be clean and dry. If possible, before doing this, the old material should be finely screened, which will remove both stones and manure which may by degrees have collected, and will add greatly to the comfort of the fowls.

All these things may not be much, but they make all the difference between a sickly or healthy summer in the poultry yard.—L. WRIGHT.

POULTRY EXHIBITIONS FOR THE WORKING CLASSES.

I OFTEN read in your Journal the notices of flower shows for the working classes, and the thought has struck me that the exhibition of poultry under the same rules would do much to encourage the keeping of poultry by the working class. I think it would surprise some of the prize-breeders to know the difficulties which attend the breeding and rearing of chickens in the back yards of London. It is no very easy matter to rear a brood of chickens in February, with no other accommodation than a house 5 feet long by 2 feet 6 inches wide, and have a long journey after a root of grass or a handful of leaves. Of course I do not pretend to say that we could show many pure-bred birds, but I think some cross-bred birds which I have seen really do great credit to the breeders when we take into consideration the means they have at hand. I think if some of the gentlemen who arrange the shows will try and make room for poultry, they will do a great favour to many working men. I think a medal, or some similar prize, would be tried after by very many, and I would especially encourage early breeding by a prize for chickens.—H. I. O.

INSURING EXHIBITED BIRDS.

IT occurs to me that if the safety of birds could be insured at so much per pen, or by a per-centage on the reserved prices put upon them, few if any would lose the opportunity held out to them. Were some such system adopted I am convinced it would induce many to send contributions which are now withheld, simply because they can get no guarantee for their valuable stock; and further, it would be an incentive to committees to see responsible persons appointed to look after contributions, and the result would doubtless be a profit, as with ordinary care few mishaps may be anticipated. I shall be glad to see this matter ventilated by such as are interested, and venture to assert that so long as poultry shows continue without a guarantee of some kind to exhibitors, they will inevitably retrograde so far as quality is concerned.—A. V. MEERSCH.

PRIZES FOR BLACK EAST INDIAN DUCKS.

LAST year I solicited subscriptions to provide a cup for Black East Indian Ducks to be competed for at the Crystal Palace Show. I again ask the same favour, and to be allowed to say that any person disposed to subscribe towards one to be offered at the same Show this year will greatly oblige by communicating at once with the undersigned, or with the Secretaries of the Crystal Palace Show. Remembering the great success this class was last year, I trust that admirers of this breed will subscribe even more generally than they did on that occasion.—GEORGE SAUNDERS SAINSBURY, *Belle Vue House, Devizes.*

KEIGHLEY POULTRY SHOW.

UNFORTUNATELY the weather proved as unfavourable as it could possibly be; for the rain fell constantly during the preceding night, and while the Show was open heavy thunder showers occurred at intervals. This is to be regretted, as the town on the day of the Show is decorated with evergreens and banners, the morning ushered in by the joyous clanging of the church bells, and from midday most of the places of business are closed for an almost general holiday. The preparations made this year were not less complete than heretofore, and it was appointed that in the evening a brilliant illumination should take place on all the triumphal arches on the way to the Show field, which is three-quarters of a mile from the centre of Keighley. To give any description of the poultry exhibited, even approximately correct in its details, would be a task we could not enter upon, but the opinion expressed by the Judges was, that throughout the Show the classes contained specimens of high merit, and fully equalled those of any show previously held in this district.

COCHIN-CHINAS.—*Buff.*—1, H. Lacey, Hebden Bridge. 2 and 3, W. A. Taylor, Manchester. *Chickens.*—1 and 3, W. A. Taylor. 2, C. Sidgwick, Keighley. *c*, J. Sichel, Timperley. *Any other Colour.*—1, J. Sichel. 2, E. Leech, Rochdale. 3, W. A. Taylor. *Chickens.*—1 and 3, C. Sidgwick. 2, W. A. Taylor.

SPANISH.—*Black.*—1 and 3, C. W. Brierley, Middleton. 2, J. Powell, Bradford. *hc*, H. Beldon, Goitstock, Bingley. *Chickens.*—1, J. J. Booth, Silsden. 2, H. Beldon. 3, W. Wilkinson, Earby. *hc*, Clews & Adkins.

HAMBURGHS.—*Silver-pencilled.*—1 and 3, H. Pickles, jun., Earby. 2 and *c*, H. Beldon. *Chickens.*—1, H. Pickles, jun. 2, H. Beldon. 3, H. Smith, Morton Banks.

HAMBURGHS.—*Silver-spangled.*—1 and 3, H. Pickles, jun. 2, H. Beldon. *Chickens.*—1, T. Mitchell, Keighley. 2, C. Smith, Silsden. 3, H. Beldon.

HAMBURGHS.—*Golden-spangled.*—1 and 3, J. Rollinson, Lindley, Otley. 2, J. Newton, Silsden. *hc*, H. Beldon. *Chickens.*—1 and 3, H. Pickles, jun. 2, E. Hey, Ferncliffe. *hc*, T. Dean, Keighley.

HAMBURGHS.—*Golden-pencilled.*—1, H. Pickles, jun. 2, J. Rollinson. 3, H. Beldon. *hc*, S. Smith, Northowram. *Chickens.*—1, H. Pickles, jun. 2 and 3, T. Wrigley, jun., Tonge. *hc*, H. Beldon; J. Thornton, Aireworth.

HAMBURGHS (Local).—*Chickens.*—1 and Cup, T. Dean. *hc*, G. Mitchell, Keighley; T. Smith, Keighley; E. Clayton, Morton Banks.

HAMBURGHS.—*Black.*—1, C. Sidgwick. 2, J. Smith, Gilstead. 3, H. Beldon. *hc*, C. W. Brierley. *Chickens.*—1 and 2, C. Sidgwick. 3 and *hc*, W. A. Taylor.

POLISH.—1 and 2, H. Beldon. 3, T. Dean. *Chickens.*—1, H.Bowker, Keighley. 2, H. Beldon. 3, J. Bowker, Keighley.

DORKINGS.—1 and 2, T. Briden, Earby. 3, W. Malton, Bradford. *Chickens.*—1 and 2, T. E. Kell, Wetherby. 3, E. Leech.

GAME.—*Red.*—1 and Cup, C. W. Brierley. 2, Miss J. A Aykroyd, Eccleshill. 3, J. Hodgson, Bradford. *hc*, J. W. Thornton. *Chickens.*—1, J. Spencer. 2, J. Carlisle, Earby. 3 and *hc*, Miss J. A. Aykroyd. *Any other Variety.*—1, C. W. Brierley. 2, J. Mason, Worcester. 3, Miss J. A. Aykroyd. *Chickens.*—1, W. H. Sutcliffe, Keighley. 2, Miss J. A. Aykroyd. 3, Barker & Charnock, Illingworth.

ANY OTHER VARIETY.—1, H. Lacey. 2, H. Beldon. 3, G. Anderton, Accrington. *hc*, T. F. Ausdell, St. Helens. *Chickens.*—1, W. A. Taylor. 2, T. F. Ausdell. 3, J. J. Malden, Biggleswade. *hc*, A. H. Banbury, Northallerton; E. Robson, Wetherby; J. Sichel.

GAME BANTAMS.—1, G. Noble, Staincliffe. 2, W. Steel, Halifax. 3, W. F. Entwisle, Cleckheaton. *c*, J. W. Bottomley. *Chickens.*—1, W. F. Entwisle. 2, W. Steel. 3, G. Noble. *hc*, S. Holiday, Keighley; W. F. Entwisle. *Any other Variety*—1, H. Beldon. 2, S. & R. Ashton, Mottram. 3, J. Sichel. *Chickens.*—1, H. Beldon. 2, J. Riley, Hawksworth. 3, W. H. Robinson, Long Lee. *hc*, J. Walker, Halifax.

DUCKS.—*Rouen.*—1, E. Leech. 2, J. Newton. 3, A. West, Burnley. *hc*, J. J. Booth. *Aylesbury.*—1, E. Leech. 2, W. Wilson, Farnhill. 3, W. Clayton, Sutton. *Any other Variety.*—1, C. W. Brierley (Whistling Ducks). 2 and 3, No competition.

GEESE.—1, E. Leech. 2 and 3, No competition.

SELLING CLASS.—*Cock.*—1, J. Berry, Silsden. 2, A. Bowker, Keighley. 3, J. J. Booth. *hc*, J. Bowker; H. Wilkinson, Earby. *Hens.*—1, J. J. Booth 2, J. Newton. 3, G. Greaves, Poole, Otley. *hc*, J. Bowker; J. Powell, Bradford; H. Wilkinson.

Mr. E. Hewitt, of Birmingham, and Mr. R. Teebay, of Preston, judged the poultry; and Mr. Esquilant, of London, the Rabbits and Pigeons.

MALVERN POULTRY SHOW.

WHEN it is borne in mind how many shows are being held simultaneously, it ceases to be a matter of surprise that the entries at all are proportionably limited, and no doubt exists that but for this circumstance the entries at the Malvern Show would have fully equalled those of any of the eleven shows that have taken place previously. It is a matter for congratulation, however, that the quality of the birds entered, as a whole, showed no deterioration; and we may also speak favourably of the general arrangements of the poultry tent.

Game fowls stood first on the prize schedule; and here Mr. S. Matthew and the Rev. G. S. Cruwys pretty well divided the honours between them, Messrs. Moore, Mitchell, and Griffiths being the only other prize-winners. A really good-conditioned Duckwing pullet in this class, at first sight a remarkably clear hard-feathered bird, was thrown out entirely for being duckfooted—a fatal objection, and one that mostly proves itself hereditary. Three good pens of *Spanish* competed, the hens being decidedly better than the cocks of this variety. Of *Dorkings* there was a very poor entry. All the Buff *Cochins* were sadly out of condition, but the Partridge-coloured were capital, whilst the White ones were, as far as the winning birds were concerned, a good sample. In the *Brahmas*, good hens were plentiful, but the cocks were not up to the standard they should have been. Mr. Pickles showed a single pen of Silver-pencilled *Hamburghs* in a class open to Pencilled of both colours. They were a very good pen, but singular to say, it was the only entry. Golden were first, and Silvers second, in an open class. In the Spangled Hamburghs, the winners of the first prize were speedily claimed at a very low figure. By reference to the appended prize list, it will be seen that the Variety class was both excellent in quality and also very well filled. The second-prize pen of Andalusian chickens are birds of considerable promise.

Game *Bantams* showed below par, but the "Any other variety of Bantam" class was remarkable for the excellence of its Sebrights, a feature at the present hour somewhat unusual. Aylesbury and Rouen *Ducks* were quite equal to those seen at our largest shows, and in a variety Duck class, Miss Clifton and Mr. Sainsbury swept away the prizes with grand specimens of Buenos Ayreans. In this class some excellent Mandarins were also exhibited. The Selling class proved far better than anticipated; it embraced a great number of varieties all well shown, and no doubt many of them were entered at prices far below their actual value. Mrs. Blay, of Worcester, sent a large cage of Canaries, that proved a very attractive feature to visitors.

As the weather is fine, no doubt the Show will prove pecuniarily successful.

GAME.—*Black or Brown-breasted Reds.—Cock.*—1, S. Matthew. 2, Rev. G. S. Cruwys. *hc*, J. Moore. *c*, Osborne Bros. *Hen.*—1, S. Matthew. 2, Rev. G. S. Cruwys. *hc*, J. Moore; J. Mason; J. Mitchell. *c*, W. Jones (2). *Any other Variety.—Cock.*—1, J. Moore. 2, W. Griffiths. *Hen.*—1, J. Mitchell. 2, S. Matthew.

SPANISH.—1, J. Stephens. 2, E. Taylor. *hc*, Nicholas Bros.

DORKINGS.—1, H. Yardley. 2, Miss E. Williams.

COCHIN-CHINA.—*Cinnamon and Buff.* — 1, D. W. P. Thomas. 2, J. Watts. *c*, W. Griffiths. *Partridge and Grouse.*—1 and 2, J. Stephens. *c*, J. K. Fowler. *White.*—1, A. J. E. Swindell. 2, J. K. Fowler.

BRAHMA POOTRA.—*Dark.*—1, H. Yardley. 2, J. Watts. *c*, W. Sims. *Light.*—1, L. H. Ricketts. 2, J. Watts. *hc*, Rev. N. J. Ridley.

HAMBURGHS.—*Gold or Silver-pencilled.*—1, H. Pickles, jun. 2, No competition. *Gold or Silver-spangled.*—1, T. W. Swallow. 2, H. Pickles, jun. *hc*, T. May. *c*, J. Heppel.

GAME BANTAMS (Any variety).—1, E. Davis (Black Reds). 2, S. Stephens, jun. (Brown Reds). *hc*, A. Ashley. *c*, Lieut.-Col. Tickell.

BANTAMS (Any other variety).—1, M. Leno (Silver-laced). 2, Rev. G. S. Cruwys (Silver-laced). *hc*, Rev. G. F. Hodson (Gold-laced); H. Pickles, jun. (Blacks). *c*, J. Watts (Silver-laced).

DUCKS.—*Aylesbury.*—1 and *hc*, J. K. Fowler. 2, L. H. Ricketts. *Rouen.*—1, J. K. Fowler. 2, W. Stephens. *c*, W. Stephens; Rev. G. S. Hodson. *Any other Variety.*—1, G. S. Sainsbury (Buenos Ayrean). 2, Miss Clifton (Buenos Ayrean). *hc*, M. Leno (Mandarin).

ANY OTHER VARIETY.—1, H. Wyndham (Crêve-Cœur). 2, Mrs. Blay (Andalusian). *hc*, Rev. N. J. Ridley (Malay); H. Pickles (Silver-spangled Polands); H. Yardley (Cuckoo Polands); J. K. Fowler (Crêve-Cœur); C. Maggs (Black Hamburghs); J. Watts (Ptarmigan).

SELLING CLASS.—1, Mrs. G. Granville (Grey Dorking). 2, Rev. E. B. Rowland (Houdans). *hc*, Mrs. Blay (Silver-spangled Polands). *c*, S. Taylor (Grey Dorking); J. Masefield (Houdans); E. Taylor (Buff Cochins).

PIGEONS (Not for competition).—*c*, Capt. Dwarris, R N. (White Pouters) (3).

EXTRA CLASS.—*hc*, Mrs. Blay, Worcester (Two cages of Canaries).

Mr. Edward Hewitt, of Sparkbrook, Birmingham, was the Judge.

WOODSOME POULTRY SHOW.

THIS was held on the 16th inst., in two large fields, which are beautifully situated in the basin of a thickly-wooded locality about four miles from Huddersfield. The weather was very favourable, and the attendance of visitors large, so large, in fact, as to cause surprise, for the locality is very thinly populated, and but few dwellings were visible from the Show field. Unfortunately the Show was very badly supported with entries, at which we are much surprised, for a better-regulated Society it is difficult to find, both exhibitors and visitors meeting with extreme courtesy, and the stock with the greatest care and attention. Pens of the most perfect kind are used. We may here state, that it is determined to remodel the schedule on a most liberal basis, in the hope that the Show will be better patronised.

Rabbits were first on the list, and both classes contained excellent specimens of Lop-ears good in style, size, colour, and measurement. Of bucks, the finest was a Blue and White, 21 inches and 4½ inches, and the second 19 inches and 4½ inches, but the does were far in advance of them, the finest being 23 inches and 4¾ inches in ears, and the second 21 inches by 4½ inches. The first-prize animal was remarkably fine.

In poultry, *Spanish* were good, and the honours were closely contested, as also in both classes of *Cochins*, but the *Game* were very poor. In *Hamburghs*, Mr. Beldon won all the first prizes with some capital birds. *Ducks* were very good, especially the Rouens; and in chickens Silver-spangled were first and Crêve-Cœurs second, the latter being very promising.

In *Pigeons*, Carriers were wretched, but Pouters noteworthy, as also the Tumblers and Fantails, and in Jacobins the first-prize pen was as good as could be desired. There was a class for the common Dovecote Pigeon, but we were surpoised to find this variety is not understood by the exhibitors, not a single correct specimen being shown.

DORKING.—1, W. H. King, Moss Mills, Rochdale.

SPANISH.—1, H. Beldon, Goitstock, Bingley. 2, J. Thresh, Bradford.

COCHIN-CHINA. — *Cinnamon or Buff.*—1, H. Beldon. 2, H. Lacy, Hebden Bridge. *Any other Variety.*—1, J. White, Whitley, Netherton, Wakefield. 2, H. Lacy.

GAME.—*Black-breasted or Brown Red.*—1, Miss J. A. Aykroyd, Eccleshill, Leeds. 2, W. J. Cope, Barnsley.

POLANDS.—1, H. Beldon.

BRAHMAS.—1, H. Beldon. 2, H. Lacy.

HAMBURGHS.—*Gold-pencilled.*—1, H. Beldon. 2, F. Brooke, Huddersfield. *Gold-spangled.*—1, H. Beldon. 2, J. White. *Silver-pencilled.*—1, H. Beldon. *Silver-spangled.*—1, H. Beldon. 2, J. Bradbury, Brackshaw, Austonley.

BANTAMS.—*Game.*—1 and 2, G. Noble, Staincliffe, Dewsbury. *Any other Variety.*—1, H. Beldon. 2, D. Stocks, Taylor Hill. *hc*, G. W. Robinson, Halifax.

DUCKS.—*Aylesbury.*—1, E. Leech, Rochdale. 2, H. Sugden, Woodsome Lees. *Rouen.*—1 and 2, J. Crosland, Royd's Mount, Huddersfield. *hc*, E. Leech; J. White.

TURKEYS.—1, E. Leech. 2, J. Crosland.

ANY BREED.—*Chickens.*—1, J. Bradbury. 2, J. White. *hc*, J. Thresh; J. White; J. F. Beaumont, Huddersfield; J. Haigh, Shelley, Woodhouse.

PIGEONS.

CARRIERS.—1, H. Yardley, Birmingham. 2, J. Crowther, Golcar.

POUTERS.—1, J. Thresh. 2, H. Yardley.

TUMBLERS.—1, J. Thresh. 2, H. Yardley.

FANTAILS.—1, J. Thresh. 2, H. Yardley. *hc*, J. Crosland.

JACOBINS.—1 and *hc*, J. Crosland. 2, H. Yardley.

TRUMPETERS.—1, J. Thresh. 2, T. Kaye, Honley.

BARBS.—1, H. Yardley. 2, J. Crosland. *hc*, T. Kaye; J. Thresh.

DOVECOTE (Common).—1, R. Armitage, Lepton. 2, A. Roberts, Lepton.

EXTRA STOCK.—1, G. Blackburn, Outland.

RABBITS.—*Buck.*—1, C. Gravel, Thorne, Doncaster. 2, J. A. Clough, Huddersfield. *hc*, T. Harrison, Moldgreen. *c*, R. Esam, Newark. *Doe.*—1, T. Taylor, York. 2, C. Gravil, jun., Thorne, Doncaster. *hc*, R. Esam, Newark.

JUDGES.—Mr. W. Cannan, Bradford, and Mr. E. Hutton, Padsey, near Leeds.

RABBITS AT LITTLEBOROUGH POULTRY SHOW.

I WAS very favourably impressed by the number of entries (forty-six), as well as by the high quality of the specimens, which, for a first exhibition, must have been to the Committee very gratifying; and I may add that the attention of the Committee to all specimens consigned to their care for the day was very great. Abundance of good food, and roomy pens, quite large enough for pairs, were provided, and special attention was paid to the comfort of the animals. As the prizes were detailed in last week's number I need only refer to them.

Of the Lops there were four entries, and Mr. A. H. Easten's splendid doe justly deserved the first position. She had a dignified yet graceful appearance; her ears were 21½ inches long by 4¾ inches wide, hanging in the true style of a good Lop. Her fortunate neighbour, a Yellow and White buck from Mr. J. Boyle, was by no means a discreditable

occupant of his temporary apartment, having ears 21½ inches long by 4¾ inches wide; and the highly commended pen of Mr. S. Greenwood was also good, perhaps rather heavily marked, yet a fit companion to his more fortunate neighbours. The showy Angora class contained ten entries, including several very fine specimens, some being rather small yet well woolled, and that with a fineness of texture which I prefer for a specimen of this variety. The first prize went to a doe of large size, clean, and well cared for; and if exhibitors would consider how much the appearance of their specimens is improved by the comb and a clean bed, I am sure the little time required for these important attentions would be willingly afforded. The second prize went to rather an exception as regards colour, being fawn, yet a well-formed Rabbit and worthy of its position. Mr. A. H. Easten's highly commended was a neat specimen—not, perhaps, as fine in fur as the others, yet worthy the third position it took in its class. I may here remark that amongst some of the specimens I found the ears troubled with that gum which tends so much to give the animal a dull and stupid appearance irrespective of the pain, and more especially when handled. A little attention in this particular would be advisable, especially when so effective a remedy is at hand. The Himalayans, eight in number, contained some good specimens, but not all, as some were far too light in the extremities; yet the first and second-prize animals I have seldom seen equalled in points of merit, and care was requisite to determine upon the superiority of one over the other, as both were almost equally good. Mr. J. Boyle's highly commended was by no means an inferior animal, and Mr. J. Butterworth exhibited another specimen which I doubt not will secure honours. The Silver-Greys (nine) were very good as a class, and the first-prize one was in my opinion of the true Silver type, even to the very nose; it was of large size and well formed, general in the silvering, and worthy of its position. The second-prize specimen was not quite so large, a little darker, yet in every respect a good specimen, and fit companion for her more fortunate sister (both were does). Mr. S. G. Hudson's highly commended doe was also no mean specimen. The Any other variety class contained as usual Belgian Hares and Dutch, and some to my mind almost the perfection of marking were found amongst them. First, with dignified yet placid look, was the Belgian buck of Mr. S. G. Hudson, a true specimen of what one of this variety should be—large, well-proportioned, and general in the shade of the hair, and offering an interesting contrast to the pretty little Dutch Grey and White specimen belonging to Mr. J. Boyle, jun., who also received a high commendation for a good specimen of the Belgian Hare. The Selling class contained by no means inferior specimens; and the first-prize Silver-Grey, and a very finely woolled yet young Angora as second, were both more than the average found in this class. An excellent Lop from Mr. J. Batterworth was highly commended and worthy of a passing remark. I hope she will be found as a prize-winner.—Charles Rayson, *Didsbury*.

SPANISH HEN INCUBATING.

I had three Black Spanish hens a few years ago, and one of them, a well-bred one, was baulked of sitting, but would not be done out of her nursing, for she took to a batch of Bantams that were several weeks old. I have now another Spanish hen which has been wanting to sit for nearly two months, but, being prevented, she tries her best to take possession of some half-grown chickens, which care nothing about her.—J. Gabb, *Bewdley*.

THE CUMULET, VOLANT, AND WHITE EYE PIGEON.

This Pigeon is of the Tumbler species, and imported from Brunswick into this country. It is a distinct breed, and bred true to its points in feather and flying propensity. It is of the Tumbler size, white or marble grey, sometimes lemon shaded in the neck, rather high on a clean coral leg, sharper-faced than the Tumbler, and has the invariable, prominent, glittering, pearl-white eye. The bird is called Cumulet in allusion to its cloud-climbing or sky-high-flying peculiarity; also called Volant in reference to its superlative flying powers, and known as White Eye from its bright white eye described. This Pigeon is as pure a species or sort, as the purest Carrier is of its kind of Pigeon.—Reader.

NEW BOOK.

The Homing or Carrier Pigeon. By W. B. Tegetmeier, F.Z.S., &c. London: Routledge & Sons.

War troubles and their accompaniments are in these days soon forgotten. Already the German siege of Paris is little thought of because another has succeeded; and so on, and so on, in this rapidly changing age. Then, too, newspapers are but things of a day, of them the proverb *litera scripta manet* is not true. But a book, a distinct book, is a permanent thing. It remains while the newspaper is torn up; it is placed on our shelves and referred to when one war has given place in men's minds to another.

For these reasons I am glad that Mr. Tegetmeier has published a book, and a cheap one too, on the deeds of Homing Pigeons, so that the interests aroused for a time in so many minds concerning these birds will be perpetuated, at least with some. Mr. Tegetmeier gives first a history of the Homing Pigeon, and chats pleasantly about Anacreon, Varro, Pliny, on to our first Pigeon writer, John Moore; then about English Pigeon races, then about Belgian races; then tells us of the longest race on record.

"But the longest Pigeon race on record was that flown from Rome to Belgium in 1868. Two hundred Pigeons, all of which had been flown from the south of France, but none beyond, were entered for the race. The distance is 900 miles. They were liberated on July 22nd, at half-past four in the morning, the weather being beautifully fine. The first arrival was on Monday, August 3rd, at five minutes to two in the afternoon, the bird belonging to M. Keyne, of D'Ougree, near Liége. The second reached home on the same day, the third on August 4th, the fourth on August 6th, the fifth and sixth on August 10th, the seventh and eighth on August 11th and 12th, the ninth on August 18th, and the tenth on September 11th. This race was one of the most interesting character, as the birds had to fly over 500 miles of country entirely unknown to them. If they flew in a direct line, they must have crossed the Apennines, near Monte Cimone, where those mountains are between 6000 and 7000 feet high, and the Alps near the St. Gothard, where the lowest passes are almost 7000 feet, and continued their course across the whole of Switzerland. But it is most probable those that returned rounded the westward of these mountain chains, and, skirting the coast, came by way of Nice through France. Of the two hundred liberated, not more than twenty ever returned."

The rate of flight of these wonderful Belgian birds is, it seems, in the best races "more than one mile per minute during a flight that lasts for four hours and three-quarters. Upwards of sixty miles an hour for nearly five hours in succession. Truly, this is a wonderful performance; and good as it is, it is greatly exceeded in short-distance flights, in which the bird knows its route perfectly."

We have in chapter the second an account of the different breeds employed as Homing Pigeons. The author clears away the many mistakes as to name. Thus, the Carrier is not a homing bird, neither is the show Antwerp. I hope that in all future Pigeon-writing the term Homing Pigeon will be employed only. The Carrier must not lose his name, although it implies what he does not do, but after a reign of upwards of a hundred years King Carrier must not be dethroned.

Other chapters relate the management of Homing Pigeons, their training, whether the homing faculty is instinct or intelligence. With two more chapters on the Anglo-Belgian *concours*, and Pigeon-flying from balloons, this handy, pretty, and useful little book ends. I am glad to see it at all railway-stalls, and not only will it spread an accurate knowledge of the Homing Pigeon, but also, I think, may lead some of its many readers to wish for others of the "many varieties of fancy Pigeons."—Wiltshire Rector.

QUEENS LEAVING THEIR HIVES—MR. WOODBURY'S DEATH.

Notwithstanding the apparently corroborative evidence furnished by "B. & W.," in No. 538, that he was correct in his inference that the old queen of the hybrid hive had been taking aërial excursions before swarming, yet the facts narrated, strong though they seem, do not in reality prove anything of the kind. There are so many ways of accounting for the curious circumstances attending the case without violating what I believe to be an invariable rule—namely, that a mother queen never takes an aërial excursion, that, like "R. S." (who does not hesitate to endorse my view, though I assure him it is "no misfortune"), I should never think, if they occurred in my own apiary, of explaining them as "B. & W." has done, even though the proof were stronger.

My excuse for recurring to the subject is, that I am anxious that an error of this kind in the habits of the queen bee, promulgated by one of acknowledged authority in apiarian matters, should not pass without challenge. I know it is a popular belief among a certain class that queens take "airings" during fine days even in winter, as the common bees do, and a dead or invalided queen found before the hive, is taken as a proof

of this, but this also I need scarcely say is a complete fallacy. In the second notice, No. 538, "B. & W." says he is "quite certain that there could not have been within it (the driven Italian hive), any royal brood;" but he may have been mistaken, as in any other than a framed hive it is extremely difficult, with every care, to pronounce decidedly. Nor would I reckon it of any consequence that royal cells were seen being developed in the hybrid hive itself after swarming. One or two we are told were sealed two days after swarming. This was to be expected. The strongest evidence, no doubt, is the circumstance that the brood of the respective swarms corresponded to "B. & W.'s" surmise. In No. 537 I adverted to this as a test, but in reflecting over the whole matter, and the further details furnished, I can see how even this confirmatory evidence can be otherwise accounted for. "B. & W." does not inform us that the Italian hive was thoroughly pure; but, even though it was, he can easily see that its first "cast," if my explanation of the swarming be correct, might, according to the mating of the queen, be less pure than the second one. In a mixed apiary not much importance can be attached to questions about purity. On the whole I have no hesitation, considering the many possible ways the curious circumstances narrated by "B. & W.," in No. 535, could be otherwise explained, of discarding the idea that we have here any proof that mother-queens ever go forth on aërial excursions.

In taking up my pen for the first time after these pages have made known in a formal way the melancholy tidings of Mr. Woodbury's death, I cannot help recording my feelings of deep and heartfelt sorrow at the sad event, and I cordially coincide with Mr. S. Bevan Fox in believing, "that all the readers of this Journal, and all the contributors to its columns, whether interested as apiarians or otherwise, will experience deep feelings of sorrow for the loss of one who has for so many years contributed so largely to its columns." Though I have never had the pleasure of any personal acquaintance with Mr. Woodbury, yet for upwards of ten years I enjoyed a friendly correspondence with him. This dated from the introduction of the Ligurian bee, and though it was our "fortune," or "fate" rather, to engage in a long controversy in these pages on a subject regarding which there is much diversity of opinion, yet notwithstanding the vigour and spirit displayed by all who took part in it, I need scarcely say that no change was effected in our other relations or correspondence, which continued cordial throughout. I shall only add, that by the death of our lamented friend we have lost one of the most accomplished apiarians of the day. -J. Lowe.

BEES NOT WORKING.

I have an old stock in a straw skep that for six years has never failed to yield me a considerable quantity of honey; but this year the bees have done nothing. In April they were unusually strong, and plundered one of their neighbours. Since then they have remained idling about the mouth of the hive, amusing themselves occasionally by killing drones, but utterly declining to go into a super, and never showing any activity in their efforts on their own account.—H.

[Your hive may suffer from one of two or three causes. First, it may have a queen whose power of breeding may be very small, owing to age or accident; or secondly, the breeding cells of the combs may have become contracted and unfit for the purpose; or thirdly, they may be so filled with honey as to prevent the queen giving full scope to her natural fecundity. You do not say whether or not the bees have carried in pollen freely of late. If the hive were ours we should drive out the bees into an empty skep, and endeavour to catch a sight of the queen if any, and judge from her appearance as to her age and probable capabilities. If, from very ragged wings or dark shrunken appearance, she gave evident proof of being aged, we should, if it were desired to perpetuate an already somewhat aged hive, crush her between the fingers, and having obtained a lot of expatriated bees from a doomed cottager's hive, add them with their queen to the old stock. If, however, the bees are still very numerous, and pollen is carried in in moderate quantities, you may leave the hive as it is until next year, when perhaps a swarm may issue from it, at the end of twenty-one days from which time the stock may be broken up and the bees added to those of the swarm.]

OUR LETTER BOX.

Wakefield Show.—Mr. J. S. Booth states that he had a pen of Malay chickens highly commended.

Ormskirk and Southport Show.—We are informed that the names of the Judges sent to us were not correct. They ought to have been Mr. Hudson and Mr. Douglas.

Allerton Show.—Mr. Yardley writes to us giving a most unqualified denial to the statement by our reporter. He adds—"Not a foul feather was abstracted. The birds have been in my possession eight months, and have obtained first prizes at Torquay, Stroud, Colchester, and many other Shows. I am quite willing to submit the birds to any competent judge for examination, when I am sure the difference between trimming and moulting can be readily discerned, as well as the sexes of the pair of Dragoons which seem also to have caused Mr. Hutton some uneasiness."

Warrington Poultry Show.—Mr. J. Wright, Rochdale Road, Manchester, won the cup for Antwerp Pigeons.

Neath Poultry and Pigeon Show (*W. C. and Others*).—We always conclude if a committee do not consider their proposed show of sufficient importance to be advertised in our columns, that it cannot be deserving of a report.

Portraits of Pigeons (*Captain*).—They commenced in our No. 464.

Dyeing Feather Grass.—*A Constant Subscriber* wishes for recipes to dye this grass various colours to fit it for mixing with everlasting flowers.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. August	9 A.M. Barometer at 32° and Sea Level.	Hygrometer. Dry.	Hygrometer. Wet.	Direction of Wind.	Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	Shade Temperature. Min.	Radiation Temperature. In sun.	Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 16	29.964	69.0	62.3	E.	67.0	80.6	54.0	117.0	53.0	—
Th. 17	29.884	68.2	65.0	N.E.	66.4	81.2	56.5	123.5	55.8	0.620
Fri. 18	29.475	65.2	61.6	N.	66.5	71.4	61.0	115.2	60.4	0.150
Sat. 19	29.641	62.8	54.7	N.E.	65.0	71.2	56.3	125.4	54.5	—
Sun.20	30.092	66.6	58.8	S.W.	64.0	71.3	49.6	108.2	47.0	0.050
Mo. 21	30.003	65.2	64.0	N.W.	64.0	77.0	62.5	122.0	62.0	—
Tu. 22	30.100	66.3	62.5	S.E.	63.8	76.8	52.0	118.0	50.6	—
Means	29.908	66.1	61.3		66.2	75.6	66.0	118.5	54.8	0.720

REMARKS.

16th.—Fine but hazy in morning, cloudy in the evening.

17th.—Very hazy and heavy in morning, more or less cloudy all day, storm-like about 6 P.M., heavy rain at 10 P.M., and all through the night.

18th.—Rain in morning and occasional showers all day, splendid and long-continued rainbow between 6 and 7.

19th.—Cool but very bright, a most lovely day throughout.

20th.—Fair but cloudy all day, much cooler.

21st.—Fine morning, slight shower about noon, sun not hot but the air oppressive.

22nd.—Rather stormlike in morning, but passed over with only a few large drops of rain, fine afternoon.

The rain on the night of Thursday and morning of Friday (amounting to more than half an inch) tended to cool both the air and the ground, and thus make the past week much more pleasant, though not quite so bright as the preceding one.—G. J. Symons.

COVENT GARDEN MARKET.—August 23.

The markets are much quieter than they were, and sales can only be effected to any extent by a reduction of prices. To-day we have had but few buyers, the inquiry being chiefly for rough descriptions of produce. Hothouse Peaches and Nectarines are nearly over, those from the open walls just coming in. Imports heavy, at former prices.

FRUIT.

	s.	d.	s.	d.		s	d.	s.	d.
Apples ½ sieve	1	0	to 2	6	Mulberries lb.	0	6	to 1	0
Apricots doz.	1	0	8	0	Nectarines doz.	4	0	12	0
Cherries lb.	0	8	2	0	Oranges ℔ 100	20	0	0	0
Chestnuts bushel	0	0	0	0	Peaches doz.	4	0	15	0
Currants ½ sieve	0	0	0	0	Pears, kitchen doz.	2	0	0	0
Black do.	0	0	0	0	dessert doz.	2	0	8	0
Figs doz.	2	0	4	0	Pine Apples lb.	3	0	6	0
Filberts lb.	0	0	1	0	Plums ½ sieve	3	0	5	0
Cobs lb.	0	0	0	0	Quinces doz.	0	0	0	0
Gooseberries quart	0	6	0	8	Raspberries lb.	0	0	0	0
Grapes, Hothouse lb.	2	0	5	0	Strawberries lb.	0	0	0	0
Lemons ℔ 100	8	0	12	0	Walnuts bushel	10	0	15	0
Melons each	2	0	5	0	ditto ℔ 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	2	0	to 4	0	Leeks bunch	0	2	to 0	0
Asparagus ℔ 100	0	0	0	0	Lettuce doz.	0	3	1	0
Beans, Kidney ½ sieve	1	0	3	0	Mushrooms pottle	1	0	2	6
Broad bushel	2	0	3	0	Mustard & Cress punnet	0	2	0	0
Beet, Red doz.	2	0	3	0	Onions per doz. bunches	2	6	4	0
Broccoli bundle	0	9	1	0	pickling quart	0	0	0	0
Brussels Sprouts ½ sieve	0	0	0	0	Parsley sieve	3	0	4	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	9	1	0
Capsicums ℔ 100	0	0	0	0	Peas quart	0	6	1	0
Carrots bunch	0	6	0	0	Potatoes bushel	1	6	3	0
Cauliflower doz.	2	0	6	0	Kidney do.	3	0	5	0
Celery bundle	1	0	2	0	Radishes doz. bunches	0	6	1	0
Coleworts doz. bunches	2	0	4	0	Rhubarb bundle	0	4	0	0
Cucumbers each	0	6	1	0	Savoys doz.	0	0	0	0
pickling doz.	2	0	3	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	0	0	Shallots lb.	0	6	0	0
Fennel bunch	0	3	0	0	Spinach bushel	3	0	4	0
Garlic lb.	0	3	0	0	Tomatoes doz.	2	0	3	0
Herbs bunch	0	3	0	0	Turnips bunch	0	3	0	6
Horseradish bundle	3	0	4	0	Vegetable Marrows doz.	2	0	3	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	AUG. 31—SEPT. 6, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
31	Th	Crystal Palace Autumn Flower Show closes.	71.5	47.4	59.4	17	12 af 5	49 af 6	53 af 7	10 af 6	15	0 2	243
1	F	Bishop Auckland Horticultural Show.	71.1	47.5	59.3	21	13 5	46 6	10 8	26 7	16	0 21	244
2	S		71.0	47.6	59.3	19	15 5	44 6	27 8	40 8	17	0 40	245
3	Sun	13 Sunday after Trinity.	71.8	47.7	59.2	19	16 5	42 6	44 8	52 9	18	1 0	246
4	M	Length of Day 13h. 22m.	71.0	46.7	58.9	19	18 5	40 6	5 9	2 11	19	1 20	247
5	Tu		70.4	47.1	58.8	18	20 5	37 6	26 9	after.	20	1 39	248
6	W	Royal Horticultural Society, Fruit, Floral, [and General Meeting.	70.2	46.8	58.5	20	21 5	35 6	54 9	20 1	☾	1 59	249

From observations taken near London during forty-three years, the average day temperature of the week is 71.0°, and its night temperature 47.2°. The greatest heat was 85°, on the 1st, 1843; and the lowest cold 30°, on the 4th, 1850. The greatest fall of rain was 1.50 inch.

CULTIVATION OF THE HOLLYHOCK.

THIS has been an exceptional season, and in many respects an unfavourable one, for some flowers and fruits. It has been a good season for the Hollyhock, and some of the spikes which I have seen this year are truly grand. The Hollyhock and the Pansy are amongst the first flowers that I ardently cultivated before becoming a gardener, and now that I require to study the pleasure of my employer more than my own, I have not been able to devote so much attention to them, but I admire them still. They form striking contrasts to each other. The one lowly and modest, carpeting the ground beneath your feet, and studding it with soft velvety and beautiful colours like the "wee, modest, crimson-tipped flower;" the other noble and majestic, forming gorgeous pyramids of many colours, pure white and pale yellow to the deepest orange and buff, soft rose and pink, red, crimson, and deepest maroon.

This fine autumn flower seems to have been brought into very prominent notice for the first time as an exhibition flower in London about the year 1854, as Mr. W. Paul, in his excellent little practical work, "An Hour with the Hollyhock," alludes to a very successful exhibition specially got up for this flower in the Surrey Zoological Gardens that year. Previous to this there were many raisers of seedlings both in England and Scotland; there were also two distinct types. The English section had the largest and best-formed centres, but in many cases a scarcely-distinguishable guard petal, while the Scotch varieties were conspicuous by their immense guard petals; by crossing the two nationalities flowers with well-formed closely-compacted centres were produced, and much better-proportioned guards.

Those who intend to begin the culture of Hollyhocks would do well to obtain a selection of the very best sorts. Plants that are propagated in the spring generally make the strongest spikes; they should be planted-out on the first favourable opportunity after the middle of March; if the weather is unfavourable April would be as well. The soil should be deeply trenched and highly manured; if the subsoil will admit of it, the ground should be trenched 3 feet deep. The most suitable and effective position for Hollyhocks is to form backgrounds to wide borders, they also form a striking feature where the spikes can be seen at a distance rising above the foliage of evergreens in a dwarf or newly-planted shrubbery. For exhibition, or where the most perfectly-developed spikes or flowers are required, they should be planted by themselves in rows 4 feet apart, allowing 3 feet between the rows. The sticks intended to support the plants should be stout, and stand 6 feet out of the ground; these should be 7½ feet long, and put in before the plants, planting-out the Hollyhocks close to the sticks afterwards. The plants will require but little attention except tying the main shoots to the sticks, pinching-out the side shoots, and giving them copious supplies of water at the roots; in hot weather mulching the ground round the roots is very beneficial to them. If required for exhibition, the spikes must be shaded in some way.

When the flowers show signs of decay they must be removed, as if decayed flowers are allowed to remain they will injure the seed pods. It is very important to save seeds of the very best varieties in each colour, as the best and most regular spikes are obtained from plants which have been raised from seeds, and the chances are that varieties may be obtained having distinct features and of better quality than those already in commerce. There is also much interest in watching the development of the flowers, and in comparing them with those from which the seed was obtained.

As soon as the seeds are ripe, or when the flowers have faded, if it is not intended to save seeds, the plants should be cut over, and about the beginning of October they should be lifted out of the ground and potted, or planted in some light sandy loam and leaf mould in a cold frame; I prefer to pot them, as the plants can be moved into a warmer position if required. If they are wintered in a house where no artificial heat can be applied to them the pots must be plunged; if otherwise they may be placed on a shelf, or in any position where they can have a free circulation of air around them. The plants must not be huddled together in any out-of-the-way corner during winter and neglected. A number of shoots will be thrown up from the base of the main stem, these must all be taken off early in the season; any time in February will do. They will form plants in a short time if grafted on a piece of root in the way whip-grafting is performed; the cutting, with the small piece of root attached, should be potted in a 3-inch pot in some very sandy compost, and the pots plunged in a very gentle bottom heat in an ordinary dung frame; if the bottom heat is at all excessive every one of the plants will rot off. When the young plants show signs of being established they should be removed to a cold frame, keeping it close for a few days until they are inured to the change. It is also desirable to shift the plants into larger pots before finally planting them out.

I will now make a few remarks about raising seedlings. July is a good time; the seeds can be sown in the open ground, and the plants pricked out and protected during winter in a cold frame, or any of the cheap glass protectors now in use may be placed over them, planting them out in March where it is intended they should bloom.

The Hollyhock makes a grand feature at the autumn exhibitions if shown as cut spikes, which is by far the best way to show them. They are also exhibited in stands, similar to Dahlias, as single blooms. To obtain the greatest measure of success, and increase the size of the flowers, the spike should be cut over, allowing only from three to six flowers on a spike; shading them must also be attended to, as sun, rain, and wind soon damage the petals.

I had some conversation with the principal Hollyhock growers at the August meeting for this flower at South Kensington; contrary to my experience and that of others in this neighbourhood they all seemed agreed that this was a bad season for them. The "mysterious" disease which attacks the Hollyhock, like those from which the Potato,

Cucumber, and Gladiolus suffer, has been making sad havoc. I am glad to say I have not yet come in contact with it, but I am told that the plants decay close to the surface of the ground, and there is not as yet any known remedy for it. Red spider is the most insidious enemy I know of, but this can be kept in check by frequently syringing the plants. There is also a maggot which eats its way amongst the seeds exactly similar to, if not the same as that which burrows in Apples, causing them to drop before they are ripe; this can only be got rid of by hand-picking. Mr. W. Chater, of Saffron Walden, exhibited a fine lot of flowers, both spikes and cut blooms, at Kensington on the 16th, but I think the climate of Scotland is better adapted for Hollyhocks than that of England; at least they are exhibited much better in Edinburgh than they are in London. A list of the very best varieties will be found in your report of the exhibition at Kensington.—J. Douglas.

ROAD-MAKING UNDER DIFFICULTIES.—No. 2.

For a road to be really sound and durable, the drains immediately upon or in connection with it must be so arranged that water shall at no time lie in pools either upon or alongside the road, but at once pass away down the drains, for which common unglazed pipes answer quite well; but they should never be less than 6 inches in diameter, and be laid at a sufficiently sharp angle for the water to pass away so quickly that all sediment may be washed clear of the pipes. Drains are sometimes made with 3-inch pipes laid at a very flat angle, and with a well or trap under each grating continued several inches below the mouth of the drain, to prevent any sediment from passing into the pipes at all. But I do not like the plan, because, without constant supervision, the wells soon fill, and it follows as a matter of course that the pipes are in danger of being filled also, the water passing through so slowly that it deposits most of its sediment as it flows. It is therefore evident that drains made at an acute angle are altogether best, as they are self-cleansing.

Another important point to be remembered in making such drains is to avoid all abrupt curves or angles, or anything likely to have the slightest tendency to check the flow of the water. A drain should never proceed along one side of a road for a distance and then turn abruptly at right angles across to the other side; but wherever such crossings are necessary they should be at a very obtuse angle, forming a long diagonal line till the other side is reached, and thus the check given to the water will be hardly perceptible, and the flow will go on to the outlet with undiminished speed.

The gratings through which the water passes down into the drains should be proportionate in size to the width of the road. Thus, for a road only 9 feet wide, gratings 10 inches square, with stout bars three-quarters of an inch apart, are very suitable; but if the road is 12 or 15 feet wide, then the gratings should certainly be larger; and so upon a road having a gradient of 1 in 12 it is very evident that more gratings are necessary than upon easier levels. During very heavy showers the water runs down such steep inclines with a rapidity so violent that, if it were not checked by means of the numerous gratings placed in its course, there would be a risk of much of the material upon the surface of the road being washed away.

In addition to the covered drains in the road itself, open drains and ditches are often necessary to prevent water from flowing upon or over the road, of which there is much risk when it passes along the side of a bank or hill. In making a cutting for a road to pass more easily over a steep ascent, I found that the water oozed out of the upper side of the cutting so fast that the men were standing in water when at work, and were much hindered thereby. Moreover, as this side of the cutting for certain reasons was made at an unusually sharp angle, I feared that so much moisture passing through it would cause it to shatter very much with the first frost. To prevent all this, an open deep drain was made at about a perch from the side of the road, and carried parallel with it as far as was found necessary. This answered admirably, quite cutting off the great superabundance of moisture contained in the soil, and also preventing much water from flowing down the bank on to the road during heavy showers. In a few other isolated moist places occurring along the upper bank, the water was collected into one channel by cutting a "crow's-foot" open drain—that is, a central drain at right angles with the road, and having a branch on either side extending after the manner of the claws of a bird's foot.

In dealing with the main watercourse in the valley, local circumstances differ so materially, and have so much influence upon the work, that no particular process can safely be laid down to meet all cases. For producing a picturesque effect, and to form a striking and ornamental feature in the valley, a bridge is altogether preferable for crossing the water; but if the work is to be done as economically as possible, and the bulk of water be not too great, stout glazed socket drain pipes, or a culvert passing under an embankment, connecting the banks of the stream, may prove to be best. The size of the pipes or culvert should, of course, be in proportion to the body of water contained in the stream during the wettest period of the year. Circular pipes 2-feet in diameter afford passage for a large body of water, and such pipes are equally efficient, and much less expensive than a culvert.

The track to contain the stones for the road should be excavated to a depth of at least 9 inches, not only that it may contain sufficient "metal" to bind into a firm mass, and sustain the traffic for a considerable time without needing repair, but also that the layer of hard material may be deep enough to withstand the effects of heavy thunder showers, which I have seen act with such force upon shallow roads, especially upon steep gradients, that the sides have been furrowed with channels to such a serious extent as to wash the stones completely away, leaving the soil at the bottom of the track bare. Such paltry shallow roads constantly need repair, and are far more costly than if they had been properly made in the first instance.

In searching for rock beds from which to procure stone for the road, a knowledge of geology is useful, not altogether as regards a knowledge of the quality of the stone, but because stone is more easily discovered by those understanding the natural indications of its presence. When such indications are found, some trial holes should be made a few yards apart with a boring tool, for although there may be positive evidence of the presence of rock, it is not wise to commence excavating till it is ascertained by boring if the bed is large enough or sufficiently near the surface to be excavated at a reasonable rate. The cost of excavating depends entirely upon the depth of soil covering the rock, the rate of pay ranging from 9*d.* up to 1*s.* 8*d.* per cubic yard of stone. I believe, however, it is not often that the higher price is reached. As an example from which safe deductions may be made as to the necessity for higher or lower rates, it may be stated that for excavating the hardest kinds of sandstone in a quarry having a regular layer of 6 feet of earth over the stone, 1*s.* 1*d.* per cubic yard of stone is a fair price. This includes the removal of the soil, and the excavating and heaping of the stone in squared heaps a yard high on level ground close by the quarry; the labourers finding their own tools, but the master supplying planks and wheelbarrows. When a quarry is opened, if much stone is required, a quantity of 4-inch pipes should be supplied to the men upon condition that a drain be made and continued upon the lowest level as far as the work goes, to carry off water, as otherwise a few wet days may flood the quarry, and hinder the work for a considerable time.

The stone should not be broken fine at the quarry, but should be carted to the track and there broken, care being taken to place large pieces in the bottom of the track, and smaller ones upwards to the surface. The spaces among the large pieces at the bottom act as a drain, thus tending to maintain the road in a sound dry condition.—Edward Luckhurst.

AMERICAN POTATOES.

I procured in the spring of last year 1 lb. of Early Rose Potato which I cut into sixty sets, and the result was 60 lbs. of Potatoes. I took 1 lb. from them this spring, which I cut into forty sets, and the result this season is 72 lbs. of very fine Potatoes; 3 lbs. of these were diseased.

I had also this season 1 lb. each of Peerless and Climax, the results are as follows:—Peerless, fifty-seven sets produced 86 lbs.; of these 14 lbs. were diseased. Climax, sixty-two sets, produced 60 lbs.; of these 3 lbs. were diseased. The tubers of Peerless are very large and heavy, the Climax a fair average. I think the American Potatoes have proved less liable to disease than many others of our old sorts.

I have some Regents, Early Frame, and Paterson's Victoria not worth lifting, while the Early Rose has produced a fine crop—*i.e.*, from a peck of cut sets I lifted ten bushels, and found but very few diseased.—J. Harland, *Gardener, Writtle Park.*

Linaria vulgaris.—You are quite right when you say the above-mentioned plant, being a perennial, would not require

rsmoving. Some time ago, in an evil hour, I introduced it into a small garden of choice wild flowers, and in a short time it overrun the entire place.—J. G.

THE CULTURE OF THE CAMELLIA IN BELGIUM.

Much has been written of late in the journals devoted to horticulture on the subject of the culture of the Camellia, and many things have been insisted upon as absolutely necessary for success; but I am inclined to think that it is a plant which will accommodate itself to various circumstances and thrive in various soils. I remember when I was at Deal constantly seeing one which never seemed to leave the window of the sitting-room, was not I know for years repotted, and yet which was always vigorous and always flowered well. We know also that Mr. Pearson, of Chilwell, has long maintained that the proper soil for its successful culture is loam, and strongly deprecates the mixture of loam and peat, and, although I have never had the pleasnre of seeing his, I can well believe that they are pictures of health; but at the same time I have seen wondronsly fine examples of good culture in all peat, and in other cases in loam and peat mixed, while I have known many cases where each and all of these plans have been tried and without success. This I can only account for from the fact that there is a vast difference in the quality of both peat and loam; and when I read of the latter being pared off rocks and nearly all fibre, such as I have seen it from the Dublin mountains, I can at once see how different that is from the loam I am accustomed to use, which comes off some of the rich lowland pastures of Kent.

At the time that the discussion was going on, a good deal was said of the Belgian cultivation. It was acknowledged on all hands that this was good. We could judge this to be the case, for every year we have been accustomed to see the large importations which are brought over, too often, indeed, to wither and die in stifling London dining-rooms, but which are pictures of health and vigour; and having lately had the opportunity of running through some of the Belgian establishments, I give now the result of my observations and inquiries.

1, *Soil*, on which so much depends. The Belgians grow their Camellias entirely in leaf mould, but it is leaf mould of a peculiar character, most of it probably thirty or forty years old. It is obtained in a manner I think accessible to ourselves, from the woods and forests, in those ravines and undulations in the ground where the leaves have fallen year after year and have never been disturbed, and where they have formed a thick and dense bed of decayed matter. I rather fancy most people who live in a wooded country can get this. It approaches more nearly in appearance to peat than the leaf mould we generally use, while it differs very considerably from peat in its texture, and is also much lighter when wet, and gives more thorough drainage, a point on which the Camellia is very tenacious. In saying this I wish it to be distinctly understood that I do not pretend to say that the Camellia will not thrive in other soil; I am only giving the Belgian system, and I know nothing to hinder us from having the same success if we can use the same soil.

2, *Potting*.—This would seem to be a matter about which there can be no second question as to how and when it is to be done. But I find that the Belgian plan differs entirely from ours. I have always remarked the extreme smallness of the pots in which their plants reach us; but I have always considered this was simply a matter of economy of space, and that as they were grown for exportation they were kept in as small pots as possible for the convenience of packing: but this I found was a mistake. It is done advisedly, and they maintain that the Camellia does better and flowers more regularly with its roots restricted. They say that we judge our plants of all sorts by the size of the pots, they by the size of the plants. If a nurseryman with us advertises any it is that they are in 60's, 48's, 32's, while they say the plants are so many centimetres high. For the same reason they do not pot so frequently as we do—one nurseryman told me once every three years, others do it every two years. The first year they say the plant makes a long shoot, the second a shorter one, and, indeed, you can see it in the plants, while in most instances they set their bloom buds also.

3, *Summer Culture*.—As to this, I see with many it is insisted upon with us that they ought not to be turned out of doors. But the Belgian knows no such rule. They are invariably put outside in shaded alleys and remain there till late in the summer, and yet the climate of Ghent is not very different from that of the south of England. I notice corn is about equally forward, and that the Hops bear much the same bad aspect around them that they do in Kent; but I can quite understand that if the plants are overpotted, or if the soil is tenacious, that the heavy rains will sodden the soil, cause the bloom buds to fall off, and injure the general health of the plant.

Such are a few things I have noted amongst the Belgian cultivators, and I shall be glad if they be of any use to the admirers of this lovely flower at home.—D., *Deal*.

THE AMATUNGULA AND KEI APPLE.

Having a familiar and personal acquaintance with both the "Amatungula" and "Kei Apple" of South Africa in the fresh state, I venture to offer a few remarks concerning them in that condition, by way of supplement to Mr. Jackson's interesting paper in No. 16 of the "Food Journal," which draws attention to these fruits in their preserved state.

The Arduina grandiflora, which bears the Amatungula of the Zulu Kafire, is an apocynaceous plant, belonging to the same tribe as the Periwinkle (Vinca major and minor), of our hedges. It is a very beautiful stiff evergreen shrub, a few feet high, with dark glossy leaves, armed at the base with remarkable bifurcated thorns, which remain green until quite old. It grows in sandy and boggy places along the Natal coast in the close neighbourhood of the sea; the Ivory Nut Palm (Phytelephas), the wild Strelitzia, and the Aloe of various colours and forms being its ordinary companions. The fruit, which is correctly described as varying considerably in size, looks very much like a small Plum, and has thence acquired for itself the name of the Natal Plum. It is reddish at first, but becomes of a dark violet hue as it ripens. When ripe it has a white milky juice, of an agreeable sub-acid flavour, and is very acceptable and refreshing during the South African coast heat. The milkiness of the juice is obviously due to the presence of caoutchouc, which is yielded in abundance by some members of the tribe. There are other plants in the family that are favourably known on account of their fruits. The Carissa Carandas, which elsewhere furnishes a well-known substitute for Red Currant jelly, is closely allied to the Arduina of Linnæus.

But it must also be added that there are other members of this particular family which are by no means of so agreeable a repute. The Tanghinia veneniflua of Madagascar, which is a sort of first cousin of the Carissas and Arduinas, has a fruit with a kernel not larger than an Almond, which is so energetic a poison that one kernel is a deadly dose for twenty men. The Oleander, which is also of poisonous power, belongs too to this family. Indeed, this is one of the notable instances of the development of harmless fruit by some members of a very baneful tribe. From my own experience I should be inclined to doubt whether the ripe Amatungula would be found to be altogether wholesome if very freely indulged in, although, on the other hand, I have never heard of any actual mischief following upon its use; but that it would be very materially improved as a fruit by garden cultivation there can be no doubt. The wonder is rather that the fruit should be so good as it is in its rude state, than that it should have some questionable qualities. There are few wild fruits that have not a hair-oil-and-furniture-varnish essence of some sort to be extracted or dissipated by the refinements of horticulture, before they can be said to have become worthy of a place in the dessert as well as in the desert. In the case of the unrefined Amatungula the *soupçon* is certainly of the "waterproof" kind. If, however, this fruit ever have as much done for it by cultivation as the wild Crab had before it was turned into the Ribston or Newton Pippin, it will most probably prove a valuable addition to our gardens.

The flower of the Amatungula is formed like that of our common Periwinkle, but it is white, and very much smaller than the blue flower of the Vinca of our hedges, notwithstanding the specific appellation grandiflora, which for some reason has been conferred by the botanist upon the species. The flower is, nevertheless, very bright, star-like, and pretty when it appears among the dark glossy leaves. It is commonly seen upon the plant at the same time with the red and violet berries of the ripening fruit, and in some measure suggests the thought of the Jasmine, until the eye detects the very curious armament of green-forked spines.

The Amatungula is very commonly employed as a preserve by the Natal coast settlers, but this preserve is for the most

part very coarsely and rudely made, and, as it is ordinarily seen, does not do fair justice to its capacity. When skilfully prepared it has a pleasant acidity, delicately touched with the peculiar flavour of the fruit, which gives it a fair claim to colonial favour, although it must be admitted that even then it stands a long way behind the Raspberry, Gooseberry, and Green Gage of Old England.

The "Kei Apple" is the berry of a plant belonging to the interesting family which produces ebony and the iron woods. It is a large evergreen shrub with small thick-set leaves, and grows well in higher and colder districts than the Amatungula. It is, indeed, properly a member of the upland and inland bush. The shrub has hard wood, is of slow growth, and is of great value on account of the splendid thickset hedge which it forms, densely armed with strong dry spines three-quarters of an inch long, and as hard and sharp as a needle. The well-grown Kei Apple fence is a barrier which no living creature will face. It is simply impenetrable, and in addition to its proper bulwarks, it throws out outworks in the form of long straggling arms that are also bristling with sharp spines. It is a deciduous plant, having a tender light hue in the first spring, maturing in the advanced summer into the dark green of the Beech, and occasionally almost assuming the sombre tint of the Yew. The plant is also diœcious, some of the trees bearing only a stamen producing unconspicuous flowers and no fruit. When not trimmed and trained into a fence, the Kei Apple developes into a very large tree. The plant is either a Diospyros, or a near ally to that genus. In common with all the Ebenaceous plants it has some affinity with the Holly. Another species of the Diospyros genus, the Diospyros Kaki, furnishes a well-known Chinese sweetmeat.

The name Kei Apple has been conferred in consequence of the fruit having been originally noticed in the neighbourhood of the Great Kei River, the stream which divides the Old Cape of Good Hope settlements from Independent Kaffraria. The fruit is, however, quite as generally known in the Natal district as Dingaan's Apricot, the second part of this designation being suggested by the woolley Apricot-like aspect of the skin. Dingaan, who confers the other part of the name, was the brother and successor of the first great Zulu potentate, Chaka; and was also the chief adversary of the Dutch Boers, who occupied Natal before it became an English dependency. It is to be presumed that he was a patron of this fruit, as he has thus made it a present of his august name. But that he ever used it in any other sense than a medicinal one in those ante-saccharine days, when neither the cane not its sweet extract had yet put in an appearance in the Zulu Kafir district, is certainly very much to be questioned. Distilled vinegar is tame as an acid compared with the matured juice of the Kei Apple. The Dutch settlers, indeed, prepare it for their tables as a pickle without vinegar, and it is by no means contemptible in that form. It is also, on this very account, a good preserve of the Red Currant jelly class, when prepared with a liberal hand in the matter of sugar, and a thrifty and prudent one in the matter of fruit. From my own personal experiences I am able to offer Mr. Jackson my warm congratulations that fate has allowed him to be innocent of the Kei Apple in its fresh state. If he ever chanced to make an acquaintance with it in that condition, I venture to assure him that he will return to his first love, the Kei Apple preserve.

There are other fruits which are now most valued acquaintances in every garden of Natal; not, however, indigenous, but introduced and naturalised productions. First and foremost there is the most exquisite Loquat, an importation into South Africa from some of the islands of the Eastern Archipelago. The Loquat is a small apple, just of the right size for a tolerably well-developed human mouth, with a juicy pulp intermediate between the Gooseberry and the Peach, and with a malic flavour strongly inclined in the Gooseberry direction. It has two or three large central pips, almost arriving at the dignity of stones. In fact, the Loquat is very much a small apple, that you can squeeze like a Gooseberry, and that has a flavour more exquisite and delicate than the best Apple of England. It is one of the most agreeable and refreshing fruits that can be encountered in a hot climate; and it has the great advantage that it can be indulged in without any of those second thoughts that will come over the botanical mind when it contemplates the so-called harmless fruit proffered by some atrocious ally of Dogbane or Nightshade. The Loquat is the fruit of the Eriobotrya japonica, a true member of that honest Apple family, whose worst perpetration, under the most unfavourable circumstances, is malic acid and rough cider. And a perfect glory of the garden is the Eriobotrya japonica, with its whorls of pendant dark green leaves, glistening white underneath, and fashioned upon the mould of the Sweet Chestnut. The flower is an enlarged copy of the Hawthorn, with the true Hawthorn fragrance, comes out from the centre of the leaf-tuft, and there ripens into large bunches of luscious fruit, looking like small golden Pears, often of considerable size and weight. The tree is an evergreen, and has a curious habit of always keeping itself in the fashion of a trim standard.—R. J. Mann, M.D.—(*Food Journal.*)

DESTROYING THE MEALY BUG.

There are few who like to acknowledge the presence of this pest in their collections. I am bold, perhaps, in saying that I have been in summer in very many stoves and warm plant and fruit houses, and in most instances have seen unmistakeable evidence of its presence. I am sorry to say it, but it must be said, plants infested with mealy bug are not uncommon on the exhibition stage. Why, then, strive to keep in the background what will always show itself? I know its presence is considered solely due to want of cleanliness on the part of the cultivator. I have heard blame attached where no blame was due. It is one thing to find fault, another to have cause. It is a common failing for people to see the negligences of others, and utterly fail in seeing what is needed on their part to make cleanly cultivators. How frequently are slovens made by the little care and the indifference of those whom they serve in providing willingly the means requisite for cleanliness, which they often do grudgingly or altogether withhold? The importance of cleanliness cannot be over-estimated. A clean person and a clean healthy dwelling, are the highways to health; but a dirty person and a dirty unhealthy dwelling are where disease strikes in its greatest severity. So of plants; they need a clean house, properly constructed to afford the light, air, moisture, and temperature needed for their healthy development, and these conditions must not only be provided at first, but be maintained. The glass must be kept so that the light is not obstructed by a coating of moss, and ventilators must be workable. I have known more than one gardener not able to give air to vineries because their employers were slow in supplying the required cord, and in other cases the lights could not be moved because they were out of order. The masters were indifferent as to that, but not backward in complaining of the Grapes being all at the top of the house, and ripening there much earlier than elsewhere, and in grumbling at defective bunches and berries, failing to see that that indifference was the cause of red spider and perhaps mildew. Indifference on the part of employers tends to produce indifference in servants.

The most important agent in keeping down mealy bug is thorough cleanliness. Mealy bug is one of those pests which harbour in wood as well as on living plants; indeed, it will exist on everything used in the construction of plant houses, and in the culture of plants. The woodwork should be thoroughly cleaned at least twice a-year—October and March, using soft soap not less strong than 3 ozs. to the gallon, keeping it from the glass, and this should be cleaned with clear water. Every wall should be coated with limewash, adding 1 lb. flowers of sulphur and 4 ozs. of soft soap to every gallon, and the woodwork should be well painted every alternate year—better every year. The cleaning must be thorough. Mealy bug cannot endure paint; there is no insect, probably, that spirits of turpentine, especially its vapour, will not kill.

As regards cleaning the plants, I am a firm believer in water being the best thing to use. Mealy bug cannot withstand it, and, though it may shield itself from it in the cracks and crevices, on the plant which can be subjected to the force of water from a syringe its days are few. When a plant is infested (and all plants should be frequently examined to see that they are free of insect pests), I advise that it should be gone over where it stands, if this can be done, and if not, it should be removed with the least disturbance—not that the insects are likely to run, but they fall, and one dropped may soon cause a generation on other plants near which it falls; but if cleaned where it stood, if any drop, the insects will generally return to whence they came. I go over the plant leaf by leaf, scanning well every joint, and wherever a mealy bug is seen, or the cottony substance of the brood, it is taken between the finger and thumb, and this is after all the best cure; it is tedious, but sure. That done, remove the plant, and laying the pot on its side syringe the plant thoroughly,

turning it round so that it may have the force of the water directed against every part. The water should be heated to a temperature of 160°, and to every three gallons add a wineglassful of spirits of turpentine and 12 ozs. of soft soap. The solution should be applied at a temperature of 140°. This will destroy all the mealy bug escaping the hand-squeezing, but it is not applicable to all kinds of plants. Those with smooth hard leaves it will not injure, but those with soft hairy leaves it will destroy. Examples of plants which it will not injure are Gardenias, Ixoras, and Stephanotis, and those which it will injure are exemplified by the Gloxinias. In the case of soft hairy-leaved plants, the best method is to persist in the hand-cleaning, and syringing with water only at a temperature of 120°. Either persisted in will soon clear the plants of those pests—not that the insect may not return, which it assuredly will do if of long standing. It hides itself in the woodwork, plunging material, &c., and reappears when least expected.

This remedy may, perhaps, be known to everybody, but it is not applicable in every case, as it is impossible very often to remove the subjects, and the solution applied to them may drip on subjects it would injure. For individual plants it answers well, but for a house something different must be used. That something is guano, or the ammonia it gives off. The vapour of turpentine answers the same purpose, but it will destroy every leaf that has not ceased to inhale, and especially plants that do so largely, as Gloxinias, Achimenes, Gesneras, and all of their family, along with Vines, &c. The vapour arising from guano, on the other hand, is invigorating to all but a few, and to the latter, even, in less powerful doses. It is easy, however, to remove such subjects as Gloxinias, Achimenes, Gesneras, and Ferns, and with the house closed to scatter some of the best Peruvian guano on the floors, just covering every part; then sprinkle with water and keep moist. In about an hour the ammonia evolved will be sufficient to make it strongly apparent to the eye and nose. Let the guano remain on the walks as long as you please, keeping them moist, and in case of any mealy bug being found repeat the application; but I have not found it necessary to do so.

In addition to the guano on the floor, I put in each of the evaporation troughs (I have all the upper pipes troughed in all houses requiring a high temperature) a handful of guano, and stir well up, repeating the application every fortnight during the growing season, and this keeps off the mealy bug, and is useful against other insects, especially red spider, for which it is a remedy.

The value of ammonia to the cultivator is well known, and the greater benefit of natural watering as compared with artificial watering is in a great measure due to its presence in the one case, and absence in the other. I am persuaded that for sprinkling, for every three gallons used, 1 oz. of guano would be vastly superior, more beneficial than water only, which from its being drawn from a source deprived of its ammonia possesses no stimulating quality. Strained I consider it would be very beneficial for syringing plants. Having tried it but to a limited extent, I cannot say more than that it has a beneficial tendency similar to that of soot water, it is of an equally harmless nature as regards the foliage, and does not discolour paint, &c.—G. Abbey.

THE FOREST TREES OF HINDOSTAN.

Foremost amongst the crowd of leafy princes in ornamental beauty and commercial value stands the Ironwood tree of the Burrampooter valley, Mesua ferrea. Tall, straight, and symmetrical, it rears itself some 60 or 70 feet high, tapering upwards in its glossy green mass of waxlike foliage, beset with snowy, fragrant, golden-centred flowers of the Camellia character, its timber unmatched for weight and hardiness by any other in all the immense wildernesses of Ind, and its worth enhanced by its comparative rarity, for the axe has played sad havoc with the very partially-scattered groups to be met with at the present time. The dried flowers are sold as a perfume. There are certain conditions of soil, clime, and natural production which have hitherto baffled the zealous arboriculturist in his labours to propagate this beautiful wonder of the woods. I sent large quantities of seed to the Royal Botanic Gardens in Calcutta, and ill success appears to have attended all the attempts at introduction, besides the unavoidable catastrophe of those gardens being more than once utterly demolished by frequent hurricanes, known as "cyclones." When I was building a house in Assam, I succeeded in finding and felling some first-class ironwood timber, and when it was ready for use had to employ no less than three lusty elephants to drag each of the best specimens to my locality, a few miles distant, and they found it hard labour, too; the ground being soft and marshy, with no vestige of a roadway, all stumps, and bushes, and bogs, putting wheels or rollers quite out of consideration. Slowly and surely my mast-like logs found their way to my work! I will return to this little-known order of Garcinaceæ presently.

A rival in beauty and utility, though quite of another type, appears in profuse array, the gorgeous Lagerstrœmia reginæ—every spike of rose-red flowers enough to fill a market-basket. Grand in its regal bloom and stout in its growth, yielding durable though crooked logs, preferred by the Burmese for ship's "knees," and by the 'cute Anglo-Indian adventurer for the roof supports of his residence, this lovely tree attains a moderate size in cultivation, and flowers annually in the gardens of Lower Bengal.

On entering Central and Lower Assam, the European stranger is overpowered with admiration of the gigantic woodland scenery. As he ascends the noble Burrampooter, winding among ranges of little hills and grand mountains, he will with his telescope scan the interminable tracts of dark forest, and occasionally define its constituent "Sylva." Spreading over the lower country, his glass will, from the poop of the steamer, proclaim that here Shorea robusta is indigenous and paramount, its sombre and silent shade telling the well-known tale of death-dealing malaria, which has laid low many a bold hunter and brave botanist in the regions of heat and moisture, the combination so necessary to the life of this valuable timber tree, attaining its proudest dimensions here, and in the equally noxious atmosphere of the Nepaul Terai. The Government gun-carriages, the transport train, the military buildings, the warehouse of the merchant, the craft of the native boat-builder, all constructed of the heavy fibrous wood, supporting great strain and shock, while so heavy as to sink in water, and hence requiring rafts of bamboo and earthen pots to give it floatage in conveyance by river. Were it not for the annual conflagrations caused by the primitive custom of burning the old grass lands, India would at the present time have been indeed overstocked with this invaluable tree. Most of your readers may not be aware that dammar is the gum or resin of Shorea robusta, which is annually collected by woodmen, who pay a license for gathering forest produce—*i.e.*, charcoal, honey, beeswax, gums, and the flowers of Bassia latifolia for the distillation of spirits. I once visited a noble forest of this tree, the hereditary property of a Mahometan priest. It had evidently been tended and conserved by past generations, for the giants appeared as clean and regularly placed as in a recent plantation! I was allowed, as a special favour, to fell one of the monsters of the many hundreds standing in proud state, and found the timber very solid and mature. The grain of the wood is much like that of our English Elm. The railways have availed themselves largely of its comparative abundance and good qualities, and the Government conservators are keeping a strict eye upon the herdsmen and other incendiary tramps, to save the young seedlings (self-sown) from annihilation.

This is not the only precious individual in that remarkable order, Dipterocarpaceæ, for Vateria indica supplies that elegant resin known to commerce as East Indian Copal, closely resembling amber, and often containing flies and other minute natural objects. I have had beads and mouthpieces for pipes made of this substance, but it is too brittle for much handling. Combined with boiling linseed oil and a little pale dammar, it is in general use by carriage and house painters in the East as a varnish; while among the aborigines of Malabar it is manufactured into candles, which burn with a clear light, no smoke, and fragrant odour. This gum resin is highly electrical. Vateria lancifolia yields the incense used in Hindoo temples near the coast. Dipterocarpus lævis and angustifolius furnish the balsamic oil known as gurjun. An old tree will supply by tapping and charring 40 gallons in one season, but will soon perish; for this reason I presume the product is rapidly rising in price. I have found it a famous solvent for the most difficult soluble substances. The virgin forests of our north-east frontier and also Burmah are its localities, growing in the most dark and pestiferous jungles.

Cedrela species are superb timber producers, yielding the finest woods for cabinet work, the darker kinds being almost equal to mahogany, and taking an exquisite polish. The older the timber, the finer the grain and the darker the veins. This is the favourite wood of the cabinet-makers and house carpenters of the luxurious East. Such furniture as bedsteads, dining tables, chairs of every shape, sofas, cabinets, chests of drawers,

&c., are to be daily seen in all the splendour of French polish, and of the latest European designs; it is generally known as "Toon wood," and is very remarkable for its lightness, being only a little more heavy than deal, unless of the scarce mountain species, when its density increases, as its beauty also. This latter kind is rather rare in commerce, though so plentiful in the virgin forest of the upper Burrampooter districts; the reason being that no local saw-mills have yet been started, and the rapids are too heavy to raft such fragile logs; indeed, there are few woods can withstand the terrible grinding force of those vast cataracts, which not only smash gigantic trees into drift wood, but more frequently impound them for ever in some unapproachable cavern beneath the waves. In the vicinity of the great north-east rivers, the Upper Burrampooter, the Debong, and Dehong (the latter supposed to be the veritable Sampo of Tartary), the nomadic tribes have long ago felled and cut out into canoes all the specimens of this valuable tree, not only for their own use, but for barter with strangers and frontier traders in salt and cloth, their two chief desiderata. I obtained two or three of my own canoes in the rough after this fashion, the Toon wood boats being preferred by experienced hands for navigating the most dangerous waters, their elasticity and buoyancy rendering them more manageable than other timber. When on two expeditions into that remote highland country (N. latitude 26°) in 1858-59, I carried all my troops, and two mountain howitzers with their ammunition, and several days' commissariat, in these hollowed trees, the most primitive form of *cava trabes*, and by portage at the most difficult rapid of the Dehong, I reached my destination just fifteen miles beyond where the only European traveller, Lieut. Wilcox, had ever set foot. But few accidents occurred during the return voyage. Some arms and two or three canoe men were lost; in my own light and handy canoe I managed to rescue more than one man, and mine was the last boat to leave that inhospitable and treacherous country.

While traversing its wonderful forests I frequently came on some crumbling giant Cedrela, fallen and defunct from antiquity, and I well remember walking in at the base of the grand old relic of Nature and out at the upper trunk, with plenty of space overhead (I am nearly 6 feet high). I was always a canoe fancier, and possessed all the best that could be obtained. Two of these were fitted in "barbaric pomp," with ornamental roofs and screens of a particular leaf, combined with lattice of split bamboo and rattan, adjusted to form a sitting cabin and a sleeping berth; these were, of course, larger than usually met with. There was also a tiny cook boat, fitted with its clay hearth and the latest inventions of portable culinary utensils, from the sheet-iron stove for charcoal down to the newest toasting-fork, and the little craft had its store-boxes and bunks well freighted with commissariat. The most symmetrical of the lesser "dug-outs" I had selected for the fishing department; it was hollowed and fitted out under my own eye by two experienced "cutters," and then I added all manner of small angling dodges, and finally stowed away a spare steering paddle of tested Terminalia citrina (should this break all will certainly be ducked and bruised, perhaps drowned), with the best canoes and the best men money could procure. Not once in three years did I ever meet with a *contretemps*, though I dared anything and everything "in a hell of waters," which must be seen and encountered to be understood by the fireside Englishman. Now that the Forest Department has been thoroughly organised by Government, doubtless the Cedrelaceæ will be protected within our actual territory; but on the debateable hunting-grounds of the above nomadic savages poisoned arrows will ever be more plentiful than foresters!

In this valuable order of timber trees we have the satinwood of Southern India and Ceylon, yielding also a useful oil for painters; also Swietenia Mahageni, or mahogany tree, long introduced and partially acclimated; in fact, the first instance of this exotic seeding has just occurred at Madras. The cyclone in 1864 or 1865 destroyed one or more noble specimens in the Calcutta Botanic Gardens said to have been planted by the founder of the establishment, General Kidd, a century before. In a gale at Berhampoor, in Lower Bengal, a most promising beauty was blown down, and I was so lucky as to meet with a piece of the wood some time after. It had been sold by auction. Its grain was good, but colour so unusually pale that I had to employ very dark French polish in finishing my work, using plenty of dragon's blood.

There are still a few experimental trees at Berhampoor, planted in low alluvial ground, where they do not appear to make any growth. Then we have the fine Chickrassia tabularis in this family, scattered over the more rainy of our climates, for it is a moisture-loving tree, in large demand by the Calcutta upholsterers and cabinet-makers, being beautifully veined.

All this order contain a great amount of febrifugal property in their bark, their habitat being the most feverish localities, like the Cinchona and the Willow, both furnishing the potent alkalines quinine and salicine.—(*English Mechanic and World of Science.*)

THE PREPARATION AND PROPERTIES OF THE VARIOUS KINDS OF CHINESE TEA.

It is proposed to review the various stages and processes of growth and manufacture of Tea, as supplied by China to the civilised world, with reference to the medicinal and dietetic properties of the various forms of this "necessary of life." It is to the credit of the Celestials that, whilst they do not live under the strict rule of Islam, they have elected to confine themselves chiefly to the use of a drink which has commended itself to all sorts and conditions of men. In no other country is such a store of wealth drawn from the very leaves of trees as in China, where the Mulberry leaf furnishes silk for clothing, and the Tea leaf material for satisfying hunger and thirst.

The Tea plant of China, the Thea cantoniensis or Thea viridis of botanists, is not the same as that used in very remote periods by the people of the classical period. They probably used the leaf of the Chicory, as well as those of other plants still used in various parts of the country, such as the Willow, the Holly, the Sageretia theezans, and other plants.

Since the seventh century of the Christian era the growth of the Tea shrub has been sufficiently extensive to invite taxation by the Emperor, though to a much less extent than cereal crops, the chief dependence of the people of the "Middle Kingdom," the name by which China is known to its own people. The Tea shrub is met with in Hupeh province as a small, stunted evergreen bush, varying from 1 to 3 feet in height, and covered with a precarious growth of young shoots, bearing shining, ovate, pointed, and irregularly serrated leaves. It is grown on the hill-sides or terraces of such districts as have a red and rapidly disintegrating sandstone soil, where rice could not well be raised, from the difficulty of irrigation. The shrubs are renewed from young seedlings, after some ten years or so, according to the enterprise of the peasant grower. Formerly the bushes were renewed every five years, but the extraordinary and insatiable demand for Tea has led to the exhaustion of the plants, as anything in the shape of Tea is bought by the speculative and indiscreet foreign trader. The seeds are often abortive, from the damage done to the tree by the remorseless stripping of the leaves. The seeds require some peculiar treatment, such as the soaking in a prepared liquid, or in an artificial mould made of exhausted oilcake. Several seeds are placed together to insure the growth of a single seedling. The seeds yield a fixed oil, which is said to never turn rancid. The Tea oil known to foreign residents in China is the product of the seeds of the Camellia oleifera, a plant called by the same name (Ch'a) as the Tea shrub. The various kinds of Tea—namely, green, black, red, and brick Tea—are all produced by the same kind of shrub, which shows some slight tendency to variation in some such simple characteristics as the length of the leaf, &c. The leaves are picked at three or four periods of the year, commencing with the latter part of April. The bushes are finally clipped to make some of the brick Tea, and to encourage the growth of young shoots in the coming spring. The raw leaves are dried in the sun by spreading on mats, and the shrivelled product pressed and rolled by men, who stand in tubs, kneading the leaves into a ball with their naked feet. This operation gives the twist to the leaf, and removes superfluous watery juices. The Tea is seldom dried by fire by the small Tea growers, unless the weather be wet and the Tea liable to mould from the want of sun heat. It is stored in bags long enough to collect a quantity, and is then "fired" by placing it in thinnish layers on the convex diaphragm of a large hopper or basket, shaped like a dice box, with both ends open, which is put over a charcoal fire. The leaf is exposed to this heat (which never exceeds 212°, and is moderated by placing a thick layer of wood ashes over the fire) for about two hours, being stirred up several times, so as to heat the whole of it gradually and thoroughly. Processes of sifting, winnowing, mixing, and picking follow, and a final "firing," to get rid of moisture acquired during the manufacture, fit it for packing in chests. The stalks are usually rejected, as foreign Tea buyers do not like them. They contain all the properties of

the leaf, and are largely consumed by the Chinese. The Tea ought to undergo no change in the chests, which are carefully closed by soldering. The flowers of the Aglaia odorata, the Jasminum Sambac, the Chloranthus, and perhaps other plants, such as the Gardenia, are used to scent the Tea. Dried leaves of the Salix alba are used to adulterate Tea sometimes, but in the interior of the country such practices are commendably rare. Black Tea forms the bulk of the produce, and is preferred by the Chinese for ordinary drinking. Red Tea is made from the same kind of Tea shrub, and is of a brownish-black, rather than a red, colour. The infusion is certainly of a deep red colour, and this may be the origin of the name Hung-ch'a, or "red Tea," a name given to it by the Chinese. Green Tea is made in Hupeh to some extent by picking at the very beginning of the season the fine hairy summits of the youngest branches of the shrubs. Brick Tea is made from the clippings of the Tea bushes, the dust of black Tea, and from any other description of leaf. Odd stories about blood and other substances being mixed with the Tea leaf and dust are perfectly unfounded. There are "large green bricks" of the coarsest sort, "small green bricks" made of a better kind of Tea leaf, and "small black bricks" made from good Tea dust. The shape of the Tea which is used as a means of barter by the Mongol tribes is more like that of a tile than of a brick. In making brick Tea the leaves and dust are steamed, pressed in moulds of a uniform size, and carefully dried without access of the sun, or any other direct source of heat.

This Tea goes to the Siberian, Buriat, Tungous, Kirghis, and Mongol tribes, who chop it up with salt and butter, or koumiss, after exhaustion of the leaf in the ordinary way. The people of Thibet wisely add a little carbonate of soda to the water used in brewing their tea from slices of the bricks.

If two or three leaves be picked from a Tea shrub and chewed in the mouth, very little in the way of marked impression is made upon the sense of taste. A grassy, slightly bitter, but scarcely astringent flavour is brought out in the mouth. The peasants picking the leaf or passing through the Tea shrubberies are seldom seen to gather the leaf and partake of it, as schoolboys do of Bramble leaves in English lanes.

Prepared Tea leaf is, in fact, a very different thing from the raw, growing leaf of the shrub. Chinese Tea consumed in the country, and prepared by a single "firing," after drying in the sun, is also a very different article from the Congou Tea prepared for the English market. On this account, Chinese statements and experience are of no great use in determining the effects of Tea as consumed in western countries. Russian Tea, which undergoes no special preparation for the short overland journey which it has to make, is more like the Chinese native Tea in flavour. Foreign new Tea—that is, Tea prepared and still in China—is a very different article from the Tea when placed in the teapots of English villagers, after being conveyed in an iron ship through the tropics, in large quantities of some 90 lbs. or more. Tea is described in the Chinese pharmacology as cooling, peptic, exhilarating, rousing, both laxative and astringent, diuretic, emmenagogue, and in large concentrated doses as an emetic. It is used as a wash for sore eyes, ulcers, and wounds of all kinds. It is understood by Chinese physicians that the excessive use of Tea renders people thin, anæmic, and weak-sighted. Tea is taken by Chinese scholars and labourers to stave off the cravings of hunger until a convenient season arrives. Much of the so-called Tea taken by the common people in China is nothing but very warm water. Hot water is often taken by them in large quantities when threatened with colds, fevers, and other acute or chronic diseases, apart from considerations of economy. They regard it as antidotal, corrective, solvent, demulcent, dilnent, lenitive, stimulant, deobstruent, diaphoretic, diuretic, and lithontriptic in its effects. Such a dose is much more sensible than the inevitable "six-penn'orth of the best French brandy" which the English rustic gulps down in the emergency of pain or some other symptom. Experience has taught the Chinese that weak Tea is much better than cold and impure drinking-water. They are exceedingly particular as to the water used in Tea-making. They prefer the comparatively soft water of their large muddy rivers, so often swollen by rain and the melting of snow. They object to Tea made from lake water, as they consider it unwholesome and having a tendency to render the mind dull and slow.

It will be remembered that the leaf used in the making of Congou Tea (black) is first dried in the sun, and then compressed, so as to part with any superfluous moisture. This must lead to a concentration of the principles contained in the leaf. The Tea leaf is stored in bags, and generally subjected to a preliminary "firing" in addition to the formal "firing" previously described, in view of any delay which may occur during the collection of such large quantities as are necessarily prepared at one time for the foreign market. Certain chemical changes tending to the oxidation of the chemical constituents of the natural leaf must take place in the repeated exposure to a moderate heat, and during the storing together in loose heaps of the half-dried leaf freely exposed to the atmosphere. Nothing like fermentation ever takes place, as this would issue in the destruction of the leaf, which is carefully kept from becoming heated or mouldy during the process of making up the whole "chop." A kind of maturation occurs, issuing in the formation of more extractible matter, capable of solution and circulation. The final "firing" has something of the same effect upon the Tea leaf as the kiln-drying has upon the germinating Barley passing into malt—it fixes the composition of the Tea leaf, and renders any further change as unlikely as undesirable. The Tea leaf is then at its best, and any idea of ripening upon the voyage is simply absurd. It follows from the low temperature at which the Tea is dried that no empyreumatic products can be met with in properly prepared Tea. And yet there is a degree of austerity produced in the ordinary black Tea, which causes it to produce nausea, sickness, and diarrhœa when taken in the shape of a strong infusion prepared from the new spring Tea just ready for the voyage to Europe. This is especially the case with badly-secured leaf, which may be assumed to have been purposely exposed to a high temperature in order to fit it for the foreign market. All or most of those effects pass off by the time that the Tea reaches the foreign consumer. The more stable the Tea the better it will turn out. Any change on the voyage is for the worse, according to the experience of the most competent judges. Thirty pounds of the green leaf produce from 8 to 10 lbs. of the sun-dried leaf. One hundred pounds of the sun-dried leaf lose 8 lbs. of weight in "firing," and produce 10 lbs. of stalks, 15 lbs. of Tea dust, and the rest good marketable Congou Tea. New Tea produces in China laxative effects upon foreigners, as prepared for exportation. This effect is not permanent. As a rule, black Tea, under the same circumstances, has a decided diuretic effect, even in hot weather, when perspiration is abundant. It excites in many a strong craving for food, and causes a degree of sleeplessness. The narcotic effect of new Tea is asserted by Johnston in his "Chemistry of Common Things," but has never been noticed.

The large proportion of nitrogen in Tea, amounting to nearly 6 per cent., prepares us to find powerful properties in it. That Tea is a stimulant there can be no manner of doubt. This probably depends upon the presence of the theine, a soluble crystalline substance, which resists the moderate temperature at which the leaf is dried. The peculiar taste of green Tea falsely suggests the presence of more than the usual amount of that astringent principle which, in the shape of tannin, is present in about equal quantity in both the black and green Tea. The properties of Tea as an astringent are turned to account by the Chinese, who prescribe it in diarrhœa when acidulated with vinegar. Cold Tea, to which a small quantity of dilute sulphuric acid has been added, is an excellent diet-drink for use in hot weather when there is a tendency to diarrhœa. That the use of Tea to a large extent has a peculiar effect upon the nervous systems of both animal and organic life there can be no doubt. This is the reverse of a sedative influence. Some of the craving of the Chinese for opium is connected with their incessant drinking of Tea, especially upon an empty stomach. The effect of Tea is to excite, and this property may be turned to excellent effect in cases of opium-smoking and in uræmic poisoning. If good new Congou Tea be given in the latter disease, there is the additional advantage of the diuretic effects of the infusion. In all cases in which coffee is most to be prescribed, Tea is much more convenient, accessible, and powerful. It is obvious that the high temperature at which coffee berries are roasted must be fatal to the presence of much caffeine, a principle identical with theine. This latter substance has been recently proposed by Mr. Lewis Thompson (*Medical Times and Gazette* for February 10th, 1871) to be brought into use as a tonic remedy in typhoid diseases, neuralgic affections, and in senile gangrene. Large quantities of weak Tea, however, tend to the occurrence of sciatica and other forms of neuralgia. The experiments of Peligot seem to prove that, as might be assumed from the presence of so large a proportion of nitrogen, Tea is, as the Frenchman said of the coffee, both "meat and drink." Old women who boil their Tea leaves are right, for they thereby extract much more of

the theine. The antidotal power of Tea, so strongly insisted upon by the Chinese, is worth a trial, especially in cases of poisoning by tartar emetic or corrosive sublimate.

The use of Tea in certain forms of dyspepsia is a common Chinese practice. If taken as a plain drink between meals it seems to give tone to the stomach. It is obvious that the "Tea" of our domestic tables, a compound of milk, sugar, and much water, is not the article intended to be spoken of in these pages. The sooner *infusum theæ* is placed in the British Pharmacopœia as a recognised article of the Materia Medica, the more likely are we to place its employment upon a scientific basis, and thus to rescue a very important drug from the contempt of familiarity. A tincture of Tea is not a desirable preparation, as theine is only sparingly soluble in cold alcohol. An extract of Tea, carefully prepared, would be an excellent preparation for trying the effects of Tea in the delirium of fever and the stupor of intoxication.

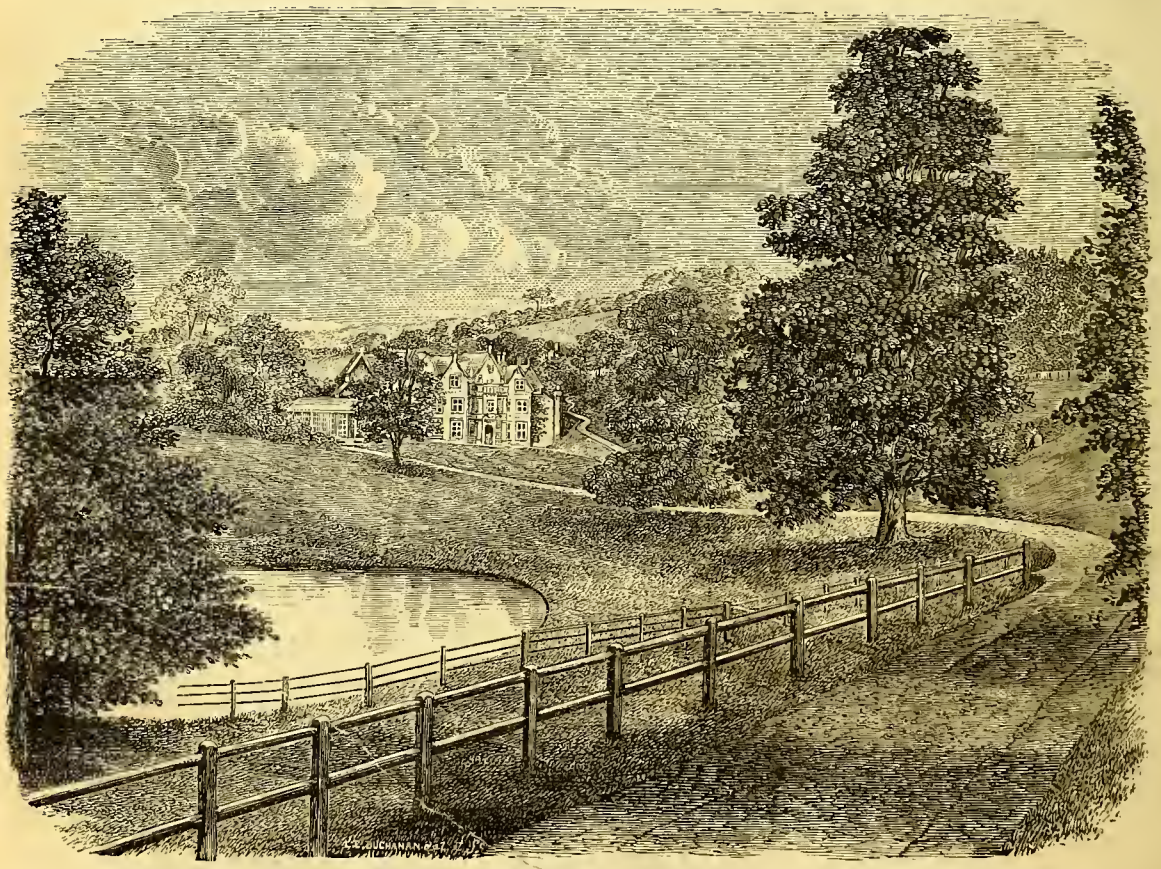
The Chinese are under the impression that foreigners are compelled by some instinctive necessity to send and buy the Tea of the land of "the Glory of Summer." Of the influence of Tea upon the sobriety of our countrymen and countrywomen there can be no doubt. When our poor people cease to waste their Tea leaves, and begin to eat them as a dish, like the people of Mongolia and Siberia, another important step will have been taken in the direction of completely utilising the properties of this most important article of diet and medicine.

Brick Tea might economically be introduced into use on board our ships of war, as it is cheap, portable, good, and much less perishable than ordinary Tea.—F. Porter Smith, M.B. (in *Medical Times*).

COMBE ROYAL.

"Who are you?" "Visitors to Combe Royal." "Ha! Ha!" Such was the query, reply, and final laugh which occurred at the door of the Maltsters' Arms, at Harbleton, where we pulled up on an 120°-in-the-sun day of this present month of August to give our horses a few mouthfuls of water. If our interrogator had been even a better authority than a parrot we should not have been deterred from proceeding to our destination, for we were assured by good judges that we should be well recompensed for enduring a drive of thirty miles under such a sunshine; those judges were right, without any reference to the specially excellent cider made in the parish.

That parish is West Allington, in Devonshire, about a mile from Kingsbridge. The manor was an ancient demesne of the Crown in the time of the Norman monarchs, if not even previously, and was given by King John to Alice de Rivers, Countess of Devon, but reverted to the Crown, and was subse-



quently granted by Henry III. to Matthew de Besils. Afterwards it was divided into various smaller estates, one of which was certainly "all that barton known as Combe Royal," for a barton was the demesne lands of a manor, and is named in an existing deed of the time of Edward III. This barton passed to various possessors until the Gilberts became its possessors, and one of the Gilberts of Holwell sold it in 1736 to an ancestor of the present proprietor, John Luscombe Luscombe, Esq. Luscombe is a truly Devonian name (and is Anglo-Saxon for "a valley of delight"), and the Luscombes of Luscombe, in the parish of Rattery, held there a knight's fee in the time of Henry IV., were residing there in 1630, and how much later we know not. The family were never ennobled, but they have always borne "the grand old name of gentleman," and we can add, from experience, that the Luscombe of the present fully sustains Westcote's character of the Devon gentry, "they are civil, affable, kind, and courteous to strangers."

Combe Royal undoubtedly was so named because part of the King's demesne, but it also merits the distinguishing epithet as one of the kings of the wooded valleys of the county.

The entrance-lodge is at one extremity of the valley, the house is at the other end, and the approach, as shown in our

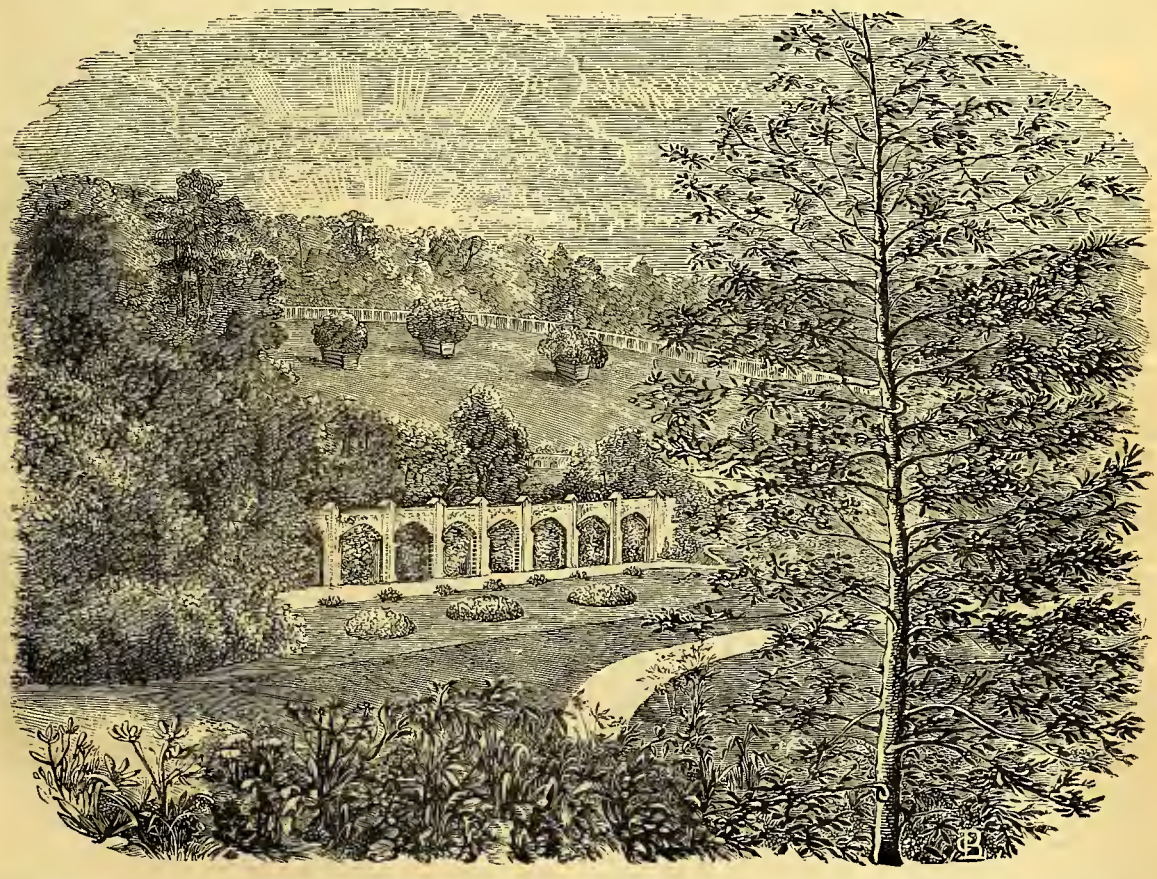
engraving, is by a road winding along the valley between the well-planted hills which border each side. Its situation is peculiarly adapted to the growth of exotic plants, as it is 280 feet above the sea level, and screened by hills from the prevailing south-west winds, and also from the north and east.

The successful culture of the trees of the Citrus family is a peculiarity of Combe Royal, as it is believed that the luxuriance and fruitfulness of the trees cannot be equalled in England, when it is remembered that no protection is afforded them beyond the walls on which they are trained, and the frames of wood or reed with which they are covered by night and partially by day, when needful, in the winter. One Seville Orange tree, from which vast quantities of fruit are annually gathered, is traditionally known to be 250 years old, from the fact that the grandmother of the present proprietor was told when a child by her grandfather, John Luscombe, Esq., that it was more than a century old when he became the possessor of the place. The Citron trees often produce enormous fruit, several having attained 17, 18, and even 19 inches in circumference. The Shaddocks, Lemons, and Limes are fine in proportion. No permanent injury has ever been done to the trees by the severest winters, except in 1859-60, when a vigorous Bergamot Lemon was killed, which at the time bore a fine crop of fruit, averaging 12 inches in circumference. A magnificent basket of Citrus fruit was in 1850 presented to the Queen, who, through Sir Charles Phipps, graciously expressed her surprise and admiration of their size and beauty, and sent Mr. Toward from Osborne to inspect the trees.

The orangery, or, as it might more justly be entitled, the citrusry, for it includes the best fruit-bearers of the genus, is on the side of the valley, has nearly a southern aspect, and is a recessed wall, as shown in our engraving. The recesses are all 11 feet high, but vary in width. That in which the Lemon is growing is 15 feet, that of the Citron 16 feet, and the six other recesses are 12 feet. All of them are 15 inches deep.

The occupants of these eight recesses are the Lemon, Bergamot, Citron, Seville Orange, Shaddock, Orange, Lime, and Mandarin Orange. Although the thermometer fell to zero last winter no injury was caused to any one of the trees, although their only protection was reed panels. When we saw them, ripening fruit was on all of them, and the healthy luxuriance of their foliage was most striking. Anyone about to erect such recesses for the culture of the Citrus genus would do well to have each 18 feet wide, for the need to prune back the branches in the Combe Royal recesses must increase the difficulty of securing the fruitfulness of the trees by avoiding over-luxuriance.

Perhaps one of the largest specimens of Acacia dealbata in England once ornamented the grounds. It was, unfortunately, broken down and uprooted by the weight of snow in an unusually heavy fall in December, 1859. It measured 54 feet in height, and the trunk was more than 5 feet in circumference. From the heart timber an ornamental drawing-room chair has



been manufactured. A very large species of Eucalyptus, a native of Tasmania, has stood the last winter well, and bloomed profusely in the spring of the present year, while Embothriums coccineum and lanceolatum have been gorgeous with their scarlet flowers, and Camellias prodigal of bloom. Desfontainea spinosa has done well, and Opuntia Rafinesquiana grows and blooms in the open air.

Many more plants, shrubs, and trees deserving notice must be omitted, but we will observe that the Datura arborea in the conservatory had four hundred of its noble flowers open simultaneously. In the open ground we saw specimens of Cycas, huge bushes of Camellias, species of Aralia, Bamboos from the Himalaya, Abutilon vitifolium, all of which endure the winter unprotected. We also noticed a deciduous Conifer, the name of which is doubtful. We think it is the Glyptostrobus pendulus, a native of China; at all events it is hardy at Combe Royal, and we should like to be certified of its name. We must note one bed of Phlox Drummondi in front of the conservatory. We never saw a bed of crimson, scarlet, purple, and pink flowers so brilliant. Beds of Verbenas on each side looked poor and paltry in comparison.

Almost equalling the orangery in interest is the American

garden, formed by the present proprietor in a branch of this "happy valley." Among a collection of other trees and shrubs it includes the Sikkim Rhododendrons received from Kew through the kindness of the late Sir William Hooker. Many of them are doing well. The strongest and most floriferous are Thomsoni, niveum, and Blandfordiæflorum; the latter produces its gay and peculiar blossoms in the greatest profusion, and the bushes of Thomsoni are gorgeous with their wax-like bells of the richest crimson. Being seedling plants they vary much, and several cannot be identified when compared with Dr. Hooker's exquisite drawings, or rather the plates from his drawings. This year the beautiful yellow Rhododendron Wightii flowered for the first time, but the blossoms were pure white; its foliage, however, is unmistakeable. Some of the more tender sorts—Dalhousiæ, Edgworthii, Aucklandii, Falconeri, and one or two others, will not endure the winter even at Combe Royal. The Japanese Rhododendron Metternichii has borne the severity of the two last winters well, as have five plants of the Himalayan R. cinnamomeum. The preceding winters have proved fatal to many large specimens of the true R. arboreum, two only having survived. The trunk of one of the defunct trees was measured recently, and found to be, a short distance above the earth, 3 feet 1 inch in circumference.

The recent proprietors of Combe Royal have been gardeners as well. As far back as 1812 a practice of J. L. Luscombe, Esq., for successfully raising cuttings of the Citrus genus was made known to the Royal Horticultural Society and approved by the then President, T. A. Knight, Esq. The same Society awarded him a Banksian medal for Oranges, Lemons, and Citrons exhibited in the April of 1827.

CHEMICAL POWERS OF THE SUNLIGHT.

The facts stated in an article under this heading, quoted in last week's Journal of Horticulture, if correct, must be erroneously attributed to the cause assigned. The author is obviously very imperfectly acquainted with the results of recent research into the constitution and effects of light, the influence of which upon vegetation has been the subject of many experiments, and the particular action of the different rays is now pretty well known. The various-coloured rays which compose white sunlight, as shown on analysis by the prism, are generally classed as the red (including the ultra red), the yellow, and the blue (including the violet and ultra violet) rays. The principal effect of the last, or blue rays, is chemical, actinic as it is termed, and chiefly influences the germination of seed; their illuminating and heating powers are smallest, instead of, as erroneously stated, their giving "the largest quantity of solar heat." The yellow rays, which have the greatest illuminating power, influence the growth of the plant, the decomposition of carbonic acid, and the formation of colouring matter. The red rays, the heating power of which is the greatest, influence fructification mainly.

As a ray of ordinary sunlight consists of rays of all the colours of the spectrum, the effect of blue glass is in reality to intercept the complementary rays—*i.e.*, the yellow, red, and ultra red, and it would consequently be more correct to say that the sun cast a diminished portion of yellow and red rays on every leaf in the grapery, instead of "cast a beam of violet light," as if the violet were an addition to instead of a component of the ordinary ray. If, therefore, the effect of violet-coloured glass should be to augment the growth of plants in the extraordinary manner stated, it necessarily follows that the influence of the other rays which are intercepted by the glass—*i.e.*, the yellow and red rays—is to diminish vegetation, which is quite inconsistent with all experiment.

These facts are perfectly well known to physicists and those conversant with vegetable physiology. The chief practical result in this direction of scientific investigation is the introduction for conservatories of a glass coloured greenish by the oxide of copper, which intercepts the excess of the red or heating rays.—Spectroscopist.

The Oldest Rose Tree.—The oldest of all Rose bushes is said to be one which is trained upon one side of the Cathedral of Hildesheim, in Germany. The root is buried under the crypt, below the choir. The stem is a foot thick, and half a dozen branches nearly cover the eastern side of the church, bearing countless flowers in summer. Its age is unknown, but documents exist which prove that the Bishop Hezilo, nearly a thousand years ago, protected it by a stone roof, which is still extant.

AUTUMNAL-FLOWERING CROCUSES.

Seeing the remarks of Mr. G. Abbey on these beautiful autumnal plants, I was surprised at the small list he gives of them. Among autumnal species I possess in addition to those named by him, C. Boryii, white, September and October; Pallasii, lilac, September and October; medius, violet, October; cancellatus, *var.* mazziaricus, white, October; pulchellus, pale blue, October and November; Scharajani, yellow, October and November. This last-named beautiful and scarce species is from Western Russia, and will be some years before it become plentiful. It is equal in beauty to the common large Dutch yellow. I possess about twenty-seven true species of Crocus.—Ebor.

NOTES AND GLEANINGS.

We have received from Messrs. Carter & Co. eleven sorts of African and French Marigolds grown at their seed farms in Essex. The Lemon and Orange African are remarkably fine both in size and colour, and their names are truly descriptive of their colours. Of the French Marigolds, Dunnett's Tall Orange is rich-coloured, and very double. The Double Gold-striped and Double Dark are also excellent varieties.

—— From a catalogue which we have received we find that the extensive horticultural collection of H. Laurentius, of Leipzic, is to come under the hammer. The sale is to commence on Monday, September 11th, and will be continued to October 1st. Herr Laurentius states that the cause of his parting with his plants is a seemingly incurable affliction which renders movement impossible, and after disposing of his new importations he intends to give up his business. There are 4125 lots, consisting of stove and greenhouse plants of all kinds, Ferns and other fine-foliaged plants, hardy ornamental trees and shrubs (including numerous Conifers), fruit trees, &c.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Thanks to Mr. Mechi for proving on a large scale the advantages which vegetables derive from the application of manure in a liquid state. When once the sewage water of towns can be brought economically to the surrounding lands and market gardens, a great improvement both in the quantity and quality of vegetables will be insured. In the meantime I wish to point out that individual houses, however small, as well as towns, have a sewage which, if conveyed to a tank, or to a similar contrivance where a tank would be too costly, and into which the dung of poultry and the smaller animals, soot, &c., which can nearly always be obtained, could be thrown, a valuable liquid compound would be obtained from a substance usually thrown away, and which when applied (diluted, of course, when too strong) to growing crops in the kitchen garden, will produce a marked effect on the produce. As a matter of course, when the dung of pigs and other animals is added, the tank must be on a corresponding scale, but the first object should be to convert to a profitable end matters usually lost, leaving the bulkier manures to be used when the liquid substitute cannot be so well applied. I have noticed that liberal waterings of the above are the best preventive of mildew in Peas and some other crops, which at this season usually suffer from it, acting, as I presume, by inducing a vigorous and healthy growth, and thus enabling the plants successfully to resist the attacks of disease. Attend to seedling and newly planted crops with water, and look over former directions as to bringing up any arrears which, more or less, generally occur in busy seasons. Keep a sharp eye on the larva or grub of a species of cockchafer, which at this season does considerable injury to newly planted crops by eating off their roots. Slices of Carrots may be stuck in the ground, where the insects will attack them, and may be destroyed. Take advantage of a dry day to earth-up *Celery*, which operation must at all times be performed with care, holding the leaves well together with the hand, so as to prevent the earth getting into the centre of the plant. Sow the principal crop of *Cauliflowers* for keeping over the winter. Sow also largely the most approved sorts of *Cabbage* for standing over the winter in nursery beds. Tie up both *Endive* and *Lettuces* to blanch. Pay due attention to the crops of *Onions*. Let them be removed from the soil as soon as they have ceased to grow, if left longer

than this they frequently become mouldy and do not keep so well; let them be spread out in a dry shed till fit for tying in ropes. Earth-up all advancing crops of *Winter Greens* and *Broccoli*. Run the hoe between the rows of Winter *Spinach* as soon as it is aboveground.

FRUIT GARDEN.

Remove the runners from Strawberry plants in pots, and set them sufficiently far apart that sun and air may have free access to their foliage. Gather *Tomatoes* as they ripen, and when they are backward and at the same time much in demand gather a few of the most forward and hang them in the stove; or, where there is not this convenience, place them in a frame, where they will soon ripen.

FLOWER GARDEN.

Besides keeping every part of this department in the neatest order, the propagation of the stock for supplying next season's demand will engross all the time and attention that can be spared. In all cases the number of plants which it will be necessary to provide should be noted down, allowing a wide margin for contingencies, losses, &c. The earlier-struck cuttings must be potted-off, and after they have become established place them out of doors in an open situation, bearing in mind that all the more delicate bedding Geraniums should well fill their pots with roots before winter, otherwise many will be lost. While propagation is proceeding attention must be turned to the amount of winter accommodation for them, which, whether in the shape of frames, pits, or larger structures, should be got in readiness to receive them before bad weather sets in. Continue to plant out Pinks as they strike root, bearing in mind that those which are put out now in the places where they are to flower next season generally lace much better than those planted in the spring. I would advise the growers to gather Pink seed forthwith, allowing it to remain in the capsule or seed vessel till wanted. Plant offset Tulips, and commence arranging the best bed for planting. Of course all careful growers have made the necessary remarks as to the state of the flowers last season, whether too high for their position in the bed, whether stained or out of character, &c. The amateur who is commencing may now have an opportunity of procuring fine sorts at a moderate cost, many extensive growers disposing of their surplus stock at very reasonable rates. I will name a few that are fine and should be grown by everyone, and, though cheap, are indispensable. In Bizarres: Leonidas, Pilot, Charles the Tenth, Captain White, Polyphemus, and Duke of Devonshire. Byblœmens: Thalia, Musidora, Princess Royal, Queen Charlotte, Chellaston Beauty, and Maid of Orleans. Roses: Heroine, Aglaïa, Catherine, Lady Jane Grey, Lavinia, and La Vandicken. These are most of the fine sorts for exhibition, and when in good character gems in any bed. Give Dahlias liquid manure once or twice a-week, and attend to disbudding, &c.

GREENHOUSE AND CONSERVATORY.

Continue to look over climbers, borders, &c. Large specimens which have been placed out of doors to provide room for other things, will soon require housing. This, however, will depend greatly on the weather. The earth worm is a greater enemy to pot plants in general than low temperature; every precaution must be taken to avoid its depredations. Look well to late-flowering plants. Late Heliotropes, Scarlet Geraniums, Petunias, &c., will now be somewhat potbound, and in that state, with the application of weak liquid manure, they will produce an abundance of blossom on a light shelf until the beginning of December. Lachenalias should be potted, and Persian Cyclamens, if planted out, will now be fine bushy plants full of young leaves. They should be taken up forthwith with all the soil possible adhering to them, potted carefully, and placed in a close frame or propagating house; a bottom heat of 75° would be an advantage, with a very moderate atmospheric temperature. After three weeks of this treatment they may be introduced to the greenhouse, where they will produce blossom in abundance from November until April. Where Camellias, Chinese Azaleas, and the Hybrid Indian Rhododendrons were not potted in the spring, and require shifting, the present will be the most favourable time, as the young wood is now becoming somewhat firm, and the flower-buds are perceptible. As this class of plants require water very liberally during one period of their growth, drain the pots well, and use very turfy peat and sand, adding an equal portion of fibrous loam for the Camellias.

STOVE.

Little fresh can be added here at present. Take every means in due time to harden, or rather ripen, the growth already made. Give air very freely indeed at all times, more especially when the warmth of the natural atmosphere ensures safety. Nevertheless, shut up abundance of solar heat with a good amount of atmospheric moisture early in the afternoon. Many of the earliest growths of Orchids showing signs of ripeness in the leaf, and plump pseudo-bulbs, may be removed forthwith from the excitement of the growing house. Any situation where a temperature averaging 60° or 65° by night can be insured, will suit them well; a very moderate amount of atmospheric moisture will suffice.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

The seeds lately sown have come up beautifully, and stand the weather well, as there is moisture beneath to keep the young plants growing. The last sowing of Cauliflower may be made at the beginning of September, as there will be no danger of that starting or buttoning too early. We have two sowings earlier. Lettuces, Cabbages, &c., rarely do much good if sown after the end of August, as they do not seem to have strength enough to stand the winter, though several times we have sown Lettuces on hard ground in the middle of September, and they have stood the winter well, and come in useful in spring. By hard ground we mean ground not dug, but merely loosened a little on the surface, and the seeds raked in or slightly covered. It is well to have the main sowings made from the 15th to the 25th of August. Between these days is a good time for sowing the main crop of Winter Spinach, as when up the plants grow rapidly in the warm autumn months. We watered Cauliflowers, late Peas, and some fine rows of Scarlet Runners, which, though yielding well, yet dropped more blooms than we wished to see fall. There was another reason for the dropping—a thick crop of fine Turnips between the rows, all wrong no doubt, but one hardly knows how to find room at times when the demand is large and a kitchen garden small. Let us remind those rather young in gardening that one pod on Scarlet Runners left to swell and ripen its seeds will exhaust the plant more than twenty pods gathered in a fresh young state.

FRUIT GARDEN.

We gathered a fine lot of Apricots, whilst many are still not ripe enough, and would not ripen kindly but for the fine weather. We also collected a good portion of a heavy crop of Morello Cherries for brandy, preserving, &c. We used to save these late on the trees for dessert. We question whether it is not better to gather them when ripe, and either brandy or bottle them at once. The Morello is no bad dessert fruit when the fruit is large and fully ripe, as some of ours have been. Grown under glass in an orchard house we have heard it pronounced delicious by good judges.

ORNAMENTAL DEPARTMENT.

Besides moving plants to make way for the changes and fresh arrangements to be effected in the conservatories, corridors, &c., of which, as well as fresh heating, we hope by-and-by to have something to say, we have been potting plants intended for autumn use, sowing Stocks, Mignonette, &c.; but the chief work has been an earnest commencing of *propagating* Verbenas, Heliotropes, Salvias, Geraniums, &c. Coleus should also be got in and established in small pots. Owing to want of room, we generally put in most of our cuttings in shallow wooden boxes, say from 1 to 1½ inch apart. The boxes are so open that they need no drainage. If we have a little very sweet, well-aired leaf mould without a trace of fungus, we scatter a little along the bottom, then we find nothing better than fresh sandy loam however poor. If too loamy we put a little drift road sand with the loam. This soil is passed through a half or three-quarter-inch sieve, the rough goes to the bottom of the box, and the finer, mixed with some fine charred refuse, is placed at the top, and a little road drift-sand covers the surface. We scarcely under such treatment have a gouty cutting, or any appearance of fungi, which make such havoc in boxes of cuttings when the spawn is introduced in half-rotten leaf mould and dung.

We are compelled to refer to previous numbers for many and minute definite particulars.—R. F.

TRADE CATALOGUES RECEIVED.

Sutton & Sons, Reading.—*Catalogue of Bulbous Flower Roots, Plants, Seeds, &c.*

William Paul, Waltham Cross, London, N.—*Bulb Catalogue*, 1871.

Edmonson, Brothers, 10, Dame Street, Dublin.—*Catalogue of Hyacinths, Tulips, and other Bulbs.*

F. & A. Dickson, 106, Eastgate Street, and Upton Nurseries, Chester.—*Catalogue of Dutch Flower Roots, &c.*

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (*A. Holden*).—"Johnston's Lectures on Agricultural Chemistry."

(*H. J. R. L.*).—The book was advertised in our last number.

Weigela (*Amateur, Cirencester*).—The correct pronunciation we believe to be Wi-gé-la. Your Rose seed may produce seedlings yet. It often remains dormant for a year.

Raspberries not Succeeding—Preserving Everlasting Flowers (*Probo*).—Your garden is probably too dry for the Raspberry. In its wild state it is found in woods in low moist situations. It succeeds best in deep, light, rich loam in a shady position. The best plantation of Raspberries we ever saw was in the south of Scotland, on the north side of a wall 14 feet high. Trench your ground 2 feet deep and manure it well. Cut the Everlasting flowers before they are over-blown, strip off all the leaves, tie the flowers up in bundles, and hang them up in a dry place.

Blotched Peaches (*A Subscriber*).—The blotches probably arise from a deficient supply of sap. Keep the roots well mulched during the summer, and water freely if the season be dry.

Slow-combustion Stove (*P. F. L.*).—The address is J. T. Mayell, 35, Litchfield Street, Soho, W.C.

Roses Among Ivy (*E. M. Rathgan*).—We can give you no encouragement in the attempt to grow Roses among Ivy. The roots of Ivy are such gross feeders they would deprive the Rose of every particle of food and moisture. The only Rose we ever saw hold a brief struggle for existence against Ivy was a Safrano. If a large and deep hole could be dug, and the sides slated, so as to prevent the Ivy roots getting into it, then, perhaps, Roses might do a little good for the time, and Gloire de Dijon, Jaune Desprez, Général Jacqueminot, and Maréchal Niel, all on the Manetti stock, would have as good a chance of succeeding as any other.

Swainsonia galegifolia (*Fair Play*).—It is a greenhouse evergreen.

Seedling Clematis (*J. Nelson*).—The Clematis is not superior to some of Messrs. Jackman's and Mr. C. Noble's flowers already in commerce.

Black Hamburgh Grapes not Setting (*J. T.*).—The probable reason of your Grapes not setting was a low temperature when they were in flower. Had you maintained a night temperature of 70°, with a proportionate rise by day, every berry would have set. At the date you mention, in many places the thermometer fell below the freezing point; we registered 35°. During the time the Vines are in flower do not allow too much moisture in the house; sprinkling the paths and surface of the border twice a-day is sufficient. After the Grapes are set, the night temperature of your house should be from 60° to 65°.

Vine Leaves Diseased (*C. Crofts*).—Unfortunately you have either red spider or thrips on your Cucumbers, we think both, though we do not see any, but we know the marks they leave. If you have only a few leaves affected, clear them off, and syringe strongly with clear soft-soap water of about 1 oz. to the gallon, follow next day with clear water at 100°, and then again, and again, with the soap water, varied by weak clear soot water. But if most of the leaves are affected, it might be better to clear out at once. On young strong plants the above remedy will generally be effectual.

Centaurea (*G. B.*).—You cannot do better than employ Centaurea ragusina candidissima.

Apple Trees under Glass Protectors (*Amateur*).—In addition to White Calville and Ribston Pippin, we would have Kerry Pippin and Cox's Orange Pippin, the Melon, American Mother, Newtown Pippin, Reinette du Canada, and Lord Burleigh. We have discontinued the culture of Apples under glass, as they were subject to mildew, and except the White Calville, and some of the American kinds, we thought they did quite as well out of doors.

Separating Strawberry Runners—Peach Trees Gumming (*Idem*).—As soon as the young Strawberry runners have firmly rooted into the soil they may be cut from the parent plant. If the shoots of your Peach and Nectarine trees have not been injured by tying too tightly to the wires, or by some other cause, we would look for the evil at the roots. Lift a portion of your trees this autumn, replanting them in turfy loam, and if this is successful you can remove one or more portions in the following year. Periodically lifting the trees if the subsoil is dry, at the same time keeping them free from aphis, red spider, and mildew, will prevent gumming, and the shoots from dying off suddenly.

Heating a Small Greenhouse (*Countryman*).—The neatest thing we saw for a small conservatory opening out of the drawing-room, was a tin kettle hollowed like a saddle-back boiler, the kettle holding three quarts of water, a tin flow-pipe from it, and a tin return-pipe into it of 1½ inch diameter, and two of these going round the floor of the house. The boiler was heated by a burner with six jets, and a frame like a lid of a saucepan fitted on the bottom of the boiler, with an opening for air, so as to confine the heat to the boiler. You would want more for your place. Could you not manage to have hot water easily from the kitchen boiler by making it with a fixed top and feeding it from the conservatory? One-inch pipes would do admirably for connecting the two places, and two 3-inch pipes would heat the place comfortably.

Erecting a Small Greenhouse (*A Reader, Leek*).—You will want a good consumption of gas for a place 12 feet by 10. The fumes from the gas must be carried outside. The tin boiler would do, but half the size you mention. Read an answer to another correspondent. The fumes of the oil lamp must be carried off as you say, and then we think you would be deficient in heat. Why not put up a small Rivers's brick stove with a flat top to it for a water-basin, and take the smoke-pipe into the wash-house chimney? and thus save all trouble about gas-burners and nil-lamps, for they will give trouble, and then you may defy frost and old Boreas besides.

Camellias Infested with Scale (*A. A.*).—The best mode of destroying the scale will be to pick off those not brown and hard with the point of a knife, and take those which are brown and hard between the finger and thumb and squeeze them; then wash the leaves and stems thoroughly on all sides with a solution of 4 ozs. of soft soap and a tablespoonful of spirits of turpentine in a gallon of water, and apply with a sponge at a temperature as hot as the hand can bear, or 120°.

Watering Peach Trees in an Inside Border (*Idem*).—It will not be necessary to water the border from the beginning of November up to February, or from the fall of the leaf to the swelling of the buds. When you want to force, the border should receive a copious watering, and should be kept in that condition throughout the growing season. At the commencement and close of this, not nearly so much water will be needed as when the trees are in active growth. For instance, a good watering being given when the buds begin to swell, another will not be required until the blossoms expand; then water when the fruit is fairly set, and about every three weeks up to the stoning, and every fortnight afterwards up to the swelling for ripening, and then every week until ripe. After the fruit is ripened off water every fortnight or three weeks, and when the leaves begin to fall discontinue watering. There is no good in dribblets; the supplies wanted are those which moisten the soil throughout. The Vine requires to have the soil moist when it begins to swell its eyes. We water inside Vine borders when we wish to start the Vines, when they are breaking, when in full leaf, when flowering, when the fruit is set and beginning to swell, and then every fortnight until the fruit change colour, and give the last watering ten days after that. There is no necessity to water Vines at rest. There is no book specially treating of the watering of Vines and Peach trees.

Colour of Greenhouse Inside—Wintering Caladiums (*A. D.*).—We presume you allude to the painting of the woodwork and the washing of the walls. The woodwork of the roof and all the sashed portion of the structure is best painted white, the stages stone colour, and all ironwork red. The walls are best limewashed, but they may be stone colour. Caladiums and Cannas should be kept dry in winter; they should not have any water, but it is well to stand the pots on a floor or other position whence they can derive slight moisture without being perceptibly moist. The tubers should be covered with soil, in which they may be stored. They will do in any place free from frost. We think the Caladium must be C. esculentum, for such as C. argyrites, Balleymei, Chantini, &c., require a stove, or not less than 60° in winter. A red Azalea is Mars, and a white one Fielder's.

Ivy against Painted Wall not Thriving (*A. C.*).—The nature of the Ivy is to cling. We do not see why it should not succeed against the trellis; but there can be no doubt that it would thrive much better if you were to remove the paint from the wall, and nail up the shoots as they advance, so as to cover the wall in every part. If the Ivy is on a south wall syringing in the evenings of hot days would do good, and a good watering in dry periods will do much to establish it. On a north, east, and west aspect the syringings will not be necessary.

Geranium Leaves Spotted (*G. K. P.*).—The leaves sent are badly spotted, in a great measure owing to the roots being inert in a sodden and too rich soil. Only water when the soil becomes dry, and then give a good supply. Use a compost of loam from rotted turves, light rather than heavy, and one-fourth of leaf soil, or old well-decomposed manure, with a sixth part of sharp sand. Afford good drainage, a position near the glass, and abundance of air. It will disappear.

Fruit of Cotoneaster microphylla (*Inquirer*).—We cannot say if it is either wholesome or poisonous. The smell of hydrocyanic acid is so strongly emitted by the plant that it raises a suspicion.

Roses for Growing near the Sea (*Idem*).—The Hybrid Perpetuals are the most suitable, and dwarfs either on their own roots or the Manetti are to be preferred. The following do well with us, and we are not beyond the influence of the sea breeze from the east:—Achilla Gonod, Alfred Colomb, Baronne Prévost, Beauty of Waltham, Camille Bernardin, Caroline de Sansal, Charles Lefebvre, Comte de Nanteuil, Duc de Rohan, Elie Moral, Eugène Appert, Gloire de Santenay, John Hopper, Lady Suffield, Louise Peyronny, Baroness Rothschild, Maréchal Vaillant, Paul Verdier, Pierre Notting, Princess Mary of Cambridge, Senateur Vaisse, Thorin, Victor Verdier, Xavier Olibo, and William Griffith.

Climbers for a South Wall (*Idem*).—Cloth of Gold, Lamarque, and Solfaterre, Noisette Roses; Climbing Devoniensis, and Gloire de Dijon, Tea-scented Roses; Clematis Jackmanni, C. Fortuni, Wistaria chinensis, Jasminum officinale grandiflorum, Ceanothus azureus, C. Veitchianus, Cydonia japonica, Escallonia macranthe, Garrya elliptica, and Embothrium coccineum.

Cotoneaster microphylla and C. buxifolia (*G. W. Briggs*).—We give you the description of both, which will enable you to determine each. C. microphylla, leaves oblong, blunt-ended, downy beneath, flowers usually solitary; C. buxifolia, leaves egg-shaped, woolly beneath, flowers two or three on each woolly stalk.

Lilium auratum Treatment (*Idem*).—The plant should be kept duly but not excessively supplied with water, and it may either have a warm position out of doors, or a light airy one in a cool house. When the stem turns yellow repot in a larger size of pot, and without disturbing the roots, merely removing all the soil that can be taken away without interfering with them. Afford good drainage, and a compost, rather rough, of light turfy loam two parts, well-rotted manure one part, and one part

sandy peat, with a free admixture of sharp sand. Pot so that the crown of the bulb may be from 1½ to 2 inches below the rim of the pot. Water gently, and place in a cold pit or house where protection can be given from frost. In spring remove it to a cool, airy, light house, and water so as to keep the soil moist, but do not deluge the soil with water, for nothing is so injurious. When the stalks are about 6 inches high top-dress with rich compost, and water copiously.

NADAL'S ENGINE (*W. M.*).—We do not know where you could obtain it. Refer to the advertisement.

PLANTING A BORDER WITH FRUIT TREES (*A Cottage Gardener*).—In the border 11 feet wide you will not have room for a row of Raspberries and two rows of pyramid Pear trees. The Pear trees would require all the space. You may plant them 2½ feet from the walk, and 6 feet asunder as you propose, omitting the Raspberries altogether, or you could have two rows of Raspberries alone, which should be put in at the same distance from the walk as the Pears, and 4 feet apart in the rows. Two strong or three moderately strong canes should be planted together. You will require thirty stools in each row, sixty for both, or 180 canes. The best Raspberries are Red Antwerp and Fastolf, size and quantity being the desiderata.

SOIL FOR BEDDING PLANTS (*Idem*).—The soil of your garden if a good light loam will make an excellent compost for potting bedding plants, adding one-fourth rotten manure, or, better, fresh horse droppings free of straw, one-fifth sandy peat, and one-sixth of silver sand and charcoal, the whole made into a heap and turned over frequently in frosty weather. It will be in good condition after it has been three months in the heap.

DESTROYING WASPS IN THEIR NESTS (*G. F.*).—You refer probably to the cyanide of potassium. Either that or carbolic acid poured into the nest at night, and the entrance then stopped up, would suffocate the whole of the inhabitants. A strong solution of the cyanide has usually a piece of lint 3 or 4 inches square dipped into it, and then placed inside the entrance.

POULTRY, BEE, AND PIGEON CHRONICLE.

DE OMNIBUS REBUS.—No. 3.

CROOKED breasts are among poultry torments. One cock among many has been noted on the chicken run, a little leggy it may be, but such a beauty; and at last he is to be handled. He is taken off the perch at night. Master and man are present: the former expects the latter to say, "He *is* a beauty, sir." Like our friend Lord Burleigh, he shakes his head and says nothing; but his silence is eloquent. The master takes the bird in his hand only to discover it has a very crooked breast. It is more than tiresome, and he says there must be mismanagement somewhere. The man says it is not his, and they part mutually dissatisfied. But there must be a cause for everything, and it should be the part of those who take an interest in the subject to go into it. We have nearly or quite half a century of poultry experience, and treat it as a question of perches.

Except in Turkeys, crooked breasts are not so common as they were some years ago, and that of a Turkey, far worse than that of a fowl, amounts to a real deformity. In a market it will take off a third of the value of a bird. Some people will not believe the perch has anything to do with it, and others say it is hereditary. We differ from both. To the first we say, Did they ever see a crooked-breasted Pheasant? To the second, Can they introduce us to a yard where the deformity is not a very small fraction of the number kept? The Pheasants choose their own perches, and good, kind, clever Dame Nature tells them what is good for them. While still poults they roost under or with their mother; then they jump on a small bough, but still close to the hen; as they grow older they perch higher, but on good-sized boughs, and near the trunk of the tree. They never perch on a small one, which requires them to hold it tight and to lean on it for support. A fowl never becomes crooked-breasted after it has arrived at maturity. The deformity is contracted in youth while the breastbone remains cartilaginous and impressionable, and takes the shape of the perch. Pheasants do not always perch. In many heath districts where they abound, and oak trees do not, they roost in the heath. In our poultry experience we have reared many thousands of chickens, hundreds annually. Many of our Brahmas and Cochins never perch; as long as they are chickens they roost in the rip with the hen. When they pass into the adult house, where perches are provided for them, they never use them, they perch on the ground in the corners.

A clever Game cock placed on the palm of the hand should balance; his legs put under him are spread out that he may stand when he wants to get up, but he does not want to clasp, and he rests on his feet. The Pheasant does the same on the perch. Nature tells him to have the trunk between himself and the wind, and instinct has taught him the broad arm of the bough close to it is the most natural and most secure roosting place. If he be disturbed he stands up, and takes his flight at once. Where birds are compelled to roost on improper perches they are seen to wobble; first they look as though they would fall down in front, then as if they would fall off backwards, at last they clasp with their feet, they gradually widen them till they rest on their breasts. Their feet prevent them from falling off, but they rest on their breastbones, which take the impress of the perch. It is not rest if the energies of the bird are to be taxed to maintain itself in security. That only is rest which is the entire cessation of all muscular action, when the feet are drawn up under the body and the toes are expanded, and they form, as it were, a layer so constituted as to supply a rest for the body in its natural position. Enough of perches; and there will be those who will say, "Enough of this paper." We forgive them; we are sorry for them; but if they will deign to follow Nature our occupation is gone. As they will not, we have to do it for them.

Moral. Follow Nature. Cochin-Chinas, and Brahmas, and Pheasants do just as well on the ground as on perches. Why do fowls seek the cross beams of barns, the eaves of out-houses, the mangers of an old cart-house, the calf pen that is not in use? Because there are old wide beams on which they can rest. Make your perches accordingly, and if your fowls prefer to remain on the ground, let them do so. See that their chosen rest is thoroughly cleansed every day. Hundreds of thousands of Pheasants are reared by hand every year; neither they nor their parents are ever provided with roosts.

Why did we choose our heading? Because we determined to treat of all our principal queries, and our next is the saving of food. When we are idly disposed we like to take down "Bewick." Who does not? Apart from the marvellous woodcuts and the correct description, the little tail illustrations are inimitable, and a fund of amusement and enjoyment. This morning we saw the representation of a very old man leaning against a wall to protect himself from the rain, while underneath was written—

> "Did youth but know what age would crave,
> How many a penny it would save."

All may not have, or may not read "Bewick," but we are not sure that the quotation will not bear a wider and better application than the feeding of poultry. At any rate, our limits this week afford no more space, and although we headed this "concluded," we think, seeing how closely we have kept to our text, we must, as Mr. Crummles says, have another "last night," and conclude in our next paper.

POULTRY-KEEPING UNDER DIFFICULTIES.

HOUSES AND YARDS.

I LABOUR under the same difficulties as Mr. Wright, but my arrangements are somewhat different; therefore, perhaps, a description may not be unacceptable to some of your readers. I keep only Buff Cochins; in fact, more than one breed in such a space is out of the question.

My space is 66 feet by 18 feet, and is enclosed by a 6-feet wall on one side, and 3-feet palings on the other, and across the ends. I have four houses and yards. The first stands in the bottom corner on the right-hand side, is built of brick, and measures 6 feet square, which I found built: to this I added a yard 15 feet by 13 feet. The next yard is 15 feet by 4 feet, and the next 8 feet by 3 feet, each having a house 3 feet square. The next and last is 13 feet by 8 feet, with a house 3½ feet square. These three houses are made of wood.

Each yard is enclosed by palings 3 feet high, 1¼ inch broad, and half an inch thick. Between the pales I have nailed a ceiling-lath to keep the birds from fighting and to make the yards warmer. One yard is entirely shaded; each of the other three has its shed, with the back to the sun, measuring 3 feet deep and 3 feet high. The width of two is 4 feet, the other 10 feet, and are covered with sacking gas-tarred, supported by pieces of wood an inch square. In the door of each house is a pane of glass 4 inches square, and a hole sufficiently large for the birds to go in and out. A flap covers each hole at night, which is raised to a horizontal position in the daytime by means of a piece of twine, to keep the rain from beating in. By means of gates two or three yards can be thrown into one. The floors of the houses and yards are composed of a layer of ashes 12 inches deep, and a layer of gravel of the same thickness from a lime pit. The gravel is turned up about six times a-year.

Outside the yard is a coop, 3 feet by 2 feet, into which I put broody hens, by which means they are always cured in three or

four days. Each house is furnished with moveable perches about 6 inches high and 4 inches broad. These are not introduced into the chicken houses till the birds are about six months old. The remaining space—47 feet by 18 feet—is grass, except the gravel walk, which is 3 feet wide. The droppings are removed from the houses, yards, and grass daily. This I find as little trouble as doing it once or twice a-week; besides, the droppings are not then trodden into the ground. By these means I keep my birds perfectly clean and healthy. I have lost but one adult bird in four years. I never lose more than one chicken or two in a season, and those have been weakly, and have died when they were a week or two old.

I keep six hens and a cock, and rear about thirty chickens, and I prefer this number to a greater. As proof of condition I may mention that I have never exhibited till the last two or three weeks, and my best birds have taken the first prize on each occasion (five); and I had not to wash a feather. The grass, which Mr. Wright mentions as a "difficulty," has been laid about three years, and is in excellent order. If the turf be laid in November and the birds be kept in their yards for a month or six weeks, using the besom freely in the meantime, it will have a good start. The chickens will not suffer much from their confinement at six months old. After this, if any particular spot be attacked, water it well and frequently, and drive a few pegs in, leaving the ends 3 or 4 inches out of the ground. The chickens are on the grass during the whole of the day, except an hour when the old birds take their turn. They do not require any other green food either in summer or winter, in fact they refuse it. This week I sent away a pullet four months old that weighed 5 lbs., and I have one or two which would weigh rather more, I think. I have reared some large birds in this space: one which I have, the cock, I bought when he was four months old, and he is fifteen months old now, and weighs about 13 lbs. The brick house, wall, and paling enclosing the space I did not pay for: the rest cost me under £5.—W. J. Peace, *Driffield.*

[We shall be obliged by the further notes you proffer.—Eds.]

PRIZES FOR POULTRY REARED BY THE WORKING CLASSES.

"H. J. O.'s" letter opens a new field for usefulness, by pointing a way to encourage those who rear poultry under great difficulties. Whatever is done under circumstances which preclude many from any attempt, and under which fair success is achieved only by very great trouble, is worthy of special notice, and if possible reward. It is a custom in some of our country shows to have prizes for poultry reared in the district, but I am not aware of any case where rewards are offered for the birds reared by the working classes resident in towns. "Expel Nature by a pitchfork, and yet it will return," said an old proverb in our school Latin Delectus, and here is a proof of its truth. A love of poultry must surely be expelled when an artisan or working man has been obliged to shift his quarters to London, or some large town; but no, it will not be expelled. It is a case not dissimilar to the love of flowers, still keeping its hold even up a London court. Fancy, as "H. J. O." writes, a man taking "a long journey after a root of grass, or a handful of leaves," and striving, and at last succeeding, by dint of industry and effort, in raising his chickens to maturity. Such a man does deserve a prize card or a medal to hang up in his house, a few shillings in his pocket.

There is another view in which this subject may be regarded. I hold strongly than any cause which brings different classes of the community into friendly intercourse, is a good cause. People frequently think ill of each other from no other reason than that they do not know each other. Class prejudices have often no other source. If the working men could but more frequently meet the gentlemen (often as laborious workers as themselves), both classes would be the better. The German bond is a love of Fatherland; and now in England I long to see a mutual esteem grow up among men in different spheres; such once felt would make men trust each other, and then love each other. I think with this in view as one motive, the suggestion in "H. J. O.'s" letter should at least have a careful consideration from the committees of our shows in large towns. I think, too, this foreshadowed plan would cause the working classes to frequent the shows in larger numbers. This would be well, as an extension of wholesome recreations for workmen is what we all desire; increase these and the temptations of the publichouse will be lessened. Nothing I should like better than to see pens filled with birds reared under the greatest difficulties, and the class who reared them looking on and enjoying themselves.—Wiltshire Rector.

POULTRY EXPERIENCE PURCHASED.

Some years ago I had a couple of fowls presented to me quite unexpectedly, when my knowledge of poultry consisted entirely of neatly dissected parts nicely roasted, as a leg, wing, or part of the breast, and in that benighted condition (we did not subscribe to a "Poultry Chronicle" in those days), I treated them very much the same as Mr. L. Wright describes in his very amusing letter last month. They lived in a small paved yard, had plenty of hot sun and cold water, with barley *ad lib.*, and I thought they were very ungrateful to pine and die in the face of such good treatment. Not so soon discouraged, I purchased some more—just to please the children, I said—studied attentively the poultry part of your Journal, while my liege lord carefully perused the gardening operations, and by that means I discovered that other means were requisite and necessary for their welfare. I allowed them half our small town garden, and for a time (spring time), all went on swimmingly, until I was afflicted with an unconquerable desire for White Cochins. Their snowy-white plumage and pretty intelligent faces so completely took my fancy that I did not rest until I was possessed of some of the best I could buy. I durst not tell what they had cost, for even I thought it an awful lot of money. But, alas! alas! before I had had them a fortnight they no longer deserved the title of White Cochins. They moped about, seemed lame, and troubled with perpetual diarrhœa, wasted to skeletons, and finally gave up the ghost, leaving the cock to mourn his untimely loss, and me, their mistress, to moralise upon the vanity and uncertainty of human pleasures in general, and the keeping of White Cochins in particular.

The cock I put in the run with the common hens by way of consolation, and then by selling the eggs laid by a sort of Silver-pencilled Hamburgh, I had a flock of black and yellow chicks slightly feathered in the legs, that commenced laying last January. I set the eggs, and was very successful with early birds; but as the summer advanced, one by one they have died. More than twenty have I lost in three months, and only those hatched from the cross of Cochin and Hamburgh. They first appear lame, and sit about, rising only to feed, which they do till the last greedily, although there is not a particle of flesh on their bones. On opening them the liver is soft and pulpy, and it, with the whole of the entrails, is covered with hard yellow lumps about the size of a large pea or nut. The heart and gizzard are always healthy. What am I do to prevent this vexatious disease? I feed them in the morning with the best barley mixed with good wheat, scraps from the kitchen, and barleymeal wetted with water from the swill tub in the evening. We have removed to the country, and they have a large yard with the run of the road and stables, though they do not get so much grass as I could wish.

This year I am "going in" for Dark Brahmas, so strongly recommended by your correspondents, and I have a few very promising birds, which I keep separate by shutting them in the large gardens (but they make dreadful raids on the young cabbage plants and neglect the lawn), and it is for their sakes I trouble you for your opinion. Is that disease peculiar to Cochins (and I suppose the Brahma is a kind of Cochin), or is it caused by any treatment of mine—such as overfeeding, &c.? I have searched through all the back numbers, and though I find something similar, I do not find the disease exactly as I describe it.—T. K. L.

[We are almost wicked enough to be glad that the Cochins died, since they are the cause of our receiving your clever and interesting letter. The disease you mention is not of common occurrence, nor is it peculiar to Cochins. Cocks are never attacked by it; hens are when they are improperly and overfed to force them to lay. We have never known it to be hereditary, and cannot conceive why your fowls have it. We do not quite understand the nature of their run—a large yard, with the run of the road and stables, but not much grass. We must therefore go to generalities. We have the highest opinion of the Brahmas. They are hardy in constitution, pleasing in appearance, good layers and sitters, and good mothers. They are not large eaters. Like all fowls, the more range they have the better, but they will bear confinement well. They will do even in a small pen. As our object should be to keep them as well as possible, we should try to provide them in confinement

with those things they would find at liberty. Let them have a supply of lettuces that have gone to seed, and of refuse vegetables. Let them have large sods of growing grass, cut with plenty of fresh earth; road grit if it can be had. Feed them morning and evening with ground oats or barleymeal, the former preferable, slaked with water or pot-liquor. In the middle of the day barley and house or table scraps. If you do this we will warrant you healthy birds, and such, if they are well seen to, are profitable, inasmuch as they afford nice food and healthy amusement at small cost.—Eds.]

BURNLEY POULTRY SHOW.

This was held on the 19th inst., and was confined to birds of this year.

Game.—*Black or Brown Reds.—Cockerel.*—1, Miss J. A. Aykroyd, Eccleshill. 2, T. Dyson, Halifax. *hc*, R. Payne, Brierfield, Burnley. *Chickens.*—1, R. Payne. 2, Miss J. A Aykroyd. *Any other Variety.—Cockerel.*—1, Miss J. A. Aykroyd. 2, Brentnall & Kyte, Nottingham. *Chickens.*—1 and 2, Brentnall & Kyte.

Spanish.—*Chickens.*—1, J. J. Booth, Silsden. 2, H. Wilkinson, Earby.

Dorkings.—*Chickens.*—1, E. Leech, Rochdale. 2, J. Watts, King's Heath, Birmingham.

Cochins.—*Chickens.*—1, C. Sidgwick, Keighley. 2, E. Leech.

Hamburgus.—*Golden-spangled.—Chickens.*—1 and 2, H. Pickles, jun. *Golden-pencilled.—Chickens.*—1, T. Wrigley, jun., Tonge, Middleton. 2, H. Pickles, jun. *Silver-spangled.—Chickens.*—1 and 2, G. & J. Duckworth, Church. *Silver-pencilled.—Chickens.*—1 and 2, H. Pickles, jun. *Black.—Chickens.*—1 and 2, C. Sidgwick.

Brahma Pootras.—*Chickens.*—1, T. F. Ansdell, St. Helen's. 2, H. Bell, Burnley.

Game Bantams.—*Any colour.—Cockerel.*—1, T. Sharples, Forest Bank, Rawtenstall. 2, Ellis & Buckley, Accrington. *Black or Brown Reds.—Chickens.*—1, T. Sharples. 2, T. Barker, Burnley. *Any other Variety.—Chickens.*—1, Bellingham & Gill, Woodfield, Burnley. 2, T. Dyson. *Any other Variety except Game.—Chickens.*—1, H. Pickles, jun. 2, C. Sidgwick, jun., Skipton.

Any other Variety.—*Chickens.*—1, H. Pickles, jun. 2, H. Bowker, Hill Top, Keighley (Silver Polands).

Ducks.—*Aylesbury.*—1, E. Leech. 2, J. West & Co., Worsthorne. *Rouen.*—1, Edmondson & Wright, Barnoldswick. 2, E. Leech. *Any other Variety.*—1, C. W. Brierley, Middleton. 2, N. Grimshaw, Burnley.

Geese.—1, J. Houlker, Revidge. 2, E. Leech.

Turkeys.—1, E. Leech. 2, J. Houlker.

PIGEONS.

Carriers.—*Cock.*—1, T. Waddington, Fenniscowles, Blackburn. 2, J. Stanley, Salford, Blackburn. *Hen.*—1, J. Stanley. 2, W. Cannan, Bradford.

Pouters.—1 and 2, E. Horner, Harewood.

Tumblers.—*Almond.*—1, F. Moore, Burnley. 2, E. Horner. *Mottled.*—1, F. Moore. 2, E. Horner. *Any other Variety.*—1, W. Cannan. 2, F. Moore.

Barbs.—1, E. Horner. 2, J. Stanley.

Owls.—*English.*—1, W. Cannan. 2, A. G. Wilding, Burnley.

Trumpeters.—1 and 2, E. Horner.

Jacobins.—1 and 2, T. Waddington. *hc*, H. Yardley, Birmingham; E. Horner.

Fantails.—1, E. Horner. 2, J. F. Loveridge, Newark.

Turbits.—1, W. Cannan. 2, E. Horner.

Antwerps.—1, H. Yardley. 2, J. W. Collinson, Halifax.

Dragoons.—1, L. Byron, Blackburn. 2, T. Waddington. *hc*, J. Watts, King's Heath, Birmingham.

Any other Variety.—1, E. Horner. 2, W. Kitchen.

Rabbits.—*Spanish.*—1, J. Boyle, jun., Blackburn. 2, J. Irving, Blackburn. *Silver-Grey.*—1 and 2, S. G. Hudson, Hull. *Himalayan.*—1 and 2, J. Boyle, jun. *Any other Variety.*—1, J. Baron, Castlemere, Rochdale (Angora). 2, A. S. Easten (Angora). 3, J. Boyle, jun. (Angora).

Judges.—Mr. H. Smith, Mr. Douglas, and Mr. Tate.

STANNINGLEY AND FARSLEY POULTRY SHOW.

The second Show of this Society took place on the 26th inst. Although the prizes had been enhanced in value since last year, the entries were not numerous, but the birds shown were good. The cup was awarded to a good pen of Buff Cochins. In Game *Bantams*, Duckwings of promising quality were first and Brown Reds second; and in the Variety class for Bantams, Black was first and White second. Both prizes in the Duckwing Game class went to chickens.

No part of the Show was better than the *Rabbit* classes, the animals both measuring well and showing high development in shape and style. The medal for Rabbits was won by a splendid Yellow doe 22 inches by 4¼ in ear, large, well-shaped, and in the highest condition and fur.

In *Pigeons* Pouters won the cup, and the entries in all classes were good, the prizes being closely contested. The first-prize Black Carriers were a promising pair of young, and the second prize went to Duns. For Turbits the first were Yellows with spike heads, and the second Blues with shell crowns, and Blues won both prizes in Dragoons. Antwerps were a large class, and many more prizes might have been dispensed most deservedly. The Fantails and Owls were of great merit. In the Variety class Mottled Trumpeters were first and Swallows second. A pen of White Barbs containing the most extraordinary cock bird of that kind we ever saw, was very highly commended.

Spanish.—1, H. Beldon, Bingley. 2, J. Powell, Bradford. *hc*, W. Pickard. Thorner; J. Thresh, Bradford.

Cochins.—1, and Prize for best pen of poultry, H. Beldon. 2, H. C. & W. J. Mason, Drihglington. *hc*, T. Waddington, Blackburn.

Brahma Pootra.—1, H. Beldon.

Dorkings.—1 and 2, T. Briden, Earby. *hc*, W. Malton, Bowling.

Hamburghs.—*Silver-spangled.*—1 and 2, H. Beldon. *Golden-spangled.*—1 and 2, H. Beldon. *Silver-pencilled.*—1 and 2, H. Beldon. *Golden-pencilled.*—1, A. Smith, Northowram. 2, J. Smith, Bingley. *Any other Variety.*—1, H. Beldon. 2, J. Smith.

Bantams.—*Game.*—1, W. F. Entwisle, Cleckheaton. 2, J. Oldfield, Shibden. *hc*, A. Smith. *Any other Variety.*—1, S. & R. Ashton, Roe Cross. 2, H. Beldon. *hc*, J. Walker, Halifax; T. Waddington, Fenniscowles.

Any other Variety.—1, H. Beldon. 2, T. Waddington. *hc*, T. Waddington; W. Binns; W. Johnson.

Ducks.—*Rouen or Aylesbury.*—1, G. Wood, Stanningley. 2, J. Ward, Drighlington. *Any other Variety.*—1 and 2, W. Binns, Pudsey.

SINGLE COCKS.

Game, or Game Bantam.—1, W. Johnson, Idle. 2, W. Fell.

Game.—*Red.*—1, Miss Aykroyd, Eccleshill. 2, W. Johnson. *hc*, W. Adams, Ipswich; W. Fell. *Any other Variety.*—1, Miss Aykroyd. 2, J. Fell, Adwalton.

PIGEONS.

Carriers.—1, T. Waddington. 2, W. Cannan, Bradford. *hc*, W. Lund, Shipley.

Pouters.—1 and cup, for the best pen of Pigeons in Show, W. Cannan. 2, H. Yardley, Birmingham. *hc*, W. Cannan.

Tumblers.—*Short-faced.*—1, J. Braid, Cambridge. 2, W. Cannan. *hc*, H. Yardley. *Long-faced.*—1, W. Cannan. 2, J. Lishman, Bradford. *hc*, H. Yardley; W. Cannan.

Turbits.—1, W. Cannan. 2, W. F. Pickard. *hc*, W. Cannan; W. Lund; J. T. Lishman; J. G. Dunn, Newcastle.

Dragoons.—1, J. Lancaster, Baildon. 2, W. H. Mitchell, Birmingham. *hc*, J. W. Ward, Stanningley; J. Cundle, Copt Hewick.

Antwerps.—1, J. W. Collinson, Halifax. 2, H. G. Poole, Bradford. *hc*, J. W. Collinson.

Jacobins.—1, J. G. Dunn. 2, W. Cannan. *hc*, H. Yardley; T. Waddington; H. G. Poole.

Fantails.—1 and 2, J. F. Loversidge, Newark. *hc*, H. Yardley; J. Walker, Newark; T. Waddington; W. Cannan.

Owls.—1, W. Cannan. 2, J. Hawley, Bingley. *hc*, H. Yardley; R. Esam, Newark.

Any other Variety.—1, J. Cundle. 2, J. T. Lishman. *hc*, T. Waddington; W. Cannan; W. Lund; H. G. Poole; J. Hawley.

RABBITS.

Yellow, White, and Tortoiseshell.—1, H. Cawood, Thorne. 2, R. Esam. *hc*, S. Greenwood.

Black and White.—1 and 2, J. Springthorp, Stanningley. *hc*, J. Page, Headingley.

Self-coloured.—1 and Medal for best Rabbit exhibited, H. Cawood. 2, R. Esam. *hc*, W. Rudd, Undercliffe; H. Beanland, Bradford.

Grey and White.—1, W. Rudd. 2, H. Beanland.

Doe and Young Ones.—1, J. Pennington, Stanningley. 2, A. Tankard, Bradford.

Judges.—Mr. E. Hutton, Pudsey, and Mr. Dixon, Bradford.

RYHOPE POULTRY SHOW.

This was held on the 28th inst. in a large field in the suburbs of Sunderland, and although a small exhibition took place last year, this may be fairly stated to be the first real Show. Considering this fact, it is surprising that the arrangements were so complete, and young as the Society is, we are glad to be able to record an innovation which might be copied with advantage by older societies. In front of the pens—on Turner's principle, which were obtained from Sunderland—and at the distance of about a yard, a line of posts and railings were erected about breast high. No one was allowed within this enclosure, and the crowding in front of the pens, which in some cases becomes positively unpleasant, was altogether prevented.

Dorkings were first on the list, and the winners were large-framed birds; but the *Cochins*, with the exception of a pen that arrived too late for competition, were not in good bloom. Some fair *Brahmas* were shown, as also *Spanish*, but the cup for the first section fell to the lot of an excellent pen of Silver *Polands*. *Game* were shown in the largest numbers, but many of them were out of feather, although the classes presented plenty of quality, and the cup for this section was awarded to a sturdy-looking Brown Red cock. With the exception of the Red Game *Bantams*, no other class called for special notice, bnt this was the best class in the Show, many of the birds being very fine, and the cup, which was won by adult Black Reds, was very keenly contested, and two extra prizes were awarded.

Dorkings.—1, Buglass & Williamson, Durham. 2, Miss S. Storey, Dudley. *hc*, J. White, Warlaby, Northallerton.

Cochins.—1 and 2, G. H. Proctor, Durham. *hc*, J. H. Redman, Whithy.

Brahmas.—1, J. Nesam, West Sleekburn Colliery. 2, Dowell & Simpson, Bishopwearmouth. *hc*, A. H. Banbery, Langton, Northallerton; R. Moore, East Rainton.

Spanish.—1, W. Bearpark, Northallerton. 2, W. Atkinson, Bishop Auckland. *hc*, W. Maddison, Gateshead; J. G. Milner, Bellerby; W. Jaggs, Blyth; H. Wilkinson, Earby.

Polish.—1, W. Bearpark. 2, Buglass & Williamson. *c*, Buglass & Williamson; Miss Stephenson, Wolviston.

Barndoor Fowls.—1, O. A. Young, Driffield. 2, J. B. Bowman, Ryhope. *Any Variety.*—1, W. Bearpark.

Game.—*Any variety.*—Cup, T. Robson, Bishop Auckland. 2, Miss M. Aykroyd, Eccleshill. *hc*, J. Brough, Carliele; J. Hardy, Bishopwearmouth; W. Rodgers, Sunderland; W. Bearpark. *c*, J. W. Corbett, Seaham Harbour. *Black-breasted and other Reds.*—1, J. Brough. 2, W. Bearpark. *hc*, T. Robson. *Any other Variety.*—1, W. Bearpark. 2, J. Brough. *hc*, J. Robson; — Mulley, Sunderland.

Hamburghs.—*Golden-spangled.*—1, W. Bearpark. *Silver-spangled.*—1, W. Whitfield, Hetton-le-Hele. *hc*, Buglass & Williamson. *Golden-pencilled.*—1, R. Moore. *hc*, W. Whitfield. *Silver-pencilled.*—1, W. Bearpark. 2, R. Moore. *hc*, W. Whitfield.

Bantams.—*Any Variety.*—1, J. Ferry, Cowpen, Morpeth. *Any other Variety except Game.*—1, J. Ferry. 2, H. H. Thompson. *hc*, O. A. Young; J. Cartwright, Bishop Auckland; H. H. Thompson.

Game Bantams.—*Black breasted and other Reds.*—1 and Cup, G. Hall, Kendal. 2, W. Atkinson. 3, T. Mallen, Sunderland. 4, W. Rodgers, Sunderland. *hc*, G. Todd, Sunderland; R. Youll, Sunderland. *c*, Bellingham & Gill, Burnley, Leeds. *Any other Variety.*—1, Bellingham & Gill. 2, D. Hunter, Sunderland. *hc*, J. Ferry; G. Todd; G. Hall, Kendal.

Ducks.—*Aylesbury.*—1 and 2, T. Wood. *Rouen.*—1, Buglass & Williamson. 2, J. G. Milner. *Any other Variety.*—1, J. G. Milner. *hc*, Mrs. T. S. Bramwell, Newcastle; O. A. Young.

Guinea Fowls.—1, O. A. Young. *hc*, W. Bell, Hetton-le-Hole.

Selling Class.—1, W. Whitfield. *hc*, J. G. Milner; J. N. Lawson, Ryhope.

Judges.—Mr. E. Hutton, Pudsey, and Mr. J. Simm, Cramlington.

Golden-pencilled Hamburgh Hen Incubating.—I sold a nest of eggs to a friend of mine. He sold a pullet from the brood to Mr. H. Colman, of this town, which began to lay the first week in January last, and continued laying until about five weeks since, when for a day or two she kept her nest and

appeared broody. Eight of her own eggs were put under her. She sat as closely as could be desired during the three weeks of incubation and has hatched seven chickens, and now bids fair to be a good mother. She sat in the same nest in which she always laid. I may add that she is quite pure, having been bred directly from prize birds.—H. Welch, *Camelford, Cornwall.*

ROCHDALE POULTRY SHOW.

This was held in the grounds of C. M. Royds, Esq., Greenhill, Rochdale, on the 23rd inst. There were upwards of five hundred pens of poultry, Pigeons, and Rabbits.

Spanish headed the list, the entries being few and the quality moderate. Of *Cochins*, Buffs, Whites, and Partridge were very good, all the most noted exhibitors competing. *Brahmas* were also good, noticeably the first-prize pen and Mr. Taylor's chickens. *Game* were few, but very choice. We do not remember ever having seen a better Pile than the first-prize cock. Of *Polands*, both the adult and young birds were good. In adults Silvers were first, Golden second; in chickens a fine pen of Silvers stood first, Golden second, and a very handsome pen of White-crested Blacks received a high commendation. The *Hamburgh* classes contained most of the well-known winners, the entries were, however, smaller than we had anticipated for Lancashire; the quality, nevertheless, was very good. The Golden-spangled was, perhaps, the best chicken class; in fact, we have seldom seen better at this season. The first-prize pen contained a very handsome cockerel, and the second an unusually good pullet. Mr. Pickles' highly-commended pair were first-class, and were well worthy of a prize. In Silver chickens the first-prize birds stood clearly out in a good competition. In Black chickens the first prize went to a fine well-grown pen. Adult *Dorkings* were sadly out of feather. The chicken class contained some well-developed birds, the first-prize one especially so, but the pullet was scarcely to our liking in colour; the second-prize hen was better in colour, but not so large. For Any other distinct breed, the first prize went to good Crève-Cœurs, the second to Sultans. In chickens, Crève-Cœurs and Houdans were the recipients of the prizes. Game *Bantams*, if we except the winners, were a very moderate lot. We are afraid this breed is at present making little progress. The class for Any other variety of Bantams was about the best in the Show, containing Sebrights, Blacks, Whites, Pekins, and Japanese, the first prize being taken by Silver-laced (local), and the second going to a magnificent pen of Whites.

Ducks were very good, especially the winning Rouens. *Geese* and *Turkeys* were also well represented.

The *Pigeon* department was peculiarly attractive, many of the most successful English exhibitors having sent their best birds. Pouters were shown as single birds, with four classes allotted to them. Mr. Fulton was the principal prizetaker with very fine specimens. Carriers had six classes, with a very keen competition, Mr. Fulton's prize Blacks and Duns being particularly noticeable. Almond Tumblers were a good class. In the class for any other variety of Tumblers, the first prize went to very pretty Black Mottles, the second to a beautiful pen of Black Kites. Dragoons had two classes, each being well filled. In the class for Blues, a grand pair, good in all points, was first. The other first prize was taken by capital Yellows. In the competition for the medal presented by Messrs. Ottley, of Birmingham, for the best pair, Mr. Yardley's first-prize Blues well merited the honour they obtained. Antwerps were well represented and good. In foreign Owls both prizes went to Whites. Mr. Fulton exhibited a fine pair of Blues deserving a position. In the class for Red or Yellow Turbits, good Reds took both prizes; while for Any other colour Blacks were first, and very good Blues second.

The other classes do not require particular description.

The Rabbits were well represented by valuable specimens in the six classes, exclusive of the Selling class, and numbered about fifty-five entries—Lop-eared bucks, six entries; Lop-eared does, four; Angoras, ten; Himalayan, eight; Silver-Greys, eight; Any other variety, twelve; and the Selling class, seven. The first-prize Lop was a valuable specimen, well marked, and possessing points of excellence to entitle him to the creditable position he took. Ears 21⅜ inches by 4⅞ wide. The second prize went to a broad heavy Rabbit evidently not quite through his "moult." Ears 21½ by 4⅞ inches. The highly commended pen appeared in no unworthy position as compared with his two neighbours, and was well formed and of good carriage. Ears 21 inches by 4⅜. The first-prize tortoiseshell doe claims notice, as her general formation and appearance were good, and the outline of the back was to my mind in true proportion and of graceful appearance. Ears 20⅞ inches by 4½. The second prize was taken by a young Black of great promise with ears 20⅝ inches long by 4¼ wide. Mr. C. Gravil's highly commended doe has ears 20¼ inches long by 4½ wide, and is a neat well-formed animal. The Lops as a whole I decidedly pronounce good, not so much as to length of ears, but in other points essential to a good Lop. I would suggest that the pens in future for these animals be some 3 or 4 inches larger, as large Rabbits like to stretch out, especially in warm weather, and then their large proportions are very evident, and form a contrast to their more diminutive neighbours.

The Angoras were tolerably large, well-woolled, and of a fineness of quality which I prefer to size. Some specimens appeared to be the result of in-and-in breeding rather more than I think is desirable to insure large and healthy stock. The first prize went to a large specimen, wool fine, and with care in the dressing it would present even a more attractive and showy appearance. The second-prize Angora was large, rather shorter in the wool, evidently in a state of "moult," yet with a fine head and eye of the right form, and worthy her position. Both these two were does.

The Himalayan class was good, and required consideration to decide as to the one possessing the most merit. The first of Mr. B. S. Rothwell to my mind was almost perfection, as all the extremities were so uniformly shaded of the dark hue which I prefer. The second-prize specimen was probably equal in this respect, except in one point.

The Silver-Greys were very good, and almost all presented the true Chinchilla shade in the fur, and that general in its appearance; and the large valuable first-prize doe was a good specimen. The second-prize one was by no means a discreditable neighbour, and fully deserved its position.

The Any other variety class presented some excellent Belgian Hare and Dutch Rabbits. The first-prize large Belgian is well marked, and of a shade which I prefer for this variety; it presented an agreeable contrast to the wee Dutch Grey and White second-prize Rabbit. Some Belgians belonging to Mr. S. G. Hudson were fine and large. In the Selling class the fine Yellow and White first-prize Lop doe claims commendation as a specimen of what a Lop should be. She was not in very good order, yet the points of excellence were too evident to be overlooked. The second-prize buck gives promise of value, though rather dark.

I regret to have to find fault with the owners of such valuable pets for not bestowing upon some of the animals noticed a little more care and close examination, so as to insure their comfort at least, if not their health, and would suggest that every specimen forwarded for exhibition should be carefully inspected. This, I regret to say, had not been the case, at least not with the scrupulous care which I think requisite, especially the ears; for the same complaint I made in my last report must be reiterated. I look upon the Judge as not only the awarder of prizes, but an authority as to the state in which each occupant of the pen is presented to his notice as regards health, &c. I by no means wish to be misunderstood, and here state that no unhealthy Rabbit was found at Rochdale, but one or two would have been none the worse of a more minute inspection previous to leaving their homes.—Charles Rayson, *Didsbury, near Manchester.*

Spanish.—1 and 2, C. W. Brierley, Middleton. *Chickens.*—1, A. Mollins, Standeford, Wolverhampton. 2, Clews & Adkins, Walsall.

Cochins.—*Cinnamon and Buff.*—1 and *hc*, W. A. Taylor, Manchester. 2, H. Lacy, Hebden Bridge. *Chickens.*—1, E. Leech, Rochdale. 2, C. Sidgwick, Ryddlesden Hall, Keighley. *hc*, W. A. Taylor; H. Yardley, Birmingham. *Any other Variety.*—1, J. Sichel, Timperley. 2, E. Leech. *hc*, A. Bamford, Middleton; W. A. Taylor. *Chickens.*—1 and 2, C. Sidgwick. *hc*, A. D. Cochrane-Stourbridge.

Brahmas.—*Any Colour.*—1, H. Lacy. 2, T. F. Ansdell, St. Helen's. *hc*, J. Ashworth, Rochdale (Dark). *Chickens.*—1, W. A. Taylor. 2 and *hc*, J. Ashworth.

Game.—1 and 2, C. W. Brierley. *Cock.*—1 and 2, C. W. Brierley. *Chickens.*—1, C. W. Brierley. 2, A. Milne, Rochdale. *hc*, J. Carlisle, Earby.

Polands.—1 and 2, H. Beldon. *hc*, W. Gamon, Chester. *Chickens.*—1, H. Beldon. 2 and *hc*, P. Unsworth, Lowton.

Hamburghs.—*Golden-spangled.*—1, H. Beldon. 2, H. Pickles, jun., Earby. *hc*, H. Beldon. *Chickens.*—1, J. Statter, New Brighton. 2, J. Chadderton. *hc*, H. Marlor, Denton, Manchester; H. Pickles, jun. *Silver-spangled.*—1, H. Pickles, jun. 2, H. Beldon. *Chickens.*—1 and *hc*, H. Beldon. 2, H. Pickles, jun. *Golden-pencilled.*—1, H. Beldon. 2, W. Smith. *hc*, H. Pickles, jun. *Chickens.*—1, J. Wrigley. 2, T. Wrigley, jun., Tonge. *hc*, H. Beldon; H. Pickles, jun.; J. Webster, Whithy. *Silver-pencilled.*—1, H. Beldon. 2, H. Pickles, jun. *Chickens.*—1, H. Pickles, jun. 2, H. Beldon. *Black.*—1, T. Walker. 2, C. Sidgwick. *hc*, H. Beldon. *Chickens.*—1, C. Sidgwick. 2, W. A. Taylor. *hc*, Hellewell & Hoyle, Lumb, Newchurch; T. Walker, jun.

Dorkings.—1, J. Stott. 2, J. H. Stott, Preston. *Chickens.*—1, W. H. King, Rochdale. 2, T. E. Kell, Wetherby. *hc*, E. Leech; J. Mandle, Rochdale.

Any other Variety except Bantams.—1, J. Sichel. 2, G. Anderton, Accrington (White Sultans). *hc*, T. Waddington, Feniscowles, Blackburn. *Chickens.*—1, J. J. Malden, Biggleswade (Crève-Cœur). 2, J. Sichel.

Game Bantams.—*Any Variety.*—1, W. L. Entwisle. 2, T. Sharples. *hc*, J. W. Morris. *Cock.*—1, T. Sharples, Crawshaw Booth, Rawtenstall. 2, W. L. Entwisle, Westfield, Cleckheaton. *hc*, J. W. Morris, Rochdale. *Any other Variety except Game.*—1, J. W. Morris. 2, H. Beldon. 3, S. & R. Ashton. *hc*, C. W. Brierley; J. Watts, King's Heath, Birmingham.

Ducks.—*Aylesbury.*—1 and 2, E. Leech. *hc*, J. H. Stott. *Rouen.*—1 and 2, T. G. Wakefield, Newton-le-Willows. *hc*, J. Ashworth; E. Leech; J. Scotson, Little Byrom, Newton-le-Willows. *Any other Variety.*—1, C. W. Brierley. 2, J. H. Stott. *hc*, W. Earnshaw, Rochdale.

Geese.—*White.*—1 and *hc*, E. Leech. 2, T. Statter, jun. *Grey or Mottled.*—1, J. H. Stott. 2, E. Leech. *hc*, T. Statter, jun. *Goslings* (any colour).—1, J. H. Stott. 2, E. Leech.

Turkeys.—1, H. Merkin. 2, T. Statter, jun.

Selling Class.—*Cock.*—1, J. T. Travis, Rochdale. 2 and 3, E. Leech. *Hens.*—1, Birch & Boulter, Sheffield. 2, A. Bamford. 3, E. Leech.

PIGEONS.

Pouter.—*Red or Yellow.—Cock.*—1 and 2, R. Fulton, Deptford. *hc*, E. Horner, Harewood. *Hen.*—1 and *hc*, R. Fulton. 2, E. Horner. *Any other Colour.—Cock.*—1 and 2, R. Fulton. *hc*, R. Fulton; E. Horner. *Hen.*—1 and *hc*, R. Fulton. 2, E. Horner.

Carriers.—*Black.—Cock.*—1, R. Fulton. 2, G. J. Taylor. *hc*, R. Fulton; T. Waddington. *Hen.*—1, R. Fulton. 2, E. Horner. *hc*, T. Waddington; R. Fulton (2); J. Stanley, Salford, Blackburn. *Blue.—Cock.*—1 and 2, R. Fulton. *hc*, J. H. Harvey, Sheffield; J. C. Ord, Lupus Street, Pimlico; E. C. Stretch, Ormskirk. *Hen.*—1, W. Massey, Spalding. 2, J. Chadwick. *hc*, R. Fulton; J. Watts. *Any other Colour.—Cock.*—1, R. Fulton. 2, H. Yardley, Birmingham. *hc*, J. C. Ord; W. Massey. *Hen.*—1, R. Fulton. 2, T. Waddington. *hc*, H. Yardley; J. H. Harvey.

Tumblers.—*Almond.*—1, E. Horner. 2, F. Moore, Burnley. Whole class highly commended. *Balds or Beards.*—1 and 2, J. Fielding, jun., Rochdale. *hc*, W. Kitchen, Feniscowles, Blackburn. *Any other Variety.*—1 and 2, R. Minnitt, Healey Vicarage, Rochdale. *hc*, J. Ford, Monkwell Street, London.

Owls.—*Foreign.*—1, J. Fielding, jun. 2, G. J. Taylor. Whole class highly commended. *English.*—1, A. Magnall, Broughton. 2, J. Watts.

Barbs.—*Black.*—1 and 2, R. Fulton. *hc*, G. J. Taylor. *Any other Colour.*—1, E. Horner (Dun). 2, R. Fulton. *hc*, J. Stanley.

TURBITS.—*Red or Yellow.*—1, E. Horner (Red). 2, J. Fielding, jun. (Red). *Any other Colour.*—1, E. Horner. 2, A. Magnall. *hc*, J. Fielding, jun.
NUNS.—1, H. Yardley. 2, B. Bowden, Pleasington Hall, Blackburn.
JACOBINS.—*Red.*—1, E. Horner. 2, T. Waddington. *hc*, R. Falton. *Any other Colour.*—1, E. Horner (Yellow). 2 and *hc*, R. Fulton.
ANTWERPS.—1, R. Brierley. 2, J. Stanley. *hc*, W. H. Mitchell; E. Horner; R. Brierley.
FANTAILS.—1, J. Walker. 2, J. H. Harvey. *hc*, A. M. Yetts, Reading; J. F. Loversidge, Newark.
DRAGOONS.—*Blue.*—1 and Medal, H. Yardley. 2, F. Graham, Birkenhead. *hc*, H. Yardley; W. Massey. *Any other Colour.*—1, R. Fulton. 2, J. Holland. *hc*, R. Fulton; J. G. Dunn, Newcastle-on-Tyne; F. Graham (2); J. Holland; W. H. Mitchell.
TRUMPETERS.—1 and 2, E. Horner. *hc*, R. Fulton.
MAGPIES.—1, W. Kitchen. 2, H. Yardley. *hc*, E. Horner.
ANY OTHER VARIETY.—1, H. Yardley. 2, W. Kitchen. 3, O. E. Cresswell, Hanworth Rectory.
SELLING CLASS.—1, J. Fielding, jun. (Owle). 2, I. Bush, Bowden (Yellow Barbs). *hc*, E. Horner; A. M. Yetts (Carriers); J. Walker.

RABBITS.—*Lop-eared.*—*Buck.*—1, A. H. Easten, Hull. 2, J. Boyle, jun., Blackburn. *hc*, Lewin & Robinson, Kettering. *Doe.*—1 and 2, J. Irving (Blue Tortoiseshell and Grey and White). *hc*, E. Gravil, jun., Thorne. *Silver-Grey.*—1 and *hc*, S. G. Hudson, Hull. 2, S. Greenwood, Hebden Bridge. *Himalayan.*—1, B. S. Rothwell, Rochdale. 2, J. Butterworth, Broadley, Rochdale. *hc*, J. Boyle, jun. *Angora.*—1, A. H. Easten. 2, J. Baron, Castlemere, Rochdale. *hc*, J. Taylor. *Any other Variety.*—1 and 2, J. Boyle, jun. (Belgian Hare and Dutch). *hc*, R. Leach. *Selling Class.*—1, J. Butterworth. 2, J. Boyle, jun. *hc*, A. H. Easten.

JUDGES.—*Poultry:* Mr. R. Teebay, Fulwood, Preston, and Mr. N. Cook, Chowbent. *Pigeons:* Mr. F. Esquilant, Brixton, London, and Mr. T. J. Charlton, Bradford. *Rabbits:* Mr. C. Rayson, Didsbury.

PIGEON TRIMMING AT ALLERTON SHOW.

As Mr. Yardley replies equivocally to the charge of trimming, and consequent disqualification of one of his pairs of Nuns at the above-named show, allow me to remark that he says correctly the feathers were not "abstracted," but, then, they were cut off close to the stump, most artistically, and in an unmistakeable manner; and had it not been my rule to handle and examine minutely all the varieties that are likely to be improved by trimming, I should also have awarded them a first position. With the exception of the throats and crests, the birds were in perfect feather, showing no signs of moult whatever. This was all seen by the Stewards of the department, and those gentlemen commented upon it in no measured terms.

As to the pair of Dragoons referred to, Mr. Yardley does nothing to allay the "uneasiness" which he thinks was created in my mind, and although the birds were young, the sex consequently difficult to determine at first sight (and he can see I gave them the benefit of the doubt), yet he is very careful not to declare them to be of the proper sexes.—E. HUTTON.

THE OPENING OF THE SEASON—WHITBY CANARY SHOW.

WHEN is Whitby Show? I am often asked. It's always held on the Tuesday before the St. Ledger. Not that there is any connection between the two, only I have known instances where it was thought that *viâ* Doncaster was the most direct route from Whitby to the north, and that Epsom lay somewhere between Sunderland and Edinburgh. Be that as it may, and far be it from me to dispute the fact, the two events always come together; and as the great Yorkshire carnival, big with so many hopes, falls on Wednesday week, "would it surprise you to know" that the Canary exhibition season opens at Whitby on Tuesday, September 12th? I admit that it is early, almost too early, but being held in conjunction with the Horticultural Show, there is no alternative but to hold it at the time mentioned. Still, those who made an early start will have plenty of birds ready, and the recent summer weather will have done much to forward the moulting of all ages—those with many a prize attached to their names, and younger aspirants for fame also. The Show deserves well of all, having a liberal prize list and a low entry fee, and is under the most experienced management. The town itself is one of the prettiest watering-places in England, and the surrounding views simply charming. There will be abundance of time between delivering the birds and the opening for a peep at the quaint little place, and my advice is, make large entries, bring your birds yourselves, and make an "outing" of the first Canary show of the season.—W. A. BLAKSTON.

QUEENS LEAVING THEIR HIVES.

I THINK the controversy may rest with regard to queen mothers taking aërial excursions. The question is certainly not "proved" one way or the other, and if your readers will refer to my original notes on the subject, they will see that I did not state the fact as proven, even by the remarkable case which I detailed. All I said was, it would "go to prove," by which I meant no more than that in a case of uncertainty such an incident in apiculture is worthy of note, an incident apparently so clearly making in favour of the disputed but still not disproved theory that mother queens do sometimes take aërial excursions.

Perhaps "R. S.'s" view is correct, although no such instance of swarming into other hives has come under my notice. That it is an "error" to put forth a suggestion like the one I made, I must deny. Rather I maintain it to be an overbold assertion to say that mother queens never take aërial excursions. It may be of rare occurrence; I believe it is, but the fact itself can never be placed beyond doubt.

With regard to the circumstances I have detailed, I repeat again they are absolutely correct. The stock contained a pure imported Italian queen; nor was there any royal cell in it. The box was entirely denuded of bees after repeated drivings, and every comb clearly exposed to view. But it is useless to argue the subject further. Let what has been written on either side go for what it is worth.

Mr. Lowe has touched upon a subject of great interest in referring to the departure of Mr. Woodbury. It needs no words of mine to express the sense of loss which all your readers in common experience. I had the pleasure of a personal acquaintance with him for some ten or twelve years, and can testify to the wonderful accuracy of all his knowledge. Whatever he aimed or pretended to know, he knew thoroughly, and his knowledge was only equalled by his courtesy and self-control.—B. & W.

A BEE-KEEPER'S DIFFICULTIES.

DURING the latter half of June and the whole of July the weather here was uncessingly wet. As a consequence, the bees harvested little or nothing, but I believe increased in numbers to an unusual extent. One of my hives is an improved "cottage." Early in the season I put a box on to prevent swarming. This box is 14 inches by 8, and 6 inches deep. Owing to bad weather the bees did not work in it, nor did they swarm. On the return of fine weather at the beginning of this month they clustered outside, mostly in a lump, under the floor-board. Here they have made a comb (in the open air) of the shape of a mitre inverted, about 10 inches long, and about 5 inches wide at the base, where alone it is attached to anything. A neighbouring bee-keeper has the same story to tell—nay, more; his bees made two combs hanging down from the floor-board, and he cut away one last week full of honey, and with nearly all the cells sealed. By procuring a Ligurian queen, and having hived this cluster of bees (as large as an ordinary swarm), by uniting her to the gentlemen of the open-air movement, would it be very difficult to establish them and keep them through the winter by plenty of food, &c.? If so, will you give suggestions for joining her majesty to her future subjects?—A GALWAY BEE-KEEPER.

[We should advise you, particularly at this advanced period of the season, not to attempt making an artificial swarm of the bees hanging underneath the floor-board of your hive, either by the addition of a Ligurian queen or otherwise. You may now, as soon as you please, cut away the comb, and as the weather becomes cooler the bees will all be able to find room within the hive. The building of combs in this manner is not an uncommon occurrence, especially in bad honey years. It is probable that if you had furnished your super with some nice bits of some clean empty worker comb your bees would have ascended, and have accomplished considerably more work, even although they might not have succeeded in nearly filling it. As you cannot obtain Langstroth's book through your local bookseller, write to Messrs. Neighbour, 149, Regent Street, London. The price is 10*s*.—EDS.]

BEE INCIDENTS.

AN occurrence which took place lately in my father's apiary I think may be of interest to your readers. A swarm issued from one of his hives on or about the 27th of June, and was hived in the usual manner. A few minutes after a queen rushed out of the entrance with some bees in hot pursuit. She was captured and replaced under the hive, but she ran out immediately, the bees apparently forcing her to do so. Concluding there must be two queens in the swarm, he caught and confined her under a glass in the house. At the same time there was a hive which had been clustering out for five or six

days. It occurred to my father that the bees wanted to swarm, but had no queen ready to lead them off, so the following day he placed the queen on the floor-board near the entrance; the manner of the bees changed at once, and in less than ten minutes a strong swarm came off, which has done remarkably well. As I have never heard or read of this being done, I thought I should like to communicate the circumstance.

Another incident occurred about a fortnight ago, which may not be an uncommon one, but has not hitherto come under my notice. A swarm was driven out of their home into an empty hive for the purpose of taking the honey, and after killing their queen my father placed the bees next to a hive to which he intended to join them in the evening, but they saved him all further trouble by leaving their empty temporary quarters and peaceably uniting with their neighbours exactly as he desired.—G. G.

[In the first case mentioned it is probable that the hive from which the bees were clustering out was on the very point of swarming, and the addition of the queen at the entrance supplied a little premature excitement just sufficient to cause the bees to rush forth. Such a practice, however, is not to be recommended, as in all probability the old queen in the hive would also join the swarm, thus there would be two queens, involving some amount of risk from fighting, or in causing the bees to separate in two clusters more or less apart from each other. The second incident you mention is by no means of uncommon occurrence, though not always attended with such peaceable results.—Eds.]

OUR LETTER BOX.

Warrington Poultry Show (*S. A. W.*).—As you intend to take legal proceedings, it would not be fair for us to publish any comment.

Craven, Perth, and Gainsborough Poultry Shows (*H. and Others*).—If a committee does not advertise the show in our columns, we conclude it is not of sufficient importance to deserve a report.

Dorking Hen Broody (*A. S.*).—Let her sit. You will have some good chickens to eat next February and March, or if you choose to sell them they will make a good price. The hen has laid well.

Black Red Bantams—Mosses (*Hamburgh*).—Black Red Bantams may have been bred from Duckwings, and may have been good enough to take prizes. Duckwings have been helped by all sorts of crosses, and the birds may have thrown back, but it is not a common result, and will scarcely be repeated. In many parts of the north Spangled Hamburghs are called Mosses, but we do not recollect seeing them so called in any prize list.

Crossing Brahmas with Spanish (*Anxious Amateur*).—We do not think the cross a good one. If we wanted eggs only we should keep pure Spanish, as their eggs are much larger than those of the Brahmas. We are not great admirers of crosses, but if they are made we should be careful to avoid contradictions. We should not, then, put sitters and non-sitters together; such are Brahmas and Spanish. Chickens of the latter hatched in March will lay in the winter. The pullets' eggs come at a certain age, independently of season. We do not approve of heated houses, and do not believe they help in any way to a satisfactory result. All that is necessary is to have a roosting place protected from draught and wet, and where the fowls can, if necessary, in wet and snowy weather find dust for their essential dust-bath.

Game Fowls (*C. L.*).—It is not at all an important point, nor is it a blemish.

Cochins with Discharge from Nostrils (*J. W. M.*).—The symptoms you complain of are very common at this time of year; they arise from slight cold consequent on the change of the early morning temperature. It is often cured by giving some bread and ale morning and evening. A camphor pill the size of a garden pea is a very good thing. If these fail give them Baily's pills. It is not at all dangerous in Cochins.

Hamburgh Bantams (*Tetley*).—We agree with you. Golden-pencilled Bantams would form a beautiful variety. We are disposed to think a Brown Red Game Bantam cock would be the best bird to put to the small Pencilled hens you name. You should get one with a thoroughly red breast, and you would have little to breed out in the way of colour. Having bred from such a bird and the Pencilled hens, you would from the progeny select the two cocks that favoured the Hamburghs most. You would put them to their mothers, and again choose the birds most like Hamburghs, and put them to the hens again. While these experiments are going on you can allow brothers and sisters to run together, and it is quite possible they may produce some good birds that will prove a great help to you. You are sure to succeed, but to do so perfectly is a matter of time and patience. In the materials with which you start you have faults to get rid of. The cock brings you diminutive size, but he offends in colour and comb; the hens bring plumage, but they offend in size. You must not use the cock in the manufacture after the first hatches. You must discard the hens as soon as you can. In choosing chickens to run together, strive to find them faultless. Above all, overlook no capital fault—use no single-comb cock, no yellow-legged or five-toed pullet, no pullet with patchy plumage. You must not put all your eggs in one basket, and therefore you must have several runs, from which you must select the best birds to breed from. We think the white ear and double comb of the Black would be more than counterbalanced by the dark plumage. Sebright-breeders are obliged sometimes to use Black birds to restore and deepen lacing. They can tell you what a tedious process it is to get rid of the black.

Brahmas' Feathers (*W. T.*).—We see nothing in your description to lead us to suppose there is anything impure in your Brahmas. They are very dark, and many are. Some become lighter as they grow older. The Brahma cocks do not furnish so early as the Cochins. We are always content to wait for late maturity in cocks and pullets. The precocious are never large. The feathering of the middle toe is not by any means, an important point.

German and Ural Ice Pigeons (*A. Z.*).—We are only familiar with the former of these birds.

Wing Disease (*L. G.*).—If we rightly understand you, your Pigeon has wing disease. Draw out the flight feathers of that wing, and by the time they have grown again the bird will most probably be quite well.

What Pigeons to Keep (*E. B.*).—We are at a loss to recommend you birds, and never name dealers. A prize is not to be won easily by any variety. We do not see how possibly we can say what are best for you to keep. Make your own choice, and purchase of those who advertise in our columns, and most likely you will be well treated.

Homing Pigeons.—*Far West*, and other correspondents, require these. Anyone having these to sell had better advertise them.

Dark Green Honey—Chloroform (*Grassendale*).—It is not easy always to account for the variation in colour in honey, as the honey taken from hives closely adjoining in the same garden will frequently be totally different both in quality and appearance. The dark green colour of yours was, doubtless, caused by the pasturage from which the bees obtained it, and not in consequence of the chloroform. We suppose you have not long been a reader of the Journal, or you would have known that the use of chloroform for depriving bees of their honey has been for many years condemned in the most unqualified manner.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. August	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 23	29.948	65.5	61.2	N.W.	63.5	76.6	54.2	108.0	54.1	0.020
Th. 24	29.855	61.5	58.2	S.W.	63.0	68.0	55.0	82.2	55.2	0.140
Fri. 25	29.893	65.3	60.0	N.W.	62.4	74.3	54.4	123.5	50.8	—
Sat. 26	30.123	61.3	53.4	N.	62.0	71.2	50.0	115.2	42.6	—
Sun. 27	30.429	61.8	54.6	N.W.	62.2	72.0	48.8	118.0	43.8	—
Mo. 28	30.451	65.4	63.8	N.E.	62.4	71.8	47.2	117.3	43.6	—
Tu. 29	30.240	64.8	57.2	S.E.	62.8	75.5	51.5	116.0	46.2	—
Means	30.134	63.7	57.6		62.6	72.8	61.6	111.5	48.1	0.060

REMARKS.

23rd.—Dull, with occasional very slight showers; fine at night, though quite cool and rather damp.

24th.—Rain in morning, cloudy and cold till 6 P.M., then windy and wet during the evening and the night; wind at times very strong.

25th.—Very fine till 1 P.M., then cloudy, sharp but very short shower at 2 P.M., afterwards fine, with very beautiful clouds just before sunset.

26th.—A most beautiful day, bright, clear, and refreshingly cool.

27th.—Rather warmer in the sun than lately, but not at all oppressive.

28th.—Fine clear day, and most splendid moonlight night.

29th.—Very fine all day, with refreshing breezes all day, and beautiful night.

A most charming week, cooler than the last, though more free from clouds, not any day on which it either looked or felt stormlike or oppressive.—G. J. Symons.

COVENT GARDEN MARKET.—August 30.

We have no alteration worth quoting. Supplies are about equal to the demand, and trade remains steady. Out-door Peaches and Nectarines are not very plentiful this season round London, but promise to be of fair average quality. Our first consignments of Grapes from Spain and Portugal have come to hand, but realise very low prices. Potatoes are largely supplied both by rail and coastwise.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	1	0	to 2	6	Mulberries lb.	0	0	to 1	0
Apricots doz.	1	0	8	0	Nectarines doz.	4	0	12	0
Cherries lb.	0	0	2	0	Oranges ℔ 100	20	0	0	0
Chestnuts bushel	0	0	0	0	Peaches doz.	4	0	15	0
Currants ½ sieve	0	0	0	0	Pears, kitchen doz.	2	0	0	0
Black do.	0	0	0	0	dessert doz.	2	0	8	0
Figs doz.	2	0	4	0	Pine Apples lb.	8	0	5	0
Filberts lb.	0	0	1	0	Plums ½ sieve	8	0	5	0
Cobs lb.	0	0	0	0	Quinces doz.	0	0	0	0
Gooseberries quart	0	0	0	8	Raspberries lb.	0	0	0	0
Grapes, Hotbouse lb.	2	0	6	0	Strawberries lb.	0	0	0	0
Lemons ℔ 100	8	0	12	0	Walnuts bushel	10	0	16	0
Melons each	2	0	6	0	ditto ℔ 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	2	0	to 4	0	Leeks bunch	0	3	to 0	0
Asparagus ℔ 100	0	0	0	0	Lettuce doz.	0	3	1	0
Beans, Kidney ½ sieve	1	0	3	0	Mushrooms pottle	1	0	2	6
Broad bushel	2	0	3	0	Mustard & Cress punnet	0	2	0	0
Beet, Red doz.	2	0	3	0	Onions per doz. bunches	2	6	4	0
Broccoli bundle	0	9	1	0	pickling quart	0	0	0	0
Brussels Sprouts ½ sieve	0	0	0	0	Parsley sieve	3	0	4	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	9	1	0
Capsicums ℔ 100	0	0	0	0	Peas quart	0	0	1	0
Carrots bunch	0	0	0	0	Potatoes bushel	1	0	3	0
Cauliflower doz.	3	0	6	0	Kidney do.	3	0	5	0
Celery bundle	1	6	2	0	Radishes doz. bunches	0	0	1	0
Coleworts doz. bunches	2	0	4	0	Rhubarb bundle	0	4	0	0
Cucumbers each	0	6	1	0	Savoys doz.	0	6	0	9
pickling doz.	2	0	3	0	Sea-kale basket	0	0	0	0
Endive doz.	2	0	3	0	Shallots lb.	0	0	0	0
Fennel bunch	0	3	0	0	Spinach bushel	3	0	4	0
Garlic lb.	0	3	0	0	Tomatoes doz.	2	0	3	0
Herbs bunch	0	3	0	0	Turnips bunch	0	3	0	0
Horseradish bundle	3	0	4	0	Vegetable Marrows doz.	2	0	3	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 7—13, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
7	Th	Worksop Horticultural Show.	70.3	47.5	58.9	19	23 af 5	32 af 6	28 a 10	24 af 2	22	1 59	250
8	F		69.4	48.0	58 7	19	25 5	29 6	11 11	22 3	23	2 20	251
9	S	Reigate Rose Show.	69.1	48 1	51.6	19	26 5	27 6	morn.	12 4	24	2 40	252
10	Sun	14 Sunday after Trinity.	69.7	45.5	57.6	21	27 5	25 6	3 0	55 4	25	3 1	253
11	M		68.7	47.0	57.8	11	29 5	22 6	5 1	29 5	26	3 21	254
12	Tu	Wolverhampton Horticultural Show.	69.1	44.8	57.0	16	31 5	20 6	14 2	58 5	27	3 42	255
13	W	Nottingham Horticultural Show.	68.4	45.7	57.0	19	32 5	18 6	25 3	19 6	28	4 3	256

From observations taken near London during forty-three years, the average day temperature of the week ie 69.2°, and its night temperature 46.7°. The greatest heat was 91°, on the 7th, 1868; and the lowest cold 28°, on the 7th, 1868. The greatest fall of rain was 1.50 inch.

COCHLIOSTEMA JACOBIANUM.

MANY amateurs and gardeners set themselves entirely against new plants, exclaiming that all these new species are rubbish, and they will confine themselves entirely to the good old plants. Another class, again, fly into the opposite extreme, and will have nothing but new plants, and are always eagerly and anxiously watching the market to enable them to be the first to catch any novelty that may appear. Now, in some respects both these are wrong; for, without wishing in any way to depreciate good old plants, there are many really splendid subjects of recent introduction which no garden should lack; on the other hand, there are many new plants which are inferior in merit to kinds already in our possession; so that by adopting the extremes both parties are losers in the end. The happy course to pursue is, therefore, a medium one, carefully selecting plants which appear distinct, and which seem to merit attention for their superior excellence.

It is an undoubted fact that many grand plants have been introduced into cultivation during the last ten years, and amongst the best of them is that called Cochliostema Jacobianum; it belongs to the order Commelynaceæ, and derives its generic name from the peculiar spiral appearance of its stamens. Being a native of Ecuador, it must be grown in the moist stove, and whether grown for the beauty of its foliage or its flowers, it is equally grand. The leaves are strap-shaped, sheathing at the base, from 1 to 3 feet long, and about 8 inches broad, rich vivid green in colour, and having a narrow margin of mauve. The flowers are produced from the axils of the leaves, and that, too, in the greatest profusion, as it commences flowering usually in March and April, and continues without intermission until Christmas. The flowers are produced in large branching panicles, and in colour are light blue and intense violet. Independently of the flowers, the stem is furnished with large and conspicuous bracts, which are as persistent as the flowers, and in colour are of a delicate mauve.

This plant should have liberal treatment, and should by no means be allowed to become potbound in small pots. The soil ought to be peat, loam, leaf mould, and good well-decomposed manure in equal parts, with silver or river sand added liberally. The drainage should be good, as it enjoys copious waterings; the water collects in the base of the sheathing leaves, and this should by no means be poured out, as it is a great source of nourishment to the plant, and not injurious as some frequently think.

Cochliostema Jacobianum is so extremely ornamental both in foliage and in flower, and so easily grown, that no stove, however small, should be without it.—Experto Crede.

VARIETIES OF PEAS.

There is, probably, no vegetable held in so much esteem as a dish of nice green Peas. In many establishments it is positively necessary to maintain a constant supply from May to November. In order to do this, a certain amount of attention and forethought is indispensable. I have often heard the remark made that Peas will grow anywhere, and under any circumstances. Of course those who entertain such notions know but little of the matter.

The garden ground here is not well adapted for vegetable culture, being of a very light nature, resting on a gravel subsoil. I believe a rich deep loam is essential to the successful development of all kitchen-garden crops; without it they cannot resist the summer droughts. My earliest crops of Peas are generally good, and obtained without much extra trouble. It is during hot dry weather in July that our kitchen-garden difficulties commence. I find the only way to obtain crops is by trenching the ground as deeply as the subsoil will permit, at the same time adding a liberal portion of manure; this should be done in the previous season, if possible. During dry weather the hoe is kept at work amongst them, and during excessive drought they require to be watered. This is effected by drawing a drill on each side of the row, and filling it up with water, giving sufficient to saturate the ground to a good depth. A small quantity of water is worse than useless.

For the earliest crop I grow Taber's Perfection; it does not come in quite so early as Sutton's Ringleader, but it is a much better cropper, and can be recommended as a very useful variety. Dickson's Favourite and Harrison's Glory come in next, sown together they are ready to pick at about the same time; both varieties carry large crops. They are much grown in the fields in this neighbourhood to supply the London market, and succeed Sangster's No. 1. or Daniel O'Rourke. During the Pea-picking season a large number of extra hands, principally women and boys, are employed. The crop is seldom picked over more than twice. At the second picking the haulm is pulled up, and the ground is ploughed, and immediately planted with Coleworts. Laxton's Supreme I have grown since it was first sent out. This is a moderately tall variety, and carries a good crop of large well-filled pods. Champion of England and Veitch's Perfection are both grand Peas, too well known to require any recommendation from me. These, with British Queen, I have found sufficient for all purposes.

There are many new sorts which are highly recommended. If some of your readers or contributors have found any of them to be distinct or superior to existing varieties, perhaps they will kindly give us the benefit of their experience. I received one named Magnum Bonum on trial this season; it is equal in quality to Veitch's Perfection, but grows as tall as Champion of England, and carries a large crop of the best-filled pods I ever saw.—J. Douglas.

TEA-SCENTED ROSES.

I quite agree with your correspondent "Stiff-soil" that the Tea-scented Roses are by no means difficult of culture. Indeed, if treated properly, they are easier to deal with than some other groups of Roses. But we must not lose sight of

the well-known fact that they are more liable to suffer from the frost and freezing rain in winter and spring than any others, and hence we should not allow them to be fully exposed to those influences.

Two distinct methods of dealing with them are adopted here, which may be termed "in-door" and "out-door" culture.

A span-roofed house with a double row of 4-inch pipes (flow and return) has been provided for in-door culture. The plants, standards and dwarfs, are planted out in beds, the branches of the strong-growing kinds being trained under the roof, and treated much in the manner of Grape Vines, while the more moderate growers are fashioned into bushes and pyramids in front and underneath. Here there is an abundance of beautiful flowers in April, May, and June, before the Roses are in flower out of doors. One Maréchal Niel, a standard, trained under the roof, produced this year nearly a thousand magnificent flowers; and the Climbing Devoniensis, Gloire de Dijon, Madame Falcot, Madame Bravy, Madame Willermoz, President, Rubens, Safrano, Souvenir d'un Ami, Vicomtesse de Cazes, and others, although not so prolific, were abundant and equally beautiful. Many of these continued flowering throughout the summer and autumn, so that at no time, from April to December, was there any scarcity of flowers. This is in-door culture.

Out-of-door culture is followed on two different lines. In May young plants are put out in front of a brick wall, but not trained to it. Training to the wall stands condemned by my experience: probably the dry hot air from the wall creates too great a drain on the leaves; it is better to plant 9 inches or a foot away from the wall, so that the air may circulate all round the plants, and that they may be watered all over when required. More vigour of growth and less spider are obtained by this practice, and a goodly number of flowers, too, the first summer and autumn after planting. The second line of out-of-door culture followed is to bud on the Dog Rose standards or dwarfs in August, so late that the buds may not break till the following spring. If they break in autumn the probability is that they will be materially injured and perhaps destroyed in winter. But permit me to remark that both the wall plants and the budded plants must be protected during winter. The former may be surrounded with evergreen branches, and the buds of the latter may be covered with strips of canvas tied on with bast or string.

The Tea-scented Roses are improving rapidly just now; the last two years have given us at least a dozen desirable varieties. The following have bloomed here both in and out of doors, and are so varied and beautiful that they are not likely to be lost sight of for many years:—Belle Maconnaise, Coquette de Lyon, Hortensia, Madame Azélie Imbert, Madame Gaillard, Victor Pulliat, Annette Sœur, Belle Lyonnaise, Madame Ducher, Madame Levet, Madame Trifle, and Madame Hippolyte Jamain. —William Paul, *Paul's Nurseries, Waltham Cross, N.*

LA VERSAILLAISE RED CURRANT.

The singularly cold damp weather which so long prevailed during the spring and early summer months of the present year affected the Red Currant trees so much that in some instances it has proved fatal not only to the fruit crop, but to the trees themselves, many of them being completely killed, and others so infested with blight and insects as to require close and constant attention to prevent the speedy and premature decay, which at one time appeared to threaten the whole of the foliage.

Of a few dozen bushes planted last season in precisely the same soil, and consisting of Knight's Large Red, White Dutch, Raby Castle, and La Versaillaise, all have suffered severely, excepting the last-named kind, the plants of which have passed quite unscathed through the trying ordeal, and have produced an abundance of vigorous shoots, and fine, large, deep green foliage. The healthy flourishing appearance of these trees in comparison to the miserable condition of the whole of the other kinds is so remarkable as to induce me to send you a note of the fact; for if this hardy and robust variety is as prolific, and the fruit is as fine in size and quality as it is said to be, it will, doubtless, prove a great acquisition.—Edward Luckhurst.

Large Produce of Potatoes.—In the spring of the year I had 1 lb. of Bresee's Peerless (a new American Potato). I cut the 1 lb. into 46 pieces, and planted them February 16th and dug them up August 22nd, when they turned out the enormous quantity of 135 lbs. Some of the stalks had five or six large tubers under each of them, and many of them weighed 2 lbs. each.—Thomas Penner, *Gardener to R. Durant, Esq., Sharpham.*

POT CULTURE OF MIGNONETTE.

In May put six or eight seeds into a thumb pot, and place it in a Cucumber frame. After the young plants are well above ground remove them to the greenhouse, placing them as near the glass as possible. When they are an inch or so in height, with a sharp knife cut off all by the surface except two of the strongest; allow these to grow a few inches, then with a knife cut the weaker one away. In a few days shift each of the plants left to larger pots, and never allow it to get potbound. Put in a stake, but not too near the stem. Nip out every flower that makes its appearance with the point of your knife; do not do it with the finger and thumb, otherwise the tender leaves will be injured. In a word, keep shifting, and allow no flower until the plant is as large as is desired.

Mignonette is a most interesting plant. It can be trained into any form one may desire by attending to these directions. I have no doubt it could be grown 6 feet high and 6 feet in diameter at the base—just by the rim of the pot. Give plenty of room and headroom and there will be no fear. Never allow water to touch the leaves in winter, and give just enough at the roots to keep the plant alive. Set it out of doors in summer in some sheltered corner. Mignonette requires a large supply of water, and will be benefited occasionally by a little liquid manure. It is not until the second summer that I would place the plants out of doors; and as it is about Christmas that we want it to flower, discontinue nipping off the flowers in October, it will then flower throughout the winter months in a cool house. Of course it is well to have plants of various sizes and forms, respecting which the cultivator must use his own discretion. The form of training which I prefer is the pyramidal style.—C. M. M'Crow, *Nash Court, Faversham.*

HYACINTH CULTURE IN POTS AND GLASSES.

In Pots.—It is not necessary to employ large pots, or pots of a peculiar shape for Hyacinths. There is nothing better than common flowerpots, and in those of 60-size (3¼-inch) single bulbs may be flowered in a most satisfactory manner. The pots usually employed are 48-size (5-inch), and 32-size (6-inch); the last-named being required only for selected bulbs grown for exhibition. We advise the use of small pots, where Hyacinths are grown in pits and frames for decorative purposes, because they can be conveniently placed in ornamental stands, or packed close together in baskets of moss, when required for the embellishment of the drawing-room.

A rich light soil is indispensable, and it should consist of at least one-half of good rotten manure, and the remainder turfy loam, with a liberal allowance of sharp sand. The mixture should be in a moderately moist condition when ready for use. When small pots are employed, one hollow crock must suffice, but 48 and 32-size pots must be prepared in the usual way, with one large hollow crock and a little heap of smaller pot-sherds or nodules of charcoal over it. Fill the pots quite full of soil, and then press the bulb down into it, and press the soil down round the bulb to finish the operation. If potted loosely, they will not thrive; if potted too firmly, they will rise up as soon as they begin to grow and be one-sided. Finally, to quit this part of the subject, they should be nearly covered with soil, except when grown in small pots, and then they must be only half covered, in order to afford them the largest possible amount of root-room.

When potted, the coolest place should be found for them, and they should not have a drop of water, unless they go absolutely dry, until they begin to grow freely, and are in the enjoyment of full daylight. The pots may be roughly stored in a dark cool pit, or any out-of-the-way place, where neither sun, nor frost, nor heavy rains will affect them, but it is advisable to plunge them in coal ashes or tan, and cover them a few inches with the plunging material.

As to their removal, there are two matters to consider. They must be taken out as wanted for forcing, and they must be taken out when they push their flower spikes through the plunging material, as they will do if they remain in the bed until spring. The cultivator must be guided in respect of their removal from the bed by circumstances, but when they are removed, a distinct routine of treatment must be observed, or the flowering will be unsatisfactory. For a short time they

must be placed in a subdued daylight, that the blanched growth may acquire a healthy green hue slowly, and they must be kept cool in order that they shall grow very little until they have acquired a healthy colour. The floor of a cool greenhouse is a very good place for them, when first taken out of the bed, and cleaned up for forcing. Another matter of great importance is to place them as near the glass as possible as soon as their green colour is established, and to grow them as slowly as the requirements of the case will allow. If to be forced early, allow plenty of time to train them to bear a great heat, taking from bed to pit, and from pit to cool house, and deferring as long as possible placing them in the heat in which they are to flower.

Those to bloom at Christmas should be potted in September, those to follow may be potted a month later. If a long succession is required, a sufficient number should be potted every two or three weeks to the end of the year; the latest potted will, of course, flower in frames without the aid of heat. In any and every case the highest temperature of the forcing-pit should be 70°; to go beyond that point will cause an attenuated growth and a poverty of colour. If liquid manure is employed at all, it should be used constantly, and extremely weak, until the flowers begin to expand, and then pure soft water should be used instead. It matters not what is the particular constitution of the liquid manure, but it must be weak, or it will do more harm than good. The spikes should be carefully tied to neat stakes in good time, and a constant watch kept to see that they are not cut or bent as they rapidly develope beyond the range allowed them by their supports. When done flowering, remove the flower-stems, and keep the plants in frames supplied regularly with water until the leaves die down; then lay them on their sides in a dry sunny place, with their heads to the north, for about ten days; then shake them out, rub off the roots, clean them up, and store in a dry place.

In Glasses.—It is of little consequence whether rain, river, or spring water be employed in this mode of culture, but it should be clean, and of a kind not likely to become offensive. Fill the glasses sufficiently full that the bulbs will nearly, but not quite touch the water, and place them at once in a dark, cool place, that they may be encouraged to send their roots down into the water before they begin to expand their leaves. When the roots are growing freely, bring them from the dark to the light, in order that their leaves and flowers may be developed in a healthy manner without being attenuated. Provide supports in good time; let them have as much light as possible, with an equable temperature. They are often injured by being kept in rooms that are at times extremely cold, and at others heated to excess. Those who would grow Hyacinths to perfection in glasses must remove them occasionally as circumstances may require, to prevent the injury that must result from subjecting them to rapid and extreme alternations of temperature. It is not desirable to introduce to the water any stimulating substances, but the glasses must be kept nearly full of water by occasionally replenishing as it disappears. If the leaves become dusty, they may be cleansed with a soft brush or a sponge dipped in water, but particular care must be taken not to injure them in the process.—(*Suttons' Bulb Catalogue.*)

FIG TREES CASTING THEIR FRUIT.

One of your most experienced contributors suggested some time ago that Figs cast their fruit because the female florets had not been impregnated. Upon examining with a microscope the interior of the enclosed specimen, the seeds seem well formed, and the general character of the fruit normal. It came off a plant of Bourjasotte grise, the great merits of which variety are lessened by the frequency with which it casts its fruit. I have a good many plants of it, but have lost a large portion of the fruit both last year and this.—G. S.

ANTHURIUM SCHERZERIANUM.

I congratulate "H. K." on the length of the spathe of his Anthurium; it is the longest I have heard of, but he does not give us the width. [It was 3½ inches where broadest.—Eds.] We have several plants here, among which is one that is thought a splendid variety. The spathes which it has produced this summer average 5 inches in length and 3 in width; the spadix, or elongation at the top of the spathe, measuring between 7 and 8 inches in length. The stems were 20 inches in length, carrying their noble blooms well above the foliage. Among the others are one or two longer varieties, but they are narrow. The plant above referred to has fifty leaves averaging 20 inches in length and 2¾ in width, giving it a very graceful appearance even when out of bloom. We find this Anthurium very useful as a decorative plant, and when arranged with a mass of Orchids in flower the effect is charming, its lasting properties greatly enhancing its value for the purpose. It also forms an excellent plant for exhibition.—C. J. W.

RYHOPE HORTICULTURAL SHOW.

If, as the story goes, the clerks of the Admiralty did not know where Sunderland was, one could hardly be surprised if anyone asked, Where is Ryhope? It is one of those pretty little villages with which our coast line is dotted, not a fishing village, but a country village pure and simple, though seated little more than a stone's throw from the sea, about three miles to the south of us. When I was a boy, and that's—well, never mind how many years ago—it was a pretty little place; and it is so to this day, though time has somewhat altered its face, and pretentious three-storied bay-windowed houses occupy the site of one or two of the white-washed cottages of former days. To me, as a child, it seemed a model village; triangular in shape, its base towards the sea, and its apex pointing westward; approached from the old turnpike road at its north-east angle, the entrance flanked on either side by a cartwright's and a blacksmith's shop, where such carts as never were, were built and painted with that everlasting red and blue, in which wheelwrights revel, where such horses were shod as are never shod now, the very smoke from whose burning hoofs seems to float before one's memory as sweet incense; the village green, where the rustics used to have their games on the long summer's evenings; the large pond at the head of the village, where we used to sail our ships (there were no model yachts then, ours were substantial brigs and schooners, well rigged, and smelling strongly of paint which never used to dry thoroughly—the handiwork of some friendly shipwright); the farmhouses, the cow-byres, the milk carts, and the amiable milkboy, who used to give us a ride in the straw among the cans and milk barrels, and make the donkey kick for our special edification—was there ever such a village? There may be, and there doubtless are, many fairer spots, but the recollections of childhood clothe Ryhope with charms belonging to no other place. There were the beautiful seabanks, where grew such quaking grass ("dothering ducks" we called them), as grew nowhere else; the sea beach with a strip of golden sand, where we used to bathe, my mother performing her toilet, as was customary in that primitive place in those primitive times, under shelter of an umbrella arrangement; the seaweed-covered rocks, laid bare at low tide, with every pool a mine of treasures; no end of winkles, and limpets, and crabs, which, for some reasons best known to themselves, have since emigrated—I mean the crabs; for what with Sunderland on the one hand cribbing hundreds of acres from the sea for its docks, and gas and patent fuel and other stench-producing factories on the other, striving which can discharge the most offensive-smelling compounds into the ocean, I think the crabs have agreed to seek "fresh fields and pastures new," and leave their native rocks to the limpets, who, making a virtue of necessity, still stick to the place with a pertinacity very commendable, affording a supply of excellent bait for fishermen, whose children, barefooted, visit the rocks every tide, knife in hand, detaching the limpets from the rocks with a skill the result of long practice.

About a mile from the village, and as recently as fourteen or fifteen years ago entirely unconnected with it, is a pretty little valley, a romantic spot, situated between two limestone hills, and once a favourite resort of Sunderland and his wife at the picnicing season of the year. Here, only a very few years ago, science smelt coal, and with a wonderful effort of engineering skill soon obtained it, and one result is that to-day upwards of seven hundred cottages, substantial and commodious, each with its own garden and out-premises, tenanted by nearly four thousand people, stretch in long regular lines, broken only by churches, chapels, and schools, over the undulations of the intervening country till they reach our little village of Ryhope, and it and Ryhope colliery become virtually one little town. The sports and pastimes of a pit village are various. Its inhabitants are, perhaps, in part not the most civilised portion of the community, nor has their peculiar calling a very humanising tendency; but there are among them men made of good stuff, the object of whose lives is to raise the moral standard of those with whom they come in daily contact, and in these efforts they are ably seconded by the colliery owners, who are

ever foremost in assisting in every good work which has for its aim the elevation of the vast numbers who are to a great extent dependant upon them. Out of this desire originated the Ryhope Floral and Horticultural Society, with its Exhibition and its Poultry Show, which yesterday (August 28th) resulted in one of the most signal successes which has attended any similar effort in this district. The Show itself, considered as a Show, was an immense success; and, apart from the splendid display of plants from the conservatories of the surrounding upper ten, not the least interesting feature was the great quantity of "stuff" sent from the colliery itself, and exhibited in the various flower, fruit, and vegetable classes open to "cottagers or workmen at the colliery," the whole occupying four marquees, one 60 feet in diameter, another 90 feet by 60, and the other two 80 feet by 25. Not more interesting to those conversant with the higher walks of horticulture are the great exhibitions of the day than was the Show of yesterday to many a begrimed hewer, who had spent many an hour in cultivating his little estate, and who was as proud of being first with his six spring Onions as the winner of the first prize for six stove or greenhouse plants. There will not be room in your columns for the names of the winners, but I daresay some who read the Journal will see recorded—

"Something attempted, something done."

You noticed the poultry show last week.—W. A. Blakston.

METROPOLITAN FLORISTS' SOCIETY'S SHOW AT THE CRYSTAL PALACE.

August 30th and 31st.

There was an immense difference between this Show and that of last year, but there is an immense difference also in the season of 1871 as compared with that of 1870. A dry summer can to some extent be remedied by the liberal use of the watercan or hose, but such a season (summer we cannot call it) as this, no artificial means can remedy; and the cold and cheerless spring, the wet and cold of June and July, were elements nothing could combat; and hence it was that in vain we looked for that magnificent line of Dahlias which made the last Show so memorable, for the splendid Asters, for the glowing Roses of 1870. The only flowers which were at all comparable to those of last year were the Hollyhocks and the Gladioli; the former certainly surpassed last year, and the latter were far more numerous, while I was glad to see fresh exhibitors taking the field and occupying prominent places. As it was, it is not difficult to see why Dahlias should have so fallen short. Anything more ungenial for them than the weather which immediately succeeded their planting-out could not be imagined. They did not remain stationary, they went back; and although the fine weather in the latter part of August did much for them, yet not one-third of the plants were in bloom, and indeed now I hardly fancy they will be equal to the splendid flowers of last year. Hollyhocks were very fine; and the seedling of Mr. Kelway's that obtained Lord Hawke's first prize, and that of Mr. Oats which obtained Mr. Chater's prize, were really magnificent flowers. Mr. Kelway's Gladioli were as usual very fine, though hardly equal in finish to those of last season; while, on the other hand, Mr. Douglas, of Loxford Hall, has never shown such spikes as he has done this year. Both of these exhibitors exhibited some fine seedlings, to some of which certificates were awarded.

I may as well here mention that a change will be made in the Exhibition next year. An international fruit show will be added to it if the fruit-growers of the kingdom will give their aid. I am quite willing to take the additional labour provided they will come forward to aid it. I shall hope to consult them by-and-by, and in the meantime can say that the Crystal Palace Company will give £50 to start with. So, my friends, set to work, and let us have a Show which shall be worthy of English gardening and of the place where it will be held.—D., *Deal*.

Owing to the exceptional character of the season the Show on this occasion was by no means equal to our expectations, notwithstanding the fact that the Crystal Palace Company had liberally supplemented the prizes offered by the Metropolitan Florists' Society. Dahlias were on the whole small, but would no doubt have been much larger had the Exhibition been a week later, and had the hot sun of the week previous not destroyed the best. Hollyhocks, on the contrary, were very good. Among the Gladioli were some remarkably fine seedlings, while Asters were also good. The arrangements of the tables, as usual, were excellent, and the introduction of a variety of plants along the centre of the stages, and breaking these up in bays, gave a good general effect.

In the nurserymen's class for forty-eight Dahlias, Mr. May, of the Hope Nurseries, Bedale, and Mr. Keynes, of Salisbury, were the two most redoubtable competitors. The former took the first position, the latter the second place. In Mr. May's stands the following were well represented—viz., Sir Greville Smytho, Emperor, Miss Roberts, Mr. Dix, J. Dunnington, J. Bennett, Charles Backhouse, Miss Henshaw, Commander, Yellow Perfection, Julia Wyatt, Flag of Truce, Vice-President, Golden Gem, Juliana, Indian Chief and Mrs. Thornhill. Mr. Keynes had very good blooms of James Cocker, Queen of Primroses, Annie Neville, Golden Eagle, Artemus Ward, Royalty, Mr. Dix, Sir G. Smythe, Monarch, Mrs. Wyndham, Mary Keynes, small but beautiful in colour, Vice-President, Hugh Miller, Lothair, Leah, rather small, and Gazelle. The third prize was withheld, and the fourth went to Mr. Walker, of Thame.

In the class for thirty-six the positions were reversed; Mr. Keynes was first and Mr. May second, Mr. Walker being third. Mr. Keynes's best were J. Cocker, J. Hunter, Flag of Truce, Jenny Austin, J. Neville Keynes, Lothair, Hugh Miller, Caroline Tetterell, Victory, Monarch, Annie Neville, John Lambert, and Sir G. Smythe. Mr. May sent Lord Derby, Sir G. Smythe, Octoroon, Adonis, lovely colour, white washed with pale lilac, J. Kirby, and others already named.

For twenty-four Messrs. Draycott, Humberstone Nursery, Leicester, Mr. May, Mr. Seale, Sevenoaks, and Mr. Walker were prizetakers in the order in which they are named. Among the varieties best shown were Julia Wyatt, Criterion, Hugh Miller, J. Bennett, Queen of Primroses, Harriett Tetterell, Sir G. Smythe, Miss Henshaw, Lord Derby, Flag of Truce, Edward Spary, and Yellow Perfection.

In the amateurs' classes the leading prizes for twenty-four were taken by Mr. C. J. Perry, Castle Bromwich, and Mr. Burpitt, gardener to C. Lambert, Esq., Wandsworth Common; and for twelve by Mr. Glasscock, Bishop Stortford, and Mr. Fewkes, Birmingham; Mr. Martin, Mr. Steer, and Mr. Beach, gardener to C. J. Herries, Esq., Sevenoaks, being the other prizetakers.

Of Fancies, the best twenty-four came from Mr. Keynes, and comprised good examples of Grand Sultan, Fanny Sturt, Miss Annie, John Sealey, Sam Bartlett, Bessie Wyatt, Pauline, John Salter, Sparkler, and Miss Neilson. Mr. May was second with fine blooms of Pluto, Pope's Gem, Galatea, Leopard, Hero of York, Sparkler, and Chang. In the amateurs' class for twelve the prizes went to Mr. C. J. Perry, Mr. Burpitt, Mr. Beach, and Mr. Martin, Hurstpierpoint.

For the prizes offered by Mr. Keynes for seedling Dahlias sent out by him in 1870 and 1871, Mr. C. J. Perry stood first, his best being James Cocker, Thomas Hobbs, crimson; Victory, James Grieve, buff, edged with crimson; Gipsy King, and Mary Keynes. Mr. May was second with Charles Backhouse, rich scarlet, Victory, and Thomas Hobbs. The third prize went to Mr. Coppin, Shirley, Croydon.

Messrs. Carter & Co. sent several pretty Pompone Dahlias about 2 inches in diameter, among which we noticed Obelisk, Princess Alice, and Erlking. Mr. Rawlings, Romford, received a first-class certificate for Maid of Essex, cream tipped with purplish lilac. Mr. Turner, of Slough, had a like award for Mrs. Saunders, pale yellow tipped with white, also for John Standish, rich red; both fine-formed flowers.

Hollyhocks were not numerous, but they were very good. The best nine spikes came from Mr. Oats, gardener to the Rev. Lord Hawke, Willingham Rectory, Gainsborough, and consisted of splendid examples of Alba superba, Walden Primrose, Fair Ellen, Queen of Yellows, Midnight, and rose, blush, and rosy crimson seedlings. Mr. Chater, Saffron Walden, the only other exhibitor, had fine spikes of Cygnet, Willingham Defiance, and Carus Chater. For twenty-four cut blooms, Mr. W. Chater was first, and Mr. Wheeler, Warminster, second; and for twelve, the prizetakers were Messrs. Oats, Porter, and J. W. Silver. The most noticeable for quality were Purity, Prince Albert, Triumph, Sanspareil, Ruby Queen, Walden King, Leah, Goldfinder, and Leviathan. Mr. Oats was also first for the best seedling with one of a fine rose colour, with the spikes thickly set with blooms. The Rev. Lord Hawke's prizes for seedlings went to Messrs. Kelway, of Langport, Mr. Wheeler, Warminster, and Mr. Chater, Cambridge; to the first for Lord Hawke, with very large rose-coloured flowers, to the second for Royal Prince, rosy red, and to the third for Albert Memorial, rosy crimson.

Of the Gladiolus there were several fine stands, notably those from Messrs. Kelway, of Langport, and Mr. Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, Ilford. The former were first for thirty-six and the latter for twenty-four and twelve. In Messrs. Kelway's group four seedlings had first-class certificates—namely, Magnificent, fiery scarlet; Felix, carmine, flaked with lake, and having a violet stripe in the lower divisions; Victory, carmine, with a violet feather and a white blotch in the lower divisions; and Glow, orange scarlet, with an ivory centre, flaked with carmine. Among the others in this collection were Distinction, soft rose, flaked with scarlet and feathered with purple; Vesuvius, Sir Thomas Symons, Meyerbeer, Madame Desportes, Norma, and Lacépède, all of which were fine. The second and third prizes for thirty-six went to Mr. Wheeler, Warminster, and the Rev. H. H. Dombrain, and the corresponding prizes for twenty-four to Messrs. Paul & Son and Mr. Walker, Thame, whilst for twelve the Rev. H. H. Dombrain was second. For six Mr. Hodgson, of Croydon, was first with Circe, Marie Dumortier, Racine, Madame Dombrain, Delicatissima, and Duc de Malokoff, the other prizetakers being Mr. Gold, Mr. Oats, and Mr. Glasscock. Mr. Douglas likewise took Chapman's patent show case, offered for the best six spikes of Gladiolus of 1870, showing Horace Vernet, Nestor, Sir John Franklin, Phidias, and Van Spandonck. In addition he had first-class certificates for Sylvia, scarlet, streaked with white, and feathered with purple at the base of the divisions, and for Fairy Bells, rose, edged with salmon and feathered with purple. Along with these were several other good seedlings, and fine spikes of Meyerbeer, Sir J. Franklin,

Legouvé, &c. The second position for six Gladiolus of 1870 was taken by the Rev. H. H. Dombrain.

Asters on the whole were good, and some of them quite as fine as in more favourable seasons. The principal prizetakers, were Mr. Wheeler, Messrs. Kelway, and Mr. Matthews, Hoxton, and Mr. Walker, Thame.

Roses could hardly be expected to be fine after so much hot sun. The best came from Messrs. Paul & Son, and Mr. C. J. Perry, Mr. Coppin and Mr. Fewkes also showing creditable trusses. The latter also sent Verbenas and French Marigolds, taking the second prize for the former, Mr. Perry being first with very fine trusses. Of other subjects, Mr. Edwards, florist, Upper Norwood, sent two very fine specimen Hydrangeas in tubs; Mr. Farndell, Wandsworth Common, fine examples of White and Red Tripoli and other Onions; Messrs. Downie, Laird, & Laing a group of fine-foliaged plants; Messrs. Dickson, of Edinburgh, a collection of hybrid bedding Violas, which were dwarf in habit, good in colour, and likely to be useful; and Mr. Eckford, Coleshill, seedling Verbenas.

In table decorations there was a marked improvement as compared with those shown on August 5th, more originality, and a great deal more elegance. The arrangements of Mr. Buster, St. Mary's Cray, and Miss Hassard, Upper Norwood, were very graceful. Mr. Buster, Goring, was third, and Miss E. Blair and the Rev. H. H. Dombrain were commended.

At the risk of being thought presumptuous, I have made up my mind to write a few notes of my impressions of the recent flower show of the Metropolitan Society at the Crystal Palace, and to trust to the tender mercies of the Editors for their insertion in "our Journal," hoping to repeat the attempt on another occasion if successful.

As the names of the prizewinners will be supplied by the usual authorities, I need not repeat a list of names, which, however well known, have but little interest for those who are not practical gardeners. I went to the flower show simply as one who is very fond of flowers and gardening—a description which will, I daresay, apply to four out of every five spectators, who generally pay very much more attention to the flowers than to the names of the exhibitors. I might take as my text "Flowers not Exhibitors."

I shall plunge at once *in medias res*, without reference to classes or arrangements, and commence with Roses. There were not many specimens of the queen of flowers, and those which were exhibited soon showed the effects of the heat, which was very great on each day. The best Rose in the Show to my mind was a Charles Lefebvre exhibited by Mr. Perry. Some of the specimens exhibited under the same name were of such very different shades, that it was almost impossible to believe that they could be the same. Alfred Colomb was a most conspicuous example of this, and were I to order it, I am sure I do not know what coloured Rose I should get. Judging from the specimens I saw I should select Charles Lefebvre, Alfred Colomb, Céline Forestier, Maréchal Niel, La France, Madame Alice Durean, Mdlle. Marie Rady, and Madame Willermoz as among the best Roses on the tables. The heat of the day and the lateness of the season were much against them.

Verbenas were not plentiful but very good. None beat my old favourite Géant des Batailles.

Asters were very good indeed, but the prizes were not awarded in every instance quite in accordance with my ideas. I was not the only person who considered the twelve flowers exhibited by Mr. Silver, gardener to J. P. Saunders, Esq., better than either of the collections which took the second and third prizes. All the prize collections of thirty-sixes were most excellent, and it must have been an unenviable task to try to distinguish between them. I shall for the future discard German Asters and stick to the French.

Hollyhocks were magnificent, particularly the collections of Mr. Oats, and of those exhibited by him notably his twelve cut blooms. It was necessary to see them in order to believe that this flower could be brought to such perfection. It was not the least satisfactory feature in this class that the amateur carried all before him.

Dahlias were a sight to see, though I must confess that it is not a favourite flower with me. Mr. Keynes had in one of his collections a magnificent Queen of Primroses, which was, I think, the best specimen among them all. It excited great admiration. Of the others I shall select Julia Wyatt, Monarch, Golden Gem, Lord Palmerston, and John Neville Keynes as among the best.

Gladioluses I have kept till last, as to my mind they formed the feature of the Exhibition. They were simply magnificent. I would use a stronger word if I had one at command. Oh! what a feast of glorious colours and delicate shades! I could not help asking myself why this splendid flower is not more generally grown. If the Metropolitan Society should succeed in bringing it into greater notice, and accomplish nothing else, it would still have done a great work. Messrs. Kelway's thirty-six were very grand, and presented a sight well worth a journey. Mr. J. Douglas exhibited some very beautiful spikes, and amongst others one of Meyerbeer, which was to my mind the finest in the Show. There was not a single collection exhibited which would not have been a splendid feature in any garden. There was scarcely a spike which was not "a thing of beauty." The fact that "D.," of Deal, was among the prizewinners gave an additional interest in my eyes to this part of the Exhibition.

Of table decorations I confess I have scarcely patience to write. I do not know what were the conditions of the competition, and I defy anyone to guess at them after an inspection of the awards. There were but few specimens which were fit to be placed on any well-dressed table. In many instances the receptacle for the flowers was of the very commonest shape, and dressed in the worst taste. The design of Mr. W. Dedman, jun., which appeared to me the most tasty and suitable, being light and capable of being prettily dressed, was passed over without even a commendation, while a second prize was awarded to a contrivance from Messrs Barnicott & Banfield, consisting of flower-glasses and candelabra combined, in which the top flowers must have caught fire if the candles had been lighted.

The same remarks will apply to vases and baskets. Most of the articles exhibited were of the very commonest description. The third-prize vase was preferable to either of those to which the first and second prizes were awarded. In one instance a commended was bestowed on a common unshapely vase, containing a bunch of unarranged flowers. This was, I think, the climax. I was, and still am, in doubt whether the whole thing was not a joke. If it were not, I can only say I think this part of the Exhibition was very humiliating. I should have left the building in a state of great disgust after an inspection of these so-called "decorations," but the sight of the Gladioluses and the sound of that grand Handel Festival organ restored my equanimity.

To sum up, I should say, speaking as an amateur and an ignoramus, that the Dahlias and Verbenas were good, Asters and Hollyhocks very fine, and Gladioluses magnificent; but that the table decorations showed a sad lack of invention in the designs, and in many instances great want of taste in the dressing, but, taken as a whole, the Show was a source of very great enjoyment.—W. H. B.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 6TH.

The Show on this occasion was held in the Council-room, which barely afforded space enough for the full display of the subjects sent, which were not, however, sufficiently numerous to have filled a tent, even had the appearances of the early morning been more inviting than they actually were. Still the day was fair, the Show was interesting, and the attendance of visitors much better than one could expect now that London is out of town.

The show of Dahlias, though not by any means so extensive as that at the Crystal Palace, was superior in quality; a week has made a great difference in the blooms, and it was generally admitted that the Metropolitan Society's Show was for this season fully a week too soon. For twenty-four Messrs. Kelway, of Langport, were first with splendid blooms of King of Primroses, Pandora, Julia Wyatt, King of Sweden, Master of Arts, Mr. Dix, Jenny Austin, Vice-President, Miss Henshaw, Lord Napier, Charlotte Dorling, Volunteer, Lord Shaftesbury, Flag of Truce, Lord Derby, Andrew Dodd, Ellen Potter, Sydney Herbert, Princess of Wales, Hugh Miller, Mrs. Boston, Lady G. Herbert, and good examples of some others. The second-prize twenty-four came from Mr. Turner, of Slough, and consisted entirely of seedlings, several of which were very fine in size, form, and colour. Mr. C. J. Perry, Castle Bromwich, was third, showing fine blooms of James Cocker, Mary Keynes, Gipsy King, Vice-President, Hebe, and Miss Roberts. Mr. Burpitt, gardener to C. Lambert, Esq., Wandsworth Common, and Mr. Walker, Thame, also exhibited in this class.

In the amateurs' class for twelve Mr. C. J. Perry took the lead with Vice-President, John Keynes, Flora Wyatt, Lord Derby, &c. The second prize went to Mr. R. Parsons, Waterstock, Oxon, and the third to Mr. Beach, gardener to C. J. Herries, Esq., Sevenoaks.

Of Asters not quilled there was an excellent show, many of the heads being very nearly 4 inches in diameter, and the colours fine and distinct. Mr. Wheeler, of Warminster, was first for twenty-four with a remarkably fine stand. The second prize went to Messrs. Kelway, of Langport, who had some very fine blooms both as regards size and colours, the latter in several of the varieties being very brilliant. Mr. Chater, Gonville Nurseries, Cambridge, was third. Mr. Walker, Thame, and Mr. Rowe, The Rookery, Roehampton, also competed.

In the open class for twelve Asters Mr. Chater and Mr. Wheeler were respectively first and second, both with excellent blooms.

In the amateurs' class for the same number of blooms the prizes went to Mr. Rowe, Mr. Farndell, Surrey County Asylum, Tooting, and to Mr. Porter, gardener to Mrs. Benham, Isleworth.

For six Asters in pots Mr. Rowe and Mr. Porter were the only exhibitors, showing very well-bloomed plants. Messrs. Veitch exhibited, not for competition, a splendid collection of Truffant's Pæony-flowered, Chrysanthemum-flowered, and other varieties.

Of Verbenas, stands of twenty-four were exhibited by Mr. C. J. Perry, and Mr. Chater, Gonville Nurseries, Cambridge; the former being first with splendid trusses of Edwin Day, scarlet, Charles Perry, Lilac King, &c. Mr. Chater's trusses were somewhat past.

Of six plants of Lilium speciosum in not fewer than three varieties only one collection was shown; that came from Mr. Bull, of Chelsea, and consisted of L. speciosum (lancifolium) album, sub-varieties of rubrum, also roseum and punctatum. The plants ranged from 2 to 3 feet in height, and were in splendid bloom.

In six distinct Liliums Mr. Bull again was the only exhibitor, showing L. auratum in magnificent bloom, a variety of it called pictum with the band in the centre of each division purple-tinged, L. specio-

sum album and L. tigrinum, both very fine, and a variety of speciosum with the anthers orange instead of brownish crimson.

FRUIT COMMITTEE.—G. E. Blenkins, Esq., in the chair. Rev. C. C. Ellison, of Bracebridge Vicarage, Lincoln, sent two very handsome heads of Veitch's Autumn Giant Cauliflower, to which a special certificate was awarded. Mr. Charles Turner, of Slough, sent a brace of Blue Gown Cucumber. He also sent a brace of one named Wizard, of the Sion House race, which were very good. Mr. Perkins, gardener to Lord Hartismere, Thornham Hall, Suffolk, sent a large fruit of Sooly Qua Cucumber 5 feet 2 inches long. Messrs. Watts & Son, Northampton, sent the Improved Giant King Potato; and Mr. James Barpitt, gardener to C. Lambert, Esq., Wandsworth Common, sent a seedling called Bountiful. The Committee decided that in future they would give no opinion upon any new Potatoes until they had been grown in the garden at Chiswick. Messrs. Carter & Co. sent a runner Bean called Canada Express. Mr. D. McKellar, gardener to Charles Magniac, Esq., Colworth, Bedford, sent some very good Onions of the White Spanish and Globe varieties. Messrs. Barr and Sugden exhibited a collection of Onions, and a vote of thanks was awarded, and special attention was directed to the variety called Trebons, with a desire that it may be exhibited again. Mr. C. Osman sent a collection of fifteen dishes of vegetables, all of a very meritorious character, to which a special certificate was awarded. Mr. William Armstrong, gardener to F. D'Eath, Esq., Hendon, sent a Queen Pine weighing 4 lbs. 3 ozs. from a sucker of fourteen-months growth.

Mr. Clarke, gardener to W. Vivian, Esq., Roehampton Lodge, sent a bunch of Black Hamburgh Grapes. Mr. Pearson, of Chilwell, sent a seedling Grape called Dr. Hogg, a large, long-shouldered Grape, with a large round berry, and a fine Frontignan flavour. This was highly appreciated by the Committee, and was awarded a first-class certificate. Mr. Pearson exhibited several other seedlings which were not sufficiently ripe, and which will be sent to a subsequent meeting. Messrs. E. G. Henderson & Son sent a seedling Grape ripening three weeks earlier than White Muscadine. The bunches were not quite ripe, but were well forward in ripeness; the flavour was deficient. Mr. W. G. Gaiger, The Gardens, Burton Closes, Bakewell, sent dishes of excellent fruit of Bellegarde and Royal George Peaches, and Hunt's Tawny Nectarine. Mr. Donovan, gardener to Mrs. Kettlewell, Norwood, sent two dishes of Nectarines. Mr. Porter, gardener to Mrs. Benham, Sion Lodge, Isleworth, sent a dish of Peaches from an open wall. Mr. Turner, of Slough, sent a basket of a new Plum raised by Mr. Ingram at Frogmore, called Bonne Bouche, which was awarded a first-class certificate three years ago. This is a large greenish fruit, a good deal like Washington, and with a fine Green Gage flavour. Mr. B. Porter, gardener to Mrs. Benham, sent a dish of Pond's Seedling Plum. Mr. J. Clarke, gardener to W. Vivian, Esq., sent a dish of Victoria Plums. Mr. William Paul, Waltham Cross, sent a collection of forty-six varieties of Apples, all correctly named, which was awarded a first-class certificate. Mr. Reid, gardener to the Earl of Crawford, Haigh Hall, Wigan, sent two large fruits of Passiflora quadrangularis, which had been grown in a Melon pit. They were well ripened and well flavoured, and the Committee awarded them a special certificate. Mr. D. Ross, gardener to Colonel McDonald, St. Martin's Abbey, Perth, sent a seedling Melon called Ross' Seedling, a large oval fruit with a pale green flesh, and of good but not superior flavour. Messrs. Kelway & Son, Langport, sent a small red-fleshed Melon called Eclipse. Mr. Cadger, The Gardens, Luton Hoo, sent four seedling Melons. Mr. Perkins, Thornham Hall, sent a fine fruit of Queen Emma Melon, which was in fine condition and much approved by the Committee. It was awarded a special certificate.

Mr. Pragnell, Castle Gardens, Sherborne, exhibited a collection of Onions, which for their fine growth and great size we have never seen surpassed. The New Giant White Tripoli, Giant Madeira, and Giant Rocca were quite extraordinary, and the Nuneham Park form of the White Spanish was equal to the best specimens we have seen. The names of the other kinds were James's Keeping, Italian Red Tripoli, Flat Tripoli, Globe Tripoli, Blood Red, Danvers' Yellow, White Lisbon, Reading, Bedfordshire Champion, White Spanish, Neapolitan Marzagole, Early White Naples, Brown Globe, Strasburg, White Nocera, and Silver-skinned. The Committee awarded a special certificate, and in addition recommended Mr. Pragnell to the Council as deserving a medal for his very meritorious exhibition.

Messrs. Carter & Co. offered prizes for the best collections of Onions, including the Giant Rocca, Giant White Tripoli, and Neapolitan Marzagole. Mr. Farndell, Surrey County Asylum, Tooting, was first with excellent examples of the kinds named, Trebons, White Spanish, White Lisbon, &c. Mr. Baverstock, gardener to W. Hope, Esq., was second, and Mr. Miles, gardener to Lord Carrington, third. It would be useless to give the names of the varieties, as certainly the same kind figured under different names in different collections. Mr. Garland, Killerton Gardens, Devon, exhibited a collection not for competition.

FLORAL COMMITTEE.—Dr. Denny in the chair. There was on this occasion a large number of novelties, seedling Dahlias, Hollyhocks, and Verbenas being present in great force, but the proportion that were considered of sufficient merit to receive certificates was small.

Foremost must be mentioned Amaranthus salicifolius from Manilla, exhibited by Messrs. Veitch, of Chelsea. Of this two sets of half a dozen plants were shown, and excited general admiration. They averaged about 3 feet high from the pot, and few plants could be more ornamental, having long, narrow, graceful weeping leaves, most of them purplish rose with an orange tinge, others bronzed metallic green. Their effect was extremely fine, and we believe, moreover, that the plants were lifted from the open ground, and therefore, probably, capable of being treated as half-hardy annuals. Whether that be so or no, it is quite certain that this Amaranthus will prove a great acquisition. Messrs. Veitch also received a first-class certificate for Masdevallia amabilis, with lovely magenta sepals. From the same firm came also the orange scarlet Begonia Veitchii, which has before been certificated.

M. Jean Verschaffelt, of Ghent, sent a fine collection of Agaves; Mr. Croucher, gardener to J. T. Peacock, Esq., Sudbury House, Hammersmith, a collection of very remarkable Echinocacti, Mammillarias, and Cereuses, for which he received a special certificate; and Mr. Bull, Chelsea, several Draceenas, of which D. splendens, with olive and red leaves edged with deep red, and with the young foliage rosy red, was awarded a first-class certificate. A special certificate was given to Mr. R. Parker, Tooting, for a fine basket of Ixora amatilie, with fine deep orange heads. Messrs. Carter & Co. sent a double Tiger Lily, much inferior, as shown, to that noticed at page 140, also Begonia carminata superba, with pale flesh flowers and white-veined dark velvety foliage. Messrs. E. G. Henderson sent a number of plants of the ornamental golden-leaved Thyme which they have so often exhibited, also of Thalictrum adiantoides, and the variegated Hydrangea japonica. Messrs. Ponsford & Son, Brixton, had a special certificate for cut specimens of Clerodendron Bungei.

From Mr. George, Potney Heath, came a seedling winter-flowering Picotee called Celestial; and from Messrs. Lee, Hammersmith, Bronze Zonal Geranium Disraeli and Tricolor Compactum, to show their value as bedding plants. Mr. Eckford, gardener to the Earl of Radnor, Coleshill, also sent a seedling Zonal called Crimson King, and Bronzes Countess of Radnor and Princess Louise, the latter with a broad zone. From the Society's garden, Chiswick, come Begonia Richardsiana, a neat white-flowered species, with small deeply-slashed leaves, and when grown as exhibited, forming very ornamental free-flowering specimens in small pots.

Of new Dahlias, Mr. Turner, Slough, exhibited some very fine varieties, several of which have been noticed in the report of the Show at the Crystal Palace. Mrs. Saunders; John Standish, the latter splendid; Souvenir d'Herbert Turner, large, white; and Kate Haslam, lilac peach, of fine form, had first-class certificates; and a second-class certificate was given for Mrs. Waite, pale peach, with a white centre, of fine form. Mr. G. Quilter, orange; and Mephistopheles, dark maroon, were also promising. Mr. Lidgard, of Hammersmith, had a second-class certificate for Model, maroon crimson, but small. Mr. Keynes, of Salisbury, had first-class certificates for Dolly Varden, a very pretty faint blush, lightly tipped with purple; and for William Keynes, rich reddish orange. From the same exhibitor came also William Laird, lilac; and Marchioness of Lorne, cream, tipped with purple, a showy flower. These received second-class certificates. Mr. Parker, Winkfield, sent several seedling Dahlias, of which Lady Herschel, with a light ground and tipped with purple, was awarded a first-class certificate, and a similar award was made to Mr. Rawlings, Romford, for Maid of Essex, which was also certificated at the Crystal Palace. The exhibitors above named, also Mr. Harris, Orpington, and Mr. Fewkes, Birmingham, sent numerous seedlings. That from Mr. Fewkes, called Crimson King, was of great size and fine colour; and Flower of Kent, from Mr. Harris, though too small, was a good yellow.

Of Gladiolus, Messrs. Kelway, Langport, sent a collection, as well as a number of new kinds, the best of which have been noticed in another page. Mr. Tillery, gardener to the Duke of Portland, Welbeck, a great raiser of this flower, sent Celestial, white edged with scarlet, with a white line in the upper divisions. This had a novel and attractive appearance, and received a certificate of the first class.

Several stands of seedling Hollyhocks were also shown. Mr. W. Chater, Gonville Nurseries, Cambridge, was awarded a first-class certificate for Peerless, pale buff; and Mr. McKellar, gardener to C. Magniac, Esq., Colworth Hall, had first-class certificates for Jeanie, primrose, and Rose of Sharon, crimson.

Of Verbenas Mr. Perry, Castle Bromwich, sent Emma Weaver, very fine, white with a large purplish rose eye; and Mr. Eckford, Plato, deep scarlet, with a very large truss, and Lady Edith, very beautiful, white with a crimson eye.

A special certificate was awarded to Messrs. Veitch for their fine collection of Asters.

Although not exhibited before the Committee, we must mention a remarkably fine Gladiolus called cruentus, with flowers more like those of Vallota purpurea than of a Gladiolus. They are of a splendid scarlet, the lower divisions barred with white at the base, and produced not more than four at a time, but in long succession. The plant is very vigorous, but we are informed by Mr. Standish, in whose interesting collection at South Kensington it is to be seen, that it flowers well in a 5-inch pot. Peter Barr, a hybrid crimson scarlet, with a white feather and stripes, is another vigorous-growing kind well deserving of attention.

CHISWICK TRIALS OF FLOWERS.—It has been suggested that the best plan of making up the collections at Chiswick would be for the

various growers to contribute at this (autumn) season of the year, when they can be so much more conveniently looked out and dispatched, such kinds as they can spare of those already sent out. To further this object it was also suggested that catalogues should be sent to Mr. Barron for him to mark in them the names of those kinds which the Society already possesses. Mr. Barron is quite prepared to carry out this suggestion with a view to making the next season's trials as complete as possible, and would be glad to receive at once any varieties of the under-named flowers which are not already at Chiswick. In addition to the bedding Pelargoniums, which always form the principal group of trial plants, it is proposed to form also as complete sets as possible of Phloxes, Pentstemons, bedding Lobelias, and bedding Violas for out-door culture, and of Fuchsias for culture in pots. Address, Mr. A. F. Barron, Superintendent, Royal Horticultural Society, Chiswick, W.

GRAVEL WALKS—INSECTS—SEASONS.

Owing to the wet summer my garden walks (Steevie says they are half a mile in length—facts are sometimes figures) have been very grassy and weedy. I have used boiling water with vitriol and salt, and at present the weeds look dead; at any rate, the walks look well. A weedy walk looks as if the owner is dead or bankrupt. It is only an experiment.

Insects are innumerable. The ants I have killed with boiling water and by hand. Bluebottle flies, moths, wasps, and hornets I have caught in glass jars, such as pickles are sold in. I use treacle, cider, and hot water. I have twenty-four jars down at the base of the trees. They are full of the above enemies. Had I not done this they would have ruined my capital crop of Peaches and Nectarines. The trees are in fine condition for another year, with plenty of triple buds. I have cut in half a good deal of foliage in order to let in sun and air.

We shall have, I think, an early and hyperborean winter. I like a hot summer, genial autumn, and hyperborean winter, to be followed by an early spring.—W. F. Radclyffe.

MEALY BUG IN A VINERY.

About seven years since one of my vineries became infested with mealy bug through the introduction of a new Grape containing the eggs of this vermin. In the course of two years the whole of this vinery, 110 feet by 20, had become attacked. All the common remedies with the exception of guano, lately recommended by Mr. Abbey, were made use of without effect; and I believe that when once this pest has fully established itself no remedy but one will eradicate it. We determined last year to try this remedy—*i.e.*, starvation. We cut down all the Vines, fifteen years old, to within a few inches of the ground, taking care to clean the stems. When the warm weather came the eggs of the insects left in the house hatched, but soon died from want of food. None have been observed since, and the Grapes this year are magnificent.—Observer.

RUBUS DELICIOSUS.

In a foreign catalogue I notice Rubus deliciosus. Upon referring to Don, vol. ii., page 539, I find it is a native of the Rocky Mountains, but he does not say a word about its fruit, though I presume its specific name must have been given in consequence of some real or supposed excellence. Do you know whether any English pomologist has endorsed its American reputation?—G. S.

[We know nothing of this beyond the description given by Don, and that it is stated in Loudon's "Encyclopædia of Trees and Shrubs" to have purple flowers, succeeded by a very delicious fruit, and to be a shrubby Bramble 5 or 6 feet high.—Eds.]

COMMON SALT A SOLVENT OF SILICA.

Common salt is a compound of chlorine and sodium. When mixed with the soil the sodium, by oxidation, becomes soda, and the chlorine, by combination with hydrogen—evolved from the decay of organic matter and from other sources—is converted into hydrochloric acid, which is one of the most powerful solvents of silica known in chemistry. This hydrochloric acid acting on the sand grains dissolves the silica, and insures the greater per-centage of this element, which analysis of the ash has shown to exist in the straw of grains grown on salted, sandy land, as compared with that from land with like character not manured with salt. A fine practical illustration of the solvent action of hydrochloric acid, which is obtained in immense quantities as an incidental product in the manufacture of soda ash from common salt, is furnished in the preparation of paper stock from East Indian cane. The cane, crushed between rollers, is steeped in the acid diluted with water, by which means the silicious outer coating is dissolved away. A more annoying example is frequently experienced in analyses in which hydrochloric acid is an agent, and in which, from the solvent properties of the acid, the process is hindered and the accuracy of the results made doubtful by the presence of gelatinous silica.—(*American Journal.*)

ANNUALS FOR AUTUMN SOWING.

We very rarely see the cause of hardy annuals advocated in our periodicals. Now and again we see a notice of one or two new introductions, with a few passing comments on their merits, but the tone of these comments unmistakeably shows that annuals are subjects of only second-rate importance in fashionable flower gardening. Their inexpensiveness, and the ease with which they may be cultivated generally, have prevented them from being so utterly neglected as hardy perennials have been; but for many years amateurs have been their chief patrons, and they have received very little favour, especially in the better class of gardens, from professionals generally. Now, however, that there are signs of a turn in the tide in favour of introducing more variety in form and colour, as well as subjects likely to prove attractive on other accounts than colour simply, we may fairly hope hardy annuals will come in for a fair share of attention. It would be superfluous to insist on their beauty; no one that has ever seen hardy annuals really well grown can have any other opinion than that in their ranks are to be found a goodly array of Flora's choicest gems. In general, light graceful beauty is their characteristic; they lack the boldness and sustained brilliancy of the favourite types of bedding plants; but this fact should be all in their favour in the view of those that desire to make some reform in their flower gardening. As a class they can never vie with bedding plants for the purpose of massing; a very few, perhaps, may be useful in that way, in cases where it is difficult or impossible with the available means to rear full complements of tender plants. They are only suitable for planting in the mixed style in which density of general effect must give place to individual attractions. They may be best employed in filling up blanks in herbaceous borders, and in ornamenting the edges of beds of shrubs, and some few are very beautiful rockwork plants. Many of them bloom very early, and may be had in flower a few weeks after sowing; and a very important group—the "Californian Annuals"—by means of autumn sowings, can be brought into flower so early in many of the favourable districts, that they may be made available in spring flower gardening; and even in the least mild parts, if a cold frame may be devoted to them during winter, they will serve, along with other hardy plants, to make beds and borders gay long before bedding plants can be turned out into summer quarters.

While the writer thinks it desirable that hardy annuals generally should receive a greater amount of attention, he has personally more favour for the Californians than for those other hardy annuals which, hailing from many countries superior in respect of climate to our own, can only be cultivated during summer with us; and it is to this group that the remainder of the present paper will be devoted. The different species comprised in the group are not all natives of California, but a large proportion of them are so. All submit to the same general treatment, and the term Californian annuals is therefore sufficiently applicable and convenient in a general sense. The beauty and profusion of the flowers of many of them are remarkable when they are well cultivated and attended to. The names of a few of the most popular among them, such as Limnanthes, Nemophila, Clarkia, Godetia, Eutoca, and Whitlavia need only be mentioned in proof of their first-rate ornamental qualities. These contain some of the most choice and brilliant of hardy annuals, but they by no means monopolise the beauty of either the group to which they belong, or the whole class of hardy annuals.

The Californians succeed best when sown in autumn in most parts of the country. I have often had splendid plants from self-sown stock of Limnanthes, Nemophila, Collinsia, and others in bloom in April in Scotland; and with careful attention to the removal of decaying flowers along with the seed vessels as they formed, they have lasted in ornamental condition till July and August, when late spring-sown plants come in to take their place, and keep up the display to the close of the

year. Many of them freely sow themselves, especially in light warm soils and early districts. Advantage may be taken of this in transplanting as many seedlings as may be required to a nursery-bed, in some sheltered corner, where they must be kept till the rigour of winter is spent. In less favourable districts, however, throughout the greater part of Scotland, and many parts of England also, although autumn-sown plants may scatter their seeds, and give rise to a number of plants, they are usually either too far advanced, or too late to winter well; in the one case being too gross, and in the other too small, to withstand the effects of long-continued frost and damp. It is better, perhaps, in every case, to sow regularly, so as to insure a prospect of ample stock to transplant the following spring.

The beginning of September is early enough to make the sowing; and the poorest piece of ground that can be chosen, if well sheltered and warm in aspect, is the best for the autumn seed-bed. If the ground is poor, sandy, and dry, so much the better; digging and sowing, either in drill or broadcast, is all that is necessary in this case. But if rich and retentive, it will be necessary to reduce the staple by the addition of sand, lime rubbish, or fine-sifted ashes; and further, in order to secure the best possible drainage for the young plants, it will be advisable to raise the bed in the centre ridge-fashion. If all this is needed, drill-sowing is the best in the circumstances; and the drills should be ranged across the ridge, not along it, because the plants will thereby enjoy greater variety of aspect, and will be also less liable to suffer from stagnation at all points of the drill, for the top of the ridge will always be in a tolerably well-drained condition in even the most unfavourable cases. Wherever a line can be sown along the base of a west or south wall the plants may be expected to do well, and to come very early into flower the following spring. In severe weather, long continued, they will require some kind of protection. A few saplings hooped over the bed, so as to support mats, or well-clothed spruce branches, will be found quite sufficient covering in ordinary winters in any locality; and these coverings should only be put on when the weather is so severe as to cause apprehension of destruction to the plants, and be removed again as soon as it improves. The plants will require to be thinned before winter sets in, so as to stand quite clear one of another; and some attention will be needed from time to time afterwards to keep them quite free from decaying leaves, and any other cause of damping that may find a place among them. Those that can devote hand-glasses or cold frames to the wintering of them will have their prospects of success increased, and will, besides, be rewarded by the earliest possible crop of flowers.

Under glass they will require similar treatment to Cauliflowers, Calceolarias, or Pentstemons. Give air at all times except during the most severe weather. Remove the lights wholly on bright mild days, and keep them on, but tilted, in wet ones. Give water sparingly, only enough to prevent flagging, till the days lengthen and the plants begin growing vigorously. In March they should undergo a process of hardening-off, so that they may be planted out in April as early as possible.

If they have been wintered in the open ground they will require no hardening-off preparatory to planting out, but any protection that may have been given to the seed bed should be removed a few days beforehand; and in the event of bad weather setting in after planting out, it will be advisable to stick a spray of spruce close to each plant so as to arch over it.

The first spring sowing will be early enough made in the end of April, and a second may be made the first week of June. The latter should be made on a west or east aspect, where the plants will come away more vigorously than if sown in full exposure to the sun. All that may be transplanted with safety may be sown in the ground either broadcast or in lines; and tap-rooted kinds that do not succeed well when transplanted, must be sown where they are to remain, or in pots, to be turned out with balls.

The following short list comprises a few of the best of the Californian annuals. Those marked with an asterisk are not in every case the most beautiful, but they are all worthy of being cultivated in any garden, and are specially marked as being the longest bloomers, some of them blooming for a very long period indeed, if a little care is bestowed in picking off the seed-pods, and on watering in periods of drought:—

Agrostemma Cœli-rosa, 1 to 2½ feet; rose-coloured.
Calandrinia speciosa, 6 to 9 inches; procumbent; violet-crimson.
  alba, same as species, but white-flowered.
Callichroa platyglossa, 1 foot; bright yellow.
Centaurea depressa, 1 foot; deep blue.
  rosea, same height as species; centre florets rose, outer ones blue.
*Clarkia pulchella, 1½ foot; in variety.
*Calliopsis tinctoria, 2 feet; yellow and dark crimson and brown, in variety.
Collinsia bicolor, 1 foot; lilac and white.
  bicolor candidissima, pure white; same height as species.
  multicolor, 1 foot; deep lilac and white.
  verna, 1 foot; blue and white—the best and earliest.
Eucharidium grandiflorum, 1 foot; deep rose-purple.
*Eschscholtzia compacta, 9 inches; bright yellow, with deep saffron base to petals.
* tenuifolia, 1 foot; sulphur.
Eutoca viscida, 1 foot; deep blue.
*Gilia tricolor, 1 foot; pale purple, shaded.
  alba; same as last, but with white margin to corolla.
Godetia lepida, 1 foot; pale lilac and deep purple, shaded.
  Lindleyana, 1½ foot; rosy purple.
  roseo-alba, 2 feet; rose in centre, dull white on margin of petals.
  rubicunda, 2 feet; lilac purple.
Koniga maritima, 9 inches; white.
Leptosiphon androsaceus, 6 to 9 inches; variously coloured from white to purple.
  aureus, 6 to 9 inches; golden yellow.
  luteus, 6 to 9 inches; pale yellow.
Limnanthes Douglasii, 6 to 9 inches; trailing petals, with yellow base and white margin.
  alba; same as species, but pure white.
*Lupinus nanus, 9 to 12 inches; purplish blue, white, and rose.
Malcolmia maritima, 6 inches; variously shaded with rose, purple, and white.
*Nemophila insignis, 6 to 9 inches; trailing; sky-blue, with white centre.
* insignis alba, 6 to 9 inches; pure white.
* maculata, 9 inches; white, with purplish-black spots.
Platystemon californicus, 9 inches; trailing; sulphur.
Oxyura chrysanthemoides, 9 inches; bright yellow.
*Silene vespertina, 1 foot; rose-coloured.
Specularia pentagonia, 1 foot; violet and white.
Viscaria oculata, 1½ foot; rosy purple.
Whitlavia grandiflora, 1 to 1½ foot; deep blue.

—W. Sutherland (in *The Gardener*).

NOTES AND GLEANINGS.

We are requested to announce that a Grand International Fruit Show will be held at South Kensington, in the Royal Horticultural Society's grounds on the 4th of October next, when numerous gold and silver medals will be awarded as prizes. Full particulars will be found in advertisements.

—— We have received from Mr. Begbie, gardener to Lady Rolle, at Bicton, half a dozen remarkably fine Brunswick Figs, grown in the open air. The lightest weighed 4¼ ozs., the heaviest 5¾ ozs., and the six within an ounce of 2 lbs., and all were perfectly ripe.

The Oldest Tree in Europe.—The oldest tree on record in Europe is asserted to be the Cypress of Somma, in Lombardy, Italy. This tree is believed to have been in existence at the time of Julius Cæsar, forty-two years before Christ, and is, therefore, 1912 years old. It is 106 feet in height, and 20 feet in circumference at 1 foot from the ground. Napoleon, when laying down his plan for the great road over the Simplon, diverged from a straight line to avoid injuring this tree.

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 17.

Some insects there are of which you can only get a sight at certain seasons, at other times you might search for them in vain, supposing you had suddenly conceived a wish to make acquaintance with one of that particular species. Now, if it so happens that you are a lover of earwigs, you may derive some satisfaction from the thought that any month throughout the year by a very little trouble you can bring one of these gentlemen to light. Yes, and not in any preparatory condition, but in his full dignity as a mature earwig. "A very malignant insect," says one. "A very shy insect," says another writer. Most assuredly earwigs have few testimonials in their favour to produce, and if their determination to do all the mischief they can in the garden and conservatory is a proof of their

malignity, well, then, in that sense they are malignant. Shy, too! yes, indeed, the epithet seems to have been applied to them by some as if it constituted a sort of redeeming quality in their character, yet it will be thought by most that the shyness of an earwig makes it more detestable. A set of determined skulkers are they, sneaking into all sorts of hiding-places during the day, when they will occasionally eat, if they can do so unobserved, but their grand feeding-time is at night; then they pour forth to commit ravages which are sometimes charged upon any but the real culprits. In the summer, as we know, their retreats are various; one can hardly pick a curled-up leaf without the expectation that it may contain one of them. Especially do they resort to the deserted habitations of the Tortrices, and they cluster about leaves and shoots which have been contorted by aphides. This, I have thought, may have arisen from some liking on their part to the secretion to which ants are so partial, for earwigs have a penchant for anything sweet, as is the aphis honeydew. A garden insect, truly, but not at all exclusively so; the species is only too plentiful in hedgerows, meadows, and dry woods, as entomologists who beat shrubs and trees for insects know full well. Nor do they refuse to reside upon open and healthy places, selecting the driest spots, as the Volunteers have experienced to their annoyance when encamped upon Wimbledon Common, though some of us who regard these individuals as intruders there, and consider that they are spoiling one of our best habitats near London for natural history objects, feel a sort of "mischief-joy," as Carlyle calls it, in their being thus earwigged; for, it must be remarked, that earwigs, like fleas, know nothing about respect of persons. The fact that a Peach is about to be presented to a prince will not prevent an earwig from eating his fill of the pulp, though he would certainly withdraw in due time, having had warning, since it must be quite as disagreeable to be bitten in half by royal as by vulgar teeth. This reminds me that I was once asked what an earwig tasted like, and I fancied the querist was contemplating some scheme by which these insects might be utilised, and like the oriental locust, served-up in some culinary compound (not a bad plan that of eating-up a garden pest were it palateable); but I really could not state from recollection, and in such a case it is far better for anyone to try the experiment *in propriâ personâ*. I have since been informed that earwigs have an unpleasant peculiar taste—raw; possibly cooking might modify this.

The name applied to the species before us has been the subject of much speculation. It has long been a popular belief that earwigs have a predilection for entering the human ear, and hence, so some say, arose the designation. It is not merely an English idea, for in France it is the Ear-piercer (Perce-oreille), and in Germany, the Ear-worm (Ohr-wurm), so that if Britons take up foolish notions they are not singular in so doing. Yet others will have it that with us the name was originally 'Ear-wing," because the delicate membrane of this organ when fully expanded resembles the human ear in shape, though this explanation is doubtful, because at the time when it was first distinguished by an English name, people were not generally observant of peculiarities in the structure of what were deemed despicable creatures, and a century or two ago, probably, scarcely anybody knew that an earwig had wings, as it was never seen to use them. According to Dr. Johnson, the Saxon "rigga," a verb meaning to "bore," or "pierce," is the root of the second syllable, thus rendering our vernacular name an analogue of the others. Still the notion as to the earwig's hostile intentions towards our organs of hearing is baseless. Every schoolboy will shortly be aware, it is to be hoped, in these advancing days, that the drum of the ear affords no passage for an enemy—no, not for a mite, whereby it could enter the brain and cause death or insanity, as is said. That, considering the well-known propensity of these insects to seek concealment, it is quite likely when persons have lain down in places where they abound, that one might lodge in the folds of the ear or enter the passage, we can readily admit. Two instances have recently been recorded, and in each the insect was easily removed from the ear. One of the two persons suffered great pain for a short time, which extended down one side to the feet. The other individual was most annoyed by the tremendous noise produced by the motion of the creature in the ear. The location of the earwig, too, amongst other insects has been a matter of dispute. The wings, which are most beautiful, have the chief nervures arranged in the form of radii, which spread from a common point near the anterior margin, and the membrane is so delicate that very tender treatment is necessary when it is to be examined. These wings are packed-up most neatly, being folded transversely as well as longitudinally, and hence Westwood placed Forficula auricularia in an order called Euplexaptera (well-folded wings). But Newman thinks otherwise, and we find it ranked with the Orthoptera in his little book, the "Insect-Hunters," where he describes the earwigs as

> "Feeding on the lovely petals
> Of our best and choicest flowers,
> Hiding in all sorts of crannies
> From the sunshine in the day-time,
> Crawling, feeding in the night-time;
> Their antennæ many-jointed,
> Gently tapering to the summit;
> The fore-wings are square and shortened,
> Leaving all the body naked,
> But the hind-wings, quite transparent,
> Like a lady's fan are folded
> Neatly up beneath the fore-wings,
> Very beautiful to gaze on.
> All the legs are very simple,
> And the feet are all three-jointed;
> At the tail we find a weapon
> Very like a pair of pincers,
> And with this 'tis said earwigs
> Open and fold-up the hind-wings;
> You must watch them and observe it;
> I have never had that pleasure."

Nor have I, and if it is the habit of some of the earwigs to open and close their wings with the forceps, it seems a rather useless proceeding, since these insects never fly. A gentleman who made repeated observations upon them in a district where they were so numerous as to be denominated a "plague," never saw one actually on the wing, though he thinks that occasionally when an earwig makes a leap, he may use his wings to keep himself steady. He notes also—that is, this observer, not the earwig, that when crawling up a wall or a curtain, they will suddenly jump to the ground should they apprehend danger, and sometimes, as he suggests, this is done in sport! A comical earwig! Well, perhaps such a thing may be.

But the effects of the jaw-work of these creatures in our gardens does not make the horticulturist feel at all comic; if he laughs it must surely be according to the common expression, "on the other side of his mouth." They attack fruit, wall fruit particularly, and of wall fruit liking best the Peach and Apricot; but in some seasons Pears and Apples are devoured extensively by them. Earwigs visit also the kitchen garden, and have been noticed to swarm upon Celery. The flower beds receive no better treatment from them; in some instances the whole plant will be attacked and present a mere skeleton of fibres, as the result of an inroad of a few nights. When less numerous, or less ravenous, earwigs confine themselves more especially to the flowers, the Dahlia being so exceedingly prized by them that the "show" which the cultivator would gladly make and for which he has long prepared, is sadly marred through the earwigs. It is to diminish the number of these that the Londoner has for years past been celebrated for adorning (?) his garden with inverted lobsters' claws mounted upon sticks, and which a foreigner is said to have regarded as an indication of the peculiarities of cockney taste in the matter of ornamentation. Small flower-pots are now much more frequently used for the same purpose. One of the most effective modes of getting rid of them is certainly this plan of providing them with hiding-places, out of which they must be shaken in the morning. Yes, and killed, and there is a difficulty. Earwigs have very tough constitutions. Drowning them is not easy, for they can swim; cut them in half, and life remains in the two portions of the body for some hours; even crushing does not immediately kill unless done very thoroughly indeed; and then, too, if you have a number to deal with, while you are operating upon a part the rest are rapidly escaping. Scalding them by boiling water is the best mode of disposing of them. Poisoning earwigs has also been tried, but it is reported that though they eat greedily enough certain "vermin destroyers" when mixed with sugar, the compounds did not seem to disagree with their digestion. Professor Westwood recommends as excellent traps small pieces of elder-twigs with the pith scooped out, which may be laid upon flower beds or suspended against walls or trees. Traps are also made on the principle of those used to destroy cockroaches—that is, with a cone of glass in the centre, into which the insects can be snared by means of bread.

Throughout their larval and pupal stages earwigs are as active as when matured, but have only rudimentary wings and wing-cases. It is to be observed that they do not hesitate to act as cannibals, and the dead or even the sickly individuals fall a prey to their brethren. Let me quote, however, one re-

deeming particular in the character of this insect. The eggs, which are deposited in some dry spot in a bank, or dry mound, are attended with great assiduity by the mother earwig. As the young ones grow they walk forth with their parent, as chickens with a hen, a circumstance which is attested by Frisch, De Geir, and Kirby.—J. R. S. C.

GROUND LEVELLING AND PRACTICAL GARDEN PLOTTING.—No. 23.

DRAWING PLANS.

To draw *fig.* 48. Erect rectangle A B C D, and draw diameter lines E F and G H. Draw lines *u*, *v*, parallel to line A D, and find centres *a*, *b*, *e*, *f*, *g*, *h*, *i*, *k*. From centre *f*, with radius *f* 5, draw arc 5. From centre *e*, with radius *e* 4, draw arc 4, meeting arc 5. From centre *a*, with radius *a* 2, draw arc 2, meeting arc 4. From centre *h*, with radius *h* 10, draw arc 10. From centre *i*, with radius *i* 9, draw arc 9, meeting arc 10. From centre *b*, with radius *b* 15, draw arc 15, meeting arc 9. From centre *k*, on line E F, with radius *k* 12, draw arc 12. From centre *g*, with radius *g* 28, draw arcs 28, 28. From centre *m*, with radius *m* 16, draw arc 16, uniting with arc 28 and meeting arc 15. From centre *n*, with radius *n* 22, draw arc 22, uniting with arc 28 and meeting arc 2. The other arcs are drawn from their respective centres in the same manner. Arcs 27, 27 are drawn from centre *g*, and meet diameter line G H. Arcs 17 and 23 are drawn from centres *m* and *n*. Arcs 18 and 19 are drawn from centre *s* on diameter line G H. Arcs 24 and 25 are drawn from centre *r* on diameter line G H. Arc 20 and the three corresponding arcs are drawn from centre *o*, also circle 21. The other side of the design is drawn in the same manner.

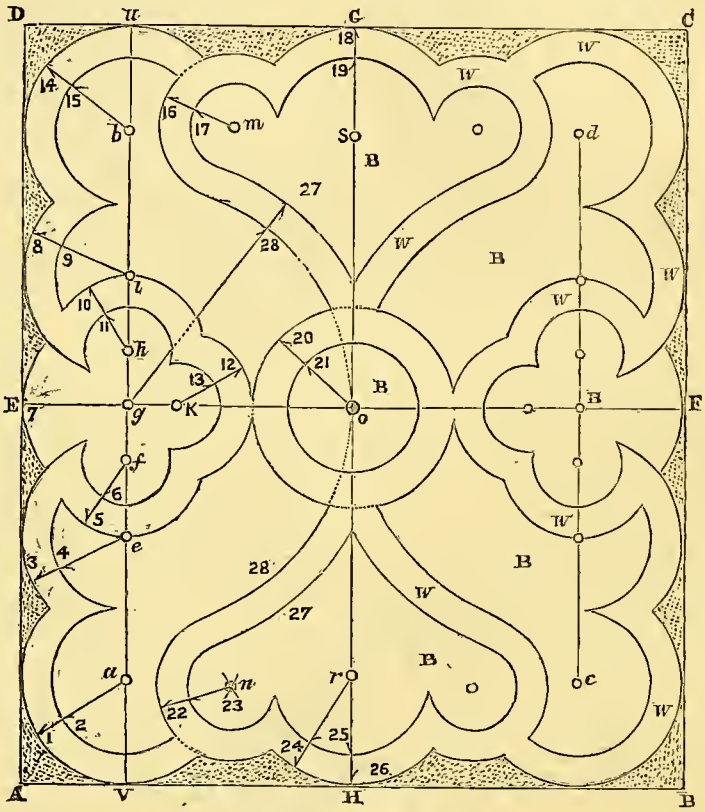


Fig. 48. Scale 12 feet to the inch.

To transfer *fig.* 48 to the ground. Lay the rectangle A B C D as before described. The distance between A B is 41 feet 7 inches, and between B C 48 feet. Insert stakes in angles in the usual manner, and lay the diameter lines E F and G H through centre o. From the stake at point A, on line A B, measure 6 feet 9 inches, and insert a peg, as at point *v*. From the stake at point D, on line D C, measure 6 feet 9 inches, and insert a peg, as at point *u*. Lay a line connecting points *u*, *v*. Where line *u v* crosses diameter line E F insert a peg, as at point *g*. On each side of the peg at point *g*, on line *u v*, measure 3 feet 6 inches, and insert pege, as at points *f* and *h*. On each side of the same point measure 8 feet and insert pege, as at points *e* and *i*; again on each side of the same point measure 17 feet 4 inches and insert pegs, as at points *a* and *b*. From the peg at centre *g* measure 3 feet on diameter line E F, and insert a peg, as at point *k*. From the peg at centre *f*, with a string 4 feet 6 inches long, trace arc 5, as shown by radius *f* 5; reduce the string 2 feet and trace arc 6. From the peg in centre *e*, with a string 6 feet 6 inches long, trace arc 3; reduce the string 2 feet and trace arc 4. From the peg in centre *a*, with a string 6 feet 6 inches in length, trace arc 1; reduce the string 2 feet and trace arc 2. From the pegs at centres *h*, *i*, *b* trace corresponding arcs. From the peg in centre *g*, with a string 16 feet long, trace arcs 27, 27; reduce the string 2 feet and trace arcs 28, 28, touching diameter line G H, as shown by the dotted line. Find centres *m* and *n* in the following manner:—From the stake at point A, with a string 14 feet 6 inches long, trace an arc, as in *n*. From the stake at point H, with a string 10 feet long, trace another arc, cutting the former one; where the two arcs cut each other is the centre required. Insert a peg at that point, as at *n*. Find centre *m* in the same manner. From centre *m*, with a string 4 feet 9 inches in length, trace arc 16, which will unite with arc 28 and meet arc 15; reduce the string 2 feet and trace arc 17, which will unite with arc 27. From the peg at centre *n* trace arcs 22 and 23 in the same manner. Trace the corresponding side in the same manner. Measure 17 feet on each side of centre o, on diameter line o H, insert a peg at each point, as at points *r* and *s*. From the peg at point *r*, with a string 7 feet long, trace arc 24; reduce the string 2 feet and trace arc 25. From the peg at centre *s* trace arcs 18 and 19. From the peg at centre o, with a string 6 feet 6 inches long, trace arc 20 and the three corresponding arcs; reduce the string 2 feet and trace circle 21, then the design is complete. All the lines and dotted parts are Box; D indicates beds, and W, walks.—M. O'Donnell, *Gardener to E. Leeming, Esq., Spring Grove, Richmond.*

WORK FOR THE WEEK.

KITCHEN GARDEN.

Where *Broccoli* and autumn *Cauliflowers* have been planted in shallow trenches these should now be filled up, for except in very dry situations the natural rains will keep them moist. The advancing winter crops of *Broccoli*, *Borecole*, &c., should be kept frequently hoed, and vacant ground may yet be filled up with the later kinds. In earthing-up *Celery*, the greatest care is necessary to prevent any portion of the earth from falling into the heart of the plant, which would prevent the upright growth of the inside leaves, and spoil its appearance for the table, nor should the earth be pressed too closely round the upper part of the plant, as frequently, when such is the case, it bulges out below. The best practice is to tie each plant up loosely with matting, having previously removed the suckers and small leaves, and then a little earth can be added every week as the plant increases in size. Another common

error arises from earthing-up Celery too soon. It should be allowed to grow to a considerable size before earthing-up is attempted, and be frequently soaked with water, as but little rain will reach the roots afterwards. It should likewise never be touched when the plants are at all damp. *Cardoons* will require similar treatment. *Leeks* in drills may have earth drawn up to them by the hoe. Late *Peas* and *Beans* will require close attention to prevent mildew; well supply the former with liquid manure. *Tomatoes* are likely to be late, and the leaves shading the fruit should be removed; prevent the plants making any further growth by constant stopping.

FRUIT GARDEN.

Any of the Peach and Nectarine trees which are observed to be growing too freely should be gone over, stopping all the stronger shoots, and those which were treated in this way a few weeks ago should also be looked over again, stopping a further portion of the shoots, if this appears necessary to prevent the formation of gross strong wood. Pears, and, indeed, all trained fruit trees, should also be gone over, removing all superfluous wood so as to expose the trees to sun and air as fully as possible. This will be of service in properly maturing the fruit spurs and bearing wood before winter. Where mulching has been used for Peach and Nectarine trees, it should be removed at once, if not already done, for the fruit is seldom well flavoured if the roots are excluded from the action of the sun and air during the period of ripening. See that Strawberries in pots for forcing next season are well cared for, placing them in an open sunny situation where they will have all the light possible, and do not allow them to suffer from want of water at the root.

FLOWER GARDEN.

Unless some precautions be taken to keep the taller plants in the beds of geometric flower gardens within proper limits, they will be likely, towards the end of the season, to become too high, and will destroy the uniform appearance essential to this style of gardening. A constant watch should therefore be kept on plants likely to exceed the standard height, and by frequently pinching-back or pegging-down endeavour to keep beds of the same pattern at the same height. At this season, with beds of flowering plants, frequent cutting-back and trimming will be required to prevent a straggling habit in free-growing plants; at the same time allow no dead flowers and seed-pods to remain on the plants. By careful attention to these little matters the season of blooming may be prolonged till the plants are destroyed by frost. Lawns should be well swept in dry weather to remove worm casts, and afterwards be well rolled. Where worms are very troublesome, water with clear lime water of full strength; this will bring them to the surface, when they should be removed. Cuttings of various evergreens should now be planted to keep up the reserve garden. Directly the early cuttings of bedding plants have taken root, remove them to an open situation, or place them out of doors, to ensure a hardy habit. If any beds under trees appear to be suffering owing to want of water, give them a good soaking at once, and see that late Hollyhocks are afforded a liberal supply, which will greatly assist in prolonging their beauty. We may soon have indications of the near approach of frosty nights, and it will be well to be prepared with something with which to cover any beds liable to be injured by slight frost, such as those of Heliotropes, and the variegated Geraniums, the foliage of which is very easily injured. Mignonette for winter and spring flowering may now be sown. Phloxes and other herbaceous plants will now be making a tolerably good show. If Auriculas are not already potted for the winter they should be potted without delay. Remove suckers or offsets, and place them round the sides of the pot, which should be 6 inches across. Auriculas are impatient of rich compost during winter—turfy loam, river sand, and very rotten horse dung, a small portion of the two latter, will make a suitable compost. It is far better to give them a strong top-dressing in the spring than to have it of too forcing a nature for their winter food. As regard Tulips, in consequence of the weakness of some of the bulbs, it will be advisable to put a small portion of decayed manure and leaf soil about 2 or 3 inches beneath the offsets. It is argued that manure fouls the cups, and with some show of propriety; but as there are always exceptions to every rule, I would recommend a stronger diet, at all events for the offsets in the coming season. The layers of Carnations and Picotees may be taken off and potted without delay, using compost as before directed. Many seedlings have missed blooming; and if not convenient to let them stand over the winter in their present situation, in consequence of the large spaces in the beds from whence the single ones have been removed, it will be advisable to prepare another bed of suitable compost, and carefully remove them with balls of soil into regular rows. Here they may stand the winter, and will bloom profusely next season. Look well to your composts, especially that for the blooming bed of Tulips, frequently turning it, and picking out wireworms and other insects.

GREENHOUSE AND CONSERVATORY.

Keep Begonias for winter display thin, that their foliage may be kept as much as possible from injury. Plumbago capensis, being almost indispensable for supplying cut flowers for autumn use, must not be overlooked. Attend also to Chrysanthemums; water them freely with liquid manure. The earliest winter-flowering Heaths and Epacrises should now or soon be placed under cover, as it will forward their blooming; give air, however, freely. The potting of Hyacinths for forcing must occupy attention; in doing this, do not forget to pot a few miniature ones, which are stated to bloom beautifully in proportion to their size; they form good outside rows to vasefuls of large-flowered varieties, which should, of course, occupy the centre. About equal portions of good fibrous loam and decayed leaf mould, with silver sand, will be the best soil for them if for forcing; but well-decomposed cow dung must be substituted for the leaf mould when the bulbs are intended for late flowering. After potting place them on a dry bottom, and cover the pots 2 or 3 inches deep with old tan or ashes, preserving them at the same time as much as possible from heavy rains. Shake out and repot Pelargoniums that are sufficiently advanced, after being cut back, keeping them rather close and moist until they strike into the new soil. Plants, however, that are fairly established after repotting can hardly be too freely exposed to air, or kept too cool. Let Cinerarias, also, be kept cool and moist, attending to repotting such as require it, and fumigating whenever green fly appears on any of the plants. Primulas must also be carefully attended to, in order to encourage them to make rapid growth, particularly the double varieties, which are invaluable for winter. Keep Tree Violets free of their great enemy, red spider, by a liberal use of the syringe, and give them plenty of manure water, which will help to keep them in vigorous health. Pot Intermediate Stocks for early blooming, and also a few annuals for the same purpose. Tropæolums of kinds must also be started. Azaleas which have ceased growing, and which have set well for bloom, should now be kept as cool and hardy as possible. Whatever watering may be necessary should now be done early in the morning, so as to allow of getting the superfluous moisture dried up before night.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

THE bright weather, so cheering to the farmer, brought up multitudes of small weeds in the garden, some pieces not long planted looking as if seeds had been sown on purpose. We believe that the soil of every kitchen garden of some years' standing is a storehouse of seeds of *weeds* for many succeeding years. A scuffle with the hoe soon sends them all out of sight in these sunny days, and one or other modification of the Dutch hoe is the tool for all such work, as it leaves no traces of the workman's feet behind it.

In the case of all new labourers and inexperienced hoers care must be taken that they cut up the weeds, and do not shove instead a little earth over the seedlings. It is well to run the foot along the ground of the hoers, to see that the weeds are really cut up when so small, and not merely covered over. With weeds averaging only an inch in height a 6-inch hoe with a fair pair of arms will soon go over a large extent of surface, and more especially if the man knows how to use the hoe; he need never stoop much at his work. There is plenty of back-stooping in gardening without making more of it than is absolutely necessary. Some men cannot mow without their body leaning uncomfortably over the scythe. By setting the scythe right for short grass there is no necessity for this doubling-up. We have known people complain because the man who mowed their lawn did not have his head near enough the ground. Like a man bending double over a Dutch hoe, it is all a mistake—a mere waste of energy and muscle over work which could be done just as well without such a strain on the muscles of the back.

We have no doubt that one of the most valuable things in a garden, the *rubbish heap*, a general omnium gatherum of all odds and ends, is one of the most fruitful sources of seeds of

weeds being taken back again to the garden. Such heaps if well managed are as valuable for general crops as hotbed or other dung, but carelessly used they become too often receptacles of seeds when weeds in a seeding state are placed there along with potting earth that has done its work, sweepings from lawns, &c. A little salt and lime will often greatly improve the quality of such heaps; but the best way to increase their value and to destroy the seeds that find their way to them, is to place grass mowings, rakings, all and everything that will heat violently in lower layers, with the more earthy matter over them, so that all may be heated through and through, and still the fertilising gases will be arrested instead of being permitted to contaminate the air. Even the humblest, if they do not use soapsuds, dish-washings, &c., as liquid manure, would greatly enrich their rubbish heaps by pouring all such water on them, and every now and then scattering a little dry soil over the places that receive the rich waterings. This will preserve the virtues of the decomposing materials, and the dry earth is the best and cheapest of all deodorisers.

Watering.—As far as this neighbourhood is concerned, with a low barometer we have still had no rain, though we have heard of heavy showers not far off. A fine rain would benefit the garden, do great good to the luxuriant crops of Turnips in the fields, and do little or no harm, if not continuous, to the later corn, as it would help to swell the ears of grain. Never could there have been better or more propitious weather for carting home the valuable corn produce. In the garden, however, many things were getting too dry, and we watered liberally Roses, Peas, Beans, Cauliflower, and Celery. We wish some of our learned friends would tell the quantity of moisture in the form of vapour a strong Celery plant would throw off in a bright sunny day. About eight days ago we gave our Celery beds a good drenching—sailing them, in fact, with sewage, and as some are apt to be careless with the spout of the water-pot, and as the stems of Celery are rather sensitive to strong manures, we followed with a watering overhead with clear water, or clear weak soot water, so that none of the sewage should rest on the stems, and then when the tops were somewhat dry we threw over the bed about an inch of finely-pulverised dry soil from the sides to help to keep the moisture in. With all this, however, we found the soil of the beds much drier than we expected, and there was no alternative but to give water even from our limited supply. We believe three or four days more of such weather would have given us, without water, bolted heads, which we do not want, and which hitherto we have not had for many years. We mention this simple circumstance that young enthusiastic amateurs may be induced to take nothing on trust, but examine and test for themselves, for if we had not taken a pointed stick and turned up the soil among the Celery, we could not have believed that with our dewy nights the Celery plants had managed to throw so much more moisture into the atmosphere than they had received from it. Fine rows of Scarlet Runners, too, with massive rich foliage, were inclined to drop a good many flowers without setting and swelling the pods until they had had a watering at the roots. For Peas and Beans, &c., we find it is a good method to sow in a shallow wide trench; it gives a better chance for watering effectually if needful.

Earthing-up Celery.—We have dwelt so much on this that to avoid repetition we would prefer referring to articles where the whole is fully described. Suffice it to say, that we have earthed-up our second piece in a bed, the plants having been tied loosely some time previously so as to encourage the centre of the plant to rise a little. These plants were well watered the day previously, and then were earthed-up at once in order to be ready in three weeks or so. We seldom earth-up more in summer than two or three dozen at a time. By following in small successions, we take the Celery up for use before the soil about the roots becomes exhausted of its moisture. When earthed-up there is less evaporation, but still it is considerable, and the part, bit-by-bit earthing-up, leaves the evaporation from the foliage full play, whilst the roots receive no added moisture, and then up comes the flower-stalk rendering the plant unfit for anything but the roughest kinds of soups, if even for that purpose.

If Celery is of a good size before planting out, the most if not all of the suckers that come in the axils of the outer leaves can be removed, but in general the plants should be examined carefully before tying, and every sucker or young side shoot carefully removed. Each head or stick will be more symmetrical in consequence. We generally use a sharp-pointed knife for the purpose. Some friends of ours, however, never remove any suckers, and they contend they obtain more useful produce in consequence. We mention this though we do not recommend it, and yet, as they contend, the plan has some recommendations. We saw some huge heads of dwarf Celery taken up last October, and though the main central head was not so good as ours, yet round the sides there were three, four, or more nice little blanched heads—suckers; and whilst the main head went to the cheese and salad-bowl, the side pieces went for kitchen purposes, or the best was cut up small for salad. A great amount of useful Celery may thus be obtained, though we should prefer growing some small Celery separately, and having the main heads more perfect.

The tying-up of Celery needs some care, so as to tie it loosely. It is easy to tighten before earthing-up if not tight enough. If at all tight the heart of the plant does not rise freely, and is apt to find a way for itself between the leafstalks below the tying. Shreds of matting are as good as anything for tying. Even single rows are worth the labour and trouble of tying. When grown in beds, the most economical way, tying is indispensable. People to whom Celery beds are something new, are anxious in their inquiries as to the earthing-up, but when the plants are well cleaned and tied, it is just as easy to earth-up a bed with from three to five plants across, as it would be to earth-up a single row. For late crops we prefer that each head should have a few furnace ashes round it, and that is easily done by placing two pieces of semicircular spouting-pipes round the plant, turning-in the sifted ashes from a barrow, and banking all round with earth as you go on, moving the pipes from row to row. In earthing-up, too, the earth should be broken fine with the spade before being applied. The throwing in large rough lumps among the Celery plants is doing them anything but justice.

Collecting Soil.—Now, when the ground is rather dry, there can be no better time for collecting whatever soil may be necessary for potting and the many other purposes for which it is required in a garden. If it can be obtained with the turf all the better; if not with the turf, still as little below it as possible, and the more fibre it has in it the better. When you have a choice, pass the rich meadow with its soft broad-leaved grass—that will generally be too rich and too adhesive even for general purposes. Choose rather the soil beneath grass that is small, hard, and pointed, more like so many stocking needles, than the large-leaved grass of the meadows. This you will most readily find in upland commons and sheep walks. If you cut such a piece of turf up with your knife, if it is only 1½ inch in thickness, you will find you can hardly tear it to pieces with your hands, it is so full of fibres. We have looked on such with longing eyes for years, without ever being able to get a load of it. After lying and sweetening for a few months, such soil would grow to perfection everything that did not absolutely require heath soil, not peat soil in the general acceptation of the term. Peat soil that has been taken from where water has passed or stood over it, however useful for fuel, is of no use for gardening potting purposes. The heath soil we want is that obtained from uplands, where the herbage gradually decaying has left a layer of vegetable matter mixed with disintegrated rock, sand, &c., the whole process taking place in a dry exposure, and not under water. Such heath soil can now only be obtained in many districts by the rich, as the price is getting higher every year. Such fibrous loamy soil as we have alluded to will grow almost all plants except Heaths, and even it may form a good part of the compost of the stronger-growing of them, and will do for all the Rhododendron tribe, provided there is no chalk nor lime in it—no amount of calcareous matter worth speaking of, as whenever that is present Rhododendrons will refuse to flourish.

With the above as a sort of guide in choosing, except where road surveyors are disposed to be extra troublesome, a fine lot of fresh compost may be obtained from the sides of most highways, and that for a small consideration, as in most cases the removal of the piled-up banks would greatly benefit the highway. For many years this has been our chief source of supply, though, as hinted above, we knew where we could have procured better. Sometimes the doing away with a hedgerow in a field has enabled us to obtain a lot of rough turf before levelling for the plough, and that, the rougher the better, makes rare soil after sweetening for six to twelve months. Provided we can get it fresh with less or more of fibre in it, all is pretty well fish that we can catch in this fresh loam net.

The great object is to have such soil well exposed to the air and sweetened, without greatly decomposing its fibre before using it. Many of our readers have little room for such a pur-

pose, but after all there is no better mode than building up the soil in little stacks of from 3 to 3½ feet wide, and then drawing them into a sharp-hipped roof which will throw off the rains. If you wish to be very particular, lay some turves over the hipped or span-roof, and drive some little sticks through the turf. If you can have strongish grass with the soil you want nothing else to keep the heap open; but if not, then every foot or so we would place a layer of pruninge, long litter, or some drain tiles rather open, so that the air should pass through the heap. Mark, the air makes ere long even sourish lumpy soil as sweet as a nut, and the wet being excluded you obtain a sweet compost, with the great mass of fibre not exhausted or greatly decayed—altogether a very different thing to go to, from what even the same soil would be if tumbled down from a cart and left to the vicissitudes of the weather. Such a heap well put up (and a few barrowloads may be cared for in the same way as a score of cartloads) may become rather dry in a hot summer, as you chop it down; but it is easier to damp it with the rose of a watering-pot than to dry what has been exposed when you want to use it. We prefer that all such heaps should be pure and unmixed. We would rather mix as we use it, when other things are necessary. As to mixtures, more another time, as they often do great mischief, especially when manurial matters containing fungi are used.

As we alluded to dryness above, allow us to repeat that much injury is done from using too dry soil and too wet soil in *potting*. Take the following simple rule and you will rarely go wrong. Take a handful of the soil for potting and squeeze it tightly. If it retains the traces of the fingers but falls to pieces as you lay it down on the board, it is all right as respects moisture. If it is so damp as to retain the deep impress of your fingers, and when you lay it on the board it retains its shape like a lump of dough, then the soil is too wet to be used for general potting.

As an excuse for these details we may say in conclusion that two simple causes ruin more pot plants than is generally supposed. The first is shifting a plant from one pot to another whilst the ball of earth and roots are dry. No watering will soak that ball afterwards. The less evil is using very dry soil when fresh potting. It is long, very long, before ordinary waterings will go through it, and before that takes place the outside fibres are starved. These two little matters attended to, thousands of plants would be saved from bad health and premature decay.—R. F.

TRADE CATALOGUES RECEIVED.

J. Carter, Dunnett, & Beale, 237 and 238, High Holborn, London, W.C.—*Catalogue of Flower Roots, Fruit Trees, and Roses.*

Hooper & Co., Central Avenue, Covent Garden Market, London, W. —*Autumn Supplement to Gardening Guide and General Catalogue for* 1871, *containing lists of Dutch Bulbs, &c.*

P. Lawson & Son, 20, Budge Row, Cannon Street, London, and George IV. Bridge, Edinburgh.—*Catalogue of Dutch Flower Roots, &c.*

Robert Parker, Exotic Nursery, Tooting.—*Catalogue of Hyacinths and other Bulbous Roots, Fruit Trees, &c.*

T. Bunyard & Sons, Maidstone.—*Descriptive Catalogue of Ornamental Trees and Shrubs.—List of New Roses and Gladioli.*

G. M. Kemp-Welch, Cotham, Bristol.—*Catalogue of Dutch Flower Roots.*

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Planting Russian Violets (*Reader*). — They and all Violets flower from the old plants or parts, and also from the runners of the current year. The runners taken off now, watered, and mulched with leaf soil or old manure will flower in the spring, but not so well as those taken from the plants early in summer. The roots may be taken up in autumn, divided, and replanted, and the plants will flower in the following spring, but not so well as those not disturbed.

Loosening Budding Ties (*S. R.*).—Loosen them at once. They may usually be loosened in five weeks after the bud has been inserted. To leave them until the bark above and below the ties, as in your case, has swollen, is injurious.

Zonal Geraniums in Pots (*Devoniensis*).—We should now cut in the plants, indeed prune them well back, and keep them rather dry for about a fortnight, shake them out of the pots, and place them in 6-inch pots. They will have good foliage before winter, and can be wintered in considerably less room. Shift them into larger pots in March, and again in May, and stop as required up to that time; you will thus have fine plants from May. The double kinds succeed in the same compost as the others. If you can accommodate the plants and wish for a late bloom, we would not cut them back, but merely remove any irregularities of growth, and top-dress with rich compost, keeping the plants in the same-sized pots, and you will have a good bloom until winter. In this case prune in March, keep the soil dry for a few days, and when the young shoots are about an inch long disroot, potting the plants in 6-inch pots, and when these are filled with fresh roots, or about the middle of April, shift to 8-inch pots, the plants being pruned in the first week of March. You may shift again into larger pots at the end of May, and the plants will bloom finely throughout the summer. The shoots cut off now or in spring will make good cuttings. Those taken off now strike freely out of doors, those removed in spring require gentle heat The lanky cuttings out of doors we would cut back to two joints, and put in the tops at once.

Frogs in a Fernery (*Connemara*).—They are not injurious to anything, but are great insect-devourers. We have had frogs and toads in a fernery many years, and they have done no injury, but have, we think, been of great benefit.

Soil for Gloxinias, Achimenes, and Allamandas (*Idem*).—For the Gloxinias and Achimenes two parts light turfy loam, one part sandy peat, one part leaf soil, and half a part each of charcoal and silver sand, the whole well mixed and made moderately fine, but not sifted. The Allamandas will thrive in the same compost, but it is desirable not to make it so fine as for the Gloxinias. Good drainage must be provided.

Repotting Cycas revoluta (*Amateur, G. B.*).—The plant being now in a very small pot and potbound, repot at once, loosening the sides of the ball, and give a moderate shift, and a larger one in March. A compost of two parts turfy loam, one part sandy peat, and one part leaf soil or well-rotted manure, with half a part each of charcoal and silver sand, using good drainage, will grow it well.

Melon Plants Going off at the Collar (*J. T. S.*).—The cause of this is difficult to explain, indeed it is not satisfactorily understood. Some attribute it to one thing and others to another; but the chief reason in our opinion is the watering overhead and shutting up closely at night, which cause the vapour to condense, and this so charges the parts with moisture that ulceration of the stem takes place. It not unfrequently happens that the canker or ulceration of the stem follows a close pruning, or the removal of a considerable quantity of foliage, accompanied as it very often is with watering. This so gorges the plant with sap that it oozes from the cut parts, and this exudation is followed by the decay of the stems and ulceration at the collar. The only effectual remedy is to keep it dry, giving a little air at night so as to prevent moisture condensing and dripping on the stems. We have now Heckfield Hybrid, Oulton Park Hybrid, Moreton Hall, and others perfecting the second crop, and they are not watered oftener than once a-week. In and after August Melons in dung frames do not require frequent supplies of water, and at no time should large removals of the foliage be practised, but stop frequently so as to render them unnecessary.

Camellia Leaves Spotted (*Idem*).—We consider the spotting of the leaves arises from their being wet when the sun shines powerfully on them. The remedy is to afford a slight shade, either by washing the lights over with a size of milk and whitening or by using some shading material; or Vines and other climbers answer well.

Growing Ferns in a Vinery (*M. H.*).—Ferns may be grown well in a vinery, the shade afforded by the Vines being beneficial to the Ferns in summer. The only drawback is the dryness of the atmosphere when the Grapes are ripening, but with a good supply of water at the roots the Ferns do not suffer considerably; in fact we have two vineries, which are now filled with Ferns and Lycopods grown principally for decorative purposes, and when the kinds are greenhouse they succeed throughout the year, frost being excluded. If the Grapes are expected to hang for any length of time after they are ripe it will be necessary to remove the Ferns.

Line of Trees (*K. M. H.*).—You do not say whether you wish for evergreen or deciduous trees, but we presume the latter. The following would all succeed—viz., common Horse Chestnut, scarlet Horse Chestnut, Lime; English, Wych, and Exeter Elm; Spanish Chestnut, Sycamore, Scarlet and Norway Maple, Scarlet Oak, and Purple Beech. If you plant more than one line, trench the ground and employ Austrian Pine, Corsican Pine, and Scotch Fir as nurses.

Fruit Trees for Garden (*Idem*).—For the south wall we would advise *Apricots*—Moorpark, Kaisha, and Hemskerk. *Peaches*—Royal George, Noblesse, Early York, Grosse Mignonne, and Barrington. *Nectarines*—Elrnge and Violette Hâtive. *Plums*—Green Gage, Belgian Purple, and Coe's Golden Drop. *Pears*—Marie Louise and General Todtleben. For the north wall we fear culinary Plums and Pears will not suit, but the Morello Cherries succeed admirably. Of *Plums*—Pond's Seedling, Magnum Bonum, and Winesour; and of *Pears*, Catillac. *Pyramid Pears*—Bergamotte Esperen, Beurré d'Amanlis, Beurré Giffard, Beurré Hardy, Beurré Diel, Comte de Lamy, Jean de Witte, Louise Bonne of Jersey, Marie Louise, Seckle, Williams's Bon Chrêtien, Zéphirin Grégoire, and Ne Plus Meuris. Of *Apples*—Dessert: Early Harvest, Red Margaret, Kerry Pippin, Adams's Pearmain, Cellini, Margil, Cox's Orange Pippin, Scarlet Nonpareil, and Keddleston Pippin. Kitchen: Cox's Pomona, Keswick Codlin, Lord Suffield, Alfriston, Bedfordshire Foundling, Dumelow's Seedling, Northern Greening, and Winter Majeting. For cordons have Reinette du Canada, Blenheim Pippin, and Dutch Mignonne Apples. *Strawberries*—Sir Joseph Paxton, Rivers's Elize, Dr. Hogg, President, and Frogmore Late Pine. *Raspberries*—Antwerp and Fastolf. *Gooseberries*—Dessert: Whitesmith, Yellowsmith, Pitmaston Green Gage, Red Champagne, Early Red Hairy, and Warrington. For general purposes: Crown Bob, Roaring Lion, Rifleman, Overall, Hepburn's Prolific, Victory, Warrington, and Ironmonger. *Currants*—Black Naples; White Dutch and White Dutch Cut-leaved; and Red Dutch and Raby Castle.

PRUNING APPLE AND PEAR TREES (*E. Chapman*).—The mode of pruning Apple and Pear trees to render them fruitful, is to attend to summer pruning or pinching. All the shoots except those required for extension should be pinched back to three leaves in July, or when they have made about a foot of growth, and pinching should be repeated every month or six weeks up to the third week in September. The shoots required for extension should be trained in at their full length, but if they are as long as required treat them the same as the other shoots. The spurs must not be interfered with, but by stopping the shoots they will attain fuller development, and light and air being admitted to them they will form fruit-buds. The shoots pinched back should, as soon as the leaves have fallen, be cut back to within half an inch of their origin. We fear your trees are in a wet soil; if they are drain it well, and to check their luxuriance we would take out all round a trench 3 feet from the stem, cutting through all roots thicker than whipcord, and working under the ball towards the centre and below the bulk of the roots. Cut through any that have a dowoward tendency. Fill up the trench with a compost of two parts strong loam, one part brick and old lime rubbish, and ram firmly. Take care that the trees are not lowered by the process, but, making an opening under one side, fill that before the other is commenced. Immediately after the leaves have fallen is the proper time to do this. Mulch round the stem with littery manure over a circle of about 8 feet in diameter. If the trees are already planted low lift them, and plant so that the setting-on of the roots may be about a foot above the general level. Cover them with about 3 inches of soil, and form a cone highest at the stem of the tree. It may be necessary to water in the early part of summer. Summer pruning being attended to, we think your trees will fruit a year afterwards.

VINES INFESTED WITH SCALE (*A Constant Reader*).—The leaves sent have the upper surface blackened by the secretions of the Vine scale (Coccus vitis), and those insects are in abundance on the leaves. It is the worst case we have seen, and the fruit we should consider spoilt. Your only remedy now is to syringe the Vines thoroughly with water at a temperature of 160°, adding a wineglassful of spirits of turpentine to every three gallons. This will destroy all it comes in contact with; but as there will be parts that will not become wetted, repeat the application every second night for a week. After the leaves have fallen (and as they fall clear them up daily and burn them), and when the Vines are pruned, strip off all the loose bark, scraping well the angles and crevices, but not damaging the live bark, burning the bark removed as well as the pruninge; then with a brush wash the Vines thoroughly with water at a temperatnre of 146°, adding a wineglassful of spirits of turpentine to every gallon. Have the house thoroughly cleaned, the glass washed with clean water, the woodwork with soap and water, the walls limewashed, and finally all the woodwork of the house inside well painted. As soon as that is done dress the Vines with 4 ozs. of soft soap and sufficient sulphur vivum to bring a gallon of tobacco water to the consistency of paint, heating it to 140°, and applying it with a brush thoroughly. Do this early in winter, and again late in winter, just before the eyes begin to swell, taking care not to rub off or dislocate the eyes. We cannot reply privately.

PLANTING A VINERY TO PRODUCE FRUIT NEXT YEAR (*Vexed Gardener*) —There is hardly anything impossible where the purse is big enough. Were we in your case we would have from fourteen to twenty good Vines well established in say 15-inch pots, the Vines being two years old and well ripened, or if ripening now all the better. These we would not prune so very much back, but keep them for fruiting next year, and a little the year afterwards. We would not plant them in the usual way, but make a large hole in the inside prepared border to let the pot down, so as to have the rim covered 2 or 3 inches. Before setting the pot down we would widen the hole at bottom, and break the pot, so that whilst the pot clung to the ball the fibres could get out all round as the Vine grew. These you will observe are temporary Vines. The others should be good plants—say fourteen or so in all, and we would plant them in the usual manner, cut them well back, and take nothing except a few berries from each the first year, and crop lightly until the third season. For Vines to bear in pots, but the roots allowed to extend, for the early house have one Dutch Sweetwater, one Royal Muscadine, one Muscat Hamburgh, one White Frontignan, and the rest Black Hamburgh. For the later house have Black Hamburgh, Trentham Black, Canon Hall Muscat, Muscat of Alexandria, Lady Dowoe's, and Trebbiano. For permanent Vines you could scarcely have better or more productive kinds, only if you keep a good heat in the late house you may add Kempsey Alicante and West's St. Peter's, or even Groe Guillaume, all of which like a Muscat temperature.

HOUSE FOR FORCING STRAWBERRIES (*Salop*).—The simplest and most economical plan in your case, would be a lean-to house in the orchard-house style, with ventilators at the top, and in front louvre boards moveable all the way. Have the flue where most convenient, not far from the front; then have a fixed or temporary stage—say 16 to 18 inches from the glass, to receive the Strawberry pots. These you can place and water from behind the stage. The same stage would do for dwarf plants of any kind. Vines, too, might be planted and kept outside until the forced Strawberries were over; or Cucumbers and Melons might be grown and be trained with little trouble over the stage.

FORCING STRAWBERRIES (*H. R. Du Pré*).—If you did not mean to take up these large vigorous plants until April, you might lift them with large balls, place them in your frames and pits, and pack the balls firmly with earth. For early work the lifting and replanting will not do. You must have the plants established in the pots. We have no recollection of the previous directions, but if the plants are so very strong we question much if they would not be better potted, and fresh rooted and established in the pots before winter, as the mere check would diminish growth and help to the thorough maturation of the wood; and if the pits and frames are empty, you could plunge the pots in them during the winter. You will have earlier, and in most cases heavier crops of fruit by these means.

PEACH BORDER ON GRAVEL SUBSOIL—UNDERGROUND MUSHROOM HOUSE (*X. Y.*).—We should not think of adding clay to the bottom of an open gravel subsoil for a Peach border. We would sooner make part of the gravel into concrete; but, on the whole, if the gravel is at all open, we would make the border on it, and entice the roots to keep near the surface by surface-mulching. We would under the circumstances have a ventilator from the top of the stokehole Mushroom house. We would just as soon make the Mushroom bed on the natural sandy bottom as on one of bricks or flags, only the latter will be a somewhat better safeguard against woodlice. There is little to choose between them, but bricks look better and more finished.

MUSHROOMS GRUB-EATEN (*W. Yateman*).—The grub is apt to assail Mushrooms in houses in summer, from being too close and hot. Sweep the beds clean over, water eepecially at the back and front, syrioge the walls and pathway, give a little air, not a keen draught, and put no covering on the bed. A shady place out of doors, or a cool cellar, is the best for Mushrooms in eummer.

PROPAGATING THE BANKSIAN ROSE AND WEIGELA ROSEA (*Idem*).—The Banksian Rose and Weigela roses are easily propagated by using stiff side shoots as cuttings, placing the cuttings in eandy soil with sand on the surface, and tben putting them under a shaded cold frame or hand-light. They will strike on a border on the shady side of a fence, but not so soon as by the above mode.

WATER CONTAINING IRON (*J. N. N.*).—Unless the water is greatly contaminated by the oxide of iron coming through iron pipes, we should not be afraid to use it. If there is much redness from excess of rust or oxide of iron, we would let the water stand some time io cisterns or barrels after throwing, say, half a pound of quicklime into each receptacle of forty gallons or so. This, well stirred, will cauee the iron to be precipitated and fall to the bottom.

SEEDLING AGERATUM (*N.*).—Your Blue Bob Ageratum seems very pretty, but we cannot speak definitely as to a head of bloom, as the habit and vigour of the plant as well as its general height must be considered. We find Imperial Dwarf excellent for the centres of dwarf beds, but for an outside edging where water is scarce it does not answer so well. A variety which will stand dryness will be an acquisition.

BLUE LOBELIAS (*J. F. C.*).—Trentham Blue is a pretty dark kind, not quite so compact as compacta. We would advise you to go to some of the nurseries, and pick out a few pote of the colour you most favour, and carefully save seed from the plants. Even with seed carefully saved there is often a disposition to revert to euch original types as gracilis, light and grasey in comparison with many others, but still fine for hanging baskets, &c. Pumila grandiflora is also very fair. Trentham Blue is more vigorous, and in general the colour is a rich dark blue.

WINTERING VERBENA VENOSA (*A. P. S.*).—We have no doubt you can keep the straggling roots packed in cocoa-nut fibre during the winter. We should prefer dry soil, and any place where no great amount of water nor frost could reach them. If, however, you can command a hotbed from January or February, we would trouble ourselves nothing about the roots, but sow thickly in a pot, prick off the seedlings as soon as they could be handled, and harden them off by the middle of May. Such nice healthy seedlings will generally far transcend io free blooming the old roots, which must generally be cut and trimmed to make the most of them before planting.

ALTERNANTHERAS AND OTHER BEDDING PLANTS AT WIESBADEN (*Wiesbaden*).—In a recent number you would see that Mr. Sheppard, of Bedford, used various Alternantheras for edgings, belts, &c. You will find a good variety of these pretty little plants in most of the London and large country nurseries. They are easily raised from cuttings. We do not know the "Soubellaria," was it also an Alternanthera? The brown-leaved plant with small yellow flowers like a Wood Sorrel, we have no doubt was Oxalis corniculata rubra, which grows freely from seeds or divisions; in fact, often holds its own in many gardens. It succeeds well if treated as recommended to another correspondent for Verbena venosa, but just now we have some beautiful edgiogs made by taking up in May the little plants which have stood the winter, and planting them regularly. As being so hardy, and making a fine regular wreath ronnd pink or yellow, we prefer it for some purposes to the Alternantheras.

SEEDS FOR BARBADOES.—*Celia* would be much obliged by anyone stating which are the best and most suitable seeds to send to Barbadoes.

SMOKELESS STOVE (*H. K.*).—We know of none that can be admitted among plants without injuring them, nor did we ever know a plant-house in which a flue could not be added to the stove without being an eyesore. You enclosed 3*s* 3*d*. in stamps. What for?

SEA-WEED AS A MANURE (*H. A.*).—We know of no crop or plant to which it may not be applied beneficially. It should be applied quite fresh, and whilst the plants are growing. It is especially beneficial when applied to Asparagus, Sea-kale, Beet, and all the Cabbageworts, which, of course, include the Cauliflower and Broccoli.

PROPAGATING AGERATUMS TOM THUMB AND IMPERIAL DWARF (*An Amateur*).—Both may be raised from cuttings put in now in sandy loam and leaf soil, two parts of the former to one of the latter, and one part silver sand. They strike freely in a frame over a gentle hotbed. When they are struck pot them off singly in 3-inch pots, and winter in a light airy structure, keeping them dry, yet giving enough water to keep the foliage fresh. Seed may be sown in March in a gentle hotbed, the young plants pricked off when large enough to handle, and forwarded in heat. They will be good plants by May; but unless you secure seed which will germioate better than that which we have had, your stock of plants will be small.

WINTERING BEDDING PLANTS IN A ROOM (*Idem*).—The room being well lighted we see no reason why you should not winter the plants safely. The main point is to keep them dry, and yet give sufficient water to maintain vitality. Having a fireplace in the room there is no necessity for a stove. A fire should be lighted in very damp and in severe weather, so as to maintain a temperature above freezing point. Admit all the air practicable, but only in mild weather. The Abutilon will live if kept dry. When you take up the Geraniums remove most of the leaves, and be careful in winter to take off all decayed leaves and parts. The Primulas would succeed in the room if you gave them a position near the window and watered carefully. They would not, however, flower before spring.

SOIL FOR ECHEVERIA METALLICA (*Idem*).—Two parts light sandy loam one part leaf soil, one part crocks, and one part sharp sand. The drainage muet be efficient, and if you water sparingly the plants will winter safely.

AMARYLLIS CULTURE (*C. H.*).—They succeed admirably in a compost of turfy loam two parts, one part sandy peat, and one part leaf eoil or old cow dung, with a free admixture of sand. Drain well. Pots twice the diameter of the bulbs will be sufficiently large. Repot early in February, removing no more of the old soil than will comb away freely,

and the soil being in a moist state no water will be required for about a fortnight, otherwise the soil must be made moist. Place the bulbs in a bottom heat of from 70° to 75°, if convenient, and continue them there until the pots are full of roots; then gradually withdraw them from bottom heat and give the plants a position near the glass; indeed, in all their stages they cannot be too near it if room be allowed for their development. When growing freely water copiously, and continue to do so until the growth is complete and begins to turn yellow; then withhold water by degrees, and keep them dry in winter on shelves. They require the temperature of a stove.

Seedling Picotees (*Maria*).—The seedlings which have had single flowers this year will not be double in the next, though sometimes semi-double flowers of the first year are on the same plants double in the following year. We have, however, no hope of single-flowering plants becoming double in future seasons. We are unable to tell what caterpillar it is that is committing ravages amongst your Roses and Geraniums. The best remedy would probably be to syringe the plants with 1 oz. of white hellebore powder to a gallon of water; let it stand in an earthenware jar closely covered for twenty-four hours, then shake it up well and apply it with a syringe on a mild evening, or sprinkle it over the plants with an old whitewash brush.

Plants for a Stove (*Young Beginner*).—Your list is upon the whole good, but the twelve most select stove plants in our opinion are:—Allamanda grandiflora, Anthurium Scherzerianum, Clerodendron Balfourianum, Dalechampia Roezliana rosea, Dipladenia amabilis, Franciscea calycina major, Gardenia radicans major, Hoya imperialis, Ixora acuminata, I. coccinea superba, Medinilla magnifica, Rondeletia speciosa major, and Stephanotis floribunda. If you are restricted to twelve omit Clerodendron Balfourianum. Of Orchids for a stove, twelve are:—Aërides odoratum majus, Cattleya crispa superba, C. Mossiæ superba, Dendrobium fimbriatum oculatum, D. nobile majus, Epidendrum macrochilum roseum, Cypripedium barbatum majus, Lælia purpurata superba, Odontoglossum Alexandræ, Phalænopsis grandiflora, Vanda suavis, and Oncidium splendidum. Three greenhouse climbers are Tacsonia Van-Volxemi, Rhynchospermum jasminoides, and Lapageria rosea. The "Orchid Manual" would suit you. It may be had free by post from our office if you enclose 2s. 7½d. with your address.

Sowing Early Spring-flowering Plants (*Mrs. B.*).—It is now too late to sow any but annuals, and those should be sown from the middle to the close of this month. Full instructions are given in "Winter and Spring Flower Gardening," which you have.

Heating a Workroom with Greenhouse Overhead (*F.*).—From what we can make out, hardly anything in the way of heating could have been done worse. You are quite right; you would heat the greenhouse much better by taking the flow-pipe at once to the lowest part, and then allowing the pipes to rise a little to the extreme end, where fix an air-pipe, and take the return-pipe at once to the bottom of the boiler. You can have nothing worthy of the name of circulation in the low pipes G, in your workroom; in such a position they are practically useless. Any heat they may have is more from absorption from the heated chamber round the boiler than from any proper circulation. That chamber round the boiler heated by gas will heat your workroom just as an iron stove would do. Do you heat the boiler by gas also, or have you a fire besides? Be that as it may, from the present position of the boiler you will never heat the pipes G. You may go as high as you like, but not below the boiler.

Heating a Small Range of Houses (*F. S. Worthington*).—We would alter the arrangement of the houses to pit, stove, vinery, orchard house. We would put the boiler then between the stove and vinery, and heat right and left as desirable. It matters little where the boiler is placed, as if it is at one end, you could take a small flow and return-pipe from end to end, having a complete circulation in themselves, and then by a valve or tap take what you want for each house. For instance: for your early vinery you need from 70 to 80 feet of 4-inch piping. For Cucumbers alone we find 1 and 1½-inch piping very good. As to boilers, we can only say, that after seeing and trying many, we have carried out what we advise—simplicity, and put in two saddle-backs, and from one we shall secure at least four different temperatures in winter. We have no fault with other boilers, only we prefer the simple saddle-back. In glazing the roof, the closer the one-eighth-inch laps touch each other the better. All glass, especially if the squares are large, will be found to be a little rounded, and there is a little tact necessary to place the rounds together, otherwise there would be some open spaces between square and square, the less the better.

Geothermal Heating (*C. Adams*).—All that we know upon the subject is contained in two of our back numbers—Nos. 143, new series, and 649, old series. You can have them free by post if you enclose seven postage stamps with your address.

Blue Marl (*New Subscriber*).—Without a chemical analysis, which we cannot undertake to effect, we could not tell you with any degree of confidence its worth as a manure. We believe it to be what is usually called gault or blue chalk marl. If it be that it is not siliceous.

Names of Fruits (*S. O. R.*).—Nectarine, Violette Hâtive. Apple, Lord Suffield.

Names of Plants (*D. M. G.*).—Vallota purpurea, sometimes called the Scarborough Lily. (*Brisbane*).—Dolichos lignosus; certainly not the plant you mistook it for. (*A New Subscriber, Kilnwick*).—1, Æschynanthus longiflorus; 2, Begonia strigillosa, otherwise known as B. dædalia; 3, Æchmea discolor. (*R. B. L.*).—By no means trust to your Cucurbit as being fit for food. We have not yet recognised what species it is, but warn you at once that we recommend you by no means either to pickle or in any other way to eat the fruit till you know more of them, or have certain knowledge that they are not injurious. The general character of Cucurbits is deleterious. Some are very poisonous, and very few indeed are to be trusted. (*A. B. Y.*).—2, Doudia candata; 3, Selaginella Martensii; 4, Asplenium flabellifolium. The other specimens were too young and fragmentary to be determined, especially as they have no spores, and were not recognised off-hand. (*Acton Castle*).—The shrubby plant is Amelanchier Botryapium, with racemes of white flowers (*A. C.*).—2, Eryngium alpinum; 3, Spiræa Filipendula, Dropwort; 4, Lilium Martagon; 8, Alyssum saxatile; 9, Lonicera japonica, Japanese Honeysuckle. (*Alpha*).—1, Phymatodes vulgaris; 2, Selaginella Kraussiana; 4, S. Martensii; 5, Cyrtomium falcatum; 8, Platyloma cordata. (*W. F. R.*).—Oxalis articulata, native of Chili. (*Ignoramus*).—Cornus mas. (*George*).—Vallota purpurea, also known as the Scarborough Lily.

POULTRY, BEE, AND PIGEON CHRONICLE.

DE OMNIBUS REBUS.—No. 4 AND LAST.

We left off last week on the subject of food. We borrowed a "wise saw" in illustration, which is, we are afraid in many cases, a "modern instance." The love of overfeeding is general. It is more developed in servants than in masters. Perhaps it is, that while the former feed the latter pay. We would not be misunderstood; we do not speak of wilful waste, but the carrying out of the idea, "that they cannot bear to see anything short of food," and that putting food in front of them is feeding.

Good and proper feeding is first to get a proper description of food, next to give it regularly, and lastly in such moderate quantities as shall be entirely eaten with an appetite at each meal. Whether it be for fattening or for breeding stock, the rule applies equally. In the former case they consume more food, as they get only that which is given to them, but they must only have as much as they will eat at once. In our great poultry-feeding county, Sussex, not only is the trough changed and scalded every day, but the food is fresh mixed for each meal. These are the conditions of success. If the food is allowed to remain in the trough and acquire the least acidity the fowls take a dislike to it. No more thriving after that. Fowls will only fatten while they enjoy the food. The taste for luxuries soon fails unless they are moderately and judiciously given.

We recollect many years ago being asked by a lady of high rank to visit her poultry establishment, as the expenses increased daily and the results were less satisfactory every week. The poultry had been kept in till we came. Turkey house first. The doors were opened, and the poultry-woman stood with meal and barley ready to dispense it by the handful. We forbade anything of the sort. When the doors were opened nearly all the birds flew and scrambled away into the fields, spite of the attractions of some furtive handfuls that were thrown down. "There, my lady," said the old woman, "that's the way; they won't eat." Let us look in the house. There was the secret: the ground had been covered with food, and much still remained. "Poor things!" said the old woman; "no doubt they waked up hungry, same as other people." We found that on the ground outside their roosting house the food was trodden down more than an inch deep. The same in the Duck run; we dug up the barley inches deep, looking like a "nougat" made of very small almonds. But now for the fattening house. On entering, a most unpleasant odour met us. There was sufficient food mixed for six fowls to serve a dozen for three days. "Poor things!" said the woman, "they don't eat as they should; they wants their liberty. That food as aint touched has been before them ever since yesterday." "Yes," said we, "that is the cause. If it had been given properly, a little at a time, they would have eaten it and done well upon it. You," we continued, "would get sick of the sight, smell, and taste of turtle and venison if it were on the table every time you went into your house." The woman looked for a moment at us, and then took to audible muttering. "Turtle and venison, turtle venison, venison turtle, always ready and get tired of it! Well, I never heard the like of that! Wish my lady would try us, that's all. But he don't know much, and it's no use minding what he says." We never could command attention from her afterwards, but the result of our visit was to diminish the consumption of food two-thirds and to establish a healthy and profitable breed.

The contempt for order and common sense leads to more than half the disappointment and loss. When we are consulted why fowls will not feed, or why they cost so much to feed, we often think if fowls were gifted with speech they would answer as Master Adolphus did the day after Twelfth-night, when the doctor who was called in asked him what he had eaten: "Only supper as usual, and a sailor, and a windmill, and a nigger, and a ship, and an elephant, and the queen off the cake." The truth is, everybody likes to keep poultry, and to eat poultry and eggs. How many can look back to the small beginning of the fulfilment of the day-dream of many years, when the first egg laid by our own hens has appeared on table, or the first Ducks or chickens have contributed a meal. From the owner of thousands of broad acres and half a dozen castles, each

standing in its own park, who counts his deer by thousands and his six-year-old South-down wethers by tens of thousands, standing up to their bellies in grass (*O, si sic omnia!*), to the tradesman who hires a suburban cottage with a garden, and who gathers his first dish of peas or beans for the Sunday's dinner—from the noble who dines eighteen sumptuously and praises his venison, mutton, and dessert, to the tradesman with his Sunday dinner of veal, bacon, and peas, who declares that such vegetables as he gathers cannot be bought—there is a tendency throughout the race to enlarge on the merits of that which belongs to them and that which they have raised, and to eat with a double zest that which they have produced and which belonged to them.

Poultry should be more generally kept than it is; it fetches a better price for the table, eggs are much dearer than they used to be, and food for it is cheaper. Another advantage is, fowls' needs are better understood. In former days the roup was the plague of the poultry yard, and its victims were legion. We have often seen a yard in which those only that were not roupy were those that were approaching convalescence. This is now unknown. Little was known of the merits or the natures of the different breeds. Everything concerning them is known now. Rice and refuse of all kinds, including potato-peelings, were thought good enough for poultry, and no wonder it was given up in disgust when the poor "atrophies" were seen with crooked backs, thin legs, large heads and knees, and when the different broods were known, not by the different sizes, but by their senile appearance.

We have endeavoured in this paper to show how the cost of keeping them may be diminished by the proper management of their food; we will also tell when they will realise the best prices for the table. On the same principle that the grower in forcing fruits aims to bring them to maturity as much before or after the natural season as possible, the poultry-keeper for profit should aim to have good tender chickens ready for the higgler or the market from April 1st to June 14th. When this is accomplished profit will be discovered.

We will only add one word more. Poultry-keeping is a healthy and engrossing pursuit, but it should only be undertaken by those who can find pleasure in work.

SHARP PRACTICE—LOST TAILS.

Quite unexpectedly to myself, I found I was able to run up and spend exactly one hour and a half at the Cheltenham Show, when I was annoyed by a little arrangement which I think ought to be reprobated. I am quite aware it has been done elsewhere; but when a show aspires to the rank Cheltenham desires, things require notice which in smaller ones would only provoke a contemptuous grin.

The place itself is peculiar. Cab fares are higher than in almost any town I know; and even the railway station is not conducted like those of ordinary towns, but passengers are kept off the platform by an iron gate till the trains they are to depart by have arrived. I have often wondered at these things, but have had to conclude that the inhabitants of such a "swell" place could not behave as ordinary mortals. The peculiarity about the Show is, however, of another character. In the advertisements, on the bills, and on the catalogues and schedules the price of admission was stated to be "1*s*.," but when I presented myself at the gate I was told I must pay 2*s*. 6*d*., the price of the admission to the Agricultural Meeting. I did not grumble at that, but on reaching the entrance to the poultry tent found I had in addition to this to pay the shilling advertised. Remonstrating on the inconsistency, I was rather gratuitously told that for the 2*s*. 6*d*. I could see the agricultural and horticultural shows, with which they had nothing to do. Now, I confess I do not like this way of managing matters. If the poultry show was independent of the agricultural, why should visitors be compelled to pay for what they might not wish to see? A visitor to the horticultural show is not compelled to pay against his will for the poultry show; why should the poultry visitor alone be the sufferer? It is not the amount of money I complain of. Many shows charge high the first day, and had the admission been 3*s*. 6*d*. avowedly I should have gone just the same; but I do contend that to announce admission in a poultry journal as 1*s*., and then compel a visitor to pay 2*s*. 6*d*. additional, is not a course which commends itself to common sense or common honesty. I should remark that the poultry were in a separate enclosure; and the Committee must rest under one of two imputations; if any part of the 2*s*. 6*d*. goes to their coffers, then the admission to the poultry was so much more than 1*s*.; if not, they committed the incredible folly of consenting to be charged 2*s*. 6*d*. per head for nothing but the privilege of holding their show in the neighbourhood of the other.

With the Show itself I was pleased. The Spanish and Cochin classes were wonderful for the season, and also the Hamburghs. Brahmas, with a few exceptions, were poor. But I wish to note that I had ocular demonstration of the way in which tails may be lost, as I witnessed the actual process in two cases, and think it worth while recording the fact for the sake of some angry exhibitors who may blame individuals for malicious injury. The pens were the usual wire ones, and in rows, not back to back, but with a space between. In two cases during my hurried visit I saw cocks with their tails through turn round quickly, and in one case one, and in the other two feathers dropped with the motion. Doubtless at this season the injury is easily done, and fortunately easily repaired, but the occurrence is suggestive, and I venture to press the matter on the particular attention of Messrs. Turner. The evil would be easily remedied by substituting sheet-iron backs for the wire now used; or, if this cannot be done, the same purpose is easily effected in the simple manner always seen at Bristol—by putting the pens back to back, with a strip of calico or canvas of the same height between. Putting them apart and unguarded has other evils, which frequently lead to gross injustice in judging, but for which the Judges are in no way accountable. For instance, at the Crystal Palace Show the very best Spanish cockerel was unnoticed. The fact caused astonishment to many, but it was not the fault of the Judges; the simple fact being that the hens happening to be at the back of the row, and owing to the open pens in plain sight, the bird would keep his head that way, and was literally not seen. I have noticed the same thing often, and many a case of apparently unaccountable judging may be thus explained.—L. Wright.

HANDICAPPING POULTRY EXHIBITORS.

Could you or any of your numerous readers suggest a plan by which some of the poultry exhibitors could, in racing phraseology, be handicapped? I breed five or six different kinds of fowls, and have done so for some years, and up to the present time have very often exhibited, but it is very disheartening when I regularly find such names as Taylor, Leech, Brierley, Beldon, Sidgwick, and Lacy (who either breed or buy a pen or two of good birds, and exhibit them at every show, big or little, no matter how small the first prize), sweep all before them. If some method were arranged that previous winners should give so many points, it would give a fresh impetus to such as me, who, in the face of the prospect of sure defeat, must certainly retire from so expensive a fancy with, I think, the ultimate result of the great guns being left to exhibit amongst themselves, as I feel confident amateurs have but little chance.—F. Handicap.

[It would be difficult to find an Admiral Rous to arrange the handicapping as satisfactorily as the veteran of that name does on the turf.—Eds.]

PIGEON TRIMMING AT ALLERTON SHOW.

I am quite at a loss to comprehend how Mr. Hutton, being considered a judge of Pigeons, should vary so continually as to the quality and perfection of the same pen of Pigeons when he sees them at two different shows. This identical pen of Nuns were considered quite good enough to obtain the first prize at one show where Mr. Hutton officiated, yet at another exhibition, though sent in exactly the same condition, they are pronounced by Mr. Hutton himself as "trimmed most artistically and in an unmistakeable manner," consequently the same arbitrator at once disqualifies them. So far from "equivocally" denying the charge of "trimming," I deny it *in toto* and most unreservedly, whilst certainly the proof lies with Mr. Hutton, who casts the imputation.

I must here say no difficulty shall arise on my part as to a thorough ventilation of who is right and who is wrong in this matter, and the birds are ready at any time to be placed before two or more competent judges, to prove not only whether or not they have been "trimmed," but also the truth or otherwise of Mr. Hutton's statement, that "with the exception of the throats and crests the birds were in perfect feather, showing no signs of moult whatever," whereas, I contend, that anyone (save Mr. Hutton himself) is welcome to inspect them for

his own satisfaction, in proof that they are in pen-feather throughout the whole of the body plumage at the present time.

Now as to the sexes of the pair of young Dragoons which Mr. Hutton admits caused him "uneasiness," but states I "can see he gave me the benefit of the doubt," I distinctly assert they are cock and hen, which none but a novice could ever doubt. So recently as the 23rd of August, at Rochdale, under Messrs. Esquilant & Charlton, they stood first with the medal. But the most conflicting feature of the case to my own mind and that of other Pigeon breeders is this, that Mr. Hutton, whilst he states at Allerton Show, held on August 12th, "they were the best pair he ever saw," at Stanningley Show, held on August 26th, at both of which shows Mr. Hutton judged them, he not even so much as commended them. This want of anything like uniformity of opinion in the same judge, on the same birds, and shown in the same condition, is to my mind so complicated a mode of awarding prizes, that I have, in conjunction with several other large exhibitors of Pigeons, resolved never to show a single pen again at any show where I know Mr. Hutton will be the appointed judge.—HENRY YARDLEY, *Market Hall, Birmingham.*

WHITBY POULTRY AND PIGEON SHOW.

THIS Show was held on August 30th, and, the weather being extremely favourable, the success of this year's meeting was complete. The arrangement respecting the pens in which the birds were shown was a very great improvement on that of former years. The pens used were quite new, and of sufficient size to prevent any injury to the plumage of even the largest varieties of poultry. The top, back, and the divisions forming the sides of the pens were all of solid woodwork, the fronts alone being of galvanised wirework, and each pen was provided with a drinking fountain also galvanised. On the whole these pens were very easy to inspect, and the birds, from seeing open space only at the front, did not keep constantly striving to escape at the back on the approach of the visitors or Judge, and there were no continuous efforts to fight the birds situated immediately in the rear, as when open backs are the order of the day, with the result of frequently destroying the plumage until the next moulting time. Many of the exhibitors expressed themselves much pleased with these pens, and we hear that it is the intention of the Committee to let out on hire the wire fronts, wooden side divisions, and water fountains to the managers of any other local show who may desire to engage them. The only portion of the arrangements that proved defective was the penning of the poultry on their arrival, method and promptitude being altogether ignored; consequently irregularity prevailed in this matter, no master hand superintending, and thus a confusion ensued that might with a little forethought have been easily prevented.

The adult *Dorkings* were a very indifferent class, but the entry for chickens of this variety was equal to that at most of the largest shows of this season; in fact it proved one of the most commendable features of the Show. The same remarks are equally applicable to the *Spanish* fowls, Mr. Burn, of Whithy, showing some well-grown chickens. In *Game* the Brown Red chickens were shown in excellent feather and condition, and most probably, when carefully dubbed, we shall hear of further successes attending their exhibition. A few pens of good *Cochins* were shown, but the majority were indifferent. The Rev. R. A. White, of Whitby, with a finely developed pen of Dark *Brahma* chickens secured not only the silver cup in the district competition, but likewise first prize in the class for this breed open to all comers. Though the majority of the *Hamburghs* shown were not equal to the standard of the customary Yorkshire and Lancashire exhibits, some Golden-pencilled and Silver-spangled were on view that would be hard to beat at any show. Mr. J. K. Fowler, of Aylesbury, sent pens of Rouen and Aylesbury *Ducks* that completely astounded the local exhibitors, and the display of fancy Waterfowls was for the time of year remarkably good, the Black East Indian Ducks in particular.

DORKINGS.—1, J. White, Warlaby. 2, R. Smith, Malton. *Chickens.*—1, Rev. G. Hustler, Stillingfleet. 2, J. White. *hc*, J. Smith, Westerdale; S. Burn, Whitby; E. Corney, Whitby; D. White, Driffield; Mrs. B. Peirse.

SPANISH.—1, R. Smith. 2, G. Holmes, Driffield. *Chickens.*—1, S. Burn. 2, G. Pounder, Kirby *hc*, W. Harrison, Underpark; J. Booth, Lyth; W. Kidd, Lyth; H. Judson, Woolkmoll.

GAME.—*Black-breasted or other Reds.*—1, W. Bearpark, Northallerton. 2, W. Maynard, Ingleby, *Any other Variety.*—1, F. Sales, Crowle, 2, W. Bearpark. *Chickens.*—1 and 2, G. Carter, Bedale. *hc*, O A. Young. *c*, W. Bearpark.

COCHIN-CHINAS.—1, T. H. Readman, Whitby. 2, J. Booth. *Chickens.*—1, J. Booth. 2, G. Speedy, Whithy. *hc*, H. Elliott, Lyth; G. Trueman, Whithy. *c*, J. F. Loveridge, Newark.

BRAHMA POOTRAS.—1, Miss B. Peirse, Bedale. 2, E. Corney. *Chickens.*—1, Rev. R. A. White. 2, W. Whitely. *hc*, W. Stonehouse, Whitby; Rev. G. Hustler. *c*, E. Corney; Miss B. Peirse.

FRENCH.—1, J. K. Fowler, Aylesbury. 2 and *c*, T. Percival (Crêve-Cœurs).

HAMBURGHS.—*Golden-spangled.*—1, G. Holmes. 2, G. Garbutt, Sinnington. *Silver-spangled Chickens.*—1, G. Speedy. 2, W. Stonehouse (Silver-spangled). *Golden-pencilled.*—1, T. H. Readman. 2, G. Holmes. *Silver-pencilled.*—1, Miss B. Peirse. 2, G. Garbutt. *Gold or Silver-pencilled Chickens.*—1 and 2, J. Webster, Whithy. *hc*, J. Webster. *c*, J. Russell; Miss B. Peirse; T. H. Readman.

BANTAMS.—*Game.*—1, Pickering & Duggleby, Driffield. 2, W. Henderson. 3, E. Barker, Stokesley. *Any other Variety.*—1, R. Tinsley, Norton. 2, G. Holmes. 3, Dr. Tinley, Whitby.

ANY OTHER VARIETY.—1, J. P. Fawcett (Black Hamburgh). 2, Mrs. Storry, Stokesley (Sultans). 3, Lady D. Yeoman (Polands). *Chickens.*—1, J. P. Fawcett (Black Hamburghs). 2, Miss B. Peirse (Houdans). *hc*, J. Oxley, Whitby White Leghorns); T. H. Readman (Black Hamburghs).

DUCKS.—*Black East Indian.*—1, S. Burn. 2, Mrs. Hayne, Fordington. *Ayles bury.*—1, J. K. Fowler. 2, W. Stonehouse. *Ducklings.*—1, J. K. Fowler. 2, W. Stonehouse. *hc*, O. A. Young. *Rouens.*—1, J. K. Fowler. 2, J. P. Fawcett, Whithy. *c*, W. Pattison; G. Garbutt. *Ducklings.*—1, G. Garbutt. 2, J. P. Fawcett. *c*, T. Weathercill. *Any other Variety.*—1, G. Sadler, Boroughbridge (Carolinas). 2, S. Burn (Mandarins). *hc*, O. A. Young; S. Burn (Carolinas); W. English (Widgeon). *Ducklings.*—1, S. Burn (Buenos Ayreans). 2, O. A. Young.

GEESE.—1, O. A. Young. 2, Rev. G. Hustler. *hc*, Mrs. Storry, *Goslings.*—1, Mrs. Storry. 2, Rev. G. Hustler.

TURKEYS.—1, Rev. G. Hustler. 2, Mrs. Storry. *hc*, Mrs. Ward, Banniel Flat. *Poults.*—1 and *hc*, Mrs. Ward. 2, G. R. Pearson.

SELLING CLASS.—*Any Variety.*—1, J. Webster (Golden-pencilled Hamburgh). 2, G. Pounder (Spanish). 3, A. H. Banbury (Buff Cochins). *hc*, Lady D. Yeoman (Houdans). *c*, G. Speedy (La Flèche).

DISTRICT PRIZES.

DORKING, SPANISH, OR FRENCH.—*Chickens.*—Cup, S. Burn (Spanish). *hc*, J. Booth (Spanish).

GAME.—*Any other Variety not Specified.—Chickens.*—Cup, G. Speedy (Polands).

COCHIN-CHINAS.—*Chickens.*—Cup, G. Speedy.

BRAHMA POOTRA.—*Chickens.*—Cup, Rev. R. A. White. *c*, W. Stonehouse; E. Corney.

HAMBURGHS.—*Chickens.*—Cup, J. Webster (Golden-pencilled). *hc*, J. P. Fawcett (Black); G. Speedy (Silver-spangled); J. Webster (Golden-pencilled).

BANTAMS.—*Chickens.*—Cup, W. Henderson.

DUCKS, GEESE, OR TURKEYS.—*Ducklings, Goslings, or Poults.*—1, W. Stonehouse (Aylesbury). *hc*, J. P. Fawcett (Rouen).

PIGEONS.

POUTERS.—1, G. Sadler. 2, H. Yardley, Birmingham.

TUMBLERS.—1, H. Yardley. 2, G. Sadler. *hc*, C. Auton, York (2); I. Garbutt.

CARRIERS.—1, H. Yardley. 2, No competition.

FANTAILS.—1, H. Yardley. 2, J. F. Loversidge. *hc*, C. Auton.

JACOBINS.—1, F. Waitt, Birmingham. 2, H. Yardley. *hc*, C. Anton; F. Waitt; R. G. Sanders, Beverley.

TRUMPETERS.—1, R. Wilson. 2, C. Auton.

BARBS.—1, R. Wilson. 2, H. Yardley. *hc*, C. Anton.

ANY OTHER VARIETY.—1, H. Yardley. 2, R. Wilson. *hc*, T. C. Benson, Ford Hall (Blondinettes).

SELLING CLASS.—1, J. Cundale (Antwerps). 2, C. Auton. *hc*, W. Bearpark; C. Auton; R. Wilson; J. Cundale (Antwerps and Magpies). *c*, R. Wilson.

The Judge was Mr. Edward Hewitt, of Sparkbrook, near Birmingham.

TODMORDEN POULTRY SHOW.

THIS was held on the 2nd inst. in the fields at Roomfield, and although rain fell heavily during the night, the day was remarkably fine, and the Committee were amply rewarded by the large receipts at the gates, as some thousands visited the Show. In all the departments there was great merit, and everything was admirably arranged by Mr. Crossley, the Secretary.

The *Game* classes came first, and in single cocks the first prize went to a grand Brown Red, which was everything that could be wished for in a Game cock. The same exhibitor was also first with a single hen, also with a cock and hen, all of great merit. In *Brahmas* Mr. Lacy was first, and Mr. Ashworth was second with a splendid pen of chickens, the best in all respects we have seen this season. In *Dorkings* the first prize went to a grand pen of chickens, which we think are likely often to be in the prize list. The two pens of prize *Spanish* were in excellent plumage for the time of the year, and two better pens it would be difficult to find. The entries in the *Hamburgh* classes were not large, but some of the birds were very good. The first prize for Game *Bantams* went to a good pen of Piles, the second to Reds. The Rouen *Ducks* were an excellent class, and, besides the prizes, five pens were highly commended.

Among the *Pigeons* the Pouters and Carriers were mostly first-class birds, Mr. Horner winning both prizes for Carriers. The Tumblers were good, and three pens were highly commended. The Dragoons were a good class, and the Fantails were perfect, and four pens were highly commended. The Barbs and Jacobins were also good classes, and Antwerps were perfect. Turbits, Owls, and Trumpeters were very good classes, and the Blue Rocks were a beautiful class—a class we should be glad to see at every show. The Variety class contained some fine specimens of Toys, and four pens were highly commended.

GAME.—1, C. W. Brierley, Middleton. *Cock.*—1, C. W. Brierley. 2 and *hc*, W. Ormerod, Pexheuse, Todmorden. *Hen.*—1, C. W. Brierley. 2 and *hc*, W. Ormerod.

BRAHMAS.—1, H. Lacy. 2, J. Ashworth, Rochdale. *hc*, J. Ashworth, Rochdale; H. Lacy.

COCHINS.—1, H. Lacy. 2, A. Bamford, Middleton. *hc*, E. Leech, Rochdale; H. Lacy.

DORKINGS.—1 and *c*, W. H. King, Rochdale. 2, J. Stott, Henley, Rochdale.

SPANISH.—1 and 2, C. W. Brierley.

HAMBURGHS.—*Gold-pencilled.*—1, S. Smith, Northowram, Halifax. 2 and *hc*, T. Wrigley, Tonge, Middleton. *Gold-spangled.*—1 and 2, H. Pickles, jun., Earby, Skipton. *Silver-pencilled.*—1 and 2, H. Pickles, jun. *Silver-spangled.*—1 and *hc*, H. Pickles, jun. 2, H. Stanworth, Worathorne. *Black.*—1, H. Hoyle, Lumb, Newchurch. 2, T. Greenwood, Todmorden.

BANTAMS.—*Game.*—1, T. Barker, Burnley. 2, Bellingham & Gill, Burnley. *hc*, Bellingham & Gill, Burnley; T. Barker, Burnley; S. Smith. *Any other Variety.*—1, H. Pickles, jun. (Black). 2, G. W. Robinson, Halifax (Black).

ANY OTHER VARIETY.—1, H. Pickles, jun. (Silver Polands). 2, T. Waddington, Feniscowles. *hc*, S. Renshaw, Gale, Littleborough; T. Waddington.

SELLING CLASS.—1, T. Wakefield, Golborne, Newton-le-Willows (Black Polands). 2, — Buckley, Ending, Healey, Rochdale (Dark Brahma). *hc*, H. B. Smith, Broughton, Preston (East Indian); H. Pickles, jun. (Polands).

DUCKS.—*Aylesbury.*—1, E. Leech. 2, A. West, Worathorne, Burnley. *Rouen.*—1 and 2, T. Wakefield, Golborne, Newton-le-Willows. *hc*, H. B. Smith; E. Leech; S. H. Stott, Preston; A. West: R. Hutchinson, Littleborough. *Any other Variety.*—1, C. W. Brierley. 2 and *hc*, H. B. Smith.

GEESE (Any variety).—1, E. Leech. 2, S. H. Stott.

TURKEYS (Any variety).—1, E. Leech.

PIGEONS.

POUTERS.—1, T. Waddington. 2, E. Horner, Harewood, Leeds. *hc*, T. Waddington; E. Horner.

CARRIERS.—1 and 2, E. Horner. *hc*, H. Yardley, Birmingham; J. Stanley Blackburn.

TUMBLERS (Any variety).—1, F. Moore, Burnley (Almonds). 2, E. Horner. *hc*, H. Yardley; T. Waddington; J. Brown, Haslingden.
DRAGOONS.—1, T. Waddington. 2, H. Yardley. *hc*, J. Stanley.
FANTAILS.—1, J. F. Loversidge, Newark. 2, T. Waddington. *hc*, J. Walker, Newark (2); H. Yardley; E. Horner.
BARBS.—1, H. Yardley. 2, E. Horner. *hc*, J. Stanley; E. Horner.
JACOBINS.—1, E. Horner. 2, T. Waddington.
ANTWERPS.—1, E. Horner. 2, J. Stanley. *hc*, J. W. Collinson, Halifax; J. Stanley; T. Waddington.
TURBITS.—1, B. Consterdine, Littleborough. 2, T. Waddington. *hc*, F. Moore, Burnley; W. Kitchen, Feniscowles, Blackburn; H. Yardley; E. Horner (2).
TRUMPETERS.—1 and 2, E. Horner. *hc*, W. Kitchen; T. Waddington.
OWLS.—1, J. Stanley. 2, B. Consterdine. *hc*, E. Horner.
BLUE ROCKS.—1, J. Crabtree, Ewood, Mytholmroyd. 2, E. Horner. *hc*, J. Crahtree; W. Sutcliffe, jun., Todmorden; E. Horner.
ANY OTHER VARIETY.—1, B. Consterdine. 2, T. Waddington. *hc*, W. Kitchen; H. Yardley; T. Waddington; E. Horner.

Mr. James Dixon, of Bradford, and Mr. Robert Payne, of Burnley, were the Judges.

DRIGHLINGTON AND ADWALTON POULTRY SHOW.

THIS Show was held on the 2nd inst. The following is the prize list:—

SPANISH.—1 and Cup, T. C. & E. Newbitt, Epworth. 2, H. Beldon, Goitstock, Bingley. *hc*, J. Powell, Bradford.
DORKINGS.—1, T. Briden, Earby. 2, H. Beldon.
COCHINS.—1, H. Beldon. 2, W. J. Mason, Drighlington.
BRAHMAS.—1, C. Berry, Morley. 2, H. Beldon.
GAME.—*Black breasted or other Red.*—1, J. A. Aykroyd, Eccleshill. 2, J. Fell, Adwalton. *Duckwing.*—1 and Cup, J. A. Aykroyd. 2, W. Fell, Adwalton. *Any other Variety.*—1, H. Beanland, Tong. 2 and *hc*, R. & H. Walker, Wood Nook, Gomersal.
HAMBURGHS.—*Golden-spangled.*—1 and 2, H. Beldon. *Silver-spangled.*—1 and 2, H. Beldon. *Golden-pencilled.*—1 and 2, H. Beldon. *Silver-pencilled.*—1 and 2, H. Beldon. *Black.*—1 and 2, H. Beldon. *hc*, C. Berry; E. Hopkinson, Tong.
ANY OTHER VARIETY.—1 and 2, H. Beldon. *hc*, C. Berry.
SINGLE COCK (any variety).—1, W. H. Mason, Drighlington (Buff Cochin). 2, J. Fell, Adwalton (Black Red). 3, H. Beanland (Brown Red). *hc*, J. A. Aykroyd (Brown Red).
BANTAMS.—*Game*—1, G. Noble, Staincliffe. 2, J. Oldfield, Shibden, Halifax. *hc*, S. Ward, Birkenshaw; J. A. Chapman, Morley (2); T. C. & E. Newbitt (2). *Any other Variety.*—1 and 2, H. Beldon.
GEESE (Any breed).—1, J. Ward, Drighlington (White). 2, Miss C. Bland, Drighlington (Grey). *hc*, J. Pitts, Drighlington (White).
DUCKS.—*Aylesbury.*—1, H. Beldon. 2, S. Proctor, Pudsey. *hc*, T. E. Terry, Shawfield, Tong. *Rouen.*—1, T. E. Terry. 2, E. Crampton, Pudsey. *hc*, J. Ward.

PIGEONS.

CARRIERS.—1, W. Cannan, Bradford. 2, H. Yardley, Birmingham.
POUTERS.—Cup and 1, W. Cannan (Blue). 2 and extra 2, H. Yardley (White). *hc*, W. Cannan; S. Robson, Brotherton, Ferrybridge; R. Esam, Newark.
TUMBLERS.—*Almond.*—1, W. Cannan. 2, H. Yardley. *Any other Variety.*—1 and 2, W. Cannan.
BARBS.—1 and *hc*, W. Cannan. 2, H. Yardley.
ANTWERPS.—1, J. Speight, Bradford. 2, W. Firth, Birkenshaw. *hc*, W. Cannan; B. & M. Peel, Birkenshaw (2).
TURBITS.—1 and *hc*, W. Cannan. 2, H. Yardley.
FANTAILS.—1, W. Cannan. 2, H. Yardley.
JACOBINS.—1, H. Yardley. 2, W. Cannan.
TRUMPETERS.—1 and *hc*, W. Cannan. 2, S. Robson.
MAGPIE OR SWALLOW.—1, J. Annakin, Drighlington. 2, H. Yardley. *hc*, W. Cannan (2).
ANY OTHER VARIETY.—1 and 2, W. Cannan. *hc*, J. Speight; R. Esam.

JUDGE.—Mr. E. Hutton, Pudsey.

BINGLEY POULTRY SHOW.

THE annual Poultry Show in connection with the Airedale Agricultural Society, was held in the grounds of Gawthorp Hall, Bingley, on August 30th. The awards were as follow:—

GAME.—*Black or other Reds.*—1, Lund & Lambert, Silsden. 2, J. Robertshaw, Thornton, Bradford. 3, E. Aykroyd, Eccleshill. *hc*, E. Aykroyd; J. Hodgson, Bradford; T. Dyson, Halifax. *Any other Variety.*—Cup, E. Aykroyd. 2, J. Robertshaw.
SPANISH.—1 and 3, J. I. Booth, Silsden. 2, W. E. F. Pickard, Thorner, Leeds. *hc*, W. Schofield, Leeds.
DORKINGS.—1, T. E. Kell, Wetherby. 2, D. White, Great Driffield. 3, R. W. Richardson, Meaux Abbey, Beverley. *hc*, H. Beldon, Goitstock.
COCHINS.—Cup and 2, C. Sedgwick, Keighley.
BRAHMAS.—1, R. Hutchinson, Hollingworth. 2, Dr. Holmes, Chesterfield. 3, R. H. Hodgson, Micklethwaite.
HAMBURGHS.—*Gold-spangled.*—1, H. Beldon. 2, E. Gill, Fearneliffe, Bingley. 3, T. Dean, Keighley. *hc*, T. Dean; T. May, Wolverhampton. *Silver-spangled.*—Cup, G. Mitchell, Keighley. 2, H. Beldon. 3, C. Smith, Silsden. *hc*, G. & J. Duckworth, Church. *Black.*—1, W. Preston, Bingley. 2, C. Sedgwick. 3, J. Lund, Silsden. *hc*, C. Sedgwick; W. Moore, Keighley. *Gold-pencilled.*—Cup, H. Beldon. 2, J. Smith, Gilstead, Bingley. 3, T. Fawcett, Baildon. *hc*, J. Smith; T. Kinder, Micklethwaite, Bingley. *Silver-pencilled.*—1, R. Longbottom, jun., Bingley. 2, H. Smith, Morton Banks. 3, H. Beldon. *hc*, J. Garnett, Idle.
ANY OTHER VARIETY EXCEPT BANTAMS.—1, H. Beldon. 2, J. Bowker, Keighley. 3, J. J. Malden, Biggleswade (Crêve-Cœur). *hc*, T. Middleton, jun., Scarcroft (Silkies); H. Bowker, Keighley (Polands); T. Dean, Keighley.
BANTAMS.—*Game.*—Cup, G. Noble, Staincliffe, Dewsbury. 2, J. Oldfield, Shibden, Halifax. 3, W. F. Entwisle, Westfield, Cleckheaton. *hc*, W. F. Entwisle; R. Butterfield, Windhill Cragg, Shipley. *Any other Variety.*—1, C. Sedgwick, jun., Skipton. 2, H. Beldon. 3, S. & R. Ashton, Mottram.
SELLING CLASS.—1, C. Carr, Wilsden (Cochin-China). 2, J. Bowker (Polands). 3, H. Beldon. *hc*, J. Smith; G. Greaves, Pool, Otley (Dorkings); W. F. F. Pickard; J. J. Booth; Baxter & Dawson, Thackley, Idle; W. Johnson, Idle; A. Tidswell, Ovenden.
DUCKS.—*Aylesbury.*—1, A. West, Worsthorn, Burnley. 2, W. Wilson, Farnhill, Kildwick. *Rouen.*—1, S. H. Stott, Preston. 2, R. W. Richardson. *hc*, J. J. Booth; J. Newton, Silsden.

PIGEONS.

POUTERS.—*Cock.*—1 and 2, E. Horner, Harewood. 3, R. Harrison, Darlington. *Hen.*—1 and 2, E. Horner. 3, G. J. Taylor, Huddersfield.
CARRIERS.—*Cock.*—1 and 3, E. Horner. 2, T. Waddington, Feniscowles, Blackburn. *Hen.*—1 and 2, E. Horner. 3, T. Waddington.
TUMBLERS.—*Almond.*—1, T. Waddington. 2, E. Horner. 3, F. Moore, Burnley. *Any other Variety.*—1, G. J. Taylor. 2, W. Cannan, Bradford. 3, F. Moore.
BARBS.—Cup, J. Hawley, Girlington, Bradford. 2 and 3, E. Horner.
OWLS.—1, W. Cannan. 2, J. Hawley. 3, E. Horner.
JACOBINS.—Cup and 2, J. Thompson, Bingley. 3, G. Roper, Croydon.
TRUMPETERS.—1 and 3, E. Horner. 2, W. Harvey, Sheffield.
FANTAILS.—1, J. Walker, Newark. 2, T. Waddington. 3, E. Horner.
TURBITS.—1 and 2, E. Horner. 3, Clayton & Bairstow, Girlington.
DRAGOONS.—1, T. C. Benson, Sunderland. 2, B. Lancaster, Baildon. 3, J. Baxandall, Crosshills.
ANTWERPS.—1, W. Harvey. 2, M. Smith, Keighley. 3, Clayton & Bairstow.
ANY OTHER VARIETY.—1, W. Harvey. 2, E. Horner. 3, T. Waddington.
SELLING CLASS.—1, J. Lister, Keighley. 2, R. Petch, Moon, Driffield. 3, E. Horner.
BRED FOR FLYING PURPOSES.—1, J. Summer, Morton (Antwerps). 2, R. Sedgwick, Keighley.

RABBITS.—*Heaviest.*—1, W. Arkwright, Sutton Scarsdale, Chesterfield. 2, A. H. Easten, Beverley. *Lop-eared.*—1, H. Cawood, Thorne. 2, H. Ridley, York. 3, J. Boyle, jun., Blackburn. *Any other Variety.*—1, S. G. Hudson, Hull. 2, R. Pollard, Bingley. 3, W. H. Tomlinson, Newark.

JUDGES.—*Poultry:* Mr. R. Teebay, Fulwood, Preston. *Pigeons:* Mr. W. Smith, Beech Hill, Halifax. *Rabbits:* Mr. J. Douglas, Clumber.

WIRRAL AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE annual Show in connection with the old-established Wirral Agricultural Society was held on August 30th near Birkenhead Park. The weather was all that could have been desired, and throughout the day a large number of persons visited the ground. The arrangements for the poultry were very good, all the pens being well protected from the weather; but as the day was very hot the canvas was only of use to protect the birds from the sun. The *Dorking* class was not up to the mark, and the birds were in bad plumage. The chickens were a fair class, but we have seen better at this season of the year. Some of the adult *Cochins* were very good. Mr. Stretch and Mr. Lacy had a hard pull for the first, the former only won by condition. In the chicken class Mr. Sidgwick was first with a really perfect pen of Partridge, and Mr. Stretch followed with a good pen of Buffs. Mr. Lacy took both prizes in *Brahmas* with capital birds; some of the chickens were also very good. The *Spanish* were very poor, and only one prize was awarded. The adult *Game* were much out of condition, but some good birds were amongst them. The first prize went to Black Reds, the second to Browns. The chickens were good, and both prizes went to Brown Reds. The Game *Bantams* were a small entry, Mr. Maples being the principal winner. There were only two classes of *Hamburghs*, and with the exception of the winners they were rather indifferent. The Variety class contained some excellent Crêve-Cœurs and Houdans.

In Rouen *Ducks* there were fourteen pens of excellent birds. Mr. Gladstone's prize pen was all that could be desired both as regards size and colour. In Aylesburys excellent birds were first and second. The *Geese* were very fine, and the Judges would have been glad if they had had more prizes to award.

There was a fine show of *Pigeons* in nearly all the classes. Mr. Yardley was a large winner with first-class birds. The Dragoon classes contained thirty-three pens of the best birds that were ever brought together. Mr. Byron took the cup for the best pen of Dragoons of any other colour than Blue. The second-prize pen was in all respects first-class, but suffering from the moult.

The *Pigeons* proved very attractive, as they generally do. In Carriers, Blacks were first and second, the first-prize birds being of capital carriage. In Pouters, both first and second prizes went to Whites, both pens being good. Tumblers had two classes. One was for Beards and Balds, in which Blue Beards were first and Blue Balds second; the other was for any other variety, and in this Almonds were first and a pretty pair of Yellow Mottles second. In Barbs, Yellows were first and Blacks second. In Turbits the first-prize birds were Whites, in deep moult, but good in head, Yellows in good feather being second. In Owls, Whites were first and second. A silver cup for the Dragoon classes produced a very good entry, both in the class for Blues and also in that for any other colour. Mr. Graham's birds were all in moult, otherwise he would have stood much higher in the prize list. The first and second-prize pens of Blues were both in very good feather. In the class for any other colour, Yellows took both prizes. The first-prize birds were too light in the thigh, the second-prize birds were grand, only in moult. Black Nuns were first and second in their class, and Trumpeters first and Porcelains second in the class for any other variety. Another year I should strongly recommend the Committee to offer prizes for single Carriers and Pouters instead of pairs.
—A FANCIER.

DORKINGS.—1, J. H. Stott, Preston. 2, T. Briden, Earby. *Chickens.*—1 and 2, R. Ravensbaw, Preston. *hc*, J. Watts, Kingsheath, Birmingham.
COCHIN-CHINAS.—1, T. Stretch, Ormskirk. 2, H. Lacy, Hebden Bridge. *hc*, J. Watts. *Chickens.*—1, C. Sidgwick, Ryddlesden, Keighley. 2, T. Stretch. *hc*, J. Willis.
BRAHMA POOTRA.—1 and 2, H. Lacy. *hc*, W. Gamon, Chester. *c*, J. Watts. *Chickens.*—1, G. Biddle, Moreton. 2, F. A. Dean, Moreton-on-Lugg. *hc*, W. W. Duncan, Moreton (2); J. Watts.
SPANISH.—1, H. Wilkinson, Earby. 2, Withheld. *Chickens.*—1, J. Walker, Standeford, Wolverhampton. 2, H. Wilkinson. *hc*, A. Mollons.
GAME.—1, T. P. Lyon, Knotty Ash, Liverpool. 2, G. F. Ward, Wrenbury, Nantwich. *hc*, G. C. Barnett, Birkenhead. *Chickens.*—1 and 2, J. Carlisle. *hc*, G. C. Barnett.
BANTAMS.—1, G. Maples, jun., Wavertree, Liverpool (Game). 2, J. Smith, Oxton. *Chickens.*—1 and 2, G. Maples, jun. (Game).
HAMBURGHS.—1, T. Bolton, Basford. 2, J. Statter, New Brighton. *Chickens.*—1, T. Bolton. 2 and *hc*, J. Statter (Golden-spangled and Silver-pencilled).
ANY OTHER VARIETY.—1, W. Gamon (Polish). 2, W. Dale, Neston (Crêve-Cœurs). *Chickens.*—1, J. J. Malden, Biggleswade (Crêve-Cœurs). 2, C. Morriss,

Holmleigh, Grassendale (French). *hc*, J. K. Fowler, Aylesbury (French); Rev. C. C. Ewbank, Longford Vicarage, Biggleswade (Crève-Coeur).

Ducks.—*Rouen.*—1, R. Gladstone, jun., Court Hey, Broad Green, Liverpool. 2, T. Wakefield, Golborne, Newton-le-Willows. *hc*, H. B. Smith, Broughton, Preston; S. H. Stott; R. Gladstone, jun. *Any other Variety.*—1, J. K. Fowler. 2, E. Leech, Rochdale. *hc*, H. B. Smith (2); S. H. Stott; J. K. Fowler.

Geese.—1, J. K. Fowler. 2, J. H. Stott. *hc*, E. Leech; G. F. Statter, Carliale; Rev. G. Hustler, Stillingfleet, Yorkshire.

Turkeys.—1, E. Leech. 2, Rev. N. J. Ridley, Newbury (Cambridge).

Extra Prize,—*For best Pen of Fowls of any Breed, the Property of a Wirral Farmer or Labourer.*—1, W. Dale (Brahmas).

PIGEONS.

Carriers.—1, L. Byron, Blackburn. 2, J. Stanley, Salford, Blackburn. *hc*, H. Yardley, Birmingham.

Pouters.—1, H. Yardley. 2, E. C. Stretch, Ormskirk. *hc*, J. Hodgson, Birkenhead.

Balds and Beards.—1 and 2, W. J. Woodhouse, King's Lynn. *Any other Variety of Tumblers.*—1, H. Yardley. 2 and *hc*, W. J. Woodhouse.

Fantails.—1, H. Yardley. 2, D. MacIver, Moor Lee, Bromborough.

Barbs.—1, J. Stanley. 2, H. Yardley. *hc*, J. W. Phillips, Anfield, Liverpool.

Turbits.—1, E. C. Stretch. 2, W. Gamon.

Owls.—1, H. Yardley. 2, J. Stanley. *hc*, Mrs. W. Sneyd, Keele Hall, Newcastle-on-Tyne (2).

Dragoons.—*Blue.*—1, H. Yardley. 2, L. Byron. *hc*, J. Watts; W. H. Mitchell, Moseley, Birmingham; H. P. Ryland, Erdington, Birmingham. *Any other Colour.*—1 and Cup, L. Byron, Blackburn. 2, F. Graham, Birkenhead. *hc*, F. Graham (4); W. H. Mitchell; J. Stevenson, jun., Chester; H. P. Rylands.

Nuns.—1, F. Graham. 2, G. A. Dean. *hc*, F. Graham.

Any other Variety.—1, W. Gamon. 2, H. Yardley. *hc*, J. Watts; J. W. Phillips (Yellow Magpies); J. Stanley.

Mr. Hindson, of Liverpool, and Mr. Dixon, of Bradford, were the Judges.

COTTINGHAM POULTRY SHOW.

The following awards were made at this Show, held on August 30th, at Cottingham, near Hull:—

Spanish.—1, T. C. & E. Newbitt, Epworth. 2, G. Holmes, Driffield. *Cock.*—1, G. Holmea.

Dorkings.—1 and piece of Plate, D. White, Driffield. 2, R. W. Richardson, Beverley. *Cock.*—1, G. Holmea.

Cochina.—1 and piece of Plate, R. Dawson, Beverley. 2, R. Fleming, Hull. *Cock.*—1, O. A. Young, Driffield.

Game.—*Black-breasted or other Reds.*—1 and 2, H. M. Julian, Hull. *Cock.*—1, H. M. Julian. *Any other Variety.*—1, Extra, and 2, H. M. Julian. *Cock.*—H. M. Julian.

Polands.—1 and 2, Mrs. J. M. Procter, Hull. *Cock.*—1, Mrs J. M. Procter.

Hamburghs.—*Golden-spangled.*—1, R. P. Moon, Driffield. 2, G. Holmes. *Cock.*—1, G. Holmea. *Golden-pencilled.*—1, G. Holmes. 2.—Biglin. *Cock.*—1, G. Holmea. *Silver-spangled.*—1, G. Holmes. *Cock.*—1, G. Holmes. *Silver-pencilled.*—1, G. Holmea. 2, W. G. Purdon, Driffield. *Cock.*—1, G. Holmea.

Farmyard Cross.—1, W. H. Young, Driffield. 2, G. Bromby, Cottingham. *Chickens.*—1 and 2, G. Bromby.

Any other Variety.—1, R. Loft, Beverley (Sultans). 2, D. Dunlin, Cottingham. *Cock.*—1, R. Loft.

Bantams.—*Gold*—1, Mrs. J. M. Procter. 2, O. A. Young. *Cock.*—1, Mrs. J. M. Procter. *Game.*—1, W. Adams, Ipswich. 2, J. Stabler, Driffield. *Cock.*—1, W. Adama. *Any other Variety.*—1, Mrs. J. M. Procter. 2, G. L. Davis, Hu'l. *Cock.*—1 and Plate, Mrs. J. M. Procter.

Geese.—1, O. A Young.

Ducks.—*Aylesbury.*—1, M. Duggleby, Cottingham. 2, H. Lawson, Hull. *Any other Variety.*—1 and 2, R. W. Richardson.

PIGEONS.

Pouters.—1, H. Adama, Beverley. 2, R. W. Richardson. *hc*, T. Statters.

Carriers.—1 and 2, W. Campey, Beverley.

Turbits.—1, Cup, and 2, C. N. Lythe, Cottingham. *hc*, H. Lawson.

Trumpeters.—1, D. McCollin, Hull. 2, C. N. Lythe.

Jacobins.—1, R. G. Sanders, Leven. 2, F. C. & E. Thompson, Hull.

Fantails.—1, H. Adams. 2, H. Taylor, Newland.

Dragoons.—1 and 2, H. Adams.

Tumblers.—1 and 2, H. Adams.

Barbs.—1, R. W. Richardson. 2, T. Statters.

Nuns.—1, R. W. Richardson. 2, J. Erskine, Hull.

Any other Variety.—1, Mrs. J. M. Procter (White Owls). 2, R. W. Richardson (Black Owls).

Rabbits.—*Lop-eared.*—*Buck.*—1, P. Ashton, Hull. 2, Miss Fletcher, Hull. *Doe.*—1 and 2, Miss Fletcher. *Any other Variety* (Pair).—1, E. Walker, Hesale. 2, P. Ashton.

Judges.—Mr. F. Ferguson, and Mr. J. Hodgkinson.

MANCHESTER AND LIVERPOOL POULTRY SHOW.

This Show was held on the 6th and 7th inst. We must defer our report till next week.

ALL BIRDS HATCHED IN 1871.

Dorkings.—*Coloured.*—1, E. Leech, Rochdale. 2, Miss Davies, Chester. 3, Gunson & Jefferson, Whitehaven. *hc*, T. E. Kell, Wetherby. *c*, T. E. Kell; A. Darby, Bridgenorth. *Silver-Grey.*—1 and 2, Withheld. 3, T. Statter, jun., Whitfield, Manchester.

Spanish.—1, F. Jamea, Peckham Rye. 2 and 3, E. Jones, Clifton. *hc*, J. Walker, Standiford. *c*, H. Beldon, Bingley.

Cochin-China.—*Buff or Cinnamon.*—1, W. A. Taylor, Manchester. 2, E. Leech. 3, C. Sidgwick, Keighley. *hc*, W. A. Taylor; C. Sidgwick. *c*, W. P. Rylands, Eddington; A. Darby, Bridgenorth. *Brown and Partridge-feathered.*—1 and 2, C. Sidgwick. 3, H. Lingwood, Needham Market. *hc*, W. A. Taylor; E. Leech; C. Sidgwick.

Brahma Pootras.—*Dark.*—1, W. A. Taylor. 2, H. Lingwood. 3, W. Gamon, Chester. *hc*, G. Maples, jun., Wavertree; R. B. Wood, Uttoxeter. *c*, T. F. Ansdell, St. Helena. *Light.*—1 and 2, J. Pares, Guildford. 3, R. B. Wood.

Game.—*Black-breasted Reds.*—1, C. Chaloner, Whitwell. 2, W. Harkes, Collingley. 3, H. M. Julian, Hull. *hc*, C. Chaloner. *Brown and other Reds except Black-breasted.*—1, E. Aykroyd, Eccleshill. 2, J. Wood, Wigan. 3, T. Dyson, Halifax. *hc*, J. Carlisle, Earby, Skipton (2). *c*, C. Chaloner; M. A. Forde, Liverpool. *Any Variety except Black-breasted and other Reds.*—1, C. Chaloner. 2, T. P. Lyon, Knotty Ash. 3, J. Halsall, Eccleston, Preacot. *c*, T. P. Lyon.

Hamburghs.—*Golden-pencilled.*—1, H. Pickles, jun., Earby, Skipton. 2, N. Barter, Plymouth. 3, J. Webster, Whitby. *hc*, J. Statter, New Brighton. *c*, H. Beldon, Goitstock, Bingley; J. Wrigley, Tenge, Middleton. *Silver-pencilled.*—1, H. Pickles, jun. 2, N. Barter. 3, W. M. Mann, Kendal. *hc*, H. Beldon; J. Platt, Dean, Bolton; H. Pickles, jun. *Golden-spangled.*—1, T. Walker, jun. Denton. 2, J. Statter. *hc*, J. Marsland, Hollinwood, Manchester; J. Chadderton, Hollinwood; J. W. Gardon, Newcastle. *c*, T. Dean, Keighley; W. A. Hyde, Ashton-under-Lyne. *Silver-spangled.*—1 and 2, H. Beldon. 3, J. Field ing, Newchurch, Manchester. *hc*, J. Preston, Allerton, Bradford; Ashton and Booth, Broadholtom, Mottram; J. Hodgson, Howe; G. Duckworth. *c*, D. Lord, Stacksteads; J. Duckworth. *Black.*—1 and 2, C. Sidgwick. 3, H. Beldon. *hc*, W. A. Taylor. *c*, C. Sidgwick; W. A. Taylor.

Polish.—1, P. Unsworth. 2, 3, and *hc*, H. Beldon. *c*, T. Dean.

French Fowl.—1, J. J. Walden, Biggleswade. 2, J. K. Fowler, Aylesbury. 3, R. B. Wood, Uttoxeter. *hc*, W. Dring, Faversham; E. Williams. *c*, J. Sichel, Timperley; C. Morris, Grassendale.

Any other Variety.—1, J. S. Booth (Malays). 2, E. Williams.

Game Bantams.—*Black-breasted Reds.*—1, T. Shurplea, Rawtenstall. 2, W. F. Entwisle. 3, G. Maples, jun., Wavertree. *hc*, W. F. Entwisle; Rev. C. J. P. Keene, Halsall. *c*, J. W. Morris. *Any other Variety.*—1 and 2, W. F. Entwisle. 3, Furniss & Sudall, Haslingden. *hc*, T. Dyson; J. W. Morris. *c*, Rev. C. J. P. Keene.

Bantams.—1, J. Walker, Hulifax. 2, J. W. Morris. 3, H. Beldon. *hc*, H. Beldon; S. & R. Ashton; J. Sichel; Miss R. C. Frew.

Ducks.—*Rouen.*—1 and 2, T. Wakefield, Golborne. 3, R. Robinson, Leeds. *hc*, J. K. Fowler; A. Haslam; T. Burns, Wigan; T. Wakefield; J. Scotson. *Aylesbury.*—1 and *hc*, J. K. Fowler. 2 and 3, E. Leech. *Any other Variety.*—1 and *hc*, H. B. Smith. 2, R. Gladstone, jun. 3, T. Wakefield. *c*, W. Binns.

Geese.—*Grey*—1 and *hc*, S. H. Stott. 2, G. F. Statter, Carlisle. 3, E. Leech. *c*, R. Beckett, Northwich; J. Wood. *White.*—1 and 2, E. Leech. 3, Sir H. P. de Bathe, Bart., Chicheater. *hc*, G. Hustler, Stillingfleet.

Turkeys.—1 and 3, E. Leech. 2, T. Rigby, Winsford. *hc*, F. Lythall; T. Rigby.

The Judges were Mr. E. Hewitt, of Sparkbrook, Birmingham, and Mr. Richard Teebay, of Fulwood, Preston.

TIMELY FEEDING BEES.

A timely word of warning will not come amiss just now to all who desire to save their bees during the coming winter. I do not think we have had so hard a season for honey as the present summer since the fatal year 1860. My own hives, with one or two exceptions, were all but pauperised when August came, nor did they mend much till the hot and thundery weather of the second and third weeks, and then only as bees can in August, when the earth seems nearly exhausted and the flowers, save in the lands of heather, produce but little honey. Nine out of ten of my hives are so poor, owing to their excessive swarming (quite into the middle of July), that I have already begun to feed some of them: and I advise apiarians generally to be on the alert ere it be too late. Great care should be taken, too, to avoid dropping any sweet syrup about, which would immediately attract robber bees and endanger a general and indiscriminate pillage of each other's hives. Use the bottle-feeder, and cover well over, taking care that the syrup be neither so liquid as to run too fast, nor so thick as to refuse to run at all. Feed towards evening when the apiary is at rest—a great deal of food will be carried safely down during warm nights.

The main feeding time should be in October; but see to it that the bees will survive till then. It is well to feed the hives continuously from first to last—I mean by this that the feeders should be filled as fast as they are emptied, so as to prolong the excitement as little as possible.—B. & W.

FEEDING BEES.

I have a quantity of dates offered me for my bees to extract the saccharine matter from them, as they are old and candied; do you think it safe to offer them as food? I fear my hives are scantily supplied with honey, and two swarms have still about a third of their hives to fill with comb. The stocks have no honey visible through the windows, but one out of two works well. I have no means of weighing the hives, so kindly give me advice as to when feeding should begin, if needful, and if the trough may remain on all night; also what is the best food to give, and will they form comb out of it?

I enclose also some lines from an old manuscript, which I thought might prove interesting, giving an early account of bee knowledge in England.—C. A. J.

"And ryght as *dranes doth nought but drynketh up the huny
Whan †been withe her busynasse have brought it to †hepe,
Right so farath ‖freres with folke upon erthe,
They §freten up the **furstefroyt and ††falaliche lyhbeth."

—*Piers Ploughman's Crede*, ll. 726-729. A D. 1394.

[We have had no experience respecting dates as an article of bee food. As your two swarms have not filled their hives with comb, you must make up your mind to give from 15 lbs. to 20 lbs., or perhaps even more, to each of sugar syrup, as a considerable portion of it will be used in extending the combs; the stocks also appear to require liberal feeding.

You may feed your bees any time during this month with advantage. Use the bottle feeder so often recommended by us, and give from 2 to 4 lbs. of food at a time to each stock. The proper time to put on the feeders is at dusk. Cover them well over, so that the bees from other stocks cannot get at even the outside of the bottle. The following morning remove all

* Drones. † Bee (in female sense). ‡ Skep (origin of ?). ‖ Friars. § Gather up. ** First fruit. †† Falsely liveth.

feeders, whether emptied or not, and continue the feeding nightly until the required quantity has been given. If necessary, contract the entrances of your hives to enable the inmates more effectually to repel robbers. Get all the feeding accomplished as rapidly, as completely, and with as little disturbance as possible. These directions are intended for autumn feeding only. Spring feeding must be carried on in a different manner.

If you do not care to give the large quantity of artificial food that all your weaker stocks or swarms may require, you may, if you please, unite two of them, making one good stock, which, with liberal feeding, may prove more profitable than keeping two weak hives. We do not advise this, however, as we do not know the strength of your respective colonies. The best food is in the proportion of 6 lbs. of loaf sugar to 4 lbs. of water, kept on the fire for two or three minutes after it has reached boiling point, and, of course, allowed to cool before being given to the bees. Wax can be secreted and combs built entirely from this syrup, but, as in the case of honey, it takes an enormous quantity of food to enable the bees to construct a very small quantity of comb, and this must always be taken into account when providing hives with sufficient stores for winter consumption.—Eds.]

MR. WOODBURY—FOUL BROOD.

Before entering on the subject of this communication, allow me to say that the death of Mr. Woodbury on the eve of expected recovery has occasioned the most profound sorrow. He was the prince of English apiarians; and those who, like myself, had the privilege of corresponding with him, will long mourn his loss while they affectionately cherish his memory. His early removal has not only overwhelmed his family and friends with deep grief, but it has made a blank in the apiarian circle which few, if any, are qualified to fill up; the deceased being, as one of the Editors of "our Journal" has well said, "our right hand, right head, and right heart in bee knowledge."

To the disease called foul-brood he was the first to direct the attention of bee-keepers in this country. He gave them all the information that could be obtained regarding it, and he minutely described the process by which he so successfully banished it from his apiary, and the method which he adopted eight years ago is the only one that has, in my experience, effectually eradicated the complaint. All other nostrums, whether English, German, or American, have signally failed. In the Journal of December 29th, 1870, Dr. Abbe stated that he had managed to bring the disease under control by the application of hyposulphite of soda. The account he gave of his doings made a strong impression, and I resolved to take an early opportunity of testing the value of his discovery.

My experiments were commenced in April. Having a well-stored Woodbury hive, I replaced two of the removed combs by two tainted ones. From these all foul cells were excised, and all the others thoroughly washed out with Dr. Abbe's solution. Not only so, all the other combs, with the box that contained them, were completely washed over with the solution, and subjected to its influence for a period of twelve hours. I then put one of my best swarms into the box and awaited the result, concluding that the fell disease would not be resuscitated and reappear if the remedy thus applied possessed the virtue ascribed to it. I am bound to confess that none of my expectations were realised. The solution had not the slightest influence in disinfecting the combs. The disease did not even receive a check; it broke out fresh as ever, and before the end of July had spread through the whole hive, and in a form as malignant as any I had ever witnessed. It was quite obvious that further attempts to effect a cure in the way recommended would be useless, so, not to waste more time over it, I at once drove the bees into an empty hive, and buried every comb. The box having been purified with chloride of lime, was, after a few days, tenanted by its former occupants, and now, whilst I write, not a vestige of disease can be observed in the well-brooded new combs. To the late Mr. Woodbury, whose loss we lament, we are indebted for making known, or perhaps I should say discovering, a method whereby wooden hives can be purged of their evil virus in a few days, and it is doubtful whether any better plan than the one he adopted will ever be found out for eliminating the plague of foul brood.—R. S.

OUR LETTER BOX.

Ryhope Poultry Show.—The second prize for Brahmas was awarded to Mr. A. H. Banbury, Langton, Northallerton.

Long Sutton Poultry Show.—Mr. Tegetmeier requests us to contradict the statement in our list of Poultry Shows, that he is to be one of the Judges at Long Sutton. The statement in question was founded on an advertisement by the Long Sutton Committee, which appeared in our columns on August 17th, and in those of *The Field* two days afterwards. Since the above was in type we have received a corrected list of the Judges, which we now insert.

Brahmas with Diseased Livers (*D. J.*).—You should describe the yard in which the fowls are kept. Is it paved? If it is not, what is the nature of the bottom? Do they get any sun? As much in the dark as we are, we must confine ourselves to generalities. Fowls kept in paved yards are subject to diarrhœa, and when they die from it the livers are generally in the condition you describe. We do not like your dietary. Give ground oats or barley meal slaked, in the morning and evening. Indian corn or barley on alternate days for the midday meal. Continue the lettuces by all means. If any are seized, give them at once two pills of camphor the size of a garden pea, and continue this if necessary. When the livers are affected the birds seem to suffer from inordinate thirst. It is well in that case to remove the water, and to allow them to drink only three times per diem.

Ligurian Queens (*D. N.*).—They are advertised in our columns.

Dormice (*S. M. W.*).—They can be obtained at some of the bird shops in Seven Dials, London, but we do not know of anyone who sells them in Liverpool, but such there are, no doubt.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Sept.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 30	30.031	69 4	62.2	E.	62.5	80.4	53.8	115.2	48.0	—
Th. 31	30.025	65.8	60.0	S.E.	63.3	80.6	57 6	126.0	54.5	—
Fri. 1	30.085	68.2	62.0	N.E.	64.0	81.0	55.8	114.4	52.5	—
Sat. 2	30.064	71.0	66 4	N.	63.5	80.8	58 2	114.0	55.4	0.060
Sun. 3	29.886	67.2	60.7	N.E.	64.0	71.8	58.4	110 1	56.3	0.140
Mo. 4	29.816	66 3	59.2	S.	62.9	71.4	55.4	113.8	52.4	0.140
Tu. 5	30.088	60.9	56.6	N.	62.8	76.0	51.3	123.6	49.8	—
Means	29.999	67.0	61.0		63.2	77.4	63 8	116.4	52.7	0.240

REMARKS.

30th.—Hazy and very warm in the morning, getting more and more cloudy all the afternoon and evening.

31st.—A most lovely day, a little cloudy about 5 P.M.

September 1st.—Occasionally cloudy and storm-like, oppressively warm, there being no motion in the air.

2nd.—Very slight shower at 9.10 A.M.; thunder at 12 40 and 2.10 P.M., cooler afterwards.

3rd.—Fine morning; rather cloudy in early afternoon, with very slight showers between 3 and 4 P.M.; and rain at 10.50 P.M.

4th.—Fine in morning, rain commenced soon after noon, and continued till the evening.

5th.—A very fine day throughout, bright sun, but a pleasant breeze.

Notwithstanding the rain of Monday and pleasant breezes, the temperature has been 4° above that of last week, and nearly 8° above the average. —G. J. Symons.

COVENT GARDEN MARKET.—September 6.

Trade quiet; there is a fair demand for the best descriptions of fruit and vegetables, but common goods only command low prices. Large foreign supplies are coming in just now.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples	½ sieve	1	0 to	2	6	Mulberries	lb.	0	6 to	1	0
Apricots	doz.	1	0	3	0	Nectarines	doz.	1	0	3	0
Cherries	lb.	0	3	2	0	Oranges	℔ 100	20	0	0	0
Chestnuts	bushel	0	0	0	0	Peaches	doz.	2	0	10	0
Currants	½ sieve	0	0	0	0	Pears, kitchen	doz.	2	0	3	0
Black	do.	0	0	0	0	dessert	doz.	2	0	3	0
Figs	doz.	1	0	3	0	Pine Apples	lb.	3	0	5	0
Filberts	lb.	0	6	1	0	Plums	½ sieve	3	0	5	0
Cobs	lb.	0	0	0	0	Quinces	doz.	0	0	0	0
Gooseberries	quart	0	3	0	3	Raspberries	lb.	0	0	0	0
Grapes, Hothouse	lb.	1	0	6	0	Strawberries	lb.	0	0	0	0
Lemons	℔ 100	8	0	12	0	Walnuts	bushel	10	0	16	0
Melons	each	2	0	6	0	ditto	℔ 100	1	0	2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	doz.	2	0 to	4	0	Leeks	bunch	0	3 to	0	0
Asparagus	℔ 100	0	0	0	0	Lettuce	doz.	0	3	1	0
Beans, Kidney	½ sieve	1	0	3	0	Mushrooms	pottle	1	0	2	6
Broad	bushel	2	0	3	0	Mustard & Cress	punnet	0	2	0	0
Beet, Red	doz.	2	0	3	0	Onions per doz. bunches		3	6	4	0
Broccoli	bundle	0	9	1	0	pickling	quart	0	0	0	0
Brussels Sprouts	½ sieve	0	0	0	0	Parsley	sieve	3	0	4	0
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	9	1	0
Capsicums	℔ 100	0	0	0	0	Peas	quart	0	0	1	0
Carrots	bunch	0	6	0	0	Potatoes	bushel	1	6	3	0
Cauliflower	doz.	3	0	6	0	Kidney	do.	3	0	5	0
Celery	bundle	1	3	2	0	Radishes	doz. bunches	0	2	1	0
Coleworts	doz. bunches	2	0	4	0	Rhubarb	bundle	0	4	0	6
Cucumbers	each	0	0	1	0	Savoys	doz.	0	0	0	0
pickling	doz.	2	0	3	0	Sea-kale	basket	0	0	0	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	6	0	0
Fennel	bunch	0	3	0	0	Spinach	bushel	3	0	4	0
Garlic	lb.	0	3	0	0	Tomatoes	doz.	2	0	3	0
Herbs	bunch	0	3	0	0	Turnips	bunch	0	3	0	0
Horseradish	bundle	3	0	4	0	Vegetable Marrows	doz.	2	0	3	0

WEEKLY CALENDAR.

Day of Month	Day of Week	SEPTEMBER 14—20, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years. Days.	Sun Rises. m. h.	Sun Sets. m. h.	Moon Rises. m. h.	Moon Sets. m. h.	Moon's Age. Days.	Clock after Sun. m. s.	Day of Year.
14	Th	Brighton Autumn Show closes.	67.0	48.1	56 5	22	33 af 5	16 af 6	42 4	40 af 6	●	4 24	257
15	F	Bury and West Suffolk Horticultural Show.	67.5	45.9	56.7	16	35 5	14 6	0 6	0 7	1	4 45	258
16	S	Length of night 11h 24m.	68.4	46.8	57.6	16	36 5	12 6	17 7	18 7	2	5 6	259
17	Sun	15 Sunday after Trinity.	68.9	44.9	56.9	16	38 5	10 6	37 8	37 7	3	5 27	260
18	M		68.2	46.5	57.4	19	40 5	7 6	58 9	59 7	4	5 48	261
19	Tu		67.3	45.3	56.3	21	42 5	5 6	21 11	26 8	5	6 10	262
20	W	Royal Horticultural Society, Fruit, Floral, and General Meeting.	68.0	44.0	56.0	20	43 5	2 6	after.	59 8	6	6 31	263

From observations taken near London during forty-three years, the average day temperature of the week is 67.9°, and its night temperature 45.6°. The greatest heat was 87°, on the 15th, 1865; and the lowest cold 29°, on the 17th, 1840. The greatest fall of rain wae 0.90 inch.

HORTICULTURAL PARIS IN 1871.—No. 1.

"AND did you find Paris very much altered?" is the invariable question one is met with when you confess to having been there. To this question there must be various replies; in some respects one would say, Not in the least. You see the same *flâneurs* on the boulevards, the men who seem to have nothing to do but stroll about, or sit down and sip café or orgeat, &c. Go into the restaurants, and there is the veritable Adolphe or Jean who served you a year ago; the cocher of the fiacre hands you the ticket which might be the fellow of that he gave you in 1870; the same grey horses (we thought they were all eaten) draw along the omnibus; you receive your *billet de correspondance* as before; you go to your hotel, the very same *concierge* greets you as determined as ever to cheat you if possible, Antoine lights you to your chamber with hopes of "pourboire" dancing before his eyes, and you rub your eyes and begin to think that the war of 1870 and the Commune of 1871 were all a dream. But you go out again; you stroll into the Place de la Concorde, and thence up the Tuileries gardens; you see that the whole façade of the Palace is gone; that the barracks that faced the Rue Rivoli are shattered; that the Palais Royal (the Palace itself) is a ruin—the shops and restaurants and gardens remain as ever—that you can dine at Vessens or the Trois-frères if you like and if your pocket will afford it, as of yore. On further still, you come on the blackened mass of the Hotel de Ville, the theatre of the Opéra Lyrique, and the Palais de Justice, and you are now aware that all that you have heard of the wretched atrocities of Ferré, Lullier, Felix Pyat, and others was *not* a dream, and the wonder is that all Paris did not fall.

But that point of view which will suggest itself to the readers of the Journal is, Is Paris very much changed in a horticultural point of view? how have fared the gardens, *places*, promanades, and parks? I think it is impossible not to admire the energy with which Paris has endeavoured to repair her disasters. When one recollects that some of these places—as, for example, the Parc de Monceaux—were converted for a time into huge burial-places, and that now they are fresh and green with early-sown grass, it does argue a good deal for the love of beauty that certainly marks the French as a people. Again, I think that all who have visited Paris, and who hope to do so again, will rejoice to know that the trees which gave such a peculiar charm to the boulevards remain untouched, and do not seem to have suffered at all by the disasters of the war when fuel was so scarce; and the deliberately-planned and solidly-executed barricades of the Commune despised the use of such frail materials, employed so often in former revolutions.

It is the same with that wonderful promenade the Champs Elysées, so unlike anything anywhere else. The trees remain as before, the cafés chantants, the concerts, the merry-go-round, the marionnettes are all there as before, and but few of the trees are injured. But withal this you at once see that there is a change; you miss the beautiful beds of flowering and foliage plants, the subtropical gems that used to adorn the Parc de Monceaux and other places, and find that annuals, Petunias, and plants which can be easily raised from seed have been obliged to take their place. The scarcity of fuel and the fire of the batteries had almost destroyed La Muette, whence the gardens of Paris received their supplies, and as the Versailles troops only entered Paris on the 18th of May, before which time nothing had been done, the change which has been made is marvellous. A friend of mine told me that when he entered Paris after the Commune there was not a blade of grass to be seen in the Parc de Monceaux. It is the same with other and smaller places. As to the Jardin d'Acclimatation and the Jardin des Plantes, the former is literally a desert, and the latter filled with tents and soldiers, so that a passage through them is impracticable. The greenhouses, too, are nearly empty. M. Decaisne, the able and accomplished Director, has appealed for help to rehabilitate his houses, and I doubt not his appeal will meet with a ready response. The garden of the Luxembourg seemed to have fared the best, and was the gayest I saw, but this was dependant on its own resources, and although the losses were great, yet a goodly number of plants must have been preserved to enable M. Rivière to make the display he did.

It speaks well for the recuperative powers of France that the Paris markets seem to be supplied as heretofore. All who are interested in seeing what the Parisians aim at in fruit and vegetables must go the Halles Centrales, and there I find no lack of either. There were plenty of the rich luscious Peaches of Montreuil selling at 2*d.* and 3*d.* each, smaller ones at 1*d*, ripe Chasselas Grapes at 60 centimes per pound; while the bouquet-makers were as busy as ever, chatting over their work, and looking as merry as if they had never had two sieges to go through. It was the same in the flower market at the Madeleine and on the Quais. There was an abundant supply of plants all neatly arranged in their clean white paper envelopes, and apparently abundance of purchasers, while the well-known establishments of Filleul, Bourjon, Prévost, &c., had, as usual, their dainty-looking bouquets and bright and brilliant-looking plants in their windows.

I have thus given one side of the medal; alas! there is an obverse, and of this I shall write when I come to describe "outside Paris." There are scenes of desolation that make the heart sick to look at when one contemplates the destruction, and thinks of the awful histories connected with these ruins. But more of this anon.—D., *Deal*.

THE PHLOX AND ITS CULTURE.

This is certainly the most beautiful of hardy autumn flowers; it is easily cultivated, and a succession of flowers can be obtained from it in the latter part of summer and throughout the autumn. It is extremely valuable for planting in mixed borders, and for the flower garden; also for growing in pots for the decoration of the greenhouse and conservatory. Although the Phlox is worthy of cultivation

in any garden, it is just the flower for the cottager or the owner of a small garden, as it yields its flowers in rich and luxuriant profusion without the aid of glass houses, frames, or coddling of any sort.

There are two sections of the Phlox, divided into early and late-flowering. The early-flowering section (suffruticosa) contains some very beautiful varieties, but they are wanting in the rich orange-red, crimson, and purple shades of the late varieties. I find they do not thrive in the neighbourhood of London so well as the late sorts. It seems to me that they require a cool and moist atmosphere, as in Scotland the early varieties are preferred, and most of the new varieties are raised there. In the south of England it is best to grow the Decussata, or late-flowering section, although it is as well to have a few of the others in order to prolong the season of flowering. They require the same treatment, and both sections will well repay the amount of care required to keep them in good order. The culture is very simple, but their wants must be attended to at the proper time, otherwise success will not be attained.

I shall begin with established plants, such as may be obtained from the nurseries. A plant in a small pot which has been struck in the spring, and sent out in the autumn, will throw up from the base of the stem a number of shoots. When these have grown 3 or 4 inches in length all except three should be taken off to make cuttings. Some light sandy mould should be prepared, and one cutting inserted in the centre of a 3-inch pot; they strike root freely, especially if the pots can be plunged in a gentle bottom heat in a dung frame. When the cuttings are rooted, the plants should be removed to a cold frame, and gradually inured to the cold; for although the plant is quite hardy, it dislikes sudden changes of temperature. Some of the plants should be reserved for pot-culture, and others for planting-out.

The plants intended for pot culture should, as soon as the pots are well filled with roots, be repotted in 6-inch pots, shifting them afterwards into 8-inch pots, in which they should be allowed to flower. This size I find to be the best for flowering strong, early, spring-struck cuttings, and noble spikes of flowers are obtained in this way, when the plants receive careful attention. If the plants intended to be grown and flowered in pots are from cuttings struck in the previous season, three shoots may be allowed from each plant, and they should be flowered in 10-inch pots. The best compost to use is three parts sandy loam, one part leaf mould, and one part rotted manure. During the growing period the pots should be plunged in cocoa-nut fibre refuse, in the full blaze of the sun, but sheltered from cutting winds, and be abundantly supplied with water both at the roots and overhead. Occasional waterings with weak manure water will be beneficial. At an early stage of their growth sticks should be put in; these should stand 2 feet out of the ground and be rather stout, as a well-grown spike offers considerable resistance to the wind.

For culture in the open ground, the Phlox should be planted in beds if the finest possible spikes be desired. A few plants in a mixed border are a pleasing feature, and contrast well with Delphiniums and other herbaceous plants, but it is not easy to pay proper attention to them in such a position. Four rows should be planted in each bed, with an alley between wide enough to allow a man to pass along with a watering-pot without damaging the spikes. If one spike only is allowed to each plant, 16 inches apart in the beds will be sufficient; if three spikes, 24 inches should be allowed. Early in March is the best time to plant them, and the ground should be deeply trenched and highly manured. The plants will also require copious supplies of water during the growing season, and the beds should also be mulched with short manure to prevent evaporation.

The Phlox is not so well adapted for exhibition as the Hollyhock and Gladiolus, as the flowers are apt to fade before night, although when due precautions are taken I have seen them stand pretty well. The best way to stage the cut spikes for exhibition is to fill a small pot with sand, in the centre insert a small tube full of water, in this tube place the cut end of the spike, and surface over neatly with green moss. A pot is required for each spike.

Grown and flowered in pots Phloxes are a grand feature at the autumn exhibitions. A serious drawback to exhibiting them in this way is the expense attendant on moving them to long distances, so that to give all a chance it would be as well to show them in both ways. I will add a list of the best varieties in each section.

Early-flowering.—Duchess of Sutherland, Elvina, James Mitchell, James Neilson, John Watson, Miss Ainslie, Mrs. Murray, Mrs. Thorn, Mrs. Austin, Mrs. Hunter, Pladda, Robert Hannay, The Queen, William Linton, Waverley, William Blair, The Deacon, and W. W. Platt.

Late-flowering.—A. F. Barron, Amabilis, Aurantiaca superbs, Aurore Boréale, Comtesse de Chambord, Liervallii, Madame Barillet, Madame Guillotteaux, Madame La Comtesse de Fernandons, Madame Billy, Madame Domage, Mdlle. Hermine de Turenne, Mdlle. Marguerite de Turenne, Miss Macrae, Mons. Joseph Heim, Mdlle. Muret de Bort, Mons. W. Bull, Mons. Malet, Mons. Veitch, Madame Delamare, Mons. Marin Saison, Mons. Guillotteaux, Mrs. Laing, Princess Louise, Queen Victoria, Souvenir des Fernes, Triomphe du Parc de Neuilly, and Venus.—J. Douglas.

GRAFTED VINES IN AN IRON-STOVE-HEATED HOUSE.

Where the aid of hot-water pipes or flues is dispensed with, few seasons have been so unfavourable for the production of fine Vines and Grapes as the present; yet I am happy to state that my Vines and Grapes are finer than ever. During the cold sunless days the iron stove has done duty in place of sun heat. I must here remark to brother amateurs who may use a stove inside, that the draught should be perfectly good in rough and windy weather, otherwise, should any smoke or sulphur escape into the house it will damage the foliage, or possibly destroy it in a short space of time.

It must be remembered I have no costly border—simply the garden soil trenched about 2 feet deep, the top and bottom being well mixed together, adding a small quantity of bone dust and broken bones saved from time to time from kitchen scraps. Where the Vines are now growing there existed a plantation of Gooseberry trees for between seventeen and nineteen years. I send for your inspection some of the leaves, and I ask if they are not highly satisfactory in substance and size. I may add that the eyes for next year's fruiting project from the canes like nuts. A shoot of the black Lady Downe's is also sent. Of this I have several shoots showing fruit at two separate joints, the produce of green canes of this year's growth, the result of stopping.

Last year I wrote the Royal Ascot did not with me perform as stated in giving fruit from the green wood of the current year's growth; this, I now find, was owing to the Vines I had sent me being overstrained in forcing them to obtain a stock in the least possible time, and consequently the vigour and constitution of such plants was for a time destroyed. I have it this season fruiting nicely in No. 4 pots upon canes grown last year out of doors. Some of the canes cut down to the soil of the pot this spring are doing well, and I hope to ripen the fruit upon them in January next. I advise amateurs to adopt this Vine for pots. By forcing some early in the spring, keeping some back, and a third lot to fruit from the green wood, a good succession of Grapes may be had from one glass structure without much cost or trouble.

In growing the Vines to fruit from the green canes I subject them to the highest possible culture, using a soil very far richer than that employed to produce my pot Vines in general. Imagine the green canes of the Royal Ascot for this treatment to be gross-feeding softwooded plants, I treat them to old decayed night soil and light loam having a portion of lime in it. Poultry dung and bone dust I also find useful. Every third or fourth watering may be with manure water made from night soil, poultry, or sheep dung; old hotbed manure may also be used, and as a change guano water, for all plants thrive better with a change of food.

I also send a leaf of one of the American Vines. Is it not handsome in foliage? This Vine gives eatable or wine-making Grapes which will ripen out of doors in the early frosts of winter. The Grapes make a good preserve. The Vine is a rapid grower. When planted against a wall, fence, arbour, trelliswork, &c., it is very handsome. It is a singular fact that if well watered it thrives as well in sand as in common garden soil. I have two sorts of this Vine, the other having a plainer leaf and more robust; in fact the two together, with some other American Vines, are not yet in full vigour, as I only received the small cuttings last May, and then after they had been collected from various places, and had travelled in a tin case over four thousand miles to Sheffield.

In this cold sunless time (at all events in this locality), the use of fire heat usually helps to produce red spider. I have been so fortunate as to escape its visits. The following is my practice.

As soon as the Vines have broken, and until the leaves turn yellow, in a span house 40 feet by 20, and 12 feet to the ridge, I place near the centre an earthen glazed vessel holding about four or five gallons; in this I put about one gallon of night soil, and fill up three-quarters of the way with stale urine, the staler the better—slops as brought from the bedrooms will do. The whole is stirred up for a few minutes every afternoon when the house is closed. This not only prevents the spider, but adds greatly to the well-doing of the Vines; indeed it would be useful to plants in general. In the daytime upon entering the house nothing could be detected.—R. M. W., *Fir View, Walkley, Sheffield.*

P.S.—I send for your inspection some shoots of Vines showing miniature bunches of fruit. I must tell you the Vines they have been taken from have been stopped three and four times during the season; at each break they have produced shoots like that which I send. The Vines are loaded with fine Grapes. Canes from 2½ and 2⅞ inches in girth, and upwards of 20 feet long, this season's produce, will be the bearing rods next year. The leaves, I think, speak for themselves.—[They were large and most healthy.—Eds.]

I think it possible that black Lady Downe's and West's St. Peter's might have produced a second crop of bunches—*i.e.*, one lot of Grapes on last year's cane, and another lot of smaller bunches on the green wood of this year, if the breaks of the first stopping had been cherished, but I do not like to overtask a willing horse.

PLUMBAGO CAPENSIS CULTURE.

Occasionally one meets with an old favourite plant grown according to the requirements of the present time—that is, in a small, easily portable form, and yet decorative in the highest degree, so that one is induced to ask, Why let such a plant fall into the background, where it is forsaken and forgotten by most cultivators? I do not scruple to say, much as it is necessary for gardeners to keep pace with the times, and grow only those newly-introduced subjects which are suddenly and many times too highly extolled, and which, perhaps, fall into disuse as suddenly as they came in, through being worthless—that it is a mistake, and a very incredible one too, not to grow the above-named plant, and other old ones, in preference to many new introductions, which are said to, but do not, possess sufficient merit. I do not despise all newly-introduced plants, for the work of collecting and raising such is so progressive that it should be practised and encouraged; but those who possess the power of selection generally grow some of the most beautiful of our old plants.

When paying a visit to Chiswick two or three weeks ago, I had the pleasure to congratulate the superintendent, Mr. Barron, on his success in flowering the Plumbago capensis so abundantly in 32-sized pots. I think none of the plants exceeded 18 inches in height; they were as much or more than that in diameter, and with as many trusses of their lively blue blossom; they were perfect pictures, and admired by all present. I heard a gentleman ask another, What newly-introduced plant was there of that colour which could even approach these in decorative qualities? I for one came away with the intention of trying my hand at growing plants of this Plumbago in a similar way, and I hope others will do the same. It is easy enough to grow the plant, but flowering it is more difficult, and it requires some judgment to do so and at the same time have the plant in a compact form. Larger plants are equally desirable when there is room to grow them, and cannot fail to excite admiration. I think about three years ago at this season, when paying a visit to the gardens at Egerton House, then managed by my friend, Mr. E. Luckhurst, I saw in the greenhouse a large plant which to the best of my recollection was nearly 4 feet through, and not more than 3 feet high, well grown, and abundantly flowered, and I think I never saw a more beautiful plant. Now, as we are not in the habit of meeting with this plant in such a presentable and useful form as Mr. Barron and Mr. Luckhurst had it, perhaps they will be kind enough to favour the readers of this Journal with the mode of treatment they adopt to grow the Plumbago so successfully, and not one of them will be more thankful than—Thomas Record.

English Grapes.—Our own country is noted for producing some of the finest Grapes in the world, and the fame of the giant Vines at Hampton Court and Cumberland Lodge, Windsor, is great. On one occasion George III. was so pleased with a performance at Drury Lane Theatre that he gave orders for a hundred dozen bunches of Grapes to be cut off from the Hampton Court Vine, if so many could be found upon it, and sent to the actors. The gardener executed his commission, and informed his royal master that he could still cut off as many more without stripping the tree.—(*Food Journal.*)

TEA ROSES.

I can confirm all the good things said by "Stiff-soil" of Tea Roses. The following have been almost continuously covered with bloom, and perfectly healthy out of doors with me, from the middle of June to the present time:—Monsieur Furtado, Madame Margottin, Souvenir d'un Ami, Safrano, Madame Willermoz, Alba roses, Adrienne Christophle, Monplaisir, Vicomtesse de Cazes, and Canary. The first is the most vigorous grower, but not the most satisfactory bloomer; it has proved a bad opener with me. Nothing can be more satisfactory than the graceful habit of Safrano and Vicomtesse de Cazes. They have sent up rich-looking shoots from 12 to 18 inches high, and these formed heads of bloom with from eight to twelve sound Roses delicately drooping in a circle around these stems. Supported against a trellis in a south border they get the warmth and circulation of air, which, as Mr. Paul points out, they certainly need.

I should be glad if some one would give a list of twelve other Tea Roses, which from experience have been found suitable for out-door culture, to contain as many rose-coloured and kindred tints as possible, as my present little stock furnishes sufficient of the yellow and white class. Adrienne Christophle, however, one can hardly have too much of; it is difficult to define its colour—apricot, copper rose, peach, salmon all subtly mix with peculiar beauty, and it ought never to be left out of a group. What a tantalising picture Mr. Paul has drawn of in-door culture!—Cornubia.

AGRICULTURE—PAST AND PRESENT.

Mr. Cuthbert W. Johnson, in the *Mark Lane Express*, gives the following comparative view of the state of farming in England in the year 1870 and of five centuries previously:—In the fourteenth century (to give only one or two instances) the average produce of Wheat per acre in England could not have been more than ten or twelve bushels. In his history of the Suffolk parish of Hawstead, Sir John Cullum has given the report of its manor farm in the year 1387, from which we learn that the yield of grain from

66	acres of Wheat was then	69	qrs. 2 bushels.
26	,, Barley ,,	52	qrs. 2 bushels.
62	,, Oats ,,	40	qrs. 4 bushels.
25	,, Peas ,,	25	qrs. 3 bushels.

The farm of Hawstead contained 572 acres; of these 321 were in tillage, 30 were meadow, and the remainder wood and pasture. The live stock consisted of twenty-six cows and a bull, six heifers and six calves, ten working oxen, four cart horses and six colts, ninety-two muttons, and six score of hoggerills, or two-year-old sheep. The cows were fed during the winter upon rack-meat, all the hay was devoted to their support. The other stock were kept alive upon the straw and haulm, or on the pastures. The result of this wretched feeding was the production of a very poor stock of farmyard manure. Roots were then unknown as winter food; to oilcake the same remark applies. As winter approached the farmer of those days began to kill off his live stock. At Martinmas he killed his oxen to supply him with his winter's beef. Tusser, who wrote more than two centuries after the time of the Hawstead report, says in his November husbandry:—

> "(For Easter) at Martinmas hang up a beef,
> For stall-fed and pease-fed play Pick-purse the thief;
> With that and the like, ere grass-fed come in,
> Thy folk shall look cheerly when othere look thin."

It may appear strange that at the period to which I am referring root crops were unknown, at least as a field crop, for, as I have on a recent occasion remarked, it is very natural for us to suppose that our root crops were always field crops, but, in fact, they were long cultivated in our gardens before they were grown by the agriculturist. It was not till about A.D. 1500 that even gardening was introduced into England—when Catherine of Arragon required a salad we find that it was supplied from Holland; Cabbages came to us in 1510, Hops in 1524, Potatoes in 1563. Turnips were grown only in gardens till about the year 1669. In that year Worlidge, in his "Mystery of Hus-

bandry," observed, "Although Turnips be usually nourished in gardens, and be properly garden plants, yet are they, to the very great advantage of the husbandman, sown in his fields in several foreign places." In 1684 this root is first mentioned by Houghton as food for sheep. The Carrot is indigenous in our island, but its cultivation was long confined to our gardens. The same remark applies to the Beet. Worlidge describes it in his "Garden Tillage." The Mangold was first advocated as food for stock by Dr. Lettsom in the early years of the present century, and by General Beatson in 1811. It had been, however, tried in Lancashire successfully in 1790, and in Norfolk about 1797. We may then well feel interested in the researches of the horticulturist and the botanist in search of new plants, denizens of perhaps far distant climes. When, indeed, we remember that the Potato came to us from the New World, the Mangold from an equatorial climate, the Swede from far colder lands than our own, we may yet feel hopeful that other valuable plants will yet reward the discoverer—plants of which future agriculturists will reap abundant harvests.

THE POTATO.

It is popularly believed that we are indebted to Sir Walter Raleigh for this most important of esculent vegetable foods, the cultivation of which extends over a wider area than any other food plant; indeed, so universally is it diffused over the habitable globe, that it is found in almost every position where man can subsist; even in the Arctic regions it struggles for existence, producing stunted watery tubers in an imperfect state of development, whilst it flourishes in tropical as well as temperate climates, so easily does it adapt itself to circumstances. It ranks among the most useful of vegetable productions; it is highly prolific, and its value, which is incalculable, is hardly understood to its fullest extent.

The whole family of the Solanaceæ is suspicious—great numbers are narcotic, and many of them poisonous; though in the case of Solanum nigrum (one of the Potato family), the young and tender shoots, when cooked, are used as a vegetable in some countries. It is curious to note that the poisonous Bittersweet, the Tobacco plant, the Tomato, the Cape Gooseberry, the Capsicum, the deadly Nightshade, and the Henbane, the Thorn Apple, Mandrake, and Petunia, all belong to the same genus as the Potato; which most excellent vegetable was at first regarded with the eye of indifference by our forefathers, until it was imported by Sir Walter Raleigh in the seventeenth century, who endeavoured to attract public attention to it, and cultivated it himself on his estate in Ireland. So, although not actually the first to introduce it, he was, nevertheless, the means of first bringing it into public notice. He could not, of course, have been acquainted with one-half of its useful properties, and little did he dream that in after years it would radically revolutionise the diet of the country where it was first cultivated. It was known by the Indian name of the Sweet Potato, "Batatas," and under this name it continued to be spoken of and written about for some time after its introduction. We read that it was supposed that it would be found useful for feeding "swine and other cattle." The scientific analysis of the Potato is not within the province of this paper, and it will be sufficient to say that it is rich in starch, that it does not contain as much gluten as our cereals, and that it is wanting in nitrogenous matter. It is, however, more nutritious than any other of our succulent vegetables. To derive the necessary nourishment from a diet almost exclusively consisting of Potatoes, the stomach requires a considerable bulk of this kind of food; and it has been noticed that the Hindoo who lives on rice, the Negro who lives on plantain, and the Irishman who lives on Potatoes, are all, more or less, "pot-bellied," the Irishman, however, not so much so as the others; and this circumstance is attributable to their diet, which does not contain a sufficient proportion of gluten, and so necessitates the consumption of a large quantity of the food; for Potatoes are not nearly so nutritious as Wheat, and the constant employment of them as a chief article of diet is not favourable to the development of the physical powers; neither does it tend to enlarge the mental faculties. In fact, Professor Muelder, a celebrated Dutch chemist, has said, that "the Potato is the cause of the physical and moral degeneration of those nations who use it." Potatoes have been said to possess the advantage of solidity, like bread, and to have the healthful properties of many fresh vegetables, without their acidity. As an article of diet, when not used exclusively, they are of untold value; so universal has the use of them become, that they are almost an essential dish at dinner, for who ever thinks of dining without Potatoes? We have said that the Potato is wanting in mineral substances, and it is curious to note how, in Ireland, this deficiency is supplied by the water, which is almost universally strongly impregnated with mineral matter.

The use of Potatoes is a preventive against scurvy, if not an actual cure for it. Potatoes that have been exposed to the air, and have become green, are unwholesome; and new Potatoes—*i.e.*, unripe ones, have much to do with the prevalence of cholera and such like diseases during the summer months.

Humboldt has calculated that the quantity of ground which will grow 30 lbs. of Wheat will produce 1000 lbs. of Potatoes. In Ireland an adult will consume 10½ lbs. in one day. Potatoes are narcotic, and the water in which they are boiled is unwholesome, if not deleterious; but the process of boiling would seem to free them from all that is narcotic or noxious in their juices, imparting these objectionable properties to the water. As a staple article of food, the Potato has been the means of preventing famine; though, on the other hand, the lower classes of Ireland, being almost entirely dependant on this vegetable for subsistence, have experienced some years of misery in consequence of a universal failure in the Potato crops.

The varieties of the Potato that are cultivated are numerous; new ones are continually appearing; and the best sorts that are now sold in our markets are doubtless very superior in size and quality (the effect of judicious cultivation) to the tubers which Sir Walter Raleigh first introduced to notice.

The soil in which it is grown will be found to have considerable effect in determining the quality of the Potato; and almost every district has its peculiar varieties, their names being quite arbitrary or local. Most kinds are vastly improved by removal to a different locality; hence growers rarely use for many years in succession their own tubers for seed, but continually renew the stock by purchases from another district. One tuber will produce as many separate plants as it has eyes, but a piece of the Potato must be planted with each eye or shoot. The many varieties differ in form, size, colour, and in their time of ripening; some are more prolific than others, some are naturally waxy and watery, and some are mealy, which is an unfailing characteristic of the best varieties. A mealy Potato is more digestible and more wholesome than a waxy or watery one. Various methods of cultivation are pursued with more or less success in different localities. In France, the culture of the Potato to a great extent is mainly due to the exertions of Parmentier.

We will only allude to the Potato disease which some years ago attracted so much notice. Many persons do not know what it is, and it would be sufficient to say that it is the effect of a mould, or species of fungus, "whose spawn attacks the tissues of the plant in every direction, being present in the tubers and stems as well as in the leaves." The growth of this fungus is encouraged or retarded according as the season is favourable or unfavourable to its development. Since the ravages of this disease have become universally apparent, the rapidly increasing cultivation of the Potato has received a slight check. Potatoes are more important than any other vegetable as a variety of human food, and on the score of their economy are advantageously used in large quantities by the working classes, though their nutritive value is not great. They are, however, easily cultivated, easily kept, easily cooked, and easily digested; but, being wanting in fat and nitrogenous matter, they require to be eaten in conjunction with those kinds of food which will supply the deficiency; hence they are generally eaten with meat, or with milk as in Ireland, or with curds as abroad.—(*Food Journal.*)

CITRON GOURD FOR PRESERVING.

Nearly half a century ago I met on the shores of Asia an itinerant Persian, and, being then a student of his language, detained him some time in conversation. Our discourse was prolonged by the singular fact that he was a fellow townsman of the only Persian I had ever known. Talk being over, I asked him what he had to sell, and he opened his box, which contained sweetmeats. Among others was a dry preserve made of Gourd. It was simply luscious, without any particular flavour, but of a White Marseilles Fig one can say no more.

On returning to Europe in after years the remembrance of the Persian and his preserve induced me to try my hand with Vegetable Marrow and Ohio Squash, but without success. Having, however, seen an account of the Citron Gourd, it struck

me that this might be what I was seeking for, and accordingly I sowed some seeds in heat this spring. One came up, and on this one fruit set. It was gathered September 4th, and weighed about 3 lbs. Externally it was green, prettily marked with a snake-like pattern. Altogether it is a remarkable plant both in foliage and in fruit. Botanically it is the yellow hard-fleshed variety of the Cucumis Citrullus, called in French Pastéque, and very different from the other variety, which is the common Water Melon. Uncooked it is tasteless, cooked it is the same; but it boils beautifully clear and of a good consistence, ready to receive any flavour which you may wish to communicate. I followed Henderson's receipt and added lemon. The result is a very delicate lemon marmalade.

Henderson recommends the plant to be treated as a ridge Cucumber. I doubt whether under this treatment the fruit would ripen, but it may make an apple-green preserve such as he describes. However, the seasoning is all-in-all, and I have seen Carrots sliced thin and treated with lemon and sugar in the same way eaten with great applause; but no doubt "Citron Gourd" sounds more enticing than "Carrot."—G. S.

GREENHOUSE PLANTS.—No. 6.

PLANTS SUITABLE FOR WALLS.

It is desirable that the wall should be wired either horizontally with the wires not more than 6 inches apart, or with trellis wirework, in lozenges of not more than 6 inches on the side. The wirework is best fixed so as to be from one-half to three-quarters of an inch from the wall, and may either be galvanised or annealed wire painted. I prefer the latter. The walls should have east, west, or south aspects, and be but partially shaded. The borders ought to be prepared for planting, and be not less than 18 inches wide, nor need they exceed 3 feet in depth, 2 feet for compost, and besides that there should be from 9 inches to a foot of drainage, which should be good, and there must be an efficient outlet.

Camellias are, perhaps, the finest of all plants for a back wall—the foliage is so magnificent, and the flowers yield to no other of their season. Where Camellias are much in demand as cut flowers, the back wall of a lofty house is a good place for plants required to furnish them. Probably most, if not all, are suitable for covering walls, but it is well to choose those which have large foliage and are of free growth, and of that description are—

Monarch, bright scarlet, fine large flower, and splendid foliage.
Conspicua, bright scarlet, but only semi-double, nevertheless very fine.
Leeana superba (Beallii), bright crimson.
Mathotiana, bright crimson; large.
Leopold I., crimson; large.
Rubens, deep rose; large and fine.
Valtevaredo, rose; fine.
Reticulata flore-pleno, bright rose; large.
Mathotiana alba, white; large.
Mrs. Cope, white, striped crimson; large.
Duke of Lancaster, deep rose; large.
Giardino Franchetti, rose, slightly marbled; large.
Countess of Derby, with large white flowers distinctly marked.
Giovanni Santarelli, red, with large white blotch; large flower.

The border should be well drained, and the compost may consist of the top inch of moorland taken off with its short grass, and from high ground, where the soil is sandy. This kind of soil is in general half peat, half loam, and full of fine particles of sand. When this kind of soil cannot be had, then take off the top inch of a pasture where the soil is a good rich sandy loam. I chop up either kind of soil into pieces 1½ or 2 inches square, and if the latter kind be used add one-third sandy fibrous peat, and a like proportion of charcoal in pieces from the size of a pea to that of a hazel nut. No sand need be used if the soil contain enough of it, otherwise add one-sixth of silver sand. Cover the drsinage with a layer of turf, and then put in the compost, treading it firmly, and taking care to have it so dry that it will not clog.

The plants may be planted out at any season, but I consider the end of March best, turning them out with the ball entire, but loosening the sides of the ball with the end of a label or pointed piece of wood. The plants should be planted rather high, making quite a cone beneath them, for it must be borne in mind that the compost will sink considerably, and with it the plants, so that if planted level at first the collar of the plant is ultimately low, whereas it should always be raised somewhat above the general level. Water gently for a time, keeping the soil no more than moist, but taking care to keep the ball moistened through, and when the roots are pushing freely in the fresh soil, as may be known by the soil drying then water copiously, and that throughout the growing season. When the growth ceases, and the buds begin to form, still let the watering be liberal; and the buds being set and the wood firm, then water only as required to keep the soil moist, allowing it first to show symptoms of dryness before giving any water, then afford a good supply.

When the plants are growing they are much benefited by a sprinkling overhead with water morning and evening, but it need not be given at any other time; and if they are exposed to the direct rays of the sun, the morning syringing should be omitted, otherwise the sun falling upon their leaves whilst wet will cause them to spot.

The border should be top-dressed in March, and again in June, with the compost above named, placed in a heap for three months, in alternate layers of equal thicknesses of turf and cow dung, or better, sheeps' droppings. Previous to use it should be chopped up moderately small, and laid on 1 to 2 inches thick according to the settling of the border, and when that has settled as much as it will do, remove the surface soil down to the roots, and top-dress with the compost an inch thick.

In the matter of pruning none will be required for some years, but train the shoots from 4 to 6 inches apart. When they become too crowded in any part thin them out in spring before growth begins. Any irregular growths may be cut back at the same time to insure greater regularity of habit. On a 12-feet wall the trees should be 4 feet apart, 6 feet apart for a 9-feet wall, and 9 feet apart for a wall of 6 feet.

Oranges.—Next to the Camellia for covering a back wall are plants of the Citrus family. The flowers have so fine a scent, and are besides of such a pure white as to be much in request for bouquets, especially those for bridal occasions. The foliage, too, is beautiful, as well as the fruit.

The border should be prepared for the Orange tribe in the same manner as described for Camellias, but the compost ought to consist of the top 1½ inch of a pasture where the soil is a rich sandy loam; to two parts of this add one part of fresh horse droppings, one part cocoa-nut refuse, or failing that leaf soil, and one part each of lump charcoal and river sand. This, with good drainage, will grow them well. It should be used fresh, chopped up rather roughly, and put in firmly, having it in a nice condition as regards dryness, so that it may not adhere to the feet. The plants or trees should be turned out with the ball entire, only scratching the sides of the ball with a pointed piece of wood so as to loosen the roots. The distances should be the same as stated for Camellias. Plant high, for the Orange, like the Camellia, will not thrive when the collar is low, and the stem in time becomes buried. The best time to plant is probably September, but any time from then up to March will answer well. The watering must be moderate, no water being given so long as the soil is moist; indeed, too much watering is very injurious to Orange trees, not that they do not require plentiful supplies, but these should only be given when the soil becomes dry, then give a thorough watering. This treatment is required by the Orange in all stages of its growth. The soil should be top-dressed in spring, removing the surface after the plants are in possession of the border, but this will not be required for some time; therefore, add about an inch of fresh compost every spring, and remove the surface soil to the depth of about half an inch, not in any case going deeper than is advisable to keep clear of the roots. The top-dressing may consist of equal parts of fibrous loam and sheeps' droppings, or, failing these, horse droppings. The top-dressing may be repeated in June, and if the trees are carrying fruit, in September.

From the middle of February the trees should be syringed in the morning up to April, and after that, morning and evening throughout the summer until September, and from then to November once a-day in the morning, but this syringing in spring and autumn must only be practised in fine weather.

The pruning required should be done in February, and should be limited to thinning-out the wood where too thick, cutting out that which is old and weak. Nothing is gained by crowding the shoo

The Orange tree succeeds in what may be termed a warm greenhouse; indeed the temperature, if the fruit is to have any degree of perfection, must be ripened in a temperature of 50° to 55°. Orange trees, however, succeed well in a temperature of from 40° to 45° in winter by fire heat. They are impatient of the direct rays of the sun, and succeed admirably in a house

partially shaded by climbers. In most cases it is advisable to keep them rather dry in winter, especially if they are subjected to a low temperature. Throughout the summer liquid manure may be afforded every week, giving a good soaking of one peck of sheeps' droppings and a peck of soot to thirty gallons of water.

To keep down the black fungus, which forms so plentifully on the leaves, wash with a sponge and a solution of 2 ozs. of soft soap to a gallon of water; but it should be borne in mind that this fungus is only a result of the scale (Coccus), and if the trees are kept clear of that there will be no fungus on the foliage. The scale may be destroyed by a solution of 4 ozs. of soft soap to the gallon of water, applied as hot as the hand can bear with a sponge or brush. About twenty drops of spirits of turpentine may be added to every gallon.

The most suitable of this family are the Orange (Citrus Aurantium), and of it there are several varieties, and of them the Mandarin (Citrus nobilis) is good, and of free growth. The Lemon (Citrus Limonum acida) is also free in growth, and very suitable, and so is the Shaddock (Citrus decumana), or Forbidden Fruit, the fruit being very large and having a noble appearance. Although sometimes called Forbidden Fruit, the one bearing that name properly is Citrus paradisi, or Paradise Orange.

Luculia gratissima.—This plant has magnificent foliage when in good condition, which it rarely is, and the flowers are rosy lilac, produced in the autumn, winter, and spring months. In a pot it is probably the most miserable of all subjects cultivated in a greenhouse, but planted out in a conservatory border, and trained against a back wall, it is one of the finest and sweetest of the flowers afforded by the greenhouse in the dull period of the year.

The border should be prepared as described for Camellias, and the soil most suitable is turfy loam, with no more than about an inch of soil taken off where the ground is sandy, chopped up roughly. To two parts of this loam add one part of sandy peat chopped up roughly, and half a part of old cow dung, lump charcoal, and pieces of grit not larger than an egg nor less than a walnut. If the loam and peat are deficient in sand, add silver sand in the proportion of one-sixth of the whole. The compost should be well mixed and put together rather firmly. Plant out at any time, but March I think is the best. The sides of the ball should be loosened with a stick, otherwise the ball should be entire. Water gently, so as to settle the soil about the ball, and do not water again until the soil become dry, and then give a thorough supply. When growing it requires very copious supplies of water, but if the watering be regular—given whether it be required or not, the soil becomes so sodden that the leaves assume a dingy appearance and fall, the growth coming to a standstill. On the other hand, if no water be given until the soil becomes dry the plant grows luxuriantly. It is well to let the leaves slightly flag rather than water too soon. This treatment, as regards watering, is required throughout the year. The Luculia also prefers partial shade, and does well with syringing twice a-day; it is liable to attacks of thrips and green fly, which the syringing tends to keep down.

The pruning for some time will need to be confined to stopping the shoots, but, as the plant flowers at the points of the shoots, stopping should be resorted to as little as possible, and if the shoots have been started low enough it will hardly be necessary, as, after flowering, two or more shoots start from the end of each shoot of last year. When the plant has covered the trellis the pruning should be done in March, or before growth commences, and the plant may be cut-in rather closely, removing the old wood, and encouraging young wood, especially from the base of the plant.

Habrothamnus elegans, *H. aurantiacus*, and *H. fasciculatus* are also fine plants for a back wall, but require a position less shaded than either Camellias or the Luculia. The treatment of the Habrothamnuses has already been given at page 65 of the present volume.

Heliotropiums are so useful for cutting, and succeed so well against a greenhouse back wall not very much shaded, that they merit a place. The best kinds are Monsieur Hamaitre, a large purple variety, one of the best for winter flowering; Voltaireanum, a fine dark purple; and Miss Nightingale. It is well to plant them out, for I confess that with me in pots they do no good. The border should be well drained, and be composed of light turfy loam two parts, one part sandy peat, and one part leaf soil, with a free admixture of sharp sand. If the loam be poor, one-fourth of cow dung or well-rotted manure may be added advantageously, and, to keep the compost open, a sixth part of lump charcoal. The compost should be used rather rough, and be put in rather firmly.

Plant in March, and water as often as the soil becomes dry, but not till then, giving good supplies. In winter, or from November to March, keep dry, but not so as to cause the wood to dry. In March cut in the plant hard, each shoot being shortened to within half an inch of its base, for it is presumed that the shoots are trained at 9 inches apart, so as to cover the trellis in every part with shoots. After pruning keep the plants dry for about a fortnight, then water moderately, and when growing freely water copiously. The shoots should be regulated as they grow, thinning out where they are too crowded, and encouraging them where they are too few in number by training-in young shoots. From July to late in autumn there will be an abundance of bloom. In the early stages of growth the shoots should be trained-in at 9 inches apart, and they must be stopped as required, so as to furnish the shoots where desired.

If the plants are intended to flower in winter shorten the shoots in July to about half their length, or to 3 or 4 inches, and the plant will put out fresh shoots and flower in autumn and winter, the watering being liberal.

At the time of pruning the surface soil should be removed down to the roots, and a top-dressing given of loam and well-rotted manure in equal parts, and it may be repeated in July.

The plants noticed are all that I have found succeed on the back wall of a greenhouse, and if the wall be very much shaded by plants in front, or climbers closely trained on the rafters, none of the plants named will thrive, though the position may answer for Ferns, none of these being finer than Lygodium scandens. It answers admirably for trellises in the most shaded part of the greenhouse, and walls and other positions not receiving any sun, making growths from the roots 20 feet long in a season, at least it has done so with me this season. It requires two parts peat and one part loam. For a shaded wall or north aspect Ficus repens is, perhaps, the best plant. It clings to the wall with the tenacity of Ivy, and covers it closely with bright green leaves, having a fine effect. With good light loam and free drainage it will grow well. The Ivies are also good for a wall of this description. The most desirable are the new silver, Hedera Helix rhomboidea variegata, H. Helix minor marmorata, marginata elegans, marginata Cullisii, marginata argentea, digitata, minor Donerailensis, lobata, and pulchella. They should have moderately rich soil, good drainage, and one-third of pieces of brick, sandstone, or old lime rubbish mixed with the soil.—G. Abbey.

BEDDING GERANIUMS.

The gorgeous brilliancy of colouring obtained in the flowers of the Pelargonium, combined with their remontant property, may justly be considered one of the greatest triumphs of modern floriculture. Like many other really good things, the triumph itself has brought in its train an excess of aspirants to share in the fame, not unaccompanied with unmixed good, nor without some abuse. The Pelargonium must and will retain its proper place in the estimation of florists, but more than that it ought not to have, especially when it leads to the exclusion or thrusting aside of many other beautiful productions, which has unhappily been too often the case. Unmistakable signs of a return to a better state of things become more manifest every year. We shall all rejoice when this shall have been effected.

Last year about this time, or a little earlier, I propagated about two hundred plants of a few varieties of bedding Pelargoniums in 6-inch pots, the most convenient form at hand. Being uncertain of giving them sufficient attention throughout the winter so as to keep them alive, a neighbouring gardener very kindly allowed them to be placed for a few months in a vacant corner of his vinery. The plants being well rooted, strong, and healthy when removed there about the end of October, my friend at my special request bestowed scarcely a moment of time over them, but only allowed them to live till I could remove them in the spring. They were brought home about the second week in April, and without being repotted or any other trouble taken with them, they were at once planted out in a few small beds which have been for some years past devoted to a similar purpose. They made but little progress at that early period, and after that little soon retrograded. By the first week in June they were apparently about the size of the cuttings when first inserted in the propagating-pots. Taking up two or three I found, however, that they had made fibrous roots, and I did not despair. With a change of weather for

the better, my Pelargoniums began to grow rapidly and completely covered the beds. During the last six or eight weeks they have produced a mass of colour so brilliant and uninterrupted as to attract notice from all who have seen them. I have not to record a single failure.

A few simple facts may thus be deduced from the foregoing statement. 1, The smallest possible amount of care has been bestowed upon them. 2, Early planting is favourable to development of bloom. 3, The stinted space allowed to each plant during its early life does not deteriorate its after-existence.

There were from twelve to fifteen Geraniums in a pot when planted out. The soil here is light, but poor, and at an elevation of about 430 feet above the sea level; the severity of spring frosts is thus much mitigated.

I have only now to state the varieties in the beds, which contain from twenty to thirty plants each. It will be seen that they are well-known kinds, and would be considered as "old sorts." Arranging them in the order of merit as regards abundance of bloom, they will stand thus.

First.—Stella, Amy Hogg, Indian Yellow, Glow-worm.

Second.—Cybister, Tom Thumb (or a dwarf variety from it), Mrs. W. Paul, Trentham Rose, Magenta.

Third (inferior and apparently unsuitable for bedding).—Madame Vaucher, Lord Palmerston, the former a delicate white, the latter remarkable for its large trusses.

The Rose season here has been abnormal; many choice and favourite kinds have failed to show their usual beauty. The number of deformed and imperfect flowers has been greatly in excess of any previous season in remembrance. Would some of our Rose friends kindly send their experience for the sake of comparing notes? I shall be happy to furnish my little quota. —A. H. Kent.

AMMONIA versus RED SPIDER AND MEALY BUG.

In one of Mr. Abbey's papers in a recent number of the Journal he records some valuable experience in keeping at bay that little insect, but great pest, the red spider. My own experience of impregnating the air with ammonia exactly coincides with Mr. Abbey's. It is in my opinion the most simple, safe, and effectual means which can be adopted for keeping the foliage in the vinery free of this insidious pest. In damping and closing the vineries in the afternoon I always use guano water. I employ no other preventives, as sulphur, &c., good though they may be, and while I never syringe the Vines at any time or under any circumstances, I feel quite certain a single red spider has not ventured under the roof and lived for the past half dozen years

Besides the ammonia being a natural and effectual antidote to spider life, it has another value, as being an element of food for the Vines, which seem to luxuriate in its presence and by its influence. In the vinery is an Arnott stove, almost the only means of heating, and the evaporating-pan contains a strong solution of guano, and the foliage above and around this stove is always the finest by the extra dose of ammonia provided. The leaves are not much larger, but are stouter and more robust, and show by their healthy aspect how much they enjoy their atmospheric food.

A much stronger volume of ammonia is necessary to kill mealy bug than is required for red spider, and it must be stronger still to kill thrips. I have tried this by placing infested plants on an inverted pot in the evaporating-pan, and noting results. There need be no fear of using guano in this way in the vinery in a liberal manner. I have many times mixed a pound in the evaporating-pan when the water was quite hot, and seen nothing but good result from it

The air of the house when it is so used is quite pungent, yet by no means disagreeably so. In an atmosphere of this kind I am satisfied that spider could not exist, and mealy bug and thrips would turn up their noses in disgust. I am careful not to use it nearly so strong when the Grapes are setting and for some time afterwards, although even at this time I never entirely withhold the use of guano. When stoning is effected I use it freely, and have never yet seen any injurious results or signs of such arise from it. I only regret that I cannot employ it so freely in the plant stove, or I believe I should have no mealy bug nor thrips to trouble me. Begonias, Caladiums, and free-growing plants of this kind relish ammonia highly, but some other things, notably Ferns, may easily be overdosed. I tried it in a house containing several Ferns, but finding they did not approve of it relinquished the practice. I am not so sanguine as to suppose that the mere removal of the Ferns for a single night, and giving the rest of the plants a strong dose of ammonia, would have been satisfactorily effective. I prefer a steady continued use of guano over a long period to keep the pests at bay. The removal of Ferns, too, in spring is in many places no easy matter, from the simple reason of having nowhere to remove them to. In such places it is the other plants which must be removed and separately picked and doctored.

All sorts of panaceas are now offered for mealy-bug extermination, and one would think, when we read of their wonderful efficacy, that it was a gardener's fault if he allowed such an insect to remain on the premises. All these preparations may be good in their way, but it is a question of watching, and picking, and catching, work and perseverance to eradicate the ubiquitous and tenacious nuisance. But it is well known that many gardeners really have not time to examine and turn up every leaf, and peer into the numerous axils, and pick out separately. To such, a rainy day is a true friend. I recollect calling one day on a sadly overworked gardener, a most able and estimable man. It was a dripping day in summer. All his infested stove plants were out of doors, and had been there for three days. Most of them, he told me, would have three days more, and there would be little bug left. The rain, or the air, or the rather cold nights caused the bug to quite disappear. Turning a plant out of doors for a week under such circumstances has certainly a wonderfully good effect in destroying the insect, and the plants receive little or no sensible injury in other ways by the change, providing they are under a watchful eye and properly tended. "Mealy bug cannot withstand water," Mr. Abbey says. A rainy day is proof of the correctness of his remark. No water is so effectual as the water from the clouds, and no syringe can equal the steady continued distribution of the showers, either in checking the mealy bug or in nourishing the plants.—J. W.

[In support of the statements relative to ammonia being a vanquisher of red spider, we recently were informed by A. A. Croll, Esq., Roehampton, that the ammoniacal liquor of the gas works placed in saucers where red spider occurs overcomes the pest. That liquor emits fumes of cyanate of ammonia, an effective poison.—Eds.]

WHAT IS A HARDY FERN?

At the summer show of the Preston Floral Society, a prize was given for twelve hardy Ferns. I competed for it, and I staged amongst the number—Onychium japonicum, Lastrea intermedia, Cyrtomium falcatum, Adiantum Capillus-Veneris, and Pteris scaberula. Imagine my surprise, when the judging was over and I obtained admission, to find my twelve disqualified, a card being affixed to my plant of Pteris scaberula, on which was written by Mr. Petch, the Judge, "not hardy." Now, I believe that my name as a most enthusiastic devotee to all Ferns is well known. I carried off first honours at Nottingham this year for twelve exotic Ferns, for twelve Adiantums, and I was second for six hardy exotic Ferns, among which was the identical pan of Pteris scaberula which fell into disgrace at Preston. If it was properly disqualified, Onychium japonicum, the Lastrea, and Cyrtomium should have shared the same fate. They were spared. I shall feel much obliged if you will admit these few lines into your Journal, and at the same time give your views on the subject. Mr. Petch's judging was from first to last really faultless. and it gave the greatest satisfaction to everybody, an occurrence by no means usual.—T. M. Shuttleworth.

[We believe Mr. Petch was right. Pteris scaberula is included among "stove and greenhouse Ferns" in all catalogues, and the good authority we relied upon when preparing our "Fern Manual," not only stated it to be a greenhouse Fern but added, "It should be grown near the glass in the greenhouse, but by no means exposed to cutting draughts of air." Have you ever succeeded in wintering it without protection? Any plant that will not usually endure our winters without protection in considerable portions of the British Islands, we do not consider entitled to be classed as hardy.—Eds.]

Cinchona Culture at Réunion, Bourbon.—A paper communicated to the Academy of Sciences, and recently published in the "Comptes Rendus," gives an account of the progress of Cinchona culture in the French colony of Réunion. The first seeds were introduced in the island in 1866, at the suggestion

of General Morin. They came, we believe, from Kew, but, through mismanagement, most of the young plants perished. Fresh supplies of seed were subsequently procured from Ceylon and Batavia, and a report, dated in January last, furnishes the annexed details:—At Salazie, at an elevation of 4000 feet above the sea, two plants of Cinchona officinalis, saved by Dr. Vinson out of the produce of the seeds sown in 1866, were thriving splendidly. They were four years and a half old, and 15 feet in height. Their perfect acclimatisation was attested by the fact that in January, 1871, they were covered with flowers for the first time. It was hoped that the flowers would become fertilised this season, and that it would be possible to save seed from them.—(*Food Journal.*)

THE HEATH AND THE FERN.

"There, how do you feel now?" said a purple Heath, growing on a sunny roadside among Furze and Bramble bushes, to a small Fern that had taken root under the shade of a thick old Elm tree. "A short time ago how you pitied me, because my days had to be spent working and growing out in the summer heat; pity yourself now. See how the soft warm rain is falling, and never a drop can reach you."

"All the air is full of moisture," replied the Fern; "I felt it coming long before you did. I could not live half my time exposed to the dry fever heat in which you seem to revel."

"You are not going to live long," replied the Heath, "if there is any truth in your looks. How grey, and dusty, and parched you are. Your withered fronds go crack, crack, as the wind passes through them; you are as dry as the soil you vainly endeavour to thrust your roots into, and see how the rain comes down not unmindful of the smallest blade of withered grass; it would reach you if it could; gently, timidly it comes like a too-long-absent friend, and there is a rumbling noise afar off, and bright lights come and go in the sky, not caused by sun or moon, yet you are as thirsty as ever. Your great friend the Elm gathers it all to himself, not a drop escapes through his wide-spreading greedy arms. Poor Fern! you are dying of thirst—dying within sight and sound of running water."

"My turn will come," answered the Fern in a feeble voice, which sounded as though it came from a long distance; "when the good Elm is satisfied, my few wants will be supplied."

"It has been raining for hours," said the Heath, with a great laugh, "and it may cease before he is satisfied, and there be nothing left for you but a few dirty leaf-droppings. If you had taken my advice you could have drunk your fill now; what a good time you would have had."

"It would have been all over with me now, Mr. Heath, if I had ventured to live with you out there, exposed to the burning sun through all the long cloudless summer; the shade of this thick tree is welcome to me. I do not care for a blue sky; and a hard, dry, unmoistened atmosphere is a pain to me; it weakens my strength and injures my beauty."

"You do not know what is good," replied the Heath. "Oh how I love it." And in merry mood the gay Heath caught up the passing breeze, and shook out its thousand purple bells; and as though moved by the same impulse the giant Elm lifted up and down his heavy arms, thickly clothed with summer leaves, and warm showers fell and moistened the dusty soil, and down his rough dark trunk little rivulets softly stole and tracked their way to the hollow where the Fern waited in patience.

"I am more than content," whispered the Fern; "I can grow green again, and ripen my rich brown spores;" and full of hope the Fern stretched out its faded fronds, uncurling each tender joint, and all the cool air was full of sweet perfume; the very soil sent up a thank-offering.—Maud.

NOTES AND GLEANINGS.

On the 26th of August, at St. George's Road, Kilburn, in the eighty-fifth year of his age, died Mr. James de Carle Sowerby. He was the eldest son of the late eminent naturalist, Mr. James Sowerby, and he received much of his education through assisting his father in his literary and scientific labours. He was a Fellow of the Linnean Society, of the Zoological Society, and the Ray Society, and was Secretary of the Royal Botanic Society, in the first establishment of which, in 1839, he took an active part. He retained the secretaryship until about a year since, when he retired, the Society allowing him a small pension. He published many Lists of Fossil Shells, &c., in the Transactions of the Geological Society, and was author of "The British Mineralogy," and "Mineral Conchology." He was a skilful artist, and engraved many plates of fossil shells and English plants, and drew the figures for Loudon's "Encyclopædia of Plants," &c.

MUSHROOMS IN CANTERBURY, NEW ZEALAND.

Here, in a plentiful season like the present, many hundreds of gallons of what I will term field Mushrooms are gathered and hawked about the streets of Christchurch during the fine autumn weather which we usually have in this very variable and, as regards climate, treacherous part of New Zealand. I read that in the other colonies occasionally hundreds of bushels are gathered in spring and autumn. It is generally every second autumn that we have them in such great abundance here. This autumn we have had the old saying, "as plentiful as Mushrooms," fully realised amongst us. I think the yield of this fungus has in the present year far exceeded that known in any previous season in Canterbury. Two very large specimens of dunghill Mushrooms have come under my notice this season. Both were of the dimensions of an ordinary cheese-plate, weighing respectively 1 lb. 11¾ ozs. and 1 lb. 11½ ozs.

In our autumn months of 1869 I saw a parcel of Mushrooms of extraordinary size. The largest was 12 inches in diameter, and the remainder averaged about 6 inches. These were grown on a farm near my residence, in the "stockyard," or rendezvous for the cattle belonging to the farm. In addition to this, a monster dunghill Mushroom was found in March, 1866, in the neighbourhood of Christchurch, and it had attained the size of 33 inches round by 11 inches across the cap, stalk 13 inches round; and in another instance I recollect making notes of a dunghill Mushroom 12 inches round, and weighing 1 lb.

I attribute the growth of small as well as large specimens of this delicate fungus in such amazing profusion every alternate autumn solely to our genial rains, succeeded generally by warm sunny weather. I recollect on one occasion Mushrooms were collected by drayloads in the country and brought into town for sale. The same season some persons went down the river Avon in a boat, landing occasionally, and they obtained nearly a boatload. We find from experience that if we want our catsup to keep a long time we must not pick up Mushrooms in the paddocks on a wet morning, and I think I can safely state that there are few families without a good bottle of catsup in store. At the time of picking them it is quite a pastime amongst all classes to go out, "Maori-kit" in hand. This is a kind of boat-shaped basket, made of New Zealand Flax by the Maories. The Mushrooms are usually sold at 1*s.* the American bucketful.

In conclusion, I do not think we shall ever require "Mushroom caves" here for the culture of the Mushroom.—William Swale, *Avonside Botanic Garden, Canterbury, New Zealand.*

NEW EDIBLES.

In this paper we shall refer more to the produce of British plants than to those of foreign origin, and our aim will be chiefly to draw attention to the utilisation of those which abound on roadsides and waste places in English rural districts; and, as many of these have at some time or other been cooked and eaten, either experimentally or to satisfy the cravings of hunger, our remarks will seem to apply rather to a revival of old edibles than to the introduction of new ones. Few people who pass their days in towns have any idea of the utility of wild plants, and we fear that fewer still are thoroughly acquainted with the source or origin of most of our cultivated vegetables. Many of those which we now prize very highly, and which are recognised articles of food, are cultivated forms of wild plants which any of us may still see growing in their natural state in certain districts. The Celery (Apium graveolens), and the Sea-kale (Crambe maritima), may be taken as examples, the first of which may be found in marshy places and ditches on different parts of the seacoast, and the second, also a coast plant, grows wild amongst sand and shingle. The Asparagus likewise grows wild in several places on the British coast. If the culture and development of these and many similar plants have been found not only successful but remunerative in a high degree, it seems to be a matter beyond dispute that others might be similarly changed by persevering efforts in cultivation.

The Hop (Humulus Lupulus), which is extensively cultivated for brewing purposes, is an example: in its wild state it grows

in hedges and thickets, and in some districts is very abundant, so that the country people often collect the young shoots for use as a green vegetable. Hop tops, as they are called, are by no means an uncommon dish in some rural districts; indeed the young shoots, which are frequently removed from the cultivated plants to enable the remaining ones to grow stronger, are often collected as food; they have been said to form a good substitute for Asparagus; our own experience, however, teaches us that the latter is many times preferable, though Hop tops, when blanched by covering them with earth, and when properly cooked, make a really good dish. A much better vegetable, however, is afforded by the young shoots of Ornithogalum pyrenaicum, a plant belonging to the same natural family as the true Asparagus—namely, the Liliaceæ, and growing in woods and copses in Somerset, Wilts, Gloucester, Bedford, and Sussex. In the neighbourhood of Bath these young shoots are regularly collected in spring, tied in bundles, and taken into the markets, where they are sold under the name of French Asparagus; they are almost equal in flavour to Asparagus proper, and are somewhat equal in appearance, with the exception that the individual shoots are much more slender, seldom or never exceeding the thickness of a cedar pencil; this is, no doubt, the principal drawback to their more general use, but under a system of cultivation the flavour might be improved and the size enlarged. The bulbs of another species, O. umbellatum, the Star of Bethlehem, are, when boiled, very nutritious and wholesome, and are eaten as food in Palestine. The Onion (Allium Cepa) is another well-known representative of the same family to which the above belong, but the Chives (A. Schœnoprasum) is a comparatively rare plant in England, and is consequently but little known; the leaves, however, form an excellent addition to salads, and are used in France for flavouring soups. The Black Bryony (Tamus communis), the only British representative of the Dioscoreaceæ, the family to which the edible Yams of the tropics belong, has tubers similar to the Yam, but they are too acrid for use as food. The young shoots, however, after soaking in hot water, and then boiling them for some time, are said to taste like Asparagus, and are used in Greece as a vegetable. One of the most neglected, and certainly one of the most common of our British plants, is the Stinging Nettle (Urtica dioica); three species are known in this country, but the one mentioned is perhaps the most common. Many country people believe in Nettle-tea as a useful spring medicine, and not a few boil and eat them as a green vegetable; they were, in former times, grown in Scotland as a potherb, and if forced and blanched by earthing-up in a similar manner to Asparagus and Sea-kale, the young tops make a very good dish. In Belgium, Germany, and other parts of Continental Europe, Nettles are much more generally used as food than they are with us.

The Sea Beet (Beta maritima) is a plant growing on many parts of our coast. It belongs to the same natural family as the Spinach—namely, the Chenopodiaceæ, and is probably the original form of the cultivated Beet and Mangold Wurzel. The leaves are large, and when boiled resemble Spinach in flavour; the plant grows naturally on chalk, but is much improved by being grown in garden ground; and, if planted in rich soil, the leaves are finer, and the flavour is scarcely distinguishable from that of Spinach. A regular supply can also be obtained until late in the season, by gathering the leaves in succession as they grow. In many parts of Ireland they are collected by the poor and eaten as food. Now that the cultivated Beet is being grown in this country to some extent for sugar-making, it is well worth consideration whether the leaves might not be made a really useful and marketable green vegetable. Many other useful plants belonging to the Chenopodiaceæ, and growing wild in Britain, have been used at different times for food. The Good King Henry (Chenopodium Bonus-Henricus), for instance, was at one time very generally cultivated in gardens as a potherb, and is still, we believe, grown for this purpose in Lincolnshire under the name of "Mercury." It forms a wholesome green vegetable of the character of Spinach, and the young shoots are said to make an excellent addition to soups, stews, &c.

While writing, my attention has been drawn to a note in a contemporary on the value of the Charlock (Sinapis arvensis) as a green vegetable. One correspondent says that he partook of it with roast veal, and that it came to table as a fine-coloured and most tender green, and he feels certain that numbers would prefer it from its appearance and flavour, and consider it a delicate vegetable, if they were not aware of its origin. It is a most common plant, and if cultivated in gardens, there is no doubt it would be greatly improved.

The plants mentioned in this article are only a few out of the many British species that might be made available for culinary purposes—some as really marketable articles, and others for use in times of scarcity. Space will not admit of our referring in detail to any more than we have done; but we will conclude by simply mentioning the names of a few belonging to different natural families as indications that there is a wide field for experiments, and that our subject is far from being exhausted—viz., leaves of Borage (Borago officinalis), young shoots of Rampion (Campanula Rapunculus), young shoots of Cow Parsnip (Heracleum Sphondylium), Dead Nettle (Lamium album).

The natural order Compositæ, to which the Jerusalem Artichoke (Helianthus tuberosus), the common Artichoke (Cynara Scolymus), and the Cardoon (C. Cardunculus) belong, includes many other plants which ought to be used; for instance, the peeled stalks of the Burdock (Arctium Lappa), leaves of Chicory (Cichorium Intybus), blanched leaves of Dandelion (Taraxacum officinale), young stalks of Salsafy (Tragopogon porrifolius), &c. —John R. Jackson, A.L S.—(*Food Journal*)

BICTON.—No. 1.

The Residence of Baroness Rolle.

"Buketon, now Bickton, was by Kinge Henry I. given unto John Janitor, soe called by his office, which was to keepe the goole, or prison, for malefactors within the county of Devon." We cannot follow all the changes of proprietorship, but at the close of the reign of Richard II., Bicton passed into the possession of Sir Robert Dennys "whoe newe builded the same, makinge it his principall place of his abode, and made a parke for deere, and addinge divers commodities and pleasures thereunto." His grand-daughter married to "Sir Henry Rolle the younger, who had issue by her Dennys Rolle, Esquier, the nowe possessor thereof." This was written about the year 1630 by Sir William Pole, and he adds, "the tenure of Bicton to keepe the gool of the county, which belongeth hereditaryly unto the same place," continued until 1787, when it was exonerated, and very wisely, for we never visited any estate in the British Isles less appropriate for the imprisonment of malefactors—anyone sure of being confined within the park-circuit of Bicton would have an irresistible temptation to commit a felony.

This noble domain became famous for its gardens and arboretum more than forty years since, entirely in consequence of Lady Rolle's taste and liberality. It is situated to the north of the road between Sidmouth and Exmouth, and we were admitted through the eastern entrance. The road here passes up the somewhat too-much extolled avenue of Araucaria imbricata. There are fifty of this Conifer, twenty-five on each side, and very fine specimens, but they are not avenue trees. An avenue should afford shade and shelter, and arching overhead be as a graceful, noble gallery leading to the mansion. The Araucaria is too formal, is all straight lines, and only looks well when flanked by densely, lighter-tinted trees. This avenue was planted on level ground by the late Mr. James Veitch more than thirty years since, and was for some time afterwards under his superintendence, as well as the Pinetum. Had the Araucarias been allowed to remain on the level ground their appearance would not only have been more natural, but they would also be in a much healthier state. Conifers are better not planted on mounds, and digging or forking amongst their roots, as was formerly the practice in this Araucaria avenue, cannot be condemned too much. Its continuance would have checked the growth of the trees, and it will even now require many top-dressings and mulchings to restore them to a healthy state. Mulching in summer insures the soil being kept in a moist and healthy condition, so as to encourage the formation and growth of fibrous surface roots. Nothing can be more suitable for mulching than short grass, such as the sweepings of a well-kept lawn, laid on about 2 inches thick, and repeated as often as it may be required.

Passing first to the Pinetum, we were prepared from the catalogue entitled "Hortus Lignosus Bictonensis," to find it one of the most extensive and best-arranged private collections in this country, or, perhaps, in Europe, and we were not disappointed. It was originally designed and furnished by Lady Rolle most munificently, the arrangement, we believe, having been under the superintendence of the late Mr. Loudon, the working plans he furnished being very skilfully carried out by the late Mr. Glendinning, who was at that time head gardener at Bicton. The formation of the lake adjoining was also carried out by him under Lady Rolle's directions, at a cost of many

thousands of pounds. The accompanying engraving gives a glimpse of a vista in the Pinetum.

The manner in which those and various other works of the most extensive kind have been furnished, are lasting proofs of Mr. Glendinning's ability. The Pinetum was originally about thirty-six acres, with a circuitous walk of nearly two miles, commencing at the house and terminating at the flower gardens. There are also shrubberies attached of about twenty acres and enclosed by iron railing, and more recently about eight acres have been added to the Pinetum, making it at the present time somewhere about sixty-four acres. When in its most complete state the arboretum contained more than three thousand species and varieties, but year after year deaths were allowed to occur in the Pinetum unnoticed, instead of being promptly repaired by the purchase of fresh specimens, so that when Mr. Begbie succeeded to the head-gardenership two years since, he found that no less than nine hundred of the specimens were gone. Lady Rolle would not allow the labels, marking where they stood and recording their names, to be removed, but they remain as a record of neglect, and her ladyship has requested Dr. Hooker, of Kew, to collect as many as can be procured of the species and varieties that are lost, and to do as much as possible towards restoring the Bicton Pinetum to its original strength.

We shall recur to the arboretum on a future occasion, but will now pass to another speciality of Bicton.

Its Pine Apples have been celebrated for many years. Even in Mr. Glendinning's days, now between thirty and forty years since, they were well grown in heat derived from leaves and tan, without the more modern system of having properly constructed pits with a good command of top and bottom heat. There is now a fruiting Pine pit heated with hot water and divided into seven compartments, each containing from twenty-five to thirty fruiting Pines. Sixteen varieties were grown here when the management devolved on Mr. Begbie in May, 1869. Monster sorts and monster fruit had been produced annually, and carried or sent to all the principal fruit shows in this country, and even to Paris, with the most gratifying results, as they turned out to be mostly prizetakers and grown by express. For various sufficient reasons it is unlikely that any of the Bicton Pines will be seen again on the exhibition boards.

Monster Pines were grown and obtained many prizes, and were so grown in very high temperature, strong or rather heavy

The Obelisk is only a Landmark.

soil, and often staked in the pots to keep them in position and from tumbling out. The system was kept up by waterings, steamings, and syringings, a large copper garden engine having often come into use twice daily, showing that large Pines can be grown with but few roots, and will grow and swell up well, aided chiefly by atmospheric moisture; but this extra size is obtained at the expense of quality in the fruit. The plan is now different.

As above stated, there are seven compartments for fruiting Pines. Large suckers are secured in succession as often as may be required—seven times in the year if preferred, taking thirty suckers at each time, care being taken that the suckers are of good size and healthy. They are detached from the stools, the bottom leaves carefully stripped and trimmed ready for potting, which is done as soon after as circumstances will permit. The pots for suckers are 7 and 8-inch pots, new, or thoroughly washed, carefully drained, and over the drainage are placed a few pieces of turfy loam.

The soil used is turfy loam, rather light, with all the fine earth shaken out of it, and to which a sprinkling of boiled inch bones has been added, and a little soot placed over the pieces of drainage turf. The sucker is placed rather low in the pot, and the soil rammed, so that when finished the plants are quite firm. The next operation is to get them plunged in succession pits as soon as possible. At Bicton all succession Pines are grown in rough deep wooden pits, using leaves and a little stable manure for heating purposes, than which nothing can answer better.

The batch having been plunged about July 1st, they are kept and wintered in their 7 and 8-inch pots according to size, and about the middle of March following, if all has gone well, the pots will be almost full of healthy fibrous roots. Eleven and 12-inch pots are used for the fruiting. The plants are moved quickly into a warm potting-shed, repotted in well drained pots, using turfy loam as before, rather light than heavy, a proper proportion of boiled inch bones added, and a small portion of soot. The soil is rammed in as hard as it is generally done with Heaths, but care is taken that the ball of earth is not injured. The plants are placed as deeply in the pots as possible, and the leaf beds being well turned up, and fresh sweet well-worked leaves added, the pots are plunged in a bottom heat of 80° to 85°, which is maintained until the pots are full of roots, when the plants will be broad-leaved, stubby, healthy subjects, so cheering to a practical gardener.

By the middle of June, if not sooner, the plants should be rested for two or three weeks, after which, if all is right as to sorts, they may be introduced to the fruiting-pit—say twenty-five or thirty Black Jamaicas and Smooth Cayennes. Thus treated they will start freely into fruit, and prove most useful during the winter months. Others, such as the Queens, follow

suit, and are, after having been rested on the cool-and-dry system, pushed into fruit early in January, and so they go on quite satisfied with a plan which, as Mr. Begbie said, "is neither Meudonian nor Hamiltonian, and may only be Bictonian, but as it gives an abundance of fruit of first quality, moreover said to be greatly superior to fruits grown on the 'express' method, I shall go on my system until I find a better, keeping the roots warm, and the heads cool."

We can testify that never were grown healthier, smaller-crowned Pines, and we have copied from Mr. Begbie's journal the Pines and the weight cut last July.

	lbs.		lbs.
July 1st, five cut, weighed ..	19½	July 18th, ten cut, weighed ..	28
,, 3rd, four cut, weighed .	15	,, 26th, eleven cut, weighed	44½
,, 11th, seven cut, weighed	22	,, 31st, two cut, weighed ..	9¼
,, 13th, six cut, weighed..	19		

AMARANTHUS SALICIFOLIUS.

Of the genus Amaranthus there are species which have been long cultivated in gardens for their flowers—such as Love-lies-bleeding and the Prince's Feather (A. caudatus and A. hypochondriacus), which are still to be found in some old-fashioned gardens, and especially in cottage gardens; and one not cultivated for its flowers but for its lovely rosy-purple leaves, translucent in the sun, is to be met with in almost every modern flower garden. This is Amaranthus melancholicus ruber, not at all a melancholy-looking plant, which the others are. It was one of the introductions from Japan of our friend, the late Mr. John Gould Veitch; and to-day we produce a representation of, in its way, a not less beautiful member of the same family, Amaranthus salicifolius, from Manilla, which received, and deservedly so, the highest encomiums from all leading horticulturists at the meeting of the Royal Horticultural Society at Kensington on the 6th inst. Whether it is a distinct species or not we cannot at present say, but that it is not only entirely different from anything we know and singularly beautiful, that we can unhesitatingly affirm. Its habit and general character have been well represented by our engraver. It is impossible to conceive anything more graceful than the appearance of the plants shown last week at Kensington, for they looked like so many fountains weeping their waters, and it is equally impossible to give an adequate idea of the beauty of the colours of the foliage. The plants were about 3 feet high, and we described them as having long, narrow, graceful, weeping leaves, most of them purplish rose with an orange tinge, others bronzed-metallic green. The plants exhibited were lifted from the open ground. Messrs. Veitch add, that it is grown from seed sown in February, and is treated as a half-hardy annual, being gradually hardened-off and planted out in the borders in June. We have only to add, in the words in which we concluded our notice last week—it is quite certain that this Amaranthus will prove a great acquisition; and further that it will be so both for indoor and out-door decoration. We need scarcely remark that a first-class certificate was unanimously voted for it by the Floral Committee of the Royal Horticultural Society.

Amaranthus salicifolius.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The weather still offers a favourable opportunity for carrying on the war of extermination against the weeds; the ground also is in good condition for earthing *Celery*, the perfection of which depends a good deal on the care bestowed on this operation and its timely performance. Plant the principal crop of spring *Cabbage* on ground well manured, as previously directed. The East Ham is a good variety for standing over the winter; it is not so apt to run in spring as most other sorts. Prick out into beds, a few inches apart, a large quantity of Cabbage plants which have expanded their first two rough leaves. The July sowing of *Endive* may now be pricked out on a warm

border, and as the early plantation attains a proper size the plants should be tied for blanching. Continue to plant out *Coleworts* from the July-sown beds. They may be planted very closely, say on the average 9 inches apart. Embrace every opportunity when a wet day occurs to tie up and arrange *Herbs*, to string *Onions*, and to beat out and clean the seeds of any favourite vegetable that may have been saved. Make the last sowing for the season of Brown Cos and Hardy Green *Lettuce* on raised beds of light soil, where they may remain till spring, and be planted out to succeed those which are transplanted this autumn under walls and similar situations. The large pods of *Scarlet Runners* should be picked clean; these often give over bearing prematurely through the exhaustion occasioned by suffering the pods to run to seed. Another sowing of *Radishes* should be made on an elevated and warm border. Winter *Spinach* and *Turnip* beds must be kept hoed and thinned, the first to 9 inches or thereabouts. Follow up the plan of promptly clearing away the remains of crops as they successively decay. A proportionate reserve of land must be held for forward Peas and early spring-cropping generally. Those quarters which require trenching the ensuing autumn should be kept free of any further crop after this time of the year, that an opportunity may be afforded of getting the operation performed before the arrival of winter.

FRUIT GARDEN.

It will be an advantage to have the fruit-tree borders free and unshaded by any crop at this season. The effect of planting Endive, Turnips, and similar crops is to keep the border cold and wet, when, in fact, warmth and air are more particularly required. It would be satisfactory to see the width of borders reduced, could even a more limited space be secured exclusively to the wall trees. If no store of material (sods of sandy loam are good for the purpose) is in hand, no further delay should take place in collecting a sufficient quantity for carrying out any proposed renovation. Continue to attend to the gathering and storing of Pears and Apples as they ripen. Tomtits are now doing all the mischief they can to Pears. Some people, who are learned in such matters, tell us that they counterbalance any amount of evil they do by destroying legions of insects at certain seasons of the year, but I have doubts on this point, and have sometimes acted on them with evident advantage to the Pears, and without being able to notice any alarming increase of insects. Gather Peaches, Nectarines, and Figs as they ripen; this has been an uncommonly favourable season for the latter.

FLOWER GARDEN.

If Pansies are to be grown well the bed must be renewed yearly, and in order to secure a good spring bloom the young plants obtained as cuttings or side shoots from the old favourites, in addition to any new varieties which may be bought, should be soon planted. It will be requisite that the bed for their reception should be prepared, in order that they may be planted out at the end of the month. Auriculas will now begin to excite and require more attention. All decaying leaves must be removed, and occasional top-dressings be given. Examine seedlings that have been pricked out; if the roots are raised above the surface, which is often the case, re-insert them by making a notch in the soil with the handle of a budding-knife or a piece of ivory. Pinks should be planted out without delay. Keep a sharp eye for seed of Carnations and Picotees, and carefully examine all pods. The soil for potting-off the layers ought now to be in readiness, keeping it, if possible, under an open shed, as it is then fit for use at any time. Dahlias must, to secure success, have unremitting attention. Pluck off all blooms which are not promising, and cover, &c., as required. Take care that the blooms intended for exhibition do not chafe against the covers.

GREENHOUSE AND CONSERVATORY.

The weather is now very favourable, and many may hesitate in the work of introducing the house plants while the promise of a late summer is before them. It is dangerous, however, to trust anything to the weather at this period of the year. Cloudless days are very delightful, and thrice welcome just now, but it not unfrequently happens that they are succeeded by nights on which clear nipping frosts are also an accompaniment; therefore the kindly work should proceed uninterruptedly. Let it, however, be understood that these precautionary hints apply chiefly to plants whose tropical origin renders them peculiarly liable to injury from absolute cold. Where the opportunity of partial protection exists, many hardwooded plants may with advantage be allowed to stand out until the end of the month. Let a scrupulous examination be given to the condition of each plant, and defects in the soil or drainage of the pots at once remedied; clear off moss, remove insects, and replace stakes. Luculias and other winter-flowering plants growing in the border must be freely exposed to light and air, in order to have the growth well ripened and to insure a fine display of bloom. Also see that all plants are clear of black thrips, for this pest is particularly active just now wherever it is allowed to gain a footing, especially on Luculias and plants in a growing state. The ordinary precautions for obtaining a supply of common flowering plants throughout the winter months should be progressively continued. Violets should be potted or planted in a frame; Mignonette thinned and sown; Hyacinths, Tulips, and other bulbs potted and plunged; Pinks for forcing encouraged; and Cinerarias duly attended to. Roses in pots should occupy a fair share of attention. Young plants may yet receive a shift, and manure water may be applied to plants in activity.

STOVE.

Winter-flowering subjects should now receive extra attention, as also those succession flowers which have been retarded. Nothing but a light situation will be suitable after this period. Those who are compelled to grow such stock in the shade of late vineries or other forcing houses must be content to endure a partial failure. Let the Begonia family be duly estimated in this respect. Euphorbia jacquiniæflora, if propagated early and frequently pinched, will now form dense bushes; they are generally grown three in a pot, which is much better than single plants. Of course such plants as the winter Gesneras, Achimenes, Scarlet Pelargoniums, &c., will not be forgotten. When there is but one house for the accommodation of tropical plants, considerable care and attention are necessary to properly manage them at this season, as some, having completed their season's growth, require to be kept cool and rather dry, in order to ripen the wood, while others in free growth require to be encouraged with warmth and moisture. If there is no convenience in a cooler house, such plants as have made their growth should be placed together at one end of the stove, keeping them sparingly supplied with water at the roots, and giving air rather freely, which will generally serve to prevent any attempt at a second growth; and those requiring to be kept warm and moist should also be placed together at the opposite end of the house, where very little air should be given, using every care to keep the atmosphere about them moist. See that everything is free from insects, and keep the foliage of Ixoras clean by washing with a sponge and soapy water when necessary.—W. KEANE.

DOINGS OF THE LAST WEEK.

A HEAVY shower on the 8th and 9th, which flooded our walks and sent to waste thousands of gallons of water, which would have been valuable if we could have preserved it, has saved us from all thoughts of out-door watering at the end of the week, and what had been watered with sewage previously would just be the better fitted for the downpouring of the sweet water from the clouds. In looking round after the flood-showers of the morning of the 9th, we did not see that anything had suffered except some fine rows of Madame Vaucher Pelargoniums, the bright white looking a little dingy, and many petals being gone, and also some massive rows and beds of yellow Calceolarias. The wind and the rains have washed off the blooms in bushelfuls. A month or a fortnight ago we should not have so much cared, but from the middle of September there is but scant time for the young shoots to throw up similar dense masses of bloom. Hitherto, even when the weather was dry and hot, they have been everything that could be desired, and therefore in this respect we do not at present design to imitate some of our ablest coufières who have given up Calceolarias altogether, and substituted yellow-leaved Geraniums in their place; very pretty it is true, but not equal to the Calceolaria for a mass of yellow or orange.

We may here mention that from different reports which reach us, *Calceolarias* do best when treated as we advised years ago—namely, never to give them, if possible, any artificial heat. Much also depends on putting the cuttings in as late as possible under a cold pit or frame, for we are satisfied when they begin to root after Christmas. They will stand rougher treatment before they root than afterwards. These cuttings are generally 1½ by 2 inches apart, and put in rough sandy loam they lift with little balls, to be transferred to earth pits at 4 or 6 inches apart in March, and so as to receive a little pro-

tection. Thus treated it is rare we have on them any fly or insect.

KITCHEN GARDEN.

As the days shorten, we partially removed the Pea haulm, and soon will do so wholly, between our beds of Celery. The shade hitherto, morning and afternoon, has done good in rendering watering unnecessary, a matter of importance wherever water is scarce, and also as saving a good amount of labour. The beds of *Celery* run north and south, and, therefore, they had the full sun before and after midday, still the shade by their sides, which broke the strong afternoon sun, was of importance. By mistake some of our Dwarf White Incomparable Celery that came in second and third, was taken up, and it was very fair after ten days' earthing, with two or three weeks' tying-up previously; out of plants 16 inches in height, a length of 9 inches was very good. When earthed-up for three weeks such plants ought to have had nearly 12 inches of beautifully blanched head as sweet as a nut.

We have tried many kinds of Celery, reds, pinks, and whites, and we have found them all solid, sweet, and good, if they were grown with the help of sweet decomposed manure, were prevented becoming dry, and received a slight shade in their earlier stages. We would, however, recommend those who have little room to try a bed of the Incomparable, placing the plants about a foot apart each way. We have had several complaints from people who have acted on our recommendation, who say they cannot get on with it, it grows so slowly. Well, there is this objection to it—it will come very late, if you depend on seedling plants sown out of doors. It should not be sown later than March, and then in pots or pans where there is a little heat, as in the coolest part of a Cucumber-box, and it is as well to let it have a little heat after it is pricked out, but a small shallow box would hold a large number of plants at 1 inch apart, and when fully established they could be pricked out under a slight temporary protection in rich compost 3 or 4 inches apart, and be lifted with balls so as never to feel moving. A bed from 3½ to 4 feet wide will grow three rows in perfection. Then the earthing-up is a mere trifle in comparison to the taller-growing kinds; a foot in height may be considered a fair average. From plants not quite so much in circumference as the arm of a strong man, we have often seen a far greater bulk fit to go to table, than could be had from huge plants as large in circumference as a man's thigh, and fully a yard or more in height. These dwarf Celeries save much ground and labour, but we have nothing to say against the stronger-growing sorts where ground and labour are of little importance. We generally grow a little of the stronger reds, &c., for variety. The Incomparable was first sent out by Mr. Turner, of Slough.

Before these showers came the ground with us was so dry that it was of little use planting, unless we could have afforded to water well. Now we shall fill up every vacant place with Cabbages and Winter Greens, also Lettuces and Endive. The earliest Broccolis, Brussels Sprouts, and Borecoles are looking well, but it is advisable to have plenty in the shape of young plants, as it is easier to pull up in spring when the ground is wanted than to suffer from any deficiency in the supply. Where the ground is at all stiff and adhesive we would recommend throwing it into ridges—say 4 feet at the base, and planting the sides and apex with Lettuces and Endive. They are not likely to suffer from dryness now, but they will have a better chance of escaping damping in winter than those on the level. Last year we lost most of our Lettuces and Endive planted near the foot of walls and fences. Severe as the winter was, we scarcely lost a plant of those thus planted on steep ridges.

We sowed Radishes and Turnips, the latter to stand the winter. Our early kidney *Potatoes* have kept good after being taken up, but they were quite ripe; only one here and there has shown signs of disease. With respect to the advice lately given as to cutting down the haulm and removing it, in the case of late Potatoes, several parties have told us that the cutting-down has no effect on the crop so far as ripening is concerned; for after allowing the roots to remain for a month the tubers were as unripe, as soft and waxy, as when the haulm was cut down. All we can say is that such results are contrary to our experience. The early removal of the haulm prevents to a great extent the disease acting on the tubers. These tubers, left in the soil, however late the kinds, will not increase, or but little, in size; but according to all our experience they become more ripened and more mellow, and thus the tubers are more fit for all purposes, though smaller in size than usual. As the matter is of great general importance we should be glad to have, not opinions, but facts and experience bearing on either side of the question. Meanwhile, as the disease is likely to appear whenever we have a season similar to the present, we would earnestly advise, and especially where the kitchen garden is small, to grow only the earlier small-topped kinds in the garden, and to have the main supply for the mansion grown in the field, where fresh soil can be afforded every year, and where also more room can be given between the rows than the gardener in general can afford in his limited space, where crop must follow crop without a week's intermission, or even several crops must be on the ground at once. The same rule would hold good as respects Turnips and Carrots. The earliest are best and most easily obtained from the garden, but without great preparation and attention no old kitchen garden will grow Turnips and Carrots so sweet and rich in flavour as they will be in a field, where they only appear after so many years' rotation, and in fresh, almost to them maiden soil. If we were connoisseurs of Turnips we would never use one after August and September from an old garden if we could obtain them from an open field. We should not so earnestly advocate as as we do the enlargement of kitchen gardens, and the limitation of lawns, were it generally understood that the bulk of such roots and the rougher vegetables were to be cultivated well in an open field. We know that the cultivator and the consumer would be better satisfied. Of course we do not allude to those huge gardens that are seldom fully cropped, but show almost at any time large quarters in fallow, and which generally, like farm land, bear only one crop for the year. But the majority of kitchen gardens must be treated in a different way, the great question being, How much and how many successions can be obtained in little space? When that is long continued the produce must suffer in quality.

ORNAMENTAL DEPARTMENT.

We intended to have said much about plants and propagating, but our pen has gone so fast that we can only allude to one thing—namely, placing *cuttings* for next year's flower garden in pots and boxes. Some critics have written to us to say that they like best to insert their cuttings early in the open air, and to lift and pot or box them when struck. We say, Let everyone follow the plan that answers best. We have often adopted the plan when cuttings could be taken off early. Even then, however, the plants often felt the taking-up, and potting, or boxing, and this also involved time and labour. As we cannot well take our cuttings, even low side shoots, very early, we prefer inserting them thickly in pots or boxes at once and placing them under glass before there is any danger. We thus save taking up and re-boxing. Very shallow boxes from 2 to 3 inches deep will do for most cuttings. When the wood we can get hold of enables us to have them deeper we are satisfied if the soil is of that depth, and we can top-dress if we like afterwards.—R. F.

TRADE CATALOGUES RECEIVED.

Downie, Laird, & Laing, Stanstead Park, Forest Hill, and 17, South Frederick Street, Edinburgh.—*Descriptive Catalogue of Dutch Flower Roots.*

Little & Ballantyne, Carlisle.—*Catalogue of Flower Roots, &c.*

W. Knight, Hailsham, Sussex.—*General Catalogue of Nursery Stock.*

Charles H. Dickson, 23, Market Place, Manchester.—*Catalogue of Dutch Flower Roots.*

James Dickson & Sons, Newton Nurseries, and 102, Eastgate Street, Chester.—*Catalogue of Roses—Catalogue of Bulbous Flower Roots, &c.*

Dick Radclyffe & Co., 129, High Holborn, London, W.C.—*Catalogue of Dutch Bulbs, Dried Flowers, Fruit Trees, &c.*

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

CUTTING AND BORING HOLES IN GLASS (*Amateur Gardener*).—We have no experience in cutting glass except with a glazier's diamond, but we extract for you the following from an American contemporary:—"Any hard steel tool will cut glass with great facility when kept freely moist with camphor dissolved in turpentine. A drill-bow may be used, or the band alone. A hole bored may be readily enlarged by a round file. The ragged edges of glass vessels may also be thus easily smoothed by a flat file. Flat window glass can readily be sawed by a watch-spring saw by aid of this solution. In short, the most brittle glass can be wrought almost as easily as brass by the use of cutting tools kept constantly moist with a camphorised oil of turpentine."

DOUBLE ANTIRRHINUMS (*W. H., Ayr*).—Double or semi-double Antirrhinums are by no means unusual. Some were advertised a few years ago by a London nurseryman, but they did not take, nor are they ever likely to be popular.

White Everlasting Flowers (*F. A. S.*).—They may be bleached by submitting them to the fumes of burning sulphur. The caterpillar that eats "the flesh of the Rose leaves," is the larva of a small moth, but we could not identify it unless we saw specimens.

Ailanthus glandulosa Seeds.—*Mrs. Corrie* and others wish to know where these can be procured.

Concreting Peach Border—Division Wall (*A Recent Subscriber*).—A depth of 2 feet will be sufficient for your Peach border. We would not concrete it; if the subsoil is dry it will require nothing, if wet you must drain it by laying the pipes in a slanting direction across the border. A main drain should be provided at the lowest point to carry off the water. If your house is in two divisions you will require a wall, not otherwise. It should be 9 inches thick to the ground line, and be carried up with 4½-inch work as high as your front wall. The division wall will support the plate of your glass division.

Maréchal Niel Rose in a Vinery (*X. Y.*).—We should advise you to let alone the vigorous Maréchal. Grow it at present without stopping the shoots, but shorten them back, about the end of February, to well-ripened wood. Do not then take too much off, as it requires long pruning. An occasional temperature of 70° in the late vinery would not be too much, though 60° would be far preferable; but as your plant is in a late vinery it will not be kept at 70° for long, except in hot sunny weather, when all plants can stand additional heat owing to additional light. Roses will not endure a forcing heat in the short days of winter.

Leaves Infested with Red Spider (*C. R.*).—The whole of the leaves sent are badly infested with red spider. Syringe them every alternate night for a week with a solution of 3 ozs. of soft soap to the gallon of water at a temperature of 120°, and water at the root with 2 ozs. of guano to a gallon, giving a good soaking.

Portulaca Wintering (*Inexperience*).—The majority of those used in gardens are annual, but some of them are perennial, as P. Thellusoni, which is grown in a light open soil, loam mixed with crocks and old lime rubbish, abundant drainage, and a little peat, giving only a little water occasionally to keep the plants from shrivelling. The shoots should be trained to a trellis.

Chorozema Leaves Eaten (*Idem*).—The leaf sent appears to be eaten by some caterpiller, but which we cannot say in the absence of a specimen. At night, after dark, place a white sheet, stand the plant on that without shaking it, and then shake briskly, and, if a caterpillar or beetle, it will fall on the sheet and may be secured and destroyed. It may, however, be slugs; search for them after dark with a lantern.

Wintering Hova carnosa (*Idem*).—It will winter in a greenhouse quite safely if you give no more water than will keep it from shrivelling. There is no necessity to shade or syringe for the cause you name; it would only tend to make the plant go off. Water sparingly, giving only just sufficient to keep the leaves plump or fresh, and do not syringe from now until the plants begin to grow.

Glass for Early Cucumber House (*Inquirer*).—Hartley's rough plate glass will answer perfectly, and the quarter-inch is the preferable thickness. Thin plate glass is worse than sheet for breakage.

Border Planting near Beech Trees (*Lizzie*).—The Beech trees, we presume, shade the border, and the plants put in require to be such as will grow under them. There is nothing that will look so well as Ivy, because it is the only thing which will thrive. It will grow on the soil, but not on the Beech, owing to the smooth bark. We would carpet the ground with Rægner's Ivy, margin the border all around with Stachys lanata to the width of from 18 to 24 inches, and on both sides of the Beech trees have circles in diameter half that of the border from the Stachys to the Beech trees. The circles should be twice their diameter apart, and we would fill them with Vinca elegantissima.

Various (*A Young Gardener*).—The best plan of getting a stock of Calceolarias for bedding is in October, before frost, to prepare a frame for cuttings, choosing a sheltered and well drained situation. Put in about 6 inches of good moderately rich loam with about a third of leaf soil well mixed, and cover with an inch of sand; then, before frost, take cuttings of the growing shoots with two joints and the growing point, removing the lowest pair of leaves; insert the cutting well up to the leaves and at about 1½ inch apart, water after putting in, and give protection only from frost. In severe frost protect with a double covering of mats and straw, and allow them to remain until a general thaw, then remove them gradually. In mild weather give abundance of air. At the end of March prepare in the open ground a place like a Celery trench, and plant in it the Calceolarias at 3 or 4 inches apart, watering well, and protecting from frost by mats over hoops. In May plant out where they are to remain, lifting with good balls. The best Peas for sowing in November are Dillistone's Early and Sangster's No. 1. It is not a good plan to burn the "noses" of Onions to make them keep, though it may be done if care be taken not to overheat the bulb nor burn too closely.

Tuberose Bulbs the Second Year (*S. W.*).—As a rule they are not worth keeping for a second year's flowering. They are so weakened by flowering as scarcely to be good for anything, though by taking care to have them well ripened the first year we have known them flower fairly the second season.

Lophospermum after Flowering (*Idem*).—Cut away all the old bare parts, encourage fresh shoots from the base, and keep the plants dry but without flagging. Keep them in a greenhouse.

Hyde Park (*Sarah Ann, Clara, and Amy Alice*).—A report will appear in a week or two.

Acacia lophantha, Mandevilla suaveolens, and Eucalyptus Wintering Out of Doors (*Delta*).—Except in a dry soil your prospects of wintering these safely even with protection is not great, though it is likely they would succeed against a south wall with protection. As you have duplicates it is well worth trial, and we should like to know the results. Saccharzias and Allamandas would probably winter in a greenhouse if you kept them dry, giving no more water than sufficient to maintain vitality. Six ornamental-leaved Begonias to grow in a greenhouse are—Marshalli, Victor Lemoine, Masterpiece, Amabilis, Picturata, and Beltine Rothschild. Now is a good time to plant out Roses from pots, they become established before winter. Mulch before frost with litter.

Propagation of Lemon-scented Verbena and Heliotrope (*J. C. H.*).—The Aloysia citriodora (Sweet-scented Verbena) and Heliotrope strike from cuttings of the growing points of the shoots inserted in sandy loam with a surfacing of sand, placing in a cold frame, shading from bright sun, and keeping close. After August, however, they require a bottom heat of from 70° to 75°. We think you fail from putting them in too rich soil not sufficiently sandy, and from keeping them too wet; the soil should only be moist. The cause of the Geranium cuttings turning black at the base and falling down is too much humus in the soil, and the evil may arise from watering with pond water containing decomposing matter. Why not put the cuttings in the open ground and let them take care of themselves? They do much better in that way than when pampered in pots, and do not need a tithe of the care in wintering.

Phalænopsis grandiflora Treatment (*E. M. N.*).—Grow it on a block of wood or cork. Oak wood is to be preferred, removing the bark, and place a little fibrous peat on the block; then put on the plant, covering the root slightly with sphagnum, and secure the plant firmly with copper wire. Sprinkle lightly with water two or three times a-day according to the season. The temperature you name is rather low for this Orchid, but it will succeed, only do not keep it too wet. The damp heat will lessen the necessity for sprinkling. Give it the warmest part of the house.

Treatment of Echeveria metallica glauca (*H. T.*).—Pot the plants in a compost of light loam two parts, one part old cow dung, one part crocks or broken bricks, and one part sand, with good drainage. Keep them in a greenhouse in a light airy position, and give no water in winter except to keep the leaves from shrivelling. When growing, water as the soil becomes dry. It may be planted out of doors at the end of May, and is very fine as an edging plant for beds; take up and pot before severe weather sets in.

Stopping Zonal and Double-flowering Geraniums (*T. B. S.*).—For flowering in November the last stopping should be given at once, and the trusses of bloom removed up to within six weeks of the time when you require them to flower. If the plants were recently stopped do not stop again now.

Tacsonia Van-Volxemi not Thriving (*Joseph Clark*).—Having had it three years without progressing, we would make for it a border 2 or 3 feet wide, and 2 feet deep, draining it well, and filling it with a compost of two parts fibrous loam, and one part each of peat and leaf soil, adding sharp sand freely. Plant out at once, and water so as to keep the soil moist, but no more, and as the shoots grow train them about a foot from the glass, though it puts out shoots with us and grows partly beneath a stage occupied by plants, and flowers and fruits quite as freely as on the roof, though it is there a mass of fruit and flowers. The other Passion-flowers treat in the same way. It is little use striving to grow them fine in pots. In a border they are magnificent. Water freely in summer.

Coloured-leaved Plants (*Eve*).—Your questions are rather indefinite. The plant which is red is, doubtless, Alternanthera magnifica; the one in black may be Coleus niger. If not, it may be Alternanthera amœna which is very dark this season.

Heating from a Kitchen Fire (*An Amateur*).—The Dublin firm are quite right. You cannot heat your greenhouse from the kitchen fire if the top of the boiler is higher than the level of the floor of the greenhouse. If the difference of level is small, and the top of the boiler is close, and you could have a slight rise to the farther end of the greenhouse, by raising the pipes above the floor, and taking the return-pipe to the bottom of the boiler, then it would do, not otherwise. Hot water will not go down. A small boiler, conical or saddle-backed, costing about £3, and 54 feet of 4-inch piping, would be necessary for such a house; 36 feet, would barely keep out frost. That would cost from 9*d* to 10*d*. per foot, if good piping. We would make the border as you propose, only all through or wider inside, and we would use no ashes. As economy is your object, a small stove, if of iron, with a flat head, better of brick with a stone or iron for the top to receive a vessel of water, would suit your purpose. If you wish to combine cleanliness, efficiency, and economy, have a tiled pathway either at the back or middle of the house, and underneath the tiles a small flue from a stokehole sunk at a so low that the bars of the furnace may be 18 inches below the bottom of the flue. You must have ventilation at the top as well as in front. Openings in the back wall would do, and so would a good opening at each end of the house under the apex of the roof.

Strawberries for North Yorkshire (*W. D.*).—Keens' Seedling, Dr. Hogg, and Vicomtesse Héricart de Thury. Plant now a foot apart each way. They do not require a strong clay; a moderately adhesive loam is best. Trench the ground before planting. Mulch the surface during the summer. If you enclose twenty stamps with your address, and order the "Garden Manual," you will have it post free.

Half-ripe Grapes Cracking (*Sussex Vicar*).—The box arrived in a deplorable state, with the juice dripping from it. Cut half through each lateral—that is, down to the pith between the bunch and the main stem, and keep the house as cool and as freely ventilated as you can. The sap is supplied to the berries faster than they can swell.

Mushrooms Eaten by Vermin (*A Subscriber*).—We never before heard of red spider attacking Mushrooms, but snails and woodlice are to be expected and to be guarded against, the first by looking for them at night with a lantern, the second by trapping in small pots with a little soft moss in them, along with a piece of potato or carrot. We think you must be mistaken as to the red spider in a cellar. We are rather in doubt as to your success, as we hardly know whether you have had a quart or a quarter—a vast difference. We like more heat in a Mushroom bed than 60° at spawning time. When the spawn is running, that is high enough. We should not think of making a bed anywhere from dung in an unprepared state, unless from experience we knew what we were about. It would be better to have the dung in a good state before taking it to the cellar—that is, all the extra steam gone, not wasted, and in that nice position when it is neither wet nor dry. We think with you that very likely your bed was too wet—a rather bad state, as then you cannot water. When tolerably dry, not dry, and well beaten, the manure will heat enough and keep a regular heat longer, and the spawn runs freely. When too wet we have wrapped the bits of spawn into a good handful of short dryish litter before putting it into the bed, and the plan answers well. Keep these things in mind in making the proposed new bed, but do not trouble yourself about the spawn in the old bed, as to how you are to get it out. Let it remain, or go and get fresh spawn for the new bed. The seedling Pansies have their petals eaten into holes probably by the Pansy fly (Agromyza violæ). We know of no remedy.

NECTARINES IN A GREENHOUSE FALLING (*A Subscriber*).—Very likely your Nectarines drop and shrivel up from want of water. From the time the fruit is set the soil should never be dry. After fairly stoning, a good watering to trees in-doors is necessary to secure a free swelling; not watering all the border at once, but at two or three times, with a day or two between. A thorough drenching all over is apt to throw the fruit off.

PAYING A GARDENER'S MOVING EXPENSES (*Tyro*).—You were quite right in paying the travelling expenses of the man when he came, as you express it, "to see and to be seen," before being engaged. In this respect you set a worthy example that ought to be generally imitated. When a wish is expressed to see a new servant before engaging him, then equity requires that the man's travelling expenses should be paid, whether he is engaged or not. We have known very distressing cases where this law of equity has been totally disregarded, and the most defenceless had to put up with what was to him a great loss. A case happened not long ago in which, after a long journey, the gentleman declined to see the man altogether, having in the meantime made other arrangements. All we shall say is, we would have declined to serve such an employer on any terms. We do not know what the legality of the matter may be, but common equity requires that the gentleman who wishes to see a servant before engaging him, ought to pay the travelling expenses at least. It is also common to pay the travelling expenses of a servant by rail or other means in going to a new place. We know of many cases in which gardeners have had all expenses paid at once. In other cases they received nothing, chiefly because they were too proud to mention it. In a few cases such expenses were refused when asked. There is, therefore, so far as we know, no general rule on the subject that would at all take the place of anything like a legal enactment. Still in most respectable places the practice is to pay the new gardener his travelling expenses, even without any previous understanding on the subject; but it is best in every way that all such matters should be settled before moving, as what would be a trifle to a gentleman, would in the case of long distances be often a serious thing to a gardener. To lessen the expense of moving we have known of many cases of great sacrifice in selling furniture, &c. This would open a wide question on which we cannot now enter, as to the propriety of gardeners' houses being furnished, and a per-centage charged for the use of all that was bulky. If no arrangement as to money has been made, and your new gardener is likely to suit, we would advise paying the moderate expenses of moving, as that encouragement in the case of a good man will certainly be more than repaid in that attention which nothing stirs up so thoroughly as a sense of kindness and a feeling of gratitude.

SCALE ON MYRTLE (*Idem*).—With regard to your fine Myrtle which has so much brown scale on it, you cannot do better than wash off the scale with weak soap water. The best and simplest cure we ever tried is to make some size or jelly glue water just as strong as, when you put your finger and thumb in it, and squeeze them together, you will find a little stickiness between them. Dip the head of the plant in such water, or syringe it well all over, and place it from twenty-four to forty-eight hours in a shady place, then rub the dry head of the plant through your fingers, and much of the glue, and insects, too, will fall off; then syringe heavily, with the plant laid down and turned over and over, with clear water at 120°. If there be only a few scale insects, it will be best to wash them off with weak soap water, and then syringe with clear water. If there are only a few, you may also try the phytosmegma advertised in our columns. It is just the thing for a lady to use—no filth, merely to blow through a little tube.

PLANTING FOR A FRUIT BORDER (*Idem*).—Whatever you fill your narrow border with will injure your fruit trees more or less. The Pyrethrum is best obtained from seed every year. We could easily satisfy you with bedding plants, and bulbs would be splendid in spring and early in summer. A row of Clarkia pulchella would give you rose purple, and Erysimum Peroffskianum behind it would give a row of orange, and, if you cut off the seed-pods, would last the season.

PAVING TILES IN ORCHARD HOUSE (*G. C.*).—The coolness of the tiles in the ground vinery must be owing, when the sun is shining, to the shade of the foliage or the amount of air. With your opening for air at each end at the top in such a season as this, we would have greatly reduced, except at midday, the 4-inch openings between the bricks on which the vinery rests. Everything is late this season, and to ripen fruit at all early and well we would shut in more sun heat by lessening the amount of air at bottom. We would also sprinkle the tiles with sulphur, or rather brush them over with a paint of water, soft soap, and sulphur. Even the top air we would much reduce from 3 P.M. to 9 A.M.

LIFTED VINE (*D. M.*).—We think the Vine has recovered from the lifting, as the growth is better. Well ripen the wood this year, and we think you will have fruit in the next. When Vines are twenty years old it is much better to plant young ones than to lift and replant. Young Vines will bear well the second year, and are far superior to old Vines lifted.

STOVE AND PATENT FUEL (——).—No flueless stove is fit for heating a conservatory. The fumes from the fuel always injure the plants.

PROPAGATING BEDDING PLANTS—TRANSPLANTING APPLE TREES (*J. W. L.*).—After the middle of September it is well to put Geranium cuttings in boxes or pots, and place them in a frame, pit, or house. Verbenas and plants of a similar nature strike in a sweet mild hotbed of from 70° to 75°. The Apple trees you ought not to remove until fully half the leaves have fallen, and in lifting preserve all the roots practicable. The Geranium leaf enclosed to us belongs, we think, to Culford Beauty, but we cannot name plants, and especially florists' flowers, from leaves.

PROPAGATING POINSETTIA AND CLEMATIS JACKMANNI (*Clematis*).—It is now high time to return the Poinsettia under glass, giving it a light airy position in a cool stove. The Clematis may be propagated by cutting off the ripened side shoots, putting them into sandy soil, and covering them with a hand-glass. A safer plan is now to layer the firm side shoots in pots sunk in the ground, making a cut at a joint as for Carnations, layering that part in the pot, and securing the shoot with a peg. The layers will be well rooted in twelve months.

ACHIMENES AND GLOXINIAS FAILING (*Disappointment*).—From the head of Achimenes sent, which is very fragmentary, we fail to recognise any recent attack of insect pests, and can only conclude that the plants are grown in too cold and too dry a structure, and have had too much or too little water, improper soil, and inefficient drainage. Which of these causes is the right one we cannot say, as you give us no particulars of your treatment.

LAWN SAND (*Mrs. A. S.*).—The lawn sand does certainly destroy weeds on lawns, especially Plantain, but our experience with it is limited.

VARIOUS (*Mrs. C.*).—An old but fine Peach is Violette Hâtive (English Galande), of hardy constitution, succeeding where most others do not. Red Rover is a good Rose, fiery red, and succeeds well against a wall, and so does Glory of Waltham, a crimson; both are Hybrid Perpetuals. Either would contrast well with the Tea varieties. Remove all the canes of the Raspberries of last year's growth, whether they have borne fruit this year or not, retaining only those of the current year, and of these select about six of the strongest on each stool, and cut all others away close to the ground, or, if further from the stool than a foot, pull them up. Remove about a foot of the points of the canes left, and secure them to stakes after the leaves have fallen.

TOPPING POTATOES (*H. C.*).—The chief objection to topping Potato haulms is that it tends to check the growth of the tubers, and if the Potatoes are about half-grown it is apt to cause second growth, and so bring on superfuberation. The chief causes of large haulm are too fresh manure and close planting. See Mr. Fish's remarks in "Doings of the Last Week" this day.

PLACING A VINE OUT OF DOORS (*Subscriber, Dublin*).—The wood being brown and hard, it will not injure the Vine in the least to place it out of doors. Put it in front of a wall or fence with a southern or warm exposure. It will be necessary to plant before winter, to place it in a house, or to protect the roots from frost. Cobæa scandens does not require any particular treatment in winter. Keep it rather dry at the root, but not so much so as to cause the wood to shrivel or the leaves to turn yellow prematurely. It will flower next year. Gloire de Dijon is a good climbing Rose for an arch if the situation is not very much exposed.

SELECT FRUIT TREES (*F. M.*).—At the distance you name you may have pyramidal trees on their own or the free stock, the Pear on the Pear, &c. *Apples:* Lord Suffield, Cox's Pomona, Dumelow's Seedling, Bedfordshire Foundling, Gooseberry, Cox's Orange Pippin, Melon, Pitmaston Nonpareil, and Blenheim Pippin. *Pears:* Beurré d'Amanlis, Louise Bonne of Jersey, Williams's Bon Chrêtien, Beurré Hardy, Beurré Diel, Marie Louise, Jean de Witte, Bergamotte Esperen, and Ne Plus Meuris. If you want an early kind, have Doyenné d'Eté, or if one for stewing, Catillac. *Plums:* Early Orleans, July Green Gage, Golden Gage, Victoria, Prince Englebert, Belgian Purple, Kirke's, Coe's Golden Drop, and Jefferson. *Cherry:* May Duke; and *Nut:* Cosford.

SEASIDE PLANTING (*W. H. S.*).—With one failure before you it is well not to be too speculative, but the following trees and shrubs are known to stand well—viz., Tamarisk, Euonymus japonicus, Hollies, double-flowering Furze, Evergreen Oak, Ligustrum ovalifolium, Sambucus racemosa (scarlet-berried Elder), Laurustinus; and for giving shelter plant thickly of the common Elder, than which nothing does better, and Ontario Poplar, and with shelter of this kind you may have Pinus austriaca, Laricio, and sylvestris; Picea nobilis, Pinsapo, Nordmanniana, grandis, Fraseri; Cupressus Lawsoni, macrocarpa; Junipers, Arbutus, Daphnes, Cotoneasters, and Berberis; Thuja Lobbii, Wellingtonia gigantea, Thujopsis borealis, Sycamores, Acacias, Elms, Beech, Portugal Laurel, and Yew.

REMOVING ROSE AND FRUIT TREES (*St. Edmund*).—The end of September is much too soon to remove Rose trees, Apricots, Peaches, &c. We should defer lifting until the end of October or beginning of November, allowing the leaves on the fruit trees to partially fall before the removal. In lifting, be careful to take up the trees with good roots, preserving all the fibres and soil firmly adhering to them, but remove that which is loose, and keep the roots from the influence of a drying air by covering with mats. Give a gentle watering after planting, but not if the soil be very wet, and mulch with litter round the stems as far as the roots extend. You may gather Tomatoes that have attained their full size, and they will ripen in-doors perfectly.

CATERPILLAR ON GRAPES (*S. S.*).—The only caterpillar in your enclosure was smashed. It is, in all probability, that of Opadia funebrana, which, though most partial to Plums, does attack other fleshy fruits in the autumn months. We fear no remedy can be suggested, other than the removal of all infected bunches. The species does not feed at all upon the leaves of the Vine.

ANTS ATTACKING PEACHES AND NECTARINES (*J. B.*).—The best way to destroy them is to search out their haunts and pour into them ammoniacal liquor from the gasworks; or guano will drive them away, if it do not destroy them. This persisted in throughout the summer will thin their numbers, and, when the fruit begins to ripen, with a brush draw a line about an inch broad along the bottom of the wall and the stem of the trees, employing gas tar, over which they will not pass, and repeat this once a-week as long as the fruit season lasts. We have known them come over the wall and up the ends, therefore make the line complete at the bottom, top, and ends of the wall. Have you tried equal proportions of arsenic and honey mixed and laid on saucers, with an inverted saucer over, and two or three thin pieces of wood between, so as to permit the ants to enter?

NAME OF PLANT (*P., Norfolk*).—Pavia macrostachya.

POULTRY, BEE, AND PIGEON CHRONICLE.

WORKING CLASS POULTRY PRIZES.

RESPONSIBLE as I fear I am for leading very many people into poultry-keeping, it will easily be believed I feel great interest in this subject as stated by your kindly correspondents. I am quite sure money would not be wanting, and I venture to suggest that if our trusted "WILTSHIRE RECTOR" can find time to "lick" the thing into shape, and will issue the needful appeal, we shall all confide in him, and there must be dozens of true fanciers who would gladly give their guinea to help so

good an object. I should be pleased, for one, to do so; and who but our good chaplain should start such a Christian—for it would or ought to be a Christian—undertaking?

Perhaps I may have a word or two further by-and-by; I only say now, the prizes should be worth winning. I have been disgusted sometimes—nay, often—in reading schedules of so-called "Cottagers' Horticultural Shows" at the amounts offered. Lady Bountiful "presents" a "special prize" of 5*s.*, or at the outside 7*s.* 6*d.*, and so on. I often wonder people are not ashamed to contend for their guineas in plate, and then offer to "poor" people the few shillings which are the rule, and at the same time expect them to be thankful to any amount for their very small mercies. And, as there ought to be an entrance-fee, I would suggest that it should not, if possible, exceed 1*s.* There are many difficulties that will easily suggest themselves to all acquainted with the subject, but I think they might be overcome, and trust they may be, if the matter be followed up.—L. Wright.

MANCHESTER AND LIVERPOOL POULTRY SHOW.

It was pleasing to find that this year not only did the entries in the poultry department far exceed those of former years, but that the general quality of the specimens exhibited had proportionably improved. The weather on the opening day was exceedingly fine, and the attendance far exceeded that at most previous meetings. All the arrangements for the poultry were excellent, though there was not sufficient help to pen the birds on their arrival so expeditiously as was desirable.

Grey *Dorkings* were good, but not unexceptionably so, many of the pens being evidently injured materially by overforcing, a failing that, like all excessive repletion, brings with it leg-disease in poultry. The class for Silver-Grey Dorkings was quite a failure. Heavy trimming in the *Spanish* class was noticeable to a great extent, and good pens were passed by the Judges entirely on this account. The *Cochins* were by far the best classes seen as yet this year, Mr. Taylor's Buffs and Mr. Sidgwick's Partridge being most praiseworthy, and shown in absolutely faultless condition. The Dark *Brahmas* were far superior to the Light-feathered, and, in fact, the Judges seemed to be perplexed to find any pen that was a worthy recipient of the third prize for the latter variety. Although the *Game* classes abounded with good birds, the bulk were either suffering from too recent dubbing of the cocks, or, on the other hand, were by far too young and undeveloped for competition. *Hamburghs* generally were the best-filled classes in the Show, the Blacks, the Golden-spangled, and the Pencilled of both varieties being such as have made the Lancashire breeders so celebrated for their specimens of these local favourites. *Polands*, which at most shows are but badly represented, were here not only shown in abundance but of an excellence for which we were quite unprepared. The uniform high perfection of the crests of the pullets must be especially referred to. *Crève-Cœurs* were abundant in the Variety class, as were Malays far beyond mediocrity, and also some first-rate White Dorkings. *Bantams* were hardly sufficiently matured to be seen to advantage, dubbing combined with heavy moulting having told considerably against them.

Of both the Rouen and Aylesbury *Ducks* it is difficult to speak too highly—in fact, both varieties have rarely been better shown. *Geese* were very superior in both classes, but the *Turkeys* were scarcely so good as those shown at some of the previous exhibitions this year.

We understand that the erection of all the pens, and their protection from sudden storms by means of awnings over the pens, but still leaving sufficient room for the comfort of the visitors, were carried out under the direction of the Messrs. Jennison, of Belle Vue, Manchester, and we cannot but suggest that many of the Lancashire and Yorkshire committees might enhance greatly the successes of their shows by becoming close copyists. The feeding and watering of the birds were in all cases very carefully carried out; and although so many other objects of interest were presented on all sides, we think no portion of the Show was more generally inspected by the public than the poultry department. We published last week a list of the awards, as well as the names of the Judges.

THE BIRMINGHAM POULTRY SHOW.

The prize lists for the next of the great annual exhibitions at Bingley Hall—the twenty-third of the series—which commences on the 25th of November, are in circulation, and will, we have no doubt, be regarded with satisfaction by every well-wisher of this important undertaking. They are more comprehensive than any which have been previously issued, the Council having evidently spared no pains to render them as useful and generally acceptable as possible.

The principal points to be mentioned are that ten-guinea silver cups, or other articles of plate, are offered for the best Dorking cock, for the best Cochin-China cock, and for the best Brahma cock; and for the best Black or Brown-breasted Game cock; £5 silver cups for the best Spanish cock, for the best Pencilled Hamburgh cock, for the best Spangled Hamburgh cock, for the best Black or Spangled Polish cock, and for the best Game cock among the Duckwinged, Black, and Brassy-winged, or White and Pile. It is expressly stated that where a bird takes one of these pieces of plate the money prize specified as the first for that particular class will be withheld. An extra prize of £5 is offered by Mr. H. Lloyd, jun., for the best Buff Cochin cock of the present year, bred by the exhibitor, who must reside within twenty miles of Birmingham. The winner of the cup for the best Black or Brown-breasted Game cock will receive an extra prize of £3 3*s.* from Messrs. M. Billing, Son, and Co., and the winner of the other cup for Game cocks a silver medal, value £3 3*s.*, from Mr. Ottley. Mr. J. Watts will give, in addition to any other prize, £3 3*s.* for the best pair of Hamburgh hens or pullets, and a few amateurs an extra prize of £4 4*s.* for the best pen of Black East Indian Ducks. The number of class prizes has been slightly curtailed by the omission of the following:—The fourth for Partridge Cochin cockerels, the fourth for Silver-pencilled Hamburgh cocks, the fifth and sixth for Golden-spangled Hamburgh cocks, the fifth and sixth for Silver-spangled Hamburgh cocks, the fifth for hens or pullets of the same variety, the sixth for Black-breasted Red Game cockerels, the sixth for hens or pullets of the same variety, the sixth for Brown and other Red cockerels, and the fifth for Duckwing or other Grey and Blue cockerels.

The schedule for Pigeons has been enlarged and improved by the opening of classes for young Carriers of the present year—"Black" and "Any other colour;" for Barbs bred in 1871; and for Silver Dragoons; a third prize of 10*s.* being allotted to the Fantails, of which there is generally a large muster. Over and above the class distinctions a few members of the Birmingham Philoperisteron Society offer three silver cups, value £3 3*s.* each, for the best pair of Carriers, the best pair of Fantails, and for the best pair of Dragoons. The Birmingham Columbarian Society give a silver cup, value £3 3*s.*, as an extra prize for the best pair of Antwerps, and one of the same amount for the best pair of any new or distinct variety not enumerated in the list. An extra prize of £3 3*s.* is offered by Mr. J. H. Dawes for the best Pouter cock; a silver medal, value £3 3*s.*, by Mr. Ottley, for the best Pouter hen; and a silver cup, value £3 3*s.*, by Mr. R. Fulton, for the best pair of Barbs hatched during the present year.

The entries in all departments will close on Saturday, October 28th, and intending competitors should make application to Mr. Lythall, the Secretary, for copies of the lists and regulations.

CRYSTAL PALACE POULTRY AND PIGEON SHOW.

We have received a copy of the schedule of the above Show, which is to be held on November 14th, 15th, 16th, and 17th, in the nave of the Palace, a place unsurpassed for an exhibition of this kind. Last year the Pigeons only were placed there, and the lights and surroundings added so much to the success of the Show, that the poultry are this year also to be exhibited in the nave.

Seldom have we seen better classified or more valuable prizes offered. There are thirty-five silver cups and extra prizes for poultry, and twenty-four for Pigeons, and money prizes amounting to nearly £1000. We little expected three years ago, when we first drew attention to the want of a Poultry and Pigeon Show in London, that one would in so short a time have achieved the success and taken the position amongst our annual shows that the Crystal Palace Show has done. This is due in a great measure to the energies of the Committee, the confidence placed in them by exhibitors and friends, and to the fact that London is in most cases in direct communication by rail with nearly every town in Great Britain.

There are separate classes for old and young birds in most of the varieties; the cocks shown singly, and pairs of hens or pullets. This is a great improvement, for last year in many classes old and young competed together. The poultry have three prizes of £3, £1 10*s.*, and 10*s.* The Pigeon prizes have been increased to £2, £1, and 10*s.* The Dorkings are divided into eight classes, with four cups distributed amongst them. The cocks have a separate class, and a cup to compete for. Cochins have ten classes and eight cups. The Whites have out of this number three. Dark Brahmas come next with four classes, Light the same number. There are six cups between them. Spanish have three cups and four classes. French are divided into four classes and two cups. Hamburghs are to be shown cock and hen together. Game have eight classes, the Duckwings competing by themselves. There are three cups and an extra prize distributed amongst the Game. Polish are divided into three classes, and a cup for the best pen. There is a separate class for Malays, and a cup for Any variety, and three money prizes in addition. Black or Brown Game Bantams have a class for old birds, cock and hen; all the young ones are to be shown as single cockerels and pairs of hens or pullets. And here we find a novelty—a cup is to be given for the best pair of Wheaten hens. All Game Bantam breeders know how necessary it is to obtain these birds if they wish to get some good chickens. Prizes are never offered to them, still a great many are distributed in different parts of the country, and, no doubt, we shall find a good entry of this very useful variety. There are three Selling classes with eight money prizes in each class. Last year nearly the whole of the birds entered in these classes changed owners.

The Pigeon schedule is, perhaps, the most comprehensive ever issued, including as it does nearly every variety. Pouters come first

and are divided into sixteen classes, including three for birds bred in 1871, and there are five cups for competition amongst them. Carriers have no less than nine classes. We notice a cup is offered for the best Blue or Silver bred this year. As this is an entirely new class, it will cause some interest amongst Carrier fanciers. Tumblers and Barbs have separate classes for old and young. There are also classes for Cumulets, Doves, and Pigmy or Austrian Pouters.

The entries close October 16th. All the birds are to be at the Palace on Monday, November 13th. The judging takes place on the 14th, and the Show opens on the same day. The winning pens are to be sold by auction at noon on the 15th, the Show closing at 4 P.M. on Friday, the 17th, when the birds will be packed and despatched as quickly as possible.

CHELTENHAM POULTRY SHOW.

This was held from the 29th to the 31st of August, and as regards the number of entries was a great success, upwards of 600 pens of poultry and Pigeons, many of them of great excellence, having been sent by leading exhibitors. Notwithstanding the number of visitors reached nearly 3000, we are sorry to learn that the affair has not proved a financial success, though the Secretary was untiring in his exertions to promote the interests of the Show.

Cochins.—*Cinnamon and Buff.—Cock.*—1 and 3, W. A. Taylor, Manchester 2, Mrs. Allsopp, Worcester. *hc*, R. Fulton, Deptford; D. W. J Thomas, Brecon. *Hens* —Cup and 3, W. A. Taylor. 2, J. R. Fowler, Aylesbury. *hc*, G. Heath Nailsworth; J Siehel Timperley. *c*, J. Bloodworth, Cheltenham. *Brown and Partridge-coloured.—Cock.*—Cup and 3, W. A. Taylor. 2, J. Stephens, Walsall. *Hens.*—1, W. A. Taylor. 2, Lady Gwydyr, Ipswich 3, E. Tudman, Whitchurch. *White.—Cock* —1, J Sichel. 2, Miss Brisbane, Cheltenham. 3, A. J. E. Swindell, Stourbridge. *Hens.*—1, J. Sichel.

Dorkings.—*Coloured.*—Cup and 1, J. Martin, Worcester. 2, J. Watts, King's Heath. *Silver-Grey.*—1, O. E. Cresswell, Hanworth.

Brahmas.—*Dark.—Cock*—1, T. F. Ansdell, Conway. 2 and *hc*, E. Barton, Truro. 3, J. K. Fowler. *Hens.*—1, J. Sichel. 2, T. F. Ansdell. 3, J. K. Fowler. *Light.—Cock.*—1 and *hc*, J. Bloodworth. 2, W. T. Storer, Brewood. 3, H. M. Maynard, Ryde. *Hens.*—1, H. Dowsett, Pleshey. 2, H. M. Maynard. 3, Rev. N. J. Ridley, Newbury.

Spanish —*Cock.*—Cup, 1, and 2, E. Jones, Clifton. 3, Mrs. Allsopp. *hc*, H. Beldon, Bingley. *Hens.*—Cup, 1, and 2, E. Jones. 3, H. Beldon.

Game.—*Black-breasted Reds.—Cock.*—Cup, C. Challoner, Whitwell. 2, R. Hall, Cambridge. 3, J. Fletcher, Stoneclough. *hc*, S. Matthew, Stowmarket. *Hen* —Cup and 1, S Matthew. 2 J. Fletcher. 3, W. H. Stagg, Manningford.

Game.—*Brown-breasted Reds.—Cock.*—1, W. Boyes, Beverley. 2, E. C. Pope, Falmouth. *Hen.*—1, C. Chaloner. 2, J. Carlisle, Earby, Skipton. 3, W. Boyes. *hc*, C. W. M. Laxton, Nantwich.

Game.—*Duckwing and other Greys and Blues.—Cock.*—1, S. Matthew. 2, C. Challoner. 3, E. B Pope, Falmouth. *hc*, S. Deacon, jun., Oundle. *Hen.*—1, S. Matthew. 2, W. Boyes. 3, C. Challoner.

Hoddans.—1, R. B. Wood, Uttoxeter. 2, Hills & Co., Brighton. 3, J. Drake, Ongar.

Creve-Cœurs.—1 and Cup, R. B. Wood. 2, J. Sichel. 3, J. K. Fowler. *hc*, Rev. N. J Ridley; J. J. Malden, Biggleswade.

Hamburghs.—*Golden-spangled.*—*Cock* —Cup and 2, J. Rollison, Ottley. 3, Mrs. J. Pattison, Dorchester. *hc*, W. H. Tomlinson, Newark-on-Trent; C. Parsons, Wolverhampton; G. F. Whitehouse, King's Heath; H. Beldon; H. Pickles, jun., Skipton. *Hens.*—1, J. Rollinson. 2, H. Beldon. 3, W. A. Hyde, Ashton-under-Lyne. *hc*, Miss C. E. Palmer, Odiham.

Hamburghs.—*Silver-spangled.—Cock.*—1, H. Beldon. 2, C. Parsons. 3, H. Pickles, jun. *Hens.*—Cup, H. Pickles, jun. 2, H. Beldon. 3, G. Brawn, Sandhills, Walsall. *hc*, Mrs. J. Pattison.

Hamburghs.—*Gold-pencilled—Cock.*—1, J. Rollinson. 2, H. Beldon. 3, C. Bloodworth. *hc*, S. Richards, Truro; S. Smith, Halifax. *Hens.*—1, C. Bloodworth. 2, H. Pickles, jun. 3, F. Perrin, Bristol. *hc*, C. Bloodworth; H. Moore, Weston-super-Mare; F. Perrin.

Hamburghs —*Silver pencilled—Cock.*—1, H. Beldon. 2, H. Pickles. 3, W. Mann, Kendal. *Hens*—1, H. Beldon. 2, W. Mann. 3, H. Pickles, jun.

Hamburghs.—*Black.—Cock.*—1, C. Sidgwick, Keighley. 2, H. Beldon. 3, C. Maggs, Melksham. *Hens.*—1, T. Walker, Denton. 2, C. Sidgwick. 3, C. Maggs.

Polish.—*Golden-spangled.—Cock.*—Cup, W. Harvey, Sheffield. 2 and 3, H. Beldon. *Hens.*—1 and Cup, H. Beldon. 2, W. Harvey.

Polish.—*Silver-spangled.—Cock* —1, H. Beldon. 2, H. Pickles, jun. 3, C. Bloodworth. *Hens.*—1, H. Beldon. 2, H. Pickles, jun. 3, J. Hinton, Warminster.

Polish —*Black with White Crest.—Cock.*—1, T. Dean, Keighley. *Hens.*—1, T. Dean.

Any other Variety.—*Cock*—1, J. Hinton (Malay). 2, Rev. N. J. Ridley (La Flèche). 3, F Wilton, Gloucester (Black Cochin). *hc*, S. Richards (Minorca); Mrs E. E. Llewelyn Bridgend (Sultan). *c*, Rev. A. G. Brooke (Malay). *Hens.*—1, F. Wilton (Black Cochin). 2, J. Sichel. 3, O. E. Cresswell (White Dorking).

Game Bantams.—*Black-breasted Reds.*—1 and Cup, J. Smith, Southwell. 2, J. R. Robinson, Sunderland. 3, T. W. Anns, Clapham. *hc*, Miss A. Reeve, Gotherington; Rev. F. Cooper, Cirencester; Williams & Straw, Southwell. *Brown-breasted Reds.*—1, J. Mayo, Gloucester. 2, W. Dahell, Southwell. 3, S. Stephens, jun., Ebley. *Any other Variety.*—1, Rev. F. Cooper (Duckwing). 3, Col Tickell, Cheltenham (Pile).

Bantams.—*White, Clean-legged*—1, H. Beldon. 2, S. & R. Ashton, Mottram. 3, Lady C. Morston, Falfield *Black, Clean-legged*—1, G. W Robinson, Halifax. 2, S. & R. Ashton. 3, J. Watts (Rose-combed). *Gold and Silver Sebrights.*—1, 2, and 3, M. Leno, Dunstable (Laced Bantams). *hc*, J. Watts (Silver).

Selling Class.—*Cock.*—1 and Cup, H. Beldon. 2, H. Dowsett (Dark Brahma) *hc*, H. Yardley, Birmingham; H. Lloyd, jun., Birmingham; J. Smith, Petworth (Coloured Dorking); Hon. Mrs. A. E. Hamilton, Woburn (Brahms); Mrs. C. P. Noel, Stourbridge (Black Spanish); S. Deacon, jun., Oundle; J. Watts. *Hens.*—Cup, H. Yardley. 2, J. N. Whitehead, Torquay (White Cochins). 3, W. P. Ryland, Erdington. *hc*, T. F. Ansdell; L. Callcott, Oundle (Silver-Grey Dorkings); J. Sichel; G. Tonkin, Bristol.

Ducks.—*White Aylesbury*—1 and 2, J. K. Fowler. Extra 2, G. Hanks, Malmesbury. *hc*, L. H. Ricketts, Banwell. *Rouen.*—1 and *hc*, J. K Fowler. 2 and 3, W. Stephens, Gloucester. *Black East Indian.*—1 and 3, G. S. Sainsbury, Devizes. 2, S. Burn, Whitby. *Selling Class.*—1, G. Hanks (White Aylesbury). 2, W. Stephens (Rouen). 3, Miss E Goodliff, Stilton (White Call). *hc*, R. H. Bush; W. R. Pratt, Oxford (Domesticated Wild).

CHICKENS.

Cochins.—*Cinnamon and Buff.*—1 and Cup, Lady Gwydyr. 2, W. A. Taylor. 3, C. Sidgwick. *hc*, C. Bloodworth; W. P. Ryland, Erdington; W. A. Taylor *Brown and Partridge-coloured*—1, C. Sidgwick 2, H. Lingwood, Needham Market 3, W. A. Taylor. *hc*, A. C. Travers, Falmouth *White*—1, A. D. Cochrane, Stourbridge. 2, R. Woodgate, Tunbridge Wells. 3, J. N Whitehead. *hc*, G. Shrimpton, Leighton Buzzard (2); J. N. Whitehead; J. Bloodworth (2); A. D. Cochrane; A. J. G. Swindell.

Brahmas.—*Dark.*—Cup, T. F. Ansdell. 2, Lady Gwydyr. 3, W. A. Taylor. *hc*, Hon. Mrs. A. B. Hamilton; D. Lane, Gloucester; F. Esser (2); J. D. Peake Chertsey; W. Birch, Barnwell; F. Sabin, Birmingham; B. F. Parrott, Henbury H. Lingwood; J. Watts. *Light.*—1, Rev. J. D. Hoystead, Chippenham. 2, J. Beeton, Erdington. 3, J. Pares, Guildford. *hc*, J. Bloodworth; T. A. Dean, Moreton-on-Lugg.

Dorkings (Coloured).—1, J. Martin. 2, J. Smith, Petworth. 3, H. Yardley.

Spanish.—1, Mrs. Allsopp. 2, J. Walker, Standiford. 3, R. Barrett, Stroud. *hc*, H. Brown, Putney Heath; A. Mollons, Standiford.

Game.—*Black-breasted Reds.—Cup*, C. Chaloner. 2, S. Matthew. 3, A. B. Dyas, Madeley. *hc*, —Jeken, Eltham. *Brown-breasted Reds.*—1, C. W. M. Laxton. 2, J. Fletcher. 3, A. B. Dyas. *Duckwings and other Greys and Blues.*—1, Barker & Charnock, Halifax. 2, C. Challoner. 3, W. H. L. Clare, Atherstone.

PIGEONS.

Carriers.—*Black.—Cocks.*—1, 2, and 3, R. Fulton, Deptford. *hc*, H. Yardley; E. Burton, Truro. *Hens.*—1, 2, and 3, R. Fulton. *Dun.*—1 and 3, R. Fulton. 2, H. Yardley.

Pouters.—*Cock.*—1 and 2, R. Fulton. 3, E. T. Dew, Weeton-super-Mare. *Hens.*—1 and 2, R. Fulton. 3, E. T. Dew.

Tumblers.—*Almond.*—1 and 2, R. Fulton. 3 and *hc*, J. Ford, London. *Any other Variety.*—1 and 2, R. Fulton. 3, J. Ford.

Jacobins.—1, W. H. Tomlinson, Newark-on-Trent. 2, F. Waitt. 3, R. Fulton.

Barbs.—1, 2, and 3, R. Fulton. *hc*, E. Burton.

Fantails.—1, H. Yardley. 2, A. M. Yetts, Reading. 3, R. Fulton. *hc*, H. Yardley; R Fulton; J. Loveridge, Newark.

Trumpeters.—1, R. Fulton. 2, H. Yardley.

Owls (English).—1, H. Yardley. 2, J. Watts. 3, T. King, Colchester.

Nuns.—1, E. T. Dew. 2, H. Yardley. 3, J. Watts.

Turbits.—1, E. T. Dew. 2 and *hc*, H. Yardley. 3, Mrs. E. Gregory, Taunton.

Dragoons.—1 and 3, R. Fulton. 2, H. Yardley.

Runts.—1, H. Yardley. 2, J. Watts. 3, H. B. Bourne. *c*, Miss M. Taylor, Brighton.

Antwerps.—1 and 2, H. Yardley. 3, H. P. Ryland, Birmingham. *hc*, W. H. Mitchell, Moseley.

Any other Variety.—1 and 2, R. Fulton. 3, J. Watts.

Selling Class.—1, G. Roper, Croydon (Jacobins). 2, E. Barton (Black Carrier). 3, R. Barrett, Stroud (Pouters). *hc*, Mrs. E. Gregory (Hyacinths); J. Watts *c*, R. Fulton; A. P. Maurice, Basingstoke (White Trumpeters).

Silver Cup for points in all classes of Pigeons, R. Fulton.

Mr. Teebay judged the poultry, and Dr. Cottle and Mr. Esquilant the Pigeons.

LEIGH POULTRY SHOW.

The eleventh annual Show was held on August 31st, when there were upwards of 140 entries of poultry and Pigeons. The awards were as follow:—

Game.—*Black-breasted Red.*—1, R. Southern, Westleigh. *Brown Red.*—1, C. W. Brierley, Middleton. 2, R. Southern. *Any other Variety.*—1, C. W. Brierley. *Cock.*—1, C. W. Brierley. 2, A. Haslem, Hindley (Brown Red). *Hen.*—1, C. W. Brierley. 2, A. Haslem (Brown Red). *Cockerel.*—1, A. Haslem (Brown Red). 2, A. Smith (Duckwinged). *Pullet.*—1, C. W. Brierley. 2, J. Horn, Middleton (Brown Red).

Spanish.—Cup, 1, and 2, C. W. Brierley. *hc*, N. Cook, Chowbent.

Cochin-China.—*Buff.*—1, N. Cook. 2, J. Watts, King's Heath, Birmingham.

Brahma Pootras.—1, N. Cook. 2, J. Watts.

Hamburghs.—*Golden-pencilled.*—1, T. Wrigley, jun., Tonge. 2, H. Pickles, jun., Earby. *Silver-pencilled.*—1, J. Platt, Deane. 2 and *hc*, H. Pickles, jun. *Golden-spangled.*—1, H. Pickles, jun. *Silver-spangled.*—1 and 2, H. Pickles, jun. *Black*—1, J. Chadwick.

Polands.—*Any Variety.*—1, P. Unsworth, Lowton. 2, W. Gamon, Chester. *hc*, H. Pickles, jun.; T. Waddington, Feniscowles; P. Unsworth.

French Fowls.—1, T. Waddington. 2, W. Fearnley.

Bantams.—*Game.*—1, Bellingham & Gill, Woodfield, Burnley. 2, J. W. Morris, Rochdale. *Any other Variety.*—1, J. Watts. 2, N. Cook. *hc*, J. & R. Ashton, Mottram. *Cock or Cockerel.*—1, G. Anderton, Accrington. 2, P. West, Abram. *hc*, A. Smith, Westleigh.

Any other Distinct or Cross-bred.—1, G. Anderton, Accrington (White Sultans). 2, J. Partington, Leigh (Andalusians).

Docks.—*Aylesbury.*—1, E. Leech, Rochdale. 2, J. T. Billinge, Pemberton, Wigan. *Rouen.*—1, R. Gladstone, jun., Court Hey, Liverpool. 2, T. Wakefield, Golborne, Newton-le-Willows. *hc*, R. Gladstone, jun.; J. Scotson, Little Byrom, Lowton (2); T. Burns, Abram; T. Wakefield. *c*, T. Burns. *Any other Variety.*—1, C. W. Brierley. 2, R. Gladstone. *hc*, R. & W. Barton, Westleigh; S. & R. Ashton.

Geese.—1 and 2, R. Gladstone. *hc*, E. Leech; E. Kenyon, Leigh; R. & W. Barton.

Turkeys.—*Any Colour.*—1, E. Leech. 2, J. Boardman, Leigh.

Selling Class.—1 N. Cook, Chowbent. 2, T. Wakefield. 3, J. T. Billings. *hc*, J. Horn, Middleton; P. West, Abram.

PIGEONS.

Tumblers.—*Any Colour.*—1, H. Yardley, Birmingham. 2, T. Waddington.

Carriers.—1, T. Waddington. 2, W. Markland. *hc*, H. Yardley.

Pouters.—1, T. Waddington. 2, H. Yardley.

Owls, English.—*Any Variety.*—1, W. Markland. 2, A. Jackson, Chequerbent, Bolton. *hc*, J. Watts; J. Chadwick, Bolton.

Dragoons.—*Any Colour.*—1 and 2, J. Holland, Manchester.

Trumpeters.—1, W. Gamon. 2, O. Percival, Manchester.

Fantails.—1, H. Yardley. 2, J. Chadwick (Blue).

Any other Variety.—1 and 2, T. Waddington.

Selling Class.—2, J. Nuttall, Bolton.

Judges.—*Poultry:* Mr. R. Teebay, Fulwood, Preston. *Pigeons:* Mr. Ridpeth, Handforth Hall, Wilmslow.

NORTHAMPTON POULTRY, PIGEON, AND RABBIT SHOW.

The first of a proposed series of annual shows was held on the 5th and 6th inst. in the Melbourne Gardens, Northampton. There were 190 entries of poultry and 53 of Rabbits. The following is the prize list:—

Dorkings.—1, R. Wood. 2, J. Watts.

Cochin-China.—1, H. Yardley. 2, H. F. Cooper.

Brahma Pootra.—1, Lieut.-Col. J. Lickell. 2, J. Watts. 3, W. Stevens. *hc*, Rev. N. J. Ridley. *c*, H. Yardley; Dr. Holmes.

Spanish.—1, Burch & Boulter. 2, M. Brown. 3, A. Thorneycroft. *hc*, J. H. Sharpe; H. F. Cooper.

Game.—1, B. Cox. 2, H. Yardley. 3, W. Bishop.

Hamburghs.—1, H. Yardley. 2, R. S. S. Woodgate. 3, W. R. Ticker. *hc*, C. Love; A. Goodrich.

Polands.—1, H. Yardley. 2, Lieut.-Col. D. S. Greene.

Bantams.—*Game*—1, Rev. F. Cooper. 2, M. Leno. 3, Bellingham & Gill. *hc*, C. E. Robinson; T. C. & E. Newbitt. *Any other Variety.*—1 and 3, M. Leno. 2, S. & R. Ashton. *c*, A. Storrar.

Any other Variety.—1, J. J. Malden. 2, R. S. Woodgate. 3, N. J. Ridley. *hc*, J. S. Price. *Chickens.*—1, P. Gurdon. 2, B. Cox. 3, W. Dring. *vhc*, M.

Leno; Hill & Co. *hc*, Mrs. F. Stephens; J. T. Parker; T. Hancock; W. Stevens; L. Watkins. *c*, J. Phillips.

Ducks (Any variety).—1, J. Collier. 2, S. H. Stow. 3, M. Leno. *hc*, C. Richards, jun. *c*, Rev. J. Worthington; R. B. Stafford.

Selling Class.—1, Birch & Boulter. 2, Rev. J. Worthington. 3, W. Nottage. *hc*, J. Collier; R. W. Smith; H. F. Cooper. *c*, H. F. Cooper.

PIGEONS.

Carriers.—*Cock.*—1 and 2, H. Yardley. 3, J. Watts. *hc*, T. Chambers, jun. *Hen.*—1, T. Chambers. 2, H. Yardley.

Pouters.—*Cock.*—1, W. Nottage. 2, H. Yardley. 3 and *hc*, T. Adams. *c*, Spence & Stiles. *Hen.*—1 and 3, H. Yardley. 2, T. Adams. *hc*, Spence and Stiles; T. Adams.

Barbs.—1 and 2, H. Yardley.

Dragoons.—1, G. Sonth. 2, H. Yardley. 3 and *hc*, F. Graham. *c*, Spence and Stiles.

Jacobins —1, C. Martin. 2, G. W. Mullis. 3, G. South.

Fantails.—1, H. Yardley. 2, F. J. Loveridge. 3, A. M. Yetts. *hc*, W. Bearpark. *c*, W. H. Tomlinson.

Turbits.—1, W. Bearpark. 2, G. Sonth. 3, H. Yardley. *hc*, T. Waitt.

Antwerps.—1, H. Yardley. 2, Spence & Stiles. 3, W. Nottage. *c*, J. W. Collinson; T. Chambers, jun.

Tumblers.—1 and 2, J. M. Braid. 3, T. Adams. *hc*, H. Yardley; Spence and Stiles.

Owls.—1 and 2, H. Yardley. 3, J. Watts. *c*, H. A. Saddington.

Any other Variety.—1, J. Watts. 2, H. Yardley. 3, W. Bearpark. *Chickens* (Special Class).—1, H. Nightingale. 2, J. M. Braid. 3, W. Nottage. *hc*, T. W. Swallow; H. Yardley.

Special Selling Class.—1 and 2, W. Nottage. 3, T. Chambers, jun. *hc*, T. Gamon; C. Higgins. *c*, Spence & Stiles; C. Higgins.

THE RABBITS.

This very interesting section of the Show was well represented by fifty-three entries—a result which must have been very encouraging to the Committee, who were indefatigable in their efforts to bestow due attention to all specimens under their care, and the feeding and the size of the pens for the Rabbits could not have been more satisfactory. The pens, we believe, were from Messrs. Turner, of Sheffield.

There were about twenty entries of Lops, including some excellent specimens, and the competition was close, requiring more than a casual glance to determine to which to award the badge of honour; yet we confess the Tortoiseshell buck of Mr. A. H. Easten with ears 21¾ by 4¾ was fully entitled to his creditable position, and the doe of Mr. Tomlinson, with ears 21 inches by 4¾ inches, was a fitting sharer in almost equal honours. A Fawn doe, with ears 21¼ inches by 4⅝, belonging to Mr. H. Cawood, completed the valuable trio. It is rarely, when colour is out of the question, that such a valuable class is brought together, and let us hope next year the Lops will be classified in respect to colour. The next, or Any other variety class, contained nineteen entries, comprising five varieties, from the large Belgian to the tiny Dutch, and there were not many, if one, which would not have carried off the honours in a class of its own. We trust from the present success that these fine varieties at a future exhibition will be found in at least three classes, for by proper classification alone can a just opinion be formed and comparison made. The beautifully silvered doe of Mr. S. G. Hudson was equal to her position, contrasting with the valuable White Angora of Mr. W. Corey, of large size, and with a little attention would present an almost perfect specimen of the Angora. To complete the trio of prize-winners, the excellent Himalayan of Mr. Esam was a true type of this pleasing variety.

The Selling class presented some valuable Rabbits, and the first-prize, a Fawn doe Lop with ears of 20½ inches by 4½, was well shaped and clear in shade, and was worthy of her position. The Dutch Blue buck of Master T. Adams came next in point of merit, and gave a correct idea of what a good specimen of this diminutive variety should be, being so well marked in those points essential to insure a prize. The Fawn Lop buck of Mr. W. Morbey should not be overlooked, as his points of excellence were very evident; and the Tortoiseshell Lop of Mr. C. Gravil and the highly commended and commended pens must not be passed over without a favourable comment.

The general healthiness of the whole specimens was very satisfactory; one or two only seemed to require a little attention from their owners in order to render them perfectly eligible to compete with their neighbours.

Rabbits.—*Lops.*—1, A. H. Easten, Hull. 2, W. H. Tomlinson, Newark-on-Trent. 3, H. Cawood, Thorne. *vhc*, H. Ridley, York. *hc*, Lewin & Robinson, Kettering (2). *c*, H. Tomlinson; J. S. Price, Potters Bar, Herts; J. Boyle, jun., Blackburn; J. H. Sharp, Melton Mowbray. *Any other Variety*—1, S. G. Hudson, Hull. 2, M. W. Corey, Northampton. 3, R. & G. E. Esam, Newark. *vhc*, J. Allen, Amphill. *hc*, A. H. Easten; H. Yardley, Birmingham; Mrs. Morley, Northampton. *c*, J. Boyle, Blackburn; S. G. Hudson; Lewin & Robinson. *Selling Class.*—1, Lewin & Robinson. 2, Master T. Adams, Northampton. 3, W. Morbey, Northampton. *vhc*, C. Gravil, Thorne. *hc*, C. Leat, Tiverton; S. Sabbage, Northampton (2). *c*, A. H. Easten; J. Boyle.

Judges.—*Poultry and Pigeons:* Mr. W. B. Tegetmeier, Finchley, London. *Rabbits:* Mr. C. Rayson, Ivy Lodge, Didsbury.

POCKLINGTON POULTRY SHOW.

This was held on the 7th inst. in an extensive field lent for the purpose by Mr. Thomas Whitehead. The entries for poultry were large, but some of the specimens were unworthy of prizes, and these were consequently withheld. For *Game* Mr. Boyes won most of the prizes, and the Dockwings shown by him were unusually good; in fact such birds are rarely seen. *Spanish* were of moderate quality, but the *Dorkings*, *Cochins*, and Game *Bantams* were very good. For the pens as well as single cocks of the last-named, excellent Black Reds were first. The first-prize Cochin single cock was an extremely good Buff chicken. The only other birds worthy of notice were the Aylesbury *Ducks* and Toulouse *Geese*.

The exhibitors of *Pigeons* had to find their own pens, and the effect was irregular, and we would advise a reform in this respect for another year. In this section Mr. Adams showed in great force, and carried off most of the prizes with birds of faultless quality and in the highest condition. The cage birds were a capital show for the time of year.

Game.—*Black-breasted and other Reds.*—1, W. Boyes. Beverley. *Any other Variety.*—1, W. Boyes. 2, W. G. Purdon, Driffield. *Chickens.*—1, W. White, Great Driffield. 2, O. A. Young, Great Dr ffield.

Spanish.—1 and 2, G. Holmes, Driffield. *Chickens.*—1, G. Holmes. 2, D. Maynard, Driffield.

Dorkings.—1, O. A. Young. 2, D. White. *Chickens.*—1, Miss B. Peirse. 2, D. White.

Cochin-China.—1, R. Dawson, Beverley. 2,—Inge, Barmby Grange *Chickens.*—1, R. Dawson. 2, O. A. Young.

Brahma Pootras.—1, O. A. Young. 2, Miss B. Peirse. *Chickens.*—1, D' Holmes, Chesterfield. 2, Miss B. Peirse. *hc*,—Ellerker, Welton.

Hamburghs.—*Gold or Silver-spangled.*—1, R. P. Moon, Driffield. 2, G. Holmes. *Gold or Silver-pencilled.*—1 and 2, G. Holmes. *Any Variety.*—*Chickens.*—1, G. Holmes. 2, Miss Peirse.

Farmyard Cross.—1, W. H. Young, Driffield. 2, G. Bromby.

Game Bantams.—1, W. Adams, Ipswich. 2, Pickering & Duggleby, Driffield. 3, J. Stavely, Driffield.

Single Cocks.—*Game* (Any variety).—1, G. Holmes. 2, O. A. Young. 3, W. Boyes, Beverley. *Spanish.*—1, G. Holmes. 2,—Steel, Pocklington. *Dorking.*—1, G. Holmes. *Cochin-China.*—1, R. Dawson. 2, Mrs. Smithson. *Hamburgh.*—1 and 2, G. Holmes. *Bantams.*—1, W. Adams. 2, G. Holmes. *hc*, G. Holmes Pickering & Duggleby.

Docks.—*Aylesbury.*—1,—Harrison, Warter. 2, G. Young. *Ducklings*—1, O. A. Young. *Any other Variety.*—1, O. A. Young. 2,—Balderson. *Ducklings.*—1,—Balderson. 2, O. A. Young.

Geese.—1, O. A. Young. 2,—Croft, Pinckham. *Goslings.*—1, O. A. Young. 2,—Croft. *hc*, Mrs. Singleton.

Turkeys.—*Poults.*—1, O. A. Young. 2, Mrs. T. Everingham.

Pigeons.—*Pouters and Croppers.*—1, H. Adams, Beverley. 2, C. Anton, York. *Tumblers.*—1 and 2, H. Adams. *Barbs.*—1, H. Yardley, Birmingham. *Jacobins.*—1, R. Sanders, Beverley. 2, H. Yardley. *Fantails.*—1, C. Anton. 2, Pickering & Duggleby. *Trumpeters.*—1, C. N. Lythe, Cottingham. 2, R. P. Moon. *Owls.*—1, G. Holmes. 2, H. Adams. *Turbits.*—1, C. N. Lythe. 2, C. Anton. *Nuns*—H. Yardley, disqualified. 1, C. N. Lythe. 2, Pickering and Duggleby. *Carriers.*—1, H. Yardley. 2, G. Sadler, Boroughbridge. *Any other Variety.*—1, H. Adams. 2, C. N. Lythe.

CAGE BIRDS.

Canaries.—*Belgian* (Yellow or Buff).—1, J. Calvert, York. 2, W. Forth, Pocklington. *Half-bred Belgian* (Yellow or Buff),—1, J. Hodd. 2, Barwell and Golby, Northampton. *Common* (Yellow or Buff).—1, R. Hutchinson, Pocklington. 2, Barwell & Golby. *Marked* (Any breed).—1, H. Curtis. 2, No award. 3, W. Forth.

Goldfinch Mule.—1, C. Burton, York. 2, E. Hackers, York.

Redcap.—1, H. Curtis. 2, C. Burton.

Linnet.—1, H. Curtis. 2, E. Hackers.

Bullfinch.—1, W. Forth. 2, H. Curtis.

Parrot.—1, W. Wiltshire. 2,— Steel.

Collection.—1, G. Venables, Hull. 2, J. Calvert, York.

Rabbits.—C. Anton. *Buck.*—G. Shut. *Doe.*—1, C. Anton. 2, Master Gruggen'

The Judge was Mr. E. Hutton, Podsey, Leeds.

FAKENHAM POULTRY SHOW.

A Show of poultry, Pigeons, Rabbits, and Song Birds, open in the first season to the county of Norfolk only, was held in the spacious Corn Hall, Fakenham, on Wednesday, the 6th inst., and for a first attempt was most successful. There were nearly three hundred entries, and the Exhibition was numerously attended. The arrangements were excellent.

Adult *Dorkings* were in good condition, a pen of massive birds winning first prize. There was a close competition in the chicken class, both winners being Dark Greys. *Spanish*, with the exception of the first-prize pen, were not first-class. The *Cochins* were good in shape, but wanting in size and marking. Only the prize birds in *Brahmas* were worthy of notice. The *Game* and *Poland* classes were the best in the Show. The cup for the best pen of adults was won by an extraordinarily good pen of Brown Reds, and the cup for 1871 chickens by a grand pen of Golden Polands. The entries of *Hamburghs* were numerous. The first-prize pen of chickens contained an unusually good Silver pullet. Dark Grey Dorkings took both the first prizes in the Selling classes. A fair pen of Houdans was first in the Variety class. Aylesbury *Ducks* were very good, the first-prize birds being claimed directly the sale-office opened.

The classes for *Pigeons* were not well filled, Balds and Carriers only being worthy of notice. In Canaries Messrs. Cockle and Watson had it all their own way, not a single bird being entered by the Norwich fanciers. *Rabbits* were moderately good.

Dorkings.—1, E. W. Southwood. 2 and *hc*,—Woodhouse. *Chickens.*—1 and *hc*, G. P. Tricker. 2, W. Burrows. *c*, Mrs. C. North; Rev. G. Gilbert.

Spanish.—1 and 2, W. Woodhouse. *Chickens.*—1, E. W. Southwood. 2, W. T. Tye.

Cochins.—1. J. Bone. 2, Mrs. Bishop. *c*, W. Groom; Rev. G. Gilbert. *Chickens.*—1, R. J. Turner. 2, W. Young. *c*, Mrs. Bishop; Rev. G. Gilbert.

Brahmas.—1, W. Burrows. 2, F. Hardingham. *Chickens.*—1, T. Spurr. 2, Mrs. Bishop.

Game.—1, Cup, and 2, H. E. Martin. *hc*, G. P. Rouse. *Chickens.*—1 and *hc*, H. E. Martin. 2 and *c*, G. P. Rouse.

Hamburghs.—1, K. Middleton. 2, R. J. Oliver. *Chickens.*—1, K. Middleton. 2, W. Saul. *hc*, E. Branford. *c*, J. P. Case.

Polands.—1, 2, and *hc*, W. K. Pattrick. *Chickens.*—1, Cup, 2, and *hc*, W. K. Pattrick.

Any other Variety except Bantams.—1, Lord Hastings. 2, T. Spurr. *c*, T. A. Craske. *Chickens.*—1, W. Burrows. 2, withheld.

Selling Class.—*Cock or Cockerel.*—1, W. Woodhouse. 2, K. Middleton. *hc*, E. W. Southwood; J. P. Case; T. Spurr. *c*, E. W. Southwood; K. Middleton; H. R. Plattin. *Hens or Pullets.*—1, E. W. Southwood. 2, Rev. W. F. Dixon. *vhc* and *c*, W. Woodhouse. *hc*, H. E. Martin; W. Groom; J. Frankling; C. Winn; Rev. G. Gilbert.

Bantams.—*Game.*—1, H. W. Currie. 2, A. Taylor. *c*, J. A. Magnese. *Chickens.*—1, A. Taylor. 2, W. Woodhouse. *Any other Variety.*—1, C. Woods. 2, W. B. Horrex. *hc*, Mrs. Bishop.

Docks.—*Aylesbury.*—1 and *hc*, J. W. Nicholson. 2, Rev. G. Gilbert. *c*, Mrs. Bishop; W. Martin. *Any other Variety.*—1, R. Savory. 2, W. Woodhouse.

PIGEONS.—*Carriers.*—1, H. Thurlow. 2, E. Mayston. *Pouters.*—1, Withheld. 2, T. C. Baldwin. *Baldz or Beards.*—1 and 2, W. Woodhouse. *c*, W. T. Tye. *Tumblers.*—1 and 2, W. Woodhouse. *c*, H. Thurlow. *Barbs.*—1, G. Morling. 2, T. Miller, jun. *Fantails.*—1, W. Woodhouse. 2, T. C. Baldwin. *Antwerps.*—1 and 2, E. Mayston. *Any other Variety.*—1, H. Thurlow. 2, R. J. Turner. *c*, W. Woodhouse; W. Martin; R. Crane; Miss M. A. Raven (2). *Selling Class.*—1, H. Thurlow. 2, R. Crane.

CANARIES.

NORWICH.—*Clear Yellow.*—1 and 2, Cockle & Watson. *hc*, E. Patrick. *Clear Buff.*—1 and 2, Cockle & Watson. *hc*, J. Goodman.

NORWICH.—*Variegated Yellow.*—1 and 2, Cockle & Watson. *hc*, E. Patrick; R. Richardson, sen. *Variegated Buff.*—1 and *hc*, Cockle & Watson. 2, — Newland.

LIZARDS.—1 and 2, Cockle & Watson.

ANY OTHER VARIETY.—1, Cockle & Watson. 2, J. Newland. *hc*, Cockle and Watson; — Richardson, sen.

MULE.—1, 2, and *hc* (3).—J. Goodman.

ANY OTHER VARIETY OF BRITISH SONG BIRD.—1, W. Wright. 2, E. Patrick. *hc*, T. J. Miller, jun.

SELLING CLASS.—1, W. Wright. 2 and *c*, E. Patrick.

RABBITS.—*Lop-eared.*—1 and *hc*, G. Morling. 2, Master G. A. A. Rouse. *Any other Variety.*—1, Mrs. C. North. 2, A. Langley. *Extra Class.*—*hc*, J. Sharman.

JUDGE.—Mr. W. B. Tegetmeier.

WHITBY CANARY SHOW.

THIS was held on the 12th inst., in connection with the Flower Show. The following awards were made by the Judge, Mr. W. A. Blakston, of Sunderland:—

CANARIES.

NORWICH.—*Yellow.*—1, S. Bunting, Derby. 2, J. Close, Derby. Equal 2, Adams & Athersuch. *vhc*, G. Gayton, Northampton. *hc*, Mrs. Wilkinson; Porritt & Raw, Ruswarp; R. Hawman, Middlesbrough; J. Cleminson, Darlington. *c*, E. Mills, Sunderland. *Buff.*—1 and 2, Adams & Athersuch. Equal 2, Barwell & Golby, Northampton. *vhc*, G. Medd, Scarborough; Moore & Wynn, Northampton; J. Close; S. Bunting. *hc*, Bexson & Bennett, Derby; Barwell and Golby. *c*, J. Cleminson.

NORWICH.—*Evenly-marked Yellow.*—1, Barwell & Golby. 2, Adams & Athersuch. 3, Holmes & Doyle, Nottingham. *hc*, S. Bunting. *c*, Moore & Wynn. *Evenly-marked Buff.*—1, Adams & Athersuch. 2, S. Bunting. *vhc*, Adams and Athersuch. *c*, Moore & Wynn; Holmes & Doyle; E. Mills. *Unevenly-marked Yellow.*—1, J. Close. 2, S. Bunting. *vhc*, Bexson & Bennett; G. Medd. *hc*, M. C. Readman, Whitby. *Unevenly-marked Buff.*—1, Barwell & Golby. 2, Bexson & Bennett. 3, J. Cleminson. Equal 3, S. Bunting. *vhc*, J. Close; Barwell and Golby; Adams & Athersuch. *hc*, Moore & Wynn; Bexson & Bennett.

NORWICH.—*Yellow or Buff, Green, Grey, Buff, or Yellow Crest.*—1, Barwell and Golby. 2, Holmes & Doyle. *c*, J. A. Barber, Leicester; Moore & Wynn; S. Bunting; Bexson & Bennett; G. Clipson, Northampton.

BELGIAN.—*Yellow.*—1, M. R. Robinson, Middlesbrough. 2 and 3, W. Bulmer, Stockton. *c*, J. N. Harrison, Belper. *Buff.*—1 and 2, W. Bulmer. *vhc*, J. N. Harrison. *hc*, M. R. Robinson. *c*, L. Belk; J. Close (2).

YORKSHIRE.—*Yellow.*—1, J. Rowland, Saltburn. 2, J. Cooper, Middlesbrough. *c*, R. Hawman. *Buff.*—1, H. Ward, Skelton. 2, W. W. Johnson, Carlton, Northallerton. *c*, W. & C. Burniston, Newport, Middlesbrough; T. Waudby, Norton, Malton.

CINNAMON.—*Yellow.*—1, Barwell & Golby. 2, Holmes & Doyle. *hc*, W. W. Johnson. *Buff.*—1, Barwell & Golby. 2, E. Mills. *hc*, Moore & Wynn; J. N. Harrison.

LIZARD.—*Golden-spangled.*—1 and 2, Smith & Preen, Coventry. *c*, J. N. Harrison; Greenwood & Jackson. *Silver-spangled.*—1 and 2, R. Ritchie, Darlington. *vhc*, Smith & Preen. *c*, J. Taylor.

CANARY.—*Green.*—1, W. Lawson. 2, J. Stevens, Middlesbrough. *hc*, T. Allenby, Durham. *c*, Fairclough & Howe, Middlesbrough.

ANY OTHER VARIETY.—1, W. Bulmer. 2, W. & C. Burniston. 3, Moore and Wynn. Equal 3, R. Hawman. *vhc*, M. R. Robinson; L. Belk, Dewsbury (2); Fairclough & Howe. *hc*, J. N. Harrison.

CANARIES.—*Six Young.*—1, Hardy & Atkinson, Whitby. 2, R. Hawman. *c*, H. Dale, Whitby; T. Allenby; Mrs. Wilkinson; W. W. Johnson.

GOLDFINCH MULE.—*Yellow Marked.*—1, J. Stevens. 2, G. Bell, Whitby. *Buff Marked.*—1, P. Raynor, Whitby. 2, J. Taylor. *c*, J. Cooper. *Dark.*—1, R. Hawman. 2, J. N. Harrison. *c*, W. Cattle, Norton, Malton.

FOREIGN BIRDS.

PARROT.—1, Mrs. Weighill, Whitby.

LOCAL PRIZES.

NORWICH.—*Yellow or Buff.*—1, H. Dale 2, M. C. Readman. *hc*, R. Robinson; McLacklin & Brown, Whitby (2); Mrs. Wilkinson, Whitby. *c*, Mrs. Wilkinson; J. Gray, Whitby. *Marked, Yellow or Buff.*—1, M. C. Readman, Whitby. 2, McLacklin & Brown.

CANARY.—*Any other Variety.*—1, M. Taylor, Whitby. 2, Porritt & Raw, Ruswarp.

MULE.—1, J. Gray. 2, J. Pearson. Equal 2, J. Gray.

BULLFINCH.—1, McLacklin & Brown. 2, T. Harland, Grosmont.

GOLDFINCH.—2, T. H. Woodwark, Whitby.

LINNET.—1, W. Henderson, Whitby. 2, Porritt & Raw.

PIGEON-TRIMMING AT ALLERTON SHOW.

I REPUDIATE the charge of inequality of judgment brought forward by Mr. Yardley, also deny that I ever awarded a prize, or even a commendation, to a pair of Nuns in the disgraceful state in which I found Mr. Yardley's birds at the Allerton Show. The transparency of Mr. Yardley offering to bring the birds forward for inspection is sufficiently manifest. If they be now, as he says, "in pen feather," that is proof sufficient that they were in full feather one month ago. Yet this I consider of little importance, as the feathers were not "abstracted," but cut off.

But what will Mr. Yardley say to the fact that they have been again examined and disqualified at Pocklington Show last Thursday, and with the assistance of three of the Stewards, Messrs. E. Cundall, G. Smith, and John Silbum, two of the cut feathers "abstracted," and that they have now a place in my cabinet alongside of those I took out at Allerton Show?

Now, with respect to the sexes of the pair of Dragoons, Mr. Yardley, in quoting from my report, does not note that I awarded the prize at Allerton Show under a doubt, and made the remark with reservation; but the "conflicting feature" will be explained when I tell him that at Stanningley I had an excellent colleague in Mr. Dixon, of Bradford, who pronounced the birds two cocks at first sight, and this being also my opinion, they were left out altogether. According to Mr. Yardley this will be "novice" No. 2, and if he had been on the show ground he might have counted "novices" by the score, for it was the universally and freely-expressed opinion there that the birds were two cocks. I have no doubt but that my judgment is of too uniform a character for Mr. Yardley and the clique of trimmers he has taken upon himself to represent; but no threat that he can throw out will deter me from the course I have hitherto pursued.—E. HUTTON.

[Here the controversy must close.—EDS.]

JUDGING THE QUALITY OF HONEY.

HONEY is judged mainly by its colour; but owing to there being often a very great difference in the colour of the comb, and the additional fact that bees often put white honey in dark combs, and *vice versâ*, it is manifest that very great care must be exercised in taking into account both the comb and the honey. The proper way to judge honey is to strain it into glass jars. You can then readily judge of its colour. But then there are at least two other qualities to be considered—thickness and flavour. In judging of its thickness, it is necessary for the judge to know whether that quality was imparted in the first instance, or whether it is due to the action of light; for the chemical rays of light act upon honey very much as they do upon the iodide of silver on the photographer's excited collodion plate.

Take two bottles of honey from the same comb, seal them up perfectly tight, and keep them both at the same temperature, only one in the sunlight and the other in a dark room, and the former will gradually grow thick and finally assume a semi-crystalline shape, while the other will retain its original fluidity. This is one reason why bees always work in the dark, and why honey should always be kept in the dark or in opaque vessels.

It would be wrong to award a first prize to a jar of honey that had become thickened by the action of light, because it thereby becomes deteriorated. Still, honey, to be superior, should not be very thin.

Flavour is also a very important consideration, and must always be required. A good-flavoured dark honey may sometimes be superior to a white honey which looks much better. The thickness and thinness of honey depend upon the source from which it is gathered, rather than upon the secretive action of the bee, whether we admit that the insect makes or simply gathers it.—(*Scientific Press.*)

VALUE OF PRODUCE.—It is provided by the tenure of the manor of Brisingham, in Norfolk, "that all commoners pay hens' eggs and day's work with their plough to the Lord of the Manor." The quit-rents were paid by a small rental in money, and by three roots of ginger, valued at 1*d.*, 95 hens at 7*s.* 2*d.*, 17 capons at 1½*d.* each, 5 ducks at 10*d.*, and 539 eggs at 3*d.* a-hundred. The date of this document is in 1341, the 15th year of Edward III.

OUR LETTER BOX.

RICHMONDSHIRE AND STOCKTON POULTRY SHOWS (*Several Subscribers*)—The Committees did not advertise them; therefore, we conclude they do not care about the Shows being reported.

WHITE COCHIN SLIGHTLY YELLOW (*May*).—It is unquestionably desirable that a White Cochin cock should be dead white; but straw-coloured hackles and saddles are very common. They are not a disqualification, but they are a disadvantage, and in close competition would decide against their possessor. We are answering your question in the belief the colour is really straw, as compared with milk white, and not one of those darker shades, which in tender mouths are called "golden," or "anburn," and are in reality deep reds.

CHICKENS DYING (*A. S. L. M.*).—We have no doubt we could give you some advice if you afford the means, but your query is too vague. You do not mention the breed, food, locality, nor symptoms. We cannot even guess at an answer, if we are only told that "when about the size of Pigeons they turn black and die."

CHICKENS DWINDLING (*Subscriber*).—Do your chickens have plenty of sun? Have they a good grass run? Is the cucumber-yard paved? Is there a dunghesp or anything of the sort? The space you mention is small for fifty chickens, and unless they are supplied with artificial helps there is little hope of your rearing them. Where chickens have the advantage of the run of a kitchen garden, or of an acre or two of grass, they pick up a great deal of natural food, and can make-up with the dry corn you mention. For young and old, ground food is better and cheaper

than whole. There is less waste, and it goes farther. Try ground oats or barleymeal, sapply some ashes and road grit for dasting, and for bath. Give green meat if they have it not, especially lettuces that are going to seed. Give them the scraps and crumbs from the table. Try a little bread and milk. If the chickens have had only that which you name, your poultry-keeping is at best gallinaceous baby-farming. They evidently want a stimulant now, and we, therefore, advise you as soon as you read this to get a quartern loaf, enough strong ale to soak it, and to feed your chickens on that till they begin to rally. Then feed as we have advised. Wheat, barley, and maize for little chickens are as good as bread, cheese, and walnuts would be for an infant.

White Chinese Geese (*T. A. B.*).—It is impossible to say which would be the likelier to take a prize, as they could only go in a class for "Geese of any other variety." The White Chinese Goose is a long taper-necked bird with a yellow face, and having a large yellow knob on the forehead, projecting somewhat over the bill. The legs are yellow. It is a handsome bird, attains a large weight for the table, but has a most nomusical voice. It is considered inferior to the common Goose for the table.

Silver-pencilled Hamburghs (*C. E. M. T.*).—When you speak of "red feathers on the wing of Silver-pencilled Hamburghs," of course you mean the cocks, the hens never have it. It has long been a vexed question; some maintain it is wrong, and other excellent judges say it is immaterial. We believe the best Pencilled birds were always bred from those birds with brown patches on their wings. Pale washed-out colours are great disadvantages, and can never compete successfully with good, rich, bright foundation colour in Golden-pencilled. We quite believe the sun injures the plumage, but it does much for the health of the birds; it makes good, bright red, well-developed combs, such as are not seen in birds reared as you say, and you must put one against the other. It is not impossible nor very difficult to get both.

Cost of Fowl-keeping (*Bruno*).—It is always difficult to answer your question, but as you put it it is impossible. At what age are they sent? Where are they to be kept? Are you to have all, or to divide eggs? Are chickens to be reared? On hearing these particulars we will answer to the best of our ability.

Brahmas' Hocks (*S. B. S.*).—The feathers at the knee should not project. It is vulture-hocked. There is not the slightest objection to their being tied at the knee. It would, perhaps be too much to say the vulture hock implies impurity of blood, but it is a grave fault, and fatal to success. (*G. C. A.*).—Curling round the joint is not vulture-hocked. To project an inch from the joint is positively vulture-hocked, and very objectionable. The bird with the stiff feather is a hopeless case. The weights you mention are very heavy. A pound a-month is called good work.

Poultry Runs (*R. E. H.*).—Have the ground dug up about 12 or 18 inches deep, and the lower earth made the surface. If you have a cartload of fresh mould, put it on and scatter it. If you can, procure two or three cartloads of road grit, and make them into two or three heaps. The fowls will scratch for the grass mixed up with the grit, and by these means they will spread it. We have all our pens dug once in a week, and raked every day.

Young Turkeys (*Innocent*).—Advertise what you will sell them for, where you will deliver them, and price prepaid.

Writing on Pigeons' Wings (*H. L.*).—Marking ink will do.

Young Pigeons Dying (*Amateur*).—Old Pigeons frequently partially feed one of their young ones, the bird gets thinner and weaker, and though it may die with some food in its crop, it is really starved. This has been the case with yours. Oats are unsuitable. Peas alone are not sufficient; add old beans or Indian corn. Wheat they like, and the squeakers easily pick it up, which is an advantage.

Colour of Antwerp's Beak (*W. B.*).—Colour in an Antwerp's beak is no point, although shape is a very important one. *Vide* our article on the Antwerp in number for February 17th, 1870.

Pigeons' Portraits, &c. (*A. C. R.*).—Our last Pigeon portraits, those of the Short-faced Beard and Baldhead, were in No. 541, August 10th, 1871. Colour of eyelash immaterial; properly speaking Pigeons have eyelids, not eyelashes.

Eaton's Pigeons (*Alpha*).—Write to Mr. D. Wolstenholme, 3, Elizabeth Cottage, Archway Road, Highgate.

Food for Parrots (*C. P.*).—You will see very full directions in our No. 515, published on the 9th of February. You will see the Cheltenham report to-day; it arrived too late for publication in our last week's number.

Feeding Bees (*Barton Joyce, Notts*).—Your maiden swarm of July 16th, will have required a good deal of continuous feeding; but if you have already given the bees "a pint bottle every day" for any length of time, they must have had pretty well enough. We should advise you to examine or weigh the hive, and act accordingly. If it has glass windows, and you see any quantity of sealed combs, or if the contents weigh from 16 lbs. to 20 lbs., you should stop feeding till the middle of October, and then give two or three pints. Your second hive should be treated exactly in the same way.

Uniting Swarms (*C. R. P.*).—To join the bees of one stock to another, first drive one stock into an empty hive, and then drive the other stock into the same. Do this towards dusk, when the bees are all quiet at home. The next day, towards evening, you can dash out all the bees on the ground in front of the stock which you wish to keep, and out of which came one of the driven stocks the evening before. Use a little brown paper or tobacco smoke before you disturb the bees.

Winter Care of Bees (*Idem*).—Feed with an inverted pickle-bottle made to rest in a block of wood over a hole at the top of your hives. If your hives are of wood this is easy enough; if of straw like the ordinary skep, a little ingenuity is required to fit the block and bottle neatly on the hive, which must have a 2-inch hole cut out in the top. The block must have a piece of perforated zinc let into the underside, and the mouth of the bottle must be covered with a piece of leno or muslin so as to prevent the food from running down too quickly. Sugar boiled down in water to the consistency of a not too thin syrup is an excellent food. If you use coarse brown sugar strain it first. Feed in October, or now if your bees are starving.

A September Swarm (*A Beginner*).—We fear your September swarm (one of the latest we ever heard of), will be of no use to you. Could you not join the bees to some weak hive in your garden, if you have any? It would, of course, be possible to feed them up, but we should not recommend you to try it. As to your bottle-feeder failing, it is evident your food was too liquid, or perhaps you failed to cover the mouth of the bottle with leno or muslin of sufficient thickness. Try again, and buy your knowledge in the school of experience. We believe you may purchase Payne's hives at Messrs. Neighbours', Holborn, London. See their advertisement in these pages. It is impossible for your bees to find enough food in the fields and gardens at this time of year. The piece of comb which fell down may lie where it is.

Vegetable Marrow Jam.—*A Novice* wishes for a receipt.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Sept.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 6	30.060	61.6	58.6	N.E.	62.0	76.4	46.9	118.0	43.2	0.020
Th. 7	30.010	62.9	57.0	W.	61.4	73.2	54.7	120.2	53.1	—
Fri. 8	29.919	59.4	57.5	E.	61.9	68.2	50.6	69.4	49.8	0.560
Sat. 9	29.665	56.5	55.0	—	61.8	67.8	56.2	116.2	55.0	0. 20
Sun.10	29.922	64.6	57.4	S.E.	60.8	72.6	50.2	115.3	48.4	—
Mo. 11	29.951	65.8	53.7	S.E.	61.4	80.2	60.3	121.0	56.8	—
Tu. 12	30.124	64.2	60.6	E.	62.3	77.3	57.2	122.0	56.2	—
Means	29.949	62.1	58.7		61.8	73.7	53.7	111.7	52.4	0.600

REMARKS.

6th.—Hazy morning, rain at noon, fine afternoon; lightning at 7.55 P.M., rain in the evening.

7th.—Fine bright day throughout.

8th.—Dull in early morning, then fine, but rain in afternoon and evening, and heavy rain at night.

9th.—Wet morning, fair in middle of the day, but stormlike in the evening.

10th.—Fine in the early part, and, though afterwards cloudy and stormlike, no rain fell.

11th.—Very fine all day; the sun very hot, and, as there was but very little wind, it was rather oppressive.

12th.—Rather dull in early morning. Fine day, rather cloudy towards sunset, but very bright at night.

With the exception of the rain on Friday afternoon and night and on Saturday morning, a very fine and pleasant week, the mean temperature at 9 A.M. being lower than in any week since the beginning of July.—G. J. Symons.

COVENT GARDEN MARKET.—September 13

Trade continues quiet, but there is a better supply of Peaches, and prices for these are lower.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples	½ sieve	1	0 to 2	6	Mulberries	lb.	0	6 to 1	0
Apricots	doz.	1	0	3	0	Nectarines	doz.	1	0	3	0
Cherries	lb.	0	6	2	0	Oranges	℔ 100	20	0	0	0
Chestnuts	bushel	0	0	0	0	Peaches	doz.	2	0	8	0
Currants	½ sieve	0	0	0	0	Pears, kitchen	doz.	2	0	0	0
Black	do.	0	0	0	0	dessert	doz.	2	0	8	0
Figs	doz.	1	0	3	0	Pine Apples	lb.	3	0	6	0
Filberts	lb.	0	6	0	9	Plums	½ sieve	3	0	5	0
Cobs	lb.	0	0	1	0	Quinces	doz.	0	0	0	0
Gooseberries	quart	0	0	0	0	Raspberries	lb.	0	0	0	0
Grapes, Hothouse	lb.	1	0	5	0	Strawberries	lb.	0	0	0	0
Lemons	℔ 100	8	0	12	0	Walnuts	bushel	10	0	16	0
Melons	each	3	0	6	0	ditto	℔ 100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes	doz.	2	0 to 4	0	Leeks	bunch	0	2 to 0	0
Asparagus	℔ 100	0	0	0	0	Lettuce	doz.	0	3	1	0
Beans, Kidney	½ sieve	1	0	3	0	Mushrooms	pottle	1	0	2	6
Broad	bushel	3	0	8	0	Mustard & Cress	punnet	0	2	0	0
Beet, Red	doz.	2	0	3	0	Onions per doz. bunches		2	0	4	0
Broccoli	bundle	0	9	1	0	pickling	quart	0	0	0	0
Brussels Sprouts	½ sieve	0	0	0	0	Parsley	sieve	3	0	4	0
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	9	1	0
Capsicums	℔ 100	0	0	0	0	Peas	quart	0	6	1	0
Carrots	bunch	0	5	0	0	Potatoes	bushel	1	6	3	0
Cauliflower	doz.	3	0	6	0	Kidney	do.	3	0	5	0
Celery	bundle	1	8	3	0	Radishes	doz. bunches	0	6	1	0
Coleworts	doz. bunches	2	0	4	0	Rhubarb	bundle	0	4	0	0
Cucumbers	each	0	6	1	0	Savoys	doz.	0	0	0	0
pickling	doz.	2	0	3	0	Sea-kale	basket	0	0	0	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	6	0	9
Fennel	bunch	0	3	0	0	Spinach	bushel	3	0	4	0
Garlic	lb.	0	3	0	0	Tomatoes	doz.	2	0	3	0
Herbs	bunch	0	3	0	0	Turnips	bunch	0	3	0	6
Horseradish	bundle	3	0	4	0	Vegetable Marrows	doz.	2	0	3	0

POULTRY MARKET.—September 13.

Since our last the Partridge season has begun. We hardly recollect ever seeing them so scarce, and the old birds are as three to one of the young. The latter are consequently selling well. Grouse remain very plentiful.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls	3	0 to 3	6		Pigeons	0	9 to 0	10	
Smaller ditto	2	0	2	6	Rabbits	1	6	1	6
Chickens	1	9	2	0	Wild ditto	0	9	0	10
Geese	6	0	7	6	Hares	0	0	0	0
Ducks	2	6	3	3	Partridges	2	0	2	6
Pheasants	0	0	0	0	Grouse	1	0	2	6

WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPTEMBER 21—27, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
21	Th		66.4	45.6	56.0	24	45 af 5	0 af 6	1 af 2	45 af 9	)	6 52	264
22	F		66.4	44.7	55.6	21	46 5	58 5	6 3	43 10	8	7 13	265
23	S	Autumn commences.	66 3	45.7	55.9	22	48 5	56 5	1 4	52 11	9	7 34	266
24	Sun	16 Sunday after Trinity.	66.1	43.5	54.8	19	49 5	54 5	42 4	morn.	10	7 54	267
25	M	Day breaks 3.57 A.M.	65.8	43.1	54.4	21	51 5	52 5	12 5	8 1	11	8 15	268
26	Tu		65.7	43.8	54.7	21	53 5	50 5	36 5	28 2	12	8 36	269
27	W		65.3	44.6	55.0	24	55 5	47 5	57 5	48 3	13	8 56	270

From observations taken near London during forty-three years, the average day temperature of the week is 66.0°, and its night temperature 44.4°. The greatest heat was 82°, on the 25th, 1832; and the lowest cold 27°, on the 25th, 1863. The greatest fall of rain was 1.68 inch.

SALT AS A GARDEN MANURE.

SALT as a manure has long been applied to garden and farm crops. Its principal use, however, in gardens has been in the destruction of weeds, for it is well known that in large quantity it is destructive to vegetable life; hence it is employed for scattering over walks, or they are watered with a strong solution of salt, to destroy the weeds and moss appearing on them. On the other hand, in moderate quantities its application is attended with very satisfactory results; for, as remarked by Mr. Johnson in the "Science and Practice of Gardening," page 119, "The day has long passed when it was disputed whether saline bodies are promotive of vegetable growth," and the same author continues—"It is now determined that some plants will not even live without the means of procuring certain salts."

Although salt, or saline matter, enters into the composition of all plants, it is evident, from the experiments made by Dr. Voelcker, that the application of a quantity of salt which proves beneficial to one kind of plant will be injurious to another. This he demonstrated by watering plants with water holding varied proportions of salt, and it is a remarkable fact that to most of the crops of the horticulturist even in very strong solutions it did not prove injurious. Even at the rate of twenty-four grains to a pint it "decidedly benefited Radishes, Onions, Lentils, and Cabbages," but "plants of Anthoxanthum odoratum (Sweet Vernal Grass) were killed by a solution containing twenty-four grains of salt per pint, after the lapse of one month." "Grasses are affected by salt more readily than any of the plants experimented upon." We may, therefore, conclude that salt in a certain quantity is beneficial to most vegetable crops, for we have Radishes or Raphaneæ, Crambe (Sea-kale), Brassica, including Cauliflower, Broccoli, Borecole, and Turnips; Liliaceæ, including Onions, Leeks, and Asparagus, and, I may add, many of our most beautiful bulbous plants, and those with succulent leaves. Dr. Voelcker remarks, "Bulbous plants and plants with succulent leaves are especially benefited by the application of salt;" also Lentils, Peas and Beans, and, may we not safely conclude all the order Leguminosæ, or pod-bearers, as the Dwarf Kidney Bean and Scarlet Runner? Dr. Voelcker mentions the Thistle as being benefited by salt, and we may consider the Globe Artichoke and Cardoon to be equally so. Mr. Johnson completes the list on the authority of Saussure—viz., Beetroot, Rhubarb, Potatoes, Jerusalem Artichoke, Carrot, probably also the Parsnip and Celery, as these two belong to the same natural order; so that salt is beneficial to every kind of vegetable crop.

Of the value of salt there can be no doubt; in fact, from its application this season, I have come to the conclusion that to the gardener it is one of the most valuable of manures. I have come to regard it as not only valuable, or, as stated by Mr. Thompson in "The Gardener's Assistant," page 121, "a necessary addition to the soil wherever marine plants, or such as naturally grow near the sea, are cultivated;" but to all, except it be Grasses; and even to these in small quantity, or less than for other plants, it is very beneficial. For some fruit trees it seems not to be so desirable as for others—for instance, the Apricot, Apple, and Cherry, but the Peach, the Pear, and the Plum are benefited by it.

I need say no more respecting its value, but will proceed to its application, of which there are several modes, but I shall only name two—namely, alone and mixed with other substances.

Salt applied alone.—As a top-dressing salt may be applied to every kind of kitchen-garden crop at the rate of ten bushels per acre, or half-a-gallon per rod. It may be given at the time of sowing, putting in, or planting the crop, but I consider it most advantageously applied when crops from seed have arrived at the thinning stage; to "put-in" crops, as Potatoes and Jerusalem Artichokes, it may be applied when they are well above ground, and before the first hoeing; to planted crops as soon as they are again rooted. Ten bushels per acre I think a sufficient quantity for a general dressing. Some crops will bear much more salt than the quantity named; for instance, Asparagus is not overdone at 1 lb. per square yard, or 43 cwts. per acre, and the best time to apply it is when the heads are appearing, and again early in May.

Cabbages may have repeated applications of salt, and so may most of the Cabbage tribe. Cabbages planted in September to stand the winter may in October be dressed, and again in March; Broccoli and Winter Greens after planting, and in October or early in November; whilst for most other members of the same family one application will be sufficient.

The value of salt as a manure may be estimated principally from its entering into the composition of plants; but it possesses other values—one being that it is destructive to predatory vermin as the slug, and is found a complete cure for grub in Turnips, and club or ambury in the other representatives of the Cabbageworts. It has also another most valuable property—that of protecting plants from injury from cold, or as it is stated in the "Science and Practice of Gardening," page 144, it protects "plants from suffering by sudden reductions of temperature by entering into their system, stimulating and rendering them more vigorous, impregnating their sap, and consequently rendering it less liable to be congealed." There can be no doubt of salt being advantageously used for plants of a succulent nature, such being liable to suffer in case of sudden reduction of temperature.

Salt mixed with other substances.—This, I believe, is the most satisfactory method, for all soils require to be constituted of several ingredients for the production of healthy plants. Gardens long enriched with stable or farmyard manure in time become sick or worn out. Lime-dressings have been advised, and are indeed very beneficial, often more so than dressings of stable manure. "When caustic lime, or, as it is more commonly called, quicklime is added to a soil, it decomposes the salts of ammonia which the soil contains, driving off the ammonia, but which is absorbed and retained by the alumina in the soil. Caustic lime also

promotes the rapid decay of vegetable and animal bodies in the soil "—(Science and Practice of Gardening, page 85). It has also been recommended to give dressings of fresh or maiden loam to long-cropped vegetable ground, choosing soil from a pasture, thus giving those very constituents which have been absorbed or taken up from the ground by every vegetable—viz., saline matters, and which are present in the maiden loam more than in old garden soil, because Grasses do not take up saline substances to nearly the same extent as garden crops. Fresh soil mixed with old causes a change in the products; it gives to old soil an addition of one or other substance required by vegetable crops, for it cannot be that fresh loam is richer, as without manure it will not grow many vegetables to a fitting condition: therefore it is not in the fibres of the Grass about which so much is insisted, but in supplying those compounds of which the soil has been deprived by a continued course of vegetable crops, and those compounds are principally saline.

Lime does good, but it is known that "when salt is mixed with moist earth and lime a considerable quantity of carbonate of soda and chloride of calcium is produced, owing to the salt being partially decomposed, the chlorine of a part of the salt uniting with the lime, whilst carbonic acid supplies its place, forming carbonate of soda. This having the property of combining with silica and rendering it soluble, may prove beneficial to plants by supplying them with that essential article of their food "—(Gardener's Assistant, page 121). Now, if we dress ground for Onions, one part with lime, another with salt, and a third with soot, the ground having in autumn been manured in the usual way, we find there is little, if any, difference between that limed and the part sown without the lime-dressing —the produce is not materially greater; but that dressed with salt produces more than the limed part, and the parts dressed with soot more still. This would show soot to be the most fertilising of the three, but in none of these cases is the dressing so good as when the whole are mixed—that is, the lime, salt, and soot, which afford much the better crop of Onions. A bushel of lime, soot, and salt mixed and sown broadcast over the ground intended for Onions and Carrots prior to putting in the seeds is good against the maggot or grub which infests these vegetables, and is sufficiently stimulating. It is also an excellent dressing for ground in March intended to be planted with every kind of vegetable crop. It is valuable both as a manure and as a preventive and destroyer of insect pests.

Everyone knows the value of guano as a manure. It is considered to contain most, if not all, the constituents required by vegetables. I am persuaded, however, though it may be highly fertilising, that it is not so beneficial by itself as when mixed with salt, one of the inorganic elements that in guano is reckoned of very inferior value. In some guanos there is a considerable quantity of lumps, consisting for the most part of common salt (chloride of sodium). In the best samples of guano the chloride of sodium is about 3.00; of a sample consisting of hard lumps the chloride of sodium has been found as much as 49.70. Ordinary samples of Peruvian guano contain 5.00 of alkaline salts, potash and soda. This quantity may be sufficient for cereals, but there is not evidently enough salt for kitchen garden crops, for I find crops dressed with guano alone do not produce so well as those dressed with one part salt to two parts guano, and at that rate 1 cwt. of salt to 2 cwt. of guano answers for every description of vegetable, but it should not be given in dry weather, for all the leaves upon which it falls it scalds or leaves a white blotch.

I may name a few of the cases in which I have found it most beneficial, though it answers well in all.

1, I had some beds of Onions, Carrots, and Parsnips on a plot of old garden ground, well trenched and in good heart. They were "set on"—were at a complete standstill, and grub already at work, making frequent wide gaps. They were dressed with the mixed guano and salt, about a peck to every two beds, each 4 feet wide and 40 feet long. This was previous to prospects of rain, and it fell as was anticipated. The grub was seen no more, the Onions are good, and the Carrots and Parsnips promise very well. Without the dressing there was no hope of a crop.

2, I have 1500 Celery plants on a plot of ground added to the garden last year; it is the virgin loam so much prized. The trenches were well manured. The Celery grew for a time, but afterwards came to a standstill. Guano alone was applied, but it did not improve anything but the colour of the plants; at last they were heavily dressed with the guano mixed with salt, and the Celery has grown well ever since. I have a like number of plants on old ground, and they have grown from the first, and have been dressed with guano mixed with salt I contrive to give it so as to keep it from the hearts.

3, Club, ambury, and all the grubs seemed to combine to prevent my getting a Cabbage to heart, Cauliflower to head, or Turnip to form. Hanging their heads in the sun was powerful evidence of what was gnawing at their vitals; they were dressed with the guano and salt, and they have reared their heads ever since, and are quite free of any grubs or pest of any kind.

Lastly, in a greenhouse that may have 30 feet of rafter I had some climbers in a border; they seemed to grow and flower finely up to July, when they came to a standstill. They are Passifloras Countess Nesselrode, Countess Guiglini, cærulea racemosa, Tacsonia mollissima, and T. Van-Volxemi. Guano water, &c., had no beneficial effect, but I gave them about a peck of guano and salt broadcast over the border (30 feet by 3 feet), and then washed it out of sight with water from a hose. The effect has been all that could be wished for; the plants are growing, flowering, and fruiting. The 30-feet length of rafter has been covered, and all the bars which there are to every rafter, and the shoots hang down in all lengths, from a few inches to 6 feet, and these, with the flowers and the hanging fruit, have quite a grand effect.

I am convinced that guano and salt in the proportions named will prove to be the manure of manures for Vines, especially those that have a tendency to mildew; also for Peaches, which never do so well as near the sea or within reach of its influence. It will also be good for all plants subject to mildew. Salt and lime are the most destructive of all to fungoid life.

Ferns are speedily destroyed by guano and salt, but it is remarkable that if freestone be sprinkled with it that the stone in a few days becomes quite green from the growth of moss: hence it may be of value in newly-formed rockwork.—G. Abbey.

THE LATE MR. THEODOR HARTWEG.

My late and much-esteemed friend, Theodor Hartweg, was, I think, the best plant and seed collector the London Horticultural Society ever employed. Professor Lindley said to him in my hearing and presence in the Council-room at Chiswick garden, "Well, Hartweg, the Council have resolved to send you to California, and if you find this single plant (Zauschneria) and send home seeds or plants of it in good condition, it will pay the Society for your mission if you send nothing else. Come over to my house, Acton Green, and see the dried specimen of the plant in my herbarium before you start." I may add that Hartweg found it and sent it home, and I was eyewitness to thousands of young plants being distributed to Fellows of the Society upon application, as well as thousands of other valuable plants sent home amongst his collections from time to time whilst he was in the employ of the Society. I had the pleasure of "writing out" all the reports of plants and seeds and their condition when sent home by him, to be placed before the Council of the Society when they met at their rooms, 21, Regent Street, with the exception of those of his first Mexican mission, consisting chiefly of Orchids, Fir cones, &c.

I am well aware that the Secretary and Vice-Secretary were not Hartweg's best friends at that time of day mentioned in your short notice of Hartweg's death. Hartweg told me at the time when all this ill-feeling was going on about himself, that he had a very great aversion to writing about any subject: hence this will show his unwillingness to write anything in the shape of a journal of his travels at the time for the "Journal of the Horticultural Society:" hence also the cause of his few bad friends. Animosity was carried to such a pitch against him on this account by a few only of the officials of the Horticultural Society, that a short time after he returned from his last mission for the Society the then Vice-Secretary would not accept of a set of the dried plants which Hartweg had collected, but returned them by me, and never even opened the parcel nor examined the specimens.

These recollections come very vivid in my memory now I have pen in hand, and I hope you will think no worse of me for placing them at your disposal.

I always found that Hartweg acted as a perfect gentleman in all his dealings with me at the time we were both in the employ of the Society. I have often heard him say that Mr. George Ure Skinner and himself discovered the large plant of Lælia superbiens both at the same time when in Mexico, and that they were both determined to have it, but could not get it then, for it was up a very high tree. Hartweg outwitted Mr. Skinner by

going early in the morning, taking with him a native and an axe, and chopping the tree down, at the same time conveying away the large Lælia. I recollect helping to unpack it at Chiswick on its arrival, and it just filled one large wooden case, and arrived in excellent health. "Plantæ Hartwegiæ," by Mr. G. Bentham, will commemorate his name, as well as the simple-looking little plant (Orchid) called Hartwegia purpurea, also Aristolochia gigas. Of the plants of a hardy nature introduced by him many have found their way here, and are growing and flourishing, especially his varieties of coniferous plants.—William Swale, *Avonside Botanic Garden, Canterbury, New Zealand.*

SIBERIAN AND SCARLET CRABS ON THE PARADISE STOCK.

In walking through the grounds at Sawbridgeworth with Mr. Rivers I was so much struck with the above that I cannot resist giving you a word or two as to their beauty. The trees were two years old, pyramids about 3 feet in height, eminently beautiful, being covered with their bright fruit; they would indeed form ornaments to any garden.

The Paradise stock seems here to be an article of the most extensive culture; for, to my surprise, Mr. Rivers pointed out to me a "quarter"—one piece—of 40,000, planted with the Nonesuch and Broad-leaved Paradise, all in the most exuberant health, and in another part of the grounds was a square of bush Apple trees on these stocks, 4 feet apart, every tree a picture of fertility, and such grand fruit I never before saw. Mr. Rivers said that many other stocks of this race (of which he has from sixteen to eighteen varieties in one bed, including Mr. Scott's "Pommier du Paradis"), all give the same, or nearly the same, fertility. The latter seemed a good variety of the Doucin, and quite distinct from the dwarf French Paradise (of which there are two sorts here), near which it was growing. Mr. Rivers pronounced it be a good stock.

Bush Apple trees planted 4 feet apart, the ground not dug, but kept clean with the hoe, should be in every garden. Mr. Robinson's cordons, both on the French and English Paradise, are very healthy, and are now some six or eight years old; they have failed to give any quantity of fruit, they have failed the last three seasons, still they are very pretty. At present, in my opinion, Apple bushes on the Paradise stock are much to be preferred to cordons; they bear more fruit, and are but little trouble.—Amateur.

DISA GRANDIFLORA GROWING AND FLOWERING IN THE OPEN AIR.

When some few years since the "Pride of Table Mountain," Disa grandiflora, long the opprobrium of the British Orchid-grower, yielding to the thoughtful and judicious treatment of Mr. Leech, was successfully flowered by that gentleman, great was the interest generally manifested by the Orchid-growing community. Since then far greater success than Mr. Leech's has been obtained by many growers of our acquaintance, and to meet this Cape diamond well grown and splendidly flowered in collections is not very rare.

We ventured to express an opinion as to the feasibility of the Disa being grown and flowered in the open air in a favoured spot in Ireland, if planted in the grassy verge near the edge of the water, so as to have its toes (roots) in it. The experiment has been tried nearer home this season, and, we are happy to say, with very satisfactory results. To Dr. Moore, of Glasnevin, attaches the credit of practically demonstrating that this gem of the South African Orchidaceæ may not only be grown and flowered successfully in the open air, but that the brilliant colouring of its flowers becomes vastly intensified when so grown, as compared with those of plants flowered under glass.

In the most interesting spot of the Glasnevin Gardens—the miniature artificial bog—we recently had the pleasure of seeing the Disa growing and flowering admirably, and, as remarked above, the colour of the labellum and of the divisions of the perianth was far more brilliant than we ever before saw it, or as was apparent in the splendidly-grown specimens to be seen in-doors in the same establishment. The plant, it appears, had been started in the usual way, and turned out in the open early in the present season, with what results has been just told.

We have little doubt from this and other experience of the Disa that in suitable and properly-selected spots it may be turned out and allowed to take care of itself in winter as well as in summer—in a word, treated as a hardy plant. We hope Dr. Moore will extend his experiments by letting his plant take its chance in the coming winter, and thus demonstrate the hardihood or otherwise of this most striking and interesting of the terrestrial section of the Orchidaceæ.—(*Irish Farmer's Gazette.*)

A FEW SUPERIOR MELONS.

I have this season tried the following varieties of Melons under precisely the same circumstances—viz., Golden Queen, Golden Perfection, Queen Emma, Trentham Hybrid, Colston Bassett Seedling, Dr. Hogg, Heckfield Hybrid, and Strathfieldsaye. All these are good varieties, and many of them well known to most of your readers.

Colston Bassett Seedling, Dr. Hogg, and Heckfield Hybrid are rather new varieties, at least they have not long appeared in the nurserymen's catalogues. To those who do not know them and wish to grow a number of varieties, I recommend them as being worthy of a place in any collection, and especially Colston Bassett Seedling. It has a strong constitution, is very prolific, and of excellent flavour. Golden Perfection, although an old variety, still holds its ground and merits a place among the best varieties. Golden Queen I consider a great acquisition, much superior to any other variety that I have grown or seen. It has a robust constitution and sets freely. The fruit swells well (from 4 to 5 lbs., three fruit on a plant), and in flavour it is everything that a first-rate Melon ought to be, while for its handsome appearance it stands without a rival. This Melon, I feel sure, needs only to be known to be extensively cultivated.—Owen Thomas, *Drayton Manor.*

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

Primula japonica (Japanese Primrose). *Nat. ord.*, Primulaceæ. *Linn.*, Pentandria Monogynia.—"Mr. Fortune, writing to Dr. Hooker, says, 'It was met with by me, in full flower, in gardens near Yedo, in May, 1861. I saved its seeds at the time, and sent them home to England, but they failed to vegetate. Plants also were lost on the voyage. Since that time I have made many efforts to introduce it into England, but only last year succeeded in getting seeds to vegetate. For these seeds I am indebted to W. Keswick, Esq., of Hong Kong, and Messrs. Walsh, Hall, & Co., of Yokohama, which gentlemen have thus the honour of introducing a very lovely plant into English gardens. It is perfectly hardy in England, and is now, April 26th, in full bloom in Mr. Bull's establishment at Chelsea; there are several varieties, all beautiful, and no doubt we soon shall have many more.'" Its flowers are crimson, and in whorls, forming a pyramid.—(*Bot. Mag.*, *t.* 5916.)

Abutilon Darwinii (Darwin's Abutilon). *Nat. ord*, Malvaceæ. *Linn*, Monadelphia Polyandria.—Native of South Brazil. Flowers orange red, striped with crimson.—(*Ibid.*, *t.* 5917.)

Dendrobium barbatulum (Small-bearded Dendrobe). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of Western India. Flowers white.—(*Ibid.*, *t.* 5918.)

Grevillea intricata (Inwrapping Grevillea). *Nat. ord.*, Proteaceæ. *Linn.*, Tetrandria Monogynia.—Native of Western Australia. Flowers white, partly pale lemon.—(*Ibid.*, *t.* 5919.)

Darlingtonia californica (Californian Darlingtonia). *Nat. ord.*, Sarraceniaceæ. *Linn.*, Polyandria Monogynia.—Native of California. See Journal of Horticulture, vol. xx., p. 460.—(*Ibid.*, *t.* 5920.)

Eranthemum cinnabarinum *var.* ocellatum (Eyed Scarlet Eranthemum). *Nat. ord.*, Acanthaceæ. *Linn.*, Diandria Monogynia.—Native of Moulmein. Flowers crimson. The name "eyed" is applicable to the pink and yellow-encircled blotches on the leaves.—(*Ibid.*, *t.* 5921.)

Cypripedium niveum (Snow-coloured-flowered Lady's Slipper). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Native of Malayan Archipelago. Flowers white, dotted with reddish purple. See Journal of Horticulture, vol. xx., p. 339.—(*Ibid.*, *t.* 5922.)

Utricularia montana (Mountain Bladderwort). *Nat. ord.*, Lentibulariaceæ. *Linn.*, Diandria Monogynia.—Native of the West Indies. White-flowered. It differs from other species by being terrestrial.—(*Ibid.*, *t.* 5923.)

Sedum glandulosum (Glanded Stonecrop). *Nat. ord.*, Crassulaceæ. *Linn.*, Decandria Pentagynia.—Native of Sardinia. Flowers lilac.—(*Ibid.*, *t.* 5924.)

Episcia chontalensis (Chontalensian Episcia). *Nat. ord.*, Gesneraceæ. *Linn.*, Didynamia Gymnospermia.—Native of Central America, being first found in the Chontales region of Nicaragua. Flowers white, with a slight tinge of pink. Leaves margined with brown purple lobes.—(*Ibid.*, *t.* 5925.)

Lithospermum Gastoni (Gaston's Gromwell). *Nat. ord.*, Boraginaceæ. *Linn.*, Pentandria Monogynia.—Native of the Pyrenees. Flowers dark blue, with white eye.—(*Ibid.*, *t.* 5926.)

Tacsonia speciosa, "introduced from New Grenada by the late Mr. Bowman, might have been seen last summer flowering in great beauty in one of the greenhouses at Chiswick. It is quite distinct, in the clear rosy red or carnation colour of its flowers, from any of those previously cultivated. It proves to be the Tacsonia speciosa of Humboldt, Bonpland, and Kunth, a plant which Dr. Masters, who has made the Passion-flowers a study, regards as a variety of Tacsonia tomentosa. There are, indeed, he observes, some half-dozen Tacsonias which are so variable that it is impossible to separate them by any absolute character.

"For decorative purposes we have here a rapid-growing climber, with downy branches, and shining deeply three-lobed leaves, downy beneath, with hooked serratures, and having on the petioles four to six pairs of stalked glands. The stipules are leafy, obliquely ovate, dentate, prolonged into a slender point. The flowers are axillary, the tube cylindrical, green, 3 to 4 inches long, the sepals externally green, internally red, the petals pure rosy red or carnation colour. The coronet is in two rows, the upper of small whitish purple-spotted tubercles; the lower, near the base of the tube, membranous, white, and deflexed. It is a splendid accession to an already beautiful group of greenhouse Passion-flowers, and appear to be a free flowerer, requiring only the ordinary treatment of conservatory climbers."—(*Florist and Pomologist*, 3 s., iv., 169.)

Plum—*Duke of Edinburgh*.—"For this fine new Plum we are indebted to Mr. Dry, Hayes, Middlesex. It is one selected from a numerous batch of seedlings for its handsome appearance and very productive qualities. The name Duke of Edinburgh has been given to it on account of its resemblance to Prince of Wales, to which it has quite a brotherly similarity, not only as regards its general appearance and character, but also in the quality of the fruits. The Prince of Wales, as is well known, is one of the best of culinary Plums, and a most abundant bearer, and such is the character of this new variety, with, however, a marked improvement in flavour.

"The Duke of Edinburgh has fruits large, roundish, inclining at times to obovate, and having a shallow suture. The skin is light purplish, with an extremely dense coating of light-bluish bloom. The stalk is short and stout, inserted in a slight cavity; the flesh reddish yellow, thick, juicy, moderately rich, and separating freely from the stone. It is a very abundant bearer. The leaves are like those of the Green Gage. This Plum was exhibited before the Fruit Committee in August, 1869, and was awarded a first-class certificate."—(*Ibid.*, 193.)

MORE FRUIT AND VEGETABLES WANTED.

Perhaps one of the chief reasons why there is so much intemperance in this country is to be found in the difficulty of obtaining any good fruit at a reasonable price. How small a per-centage of the inhabitants of London have ever tasted a Peach, for instance! Grapes are a luxury only within reach of the wealthy, and, except sour Apples and Oranges, the poorer classes have no fruit which they may call their own. For some reason or other fruit appears to become more scarce each year in this country. Nectarines and Apricots, once common, are now rarely seen, and in a few years will probably disappear altogether. The same may be said of Hautbois Strawberries, which a quarter of a century ago were as plentiful as Gooseberries. It would be an inestimable boon to all dwellers in cities if large depôts of fresh fruit and vegetables, to be procured at reasonable prices, were to take the place of the dirty little greengrocers' shops, where stale Cabbages and unripe mouldy fruit are retailed at exorbitant charges. Nor should this be impossible, for there are few trades more profitable than market-gardening; but the truth is that great improvements have yet to be effected in the packing of fruit and vegetables, and in the cooking of the latter. When fruit arrives even at the greengrocer's shop it is too often in a damaged and "unfresh" condition, and vegetables, which equally suffer in transit, are only purchased as luxuries for the simple reason that, apart from their cost, few people know how to cook them in such a manner that they may be used as substitutes for animal food. It is to be hoped that one of these days some method will be discovered by which fruit and vegetables may be packed and transmitted with as little damage as Australian beef and mutton, and the market for these articles be placed on a more satisfactory footing than it rests upon at present.—(*Pall Mall Gazette.*)

ROYAL HORTICULTURAL SOCIETY.

September 20th.

Fruit Committee.—G. F. Wilson, Esq., F.R.S., in the chair Mr. William Paul, of Waltham Cross, sent three very large bunches of a new Grape, called Winter Muscadine. Each of them was between 4 and 5 lbs. in weight. The berries are white, and become yellowish when ripe, and the flavour is that of the Royal Muscadine. The Committee, while admiring the magnificent bunches, were of opinion that they were not quite ripe, and requested Mr. Paul to exhibit it a little later in the season. Mr. Earley, gardener to C. M. Inglehy, Esq., Valentines, Essex, sent a bunch of Black Hamburgh Grapes, cut from the parent of the great Vine at Hampton Court. Though the bunch was one of sixteen grown on a rod 18 feet long, it was of large size, and the berries were large, well-coloured, and of good flavour, shewing that there is still considerable vigour in the old Vine. Mr. William Paul sent a collection of eighteen different varieties of Plums. Mr. George Lee, of Clevedon, near Bristol, sent fruit of Pond's Seedling, or Fonthill Plum, with the accompanying account of it—

"Clevedon, September 19th, 1871.

"Dear Sir,—I sent off this morning a little box containing four Plums, another sport, but the whole tree this time. The graft was from Fonthill, but you will see the fruit is not so tapering at the stem, is darker, a little earlier, and the wood buds and leaves quite distinct from that variety.

"The tree is about ten years grafted, is about 7 feet high. It was grafted about 6 inches from the ground. The first shoot the graft made, about 2 feet in length, was quite void of any buds; the next year it started from the extremity, but has grown very slowly compared with other trees of the same age and under the same circumstances, girth above and below the graft 4 inches. I measured another Fonthill tree, same age; this is 12 feet high, and girth above and below the graft 7 inches; but they are and have been in a nursery for want of room, but removed. The branches of the sport have been several times cut back; the under ones are about 1 foot 9 inches, and those towards the top about 1 foot in length. I have not the least idea what the stock is, but I will try and ascertain by taking up some roots. The ordinary size of the fruit is about four times that of the Plums sent. It is sometimes quite egg-shaped, and very distinctly spotted all over.—I remain &c., George Lee."

Mr. H. Eckford, Coleshill Gardens, Highworth, sent a seedling Nectarine, called Coleshill, the flavour of which was inferior. Mr. W. Paul sent a dish of Pears, among which were Summer Franc Réal, Poire Pêche, Williams's Bon Chrêtien, and Autumn Bergamot. Messrs. Rivers & Son, of Sawbridgeworth, sent a collection of ten small pyramidal Plum trees, literally studded with fruit, and they were the admiration of the Committee. They consisted of Belle de Septembre, Late Black Orleans, Autumn Compôte, Imperiale de Milan. To these a special certificate was awarded. Mr. R. Fenn, The Rectory, Woodstock, exhibited three dishes of Apples—one, the Ribston Pippin on the Apple stock, another the Ribston Pippin growing on its own roots, after being grafted on a seedling from Blenheim, and a third the Ribston Pippin grafted on a stock raised from seed of the Blenheim Pippin. The fruit of the last was certainly altered in its character and appearance. Mr. Squires, gardener to H. G. G. Ludlow, Esq., Heywood, Westbury, sent a dish of Nectarines, called Heywood Seedling, but the flavour was not equal to other varieties in cultivation. Messrs. Sutton & Son, of Reading, sent a brace of very handsome Cucumbers, called Marquis of Lorne, cut from a plant which has been producing fruit since May last.

Mr. J. May, The Gardens, Hayling Island, Hants, sent a dozen Shallots, weighing 4 lbs. They were considered by the Committee the finest they had ever seen, and were awarded a special certificate. Mr. Piccirillo, of Wigmore Street, sent four heads of Garlic of immense size, weighing 2 lbs. 6 ozs., and two roots of the Giant White Tripoli Onion, one weighing 3 lbs. 13 ozs., and the other 3 lbs. 11 ozs. Their circumference was 2 feet 1 inch. They were awarded a special certificate. Messrs. Criscuolo, Kay, & Co., Gracechurch Street, sent a collection of Italian Onions, among which were the Red Maggiola, Early White Maggiola, and Blood Red Tripoli. They were awarded a special certificate.

Mr. Thomas Simpson, the gardens, Broomfield Lodge, Chelmsford, sent tubers of what was supposed to be a graft hybrid between the Potato and the Jerusalem Artichoke, but in the opinion of the Committee no union had taken place between the two tubers. Collections of Potatoes were exhibited by Mr. R. Fenn, of Woodstock, Messrs. Sutton & Son, of Reading, Messrs. J. & C. Lee, of Hammersmith, and Mr. Richard Dean, Bedfont, to each of which a special certificate was awarded. Mr. Fenn also exhibited a collection of seedling Potatoes of a very interesting character, illustrating his mode of crossing different varieties to obtain those varieties he is desirous of establishing in general cultivation. The collection was awarded a special certificate.

Prizes were offered for the best and second best dish of dessert

Apples, and were awarded to Mr. Gardiner, gardener to E. P. Shirley, Esq., Lower Eatington Park, Stratford-on-Avon, and to Mr. Craddock, gardener to Lord Willoughby de Broke, Compton Verney, for Ribston Pippin.

The best dish of Pears was Bon Chrêtien Fondante from Mr. Bray, gardener to E. A. Sanford, Esq., Nynehead Court; the second best being Jersey Gratioli from Mr. Tranter. The other dishes shown were principally Williams's Bon Chrêtien and Marie Louise.

The only collection of Tomatoes came from Mr. Earley, Valentines, Essex, and consisted of the Red Cherry, Orangefield, Tomate de Laye, and a kind called Earley's Defiance.

Floral Committee.—W. Marshall, Esq., in the chair. Before proceeding to other business Dr. Denny moved the following resolution, which was seconded by W. Beattie Booth, Esq., and carried unanimously—viz.,

"That this Committee is desirous of recording their deep regret at the loss they have recently sustained by the death of their much-esteemed Chairman the late Rev. Joshua Dix, whose genial and kindly disposition, and universal courtesy attached each member personally to himself, and whose business-like habits, in conjunction with his knowledge and love of floriculture, pre-eminently fitted him for the post he filled.

"Moreover, devoting as he did a large portion of his time and energies with untiring zeal to the advancement of floriculture, and to maintain the usefulness, popularity, and honourable position of the Royal Horticultural Society, his loss will long be felt and deplored not only by the Committee over which he so ably presided, but by all connected with the institution."

It was further resolved that Mrs. Dix be written to, and the sorrow of the Committee expressed at the loss which she and they had sustained.

Prizes were offered on this occasion for the best twelve double Zinnias. Mr. G. Wheeler, Warminster, was first with large, very double flowers, varying in colour from bright scarlet to orange and buff, others being purplish rose; Mr. Bray, gardener to E. A. Sanford, Esq., Nynehead Court, Wellington, was second, and Mr. B. Porter, gardener to Mrs. Benham, Sion Lodge, Isleworth, third.

For Double Stocks there was also a class, but no exhibitor came forward; and of twelve Pentstemons there was only one stand, which came from Mr. Porter, Isleworth, and took a first prize.

For three feathered Celosias a second prize was given to Mr. S. Thorn, gardener to E. Buckingham, Esq., North Hall, Hampstead. There were classes for Helichrysums and Begonias in pots, but no exhibitor came forward except Mr. Bull, who had a first prize for well-flowered plants of Begonias Glitter, Miniata, and Carminata, the others being leaf kinds.

Messrs. Veitch sent a group of plants for which a special certificate was given. Among them were several Agaves. A. rotundifolia received a first-class certificate, and of the others A. scabra was of a glaucous hue, while A. streptacantha was of a sea green. Vriesia brachistachys, with yellow and brilliant crimson spikes, had a first-class certificate. In the same group were several plants of the Amaranthus salicifoline, introduced by Mr. John Gould Veitch, which was figured last week, as well as the pretty dwarf Thymus citriodorus aureo-marginatus with dark green leaves, deeply edged with yellow; a fine pan of the singular Venus's Fly-trap, Dionæa muscipula, Cattleya maxima, Lasiandra macrantha floribunda, one of the most showy of Melastomads, but in the specimen exhibited with only one flower, and that of a colour much wanted in our exhibition plants—namely, violet; Oncidium trulliferum, Cattleya Devoniensis, and Aphelandra aurantiaca Roezlii, with splendid orange scarlet flowers and leaves veined with grey.

Mr. Denning, gardener to Lord Londesborough, Grimstone Park, Tadcaster, sent a fine group, for which he received an extra prize and a special certificate. In this were three magnificent plants of Vanda cærulea, two of them with one spike each respectively with fourteen and fifteen flowers, and the other with two spikes. The effect of the masses of large pale blue flowers was superb. In the same group were fine examples of Oncidium macranthum, Epidendrum dichromum amabile, Lycaste Schilleriana, together with Odontoglossum Galeottianum, white, barred with brown at the base of the petals, and streaked with yellow on the lip, and Peacatorea Wallisii, white, tipped with purple, and the lip violet purple, except towards the base. This had a first-class certificate. Mr. Denning likewise sent three fine plants of Dendrobium chrysanthum, one plant having a flowering length of raceme 2 feet in length, covered with the rich yellow crimson-spotted flowers. Mr. Bull sent an Alocasia, stated to be a hybrid, but very like Lowii. From Mr. Russell, Mayfield, Falkirk, came a magnificent cut spike of Saccolabium Blumei Dayanum 20 inches long, crowded with flowers, but bifurcated near its lower extremity. It may be questioned whether this was not a case of fasciation—the union of two flower stems. We believe this exhibition was recommended to the Council by the Committee as being worthy of a medal. A special certificate was also given Mr. Russell for a fine cut spike of Cattleya elegans.

From Messrs. Carter & Co. came Capsicum Princess of Wales, used in the public gardens at Milan for bedding, where it is said its red pods last season were much admired after the leaves had been destroyed by frost. The same firm also sent the Begonia exhibited at the previous meeting. From Messrs. Cripps, Tunbridge Wells, came Begonia Pearcei rosea, a showy variety with large pale red flowers.

Mr. Barrance, Burton Road, Lichfield, sent Bronze Geranium Earl of Lichfield, a pretty variety; Mr. Wilson, gardener to W. Marshall, Esq., Enfield, double-flowered Geranium Katie Marshall, a seedling from Triomphe de Thunnesnil, with fine large scarlet flowers, but deficient in size of truss; Mr. G. Smith, Edmonton, several seedling Zonal Geraniums with very large fine-formed flowers, but not, apparently, from the want of buds, blooming in long succession. Mr. Thorn sent grafted Fuchsias, dark and light kinds being worked on each other. From Mr. W. Paul, Waltham Cross, came a fine collection of Roses, and splendid collections of Gladiolus and cut flowers of Geraniums. For the last two as well as for the Roses a special certificate was given. Mr. Knight, Hailsham, had a first-class certificate for climbing Rose Princess Louise Victoria, which was exhibited on June 21st. It is of a perpetual character, and of robust growth.

Mr. Green, gardener to W. Wilson Saunders, Esq., Hillfield, Reigate, had a first-class certificate for Hechtia argentea with silvery leaves; the same exhibitor also had Adamia versicolor with purplish lilac flowers, and small globular blue flower buds produced in great abundance.

Of new Dahlias there was a large number. Mr. Turner, Slough, again exhibited John Standish and Mrs. Saunders, which had a first-class certificate at the last meeting. Mrs. Waite which had a second-class certificate then, had one of the first-class. Livonia, beautiful rose, had one of the first-class, also Mephistopheles, large, rich maroon. Second-class certificates were given for Master McGrath, magenta; Ranunculus, Yellow Standard, and Bucks Lass. We also noticed Black Bess, claret; and George Eyles, the latter very showy, golden yellow edged with red. From Mr. Turner came also two stands of Pompon Dahlias, comprising North, White Aster, and other showy little varieties. Mr. Rawlings, Romford, had second-class certificates for Golden Beauty, yellow, and Mrs. Bennett, lilac. Mr. Lidgard again exhibited Model, which had a second-class certificate at the last meeting. Mr. Parker, Maiden's Green, Winkfield, had a first-class certificate for Admiration, an extraordinarily showy Fancy Dahlia, yellowish cream ground streaked with purplish crimson, and a certificate of the second class for John Batten, dark maroon. Mr. Wheeler, Warminster, and several others also exhibited seedlings, but as none obtained even a second-class certificate, it is useless describing them.

Mr. Eckford, gardener to the Earl of Radnor, Coleshill, exhibited several fine seedling Verbenas, of which the following had first-class certificates—namely, Lady Braybrooke, white, rose eye, fine; Lady Gertrude, pale lilac, with a purple eye; and Mauve Queen, purplish lilac.

Messrs. Osborn & Son, Fulham Nurseries, exhibited flowers of several varieties of Hibiscus syriacus, and fruit of several kinds of Pyrus, &c.

IVY WITH ROSES.

One of your late correspondents inquired whether Ivy and Roses could be grown together upon a wall. I was indebted to the lamented Donald Beaton for having given me instructions how to effect this. He recommended that strong-growing Roses should be planted at the same time as the Ivy, which would prevent the latter gaining the pre-eminence. This plan I adopted upon a long wall 10 feet high, selecting the strongest of the Bourbons, and of course taking care to have plenty of well-rotted dung, &c., at their roots. The result fully bore out the excellency of the advice, for the Ivy-covered wall was a marvel of beauty, with its wreaths of Roses, especially in the autumn when Roses became scarce; the background of dark green giving a charm to the flowers which could scarcely be appreciated unless seen.—Hortator.

LA VERSAILLAISE RED CURRANT versus APHIDES.

In your issue of the 7th inst. I was pleased to observe Mr. Luckhurst's testimony in favour of the apparent capability of this variety to resist the visitation of the aphides, which so universally attacked the majority of the fruit trees all over the country during the past season. I regret, however, my inability to corroborate Mr. Luckhurst's experience therein, inasmuch as with me La Versaillaise was amongst one of the first infested and consequently injured. Hence I am inclined to infer that causes other than the mere inherent constitution of this particular variety must be assigned to the immunity enjoyed by the bushes in question—an inference further supported by the fact that in a few instances the common red variety, which is distributed over the greater portion of the garden here, chiefly in a single row by the sides of the walks, escaped with impunity; whilst in other instances the villainous crew attacked in "high force," then apparently swept over the garden

in drifts, and commenced to exercise their predatory propensities irrespective of variety.—WILLIAM GARDINER, *The Gardens, Lower Eatington Park, Stratford-on-Avon.*

CATERPILLARS ON SCOTCH FIRS.

I SEND you a small branch cut off a Scotch Fir tree in a young plantation, which you will perceive is entirely covered with a peculiar kind of caterpillar. Numbers of Scotch Firs are affected in the same way, but though there are Larch and Spruce Firs on all sides of them, the caterpillars have not touched one, but have confined their depredations to the Scotch Firs. We have never had an instance of the kind before, and I shall feel much obliged if you or any of your correspondents can tell me how to get rid of the caterpillars. I have had them picked off the young trees by hundreds, but it is almost impossible to take them all off in a large plantation.—JOHN MASSY, *Lareen House, Kinlough, Bundoran, Ireland.*

[The Fir spray was truly enveloped by the caterpillars. They are the larvæ of the Pine Saw-fly, Tenthredo Pini. They are great scourges of the Pines in Germany. The woodpecker eats the caterpillar, and the field mouse the pupæ, into which form the caterpillar usually passes in the soil beneath the trees. Dusting with quicklime might destroy them. We shall be glad to hear from correspondents on this subject.—EDS.]

NEW BOOK.

Hardy Flowers: Descriptions of Thirteen Hundred of the most Ornamental Species, &c. By W. ROBINSON, F.L.S., &c. London: F. Warne & Co.

THIS is a very useful volume, and the nature of its contents will be best made known by two extracts:—

"The only phase of the culture of the subjects embraced by this book that requires any elucidation from me, is the culture in pots, a way in which but few persons will grow them. But, for the reputation of these plants, it is very desirable that they should not be shown in the wretched condition in which they are usually seen at our shows. Anything that really requires to be stated as to the general culture of hardy perennials in the open air, in borders, &c., will be found under the head of the Mixed Border; while the culture of the fastidious alpine plants is fully described in 'Alpine Flowers.'

"We are pre-eminently great at exhibiting; our pot plants are far before those of other countries; specimens are to be seen at every show which are models not only as regards beauty, but as showing a remarkable development of plant from a very small portion of confined earth exposed to many vicissitudes; yet in one respect we have made no progress whatever, and that is in the pot-culture of alpine and herbaceous plants for exhibition purposes.

"Prizes are frequently offered at our flower shows for these plants, and usually awarded, but the exhibitors rarely deserve a prize at all, for their plants are usually badly selected, badly grown, and such as never ought to appear on a stage at all. In almost every other class the first thing the exhibitor does is to select appropriate kinds—distinct and beautiful, and then he makes some preparation beforehand for exhibiting them; but in the case of our hardy subjects, anybody who happens to have a rough lot of hardy miscellaneous rubbish exhibits it, and thus it is that I have seen such beauties as the following more than once exhibited: a common Thrift with the unremoved dead flower-stems drooping over the green leaves; a plant of Arabis albida out of flower; the Pellitory-of-the-wall, which has as little beauty in flower as out of it; not to speak of a host of worthless things not in themselves ugly, but far inferior to others in the same families. What would become of our shows if the same tactics were carried out in other classes? Even the most successful exhibitors are apt to look about, a day or so before a show, for the best flowering cuttings of such things as Iberis correæfolia, and, sticking four or five of these into a pot, present that as a "specimen." Now, what is so easily grown into the neatest of specimens as an Iberis? By merely plunging in the ground a few 6-inch pots filled with rich soil, and putting in them a few young cutting plants, they would, 'left to Nature,' be good specimens in a short time, while with a little pinching, and feeding, and pegging-down they would soon be fit to grace any exhibition. So it is with many other things of like habit and size—the dwarf shrubby Lithospermum prostratum, for example; a little time and the simplest skill will do all that is required. Such subjects as the foregoing, with tiny shrubs like Andromeda tetragona and A. fastigiata, the Menziesias and Gaultheria procumbens, the choicer Helianthemums and dwarf Phloxes, and many others enumerated in the selections of exhibition plants at the end of this volume, might be found pretty enough to satisfy even the most fastidious growers of New Holland plants.

"The very grass is not more easily grown than plants like Ibarises and Aubrietias, yet, to insure their being worthy of a place, they ought to be at least a year in pots, so as to secure well-furnished plants. Such vigorous subjects, to merit the character of being well grown, should fall luxuriantly over the edge of the pots, and in all cases as much as possible of the crockeryware should be hidden. The dwarf and spreading habit of many of this class of plants would render this a matter of no difficulty. In some cases it would be desirable to put a number of cuttings or young rooted plants into 6-inch pots, so as to form specimens quickly. Pots of 6 inches diameter suit well for growing many subjects of this intermediate type; and with good culture and a little liquid manure it would be quite possible to get a large development of plant in such a comparatively small pot; but if very large specimens were desired, a size larger might be resorted to."

"PHLOX SUBULATA (*Mossy P.*).—A pretty dwarf kind, with creeping, tufted stems, densely clothed with narrow moss-like leaves. *Flowers*, in April and May, in great profusion; pinkish purple, with a darker centre (sometimes white), in few-flowered corymbs; lobes of corolla wedge-shaped, notched, rarely entire; tube of corolla arched. *Leaves*, from ¼ to ½ in. long, awl-shaped, or narrow-lance-shaped, fringed on the edges, pubescent, rigid. A variety, *P. setacea*, has smaller flowers, with a straight tube, and a paler centre; its leaves also are not ciliated on the margin; the white-flowered form is grown under the name of *P. Nelsoni*. North America.—The rock garden, borders, in tufts, on the edges of beds of low shrubs, in the small rings at the base of standard Roses, and in many like positions, in rather moist, sandy loam. Division.

"VILLARSIA NYMPHÆOIDES (*Common Villarsia*).—An attractive British aquatic, with simple leaves (like those of a Water-lily but smaller) floating on the surface of the water. *Flowers*, in summer; yellow, borne singly on stalks as long as those of the leaf. *Leaves*, heart-shaped or roundish, on long stalks; stems creeping and rooting at the base, dichotomous, and ascending to the surface of the water, with a single leaf at each of the upper branches, and a terminal tuft. Europe and Asia, and many places in England and Ireland. —— Lakes, ponds, and quiet bays in streams. Division."

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 18.

SURELY the little moth called the Vapourer (Orgyia antiqua), is one of the liveliest of his family, or at least the male of the species, for while he is gyrating in the summer sunshine his better, or at least his plumper, half sits in comparative obscurity, deprived by nature of the power of flying. What there is of antiquated aspect about the species to give rise to the Latin name I can hardly determine; the English name was suggested by the peculiar mode of flight of the male insect. But though called a vapouring, it is really such an irregular capricious movement as to be scarcely definable; and this moth can, if alarmed, career along at a pretty good speed in a straight line, though a zigzag course suits it best when at ease. Seen about the London parks and squares, it is occasionally designated by the bypasser as a brown butterfly, from the fact of its being on the wing in the day, and it is chased by many a child with varying success. The fact is interesting, that only one British species is known which closely resembles the one before us, and it is as rare as its relative is common.

The caterpillar of the Vapourer moth must at some time or another have come under the notice of every gardener who keeps an eye upon the insect life about him, as all gardeners might be expected to do. It appears to feed on all sorts of trees and shrubs, and even on low plants too, should it fall by accident upon anything to its taste. I fancy the species has rather a partiality for cultivated, or at least for enclosed ground, though it is also found in woods, fields, and other localities in the open country. It can hardly be said to occur in sufficient abundance to do any positive injury, yet I have seen some fruit trees nearly denuded of their leaves by the jaw work of these caterpillars, for they are very voracious feeders. One of the singular circumstances connected with the history of the Vapourer is the fact that the moths, chrysalids, and caterpillars may all be found together at a certain period of the summer. This is because the eggs are hatched a few at a time, not simultaneously, as in many species, so that there may be an interval of a couple of months between the emergence of the first young caterpillar each season and the appearance of the last. Mr. Newman first noticed this circumstance in print, and it partly explains why the ravages of the caterpillar are comparatively inconspicuous—namely, that the individuals are not all feeding at the same time, but appear in successive batches.

In the winter months a glance at the walls or fences of a garden, or the bare twigs, will often reveal the cocoon and eggs of this species, since it passes the winter in the latter condition. If the horticulturist is a sworn foe to all caterpillars, large or small, troublesome or harmless, he will probably squash or burn these, and nip these germs of life in the bud. But is it not surprising that these eggs stand the severest cold of winter without having their vitality impaired, though the shell is much

thinner than that of birds' eggs? It has certainly in most cases a remarkable toughness as well as elasticity. The contents of the eggs of butterflies and moths are also fluid, yet when plunged in strong freezing mixtures they do not solidify. These eggs of the Vapourer are, as already remarked, deposited in the cocoon, yet not to any extent protected thereby, though some theories have been spun out of this fact, and also out of that of the winglessness of the female—theories which it is really scarcely necessary to touch upon. One thing is certain—that the eggs of the Scarce Vapourer are deposited in exactly the same situation, and they are hatched in the course of a week or two. Occasionally, also, the eggs of the commoner species are some of them hatched the same summer.

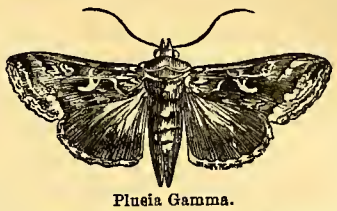
Different caterpillars of the Vapourer vary much in colour, but the full-grown female caterpillar can generally be distinguished from the male by its greater size, and, as I fancy, it is not quite so hairy. The ground colour is shades of grey, brown, and pink, the most prominent peculiarities being the fine "brushes" of hairs, which are elevated on the back, and a slender tuft in the last segment, while from the second segment there spring two pencils of hairs, which are black and diverge from each other. In constructing its cocoon this caterpillar removes its investiture of hairs, and weaves them in with the silk, of which it has, seemingly, but a poor supply.

Another hairy caterpillar, which is common upon fruit trees about London in the month of September is that producing the moth called the Daggers (Acronycta Psi), the species receiving its name from some peculiar marks in the fore wings, variously compared to the shape of a dagger, or to that of the Greek letter *psi*. The perfect insect is frequently to be seen reposing on the trunks of trees in June. The eggs of the species have not as yet come under my observation, but I suspect they are deposited on the leaves of the trees on which the caterpillar is found, not on the trunk or branches. It appears to be partial to the Pear, though feeding rather indiscriminately on trees, rarely upon shrubs. This caterpillar may be at once recognised by a singular lump of a deep black, which rises from the fifth segment, and which is long and perpendicular; at the anal extremity of the body is a smaller and broader protuberance. The colour generally is a mixture of yellow and black: the head is black and very shining, as is the case with all the Acronyctas. It is rather curious that another species, A. tridens, so nearly resembles this in the imago state that few entomologists can distinguish them. The caterpillar is markedly different, proving the genuineness of the species. It is far less abundant.

Another autumnal moth, much larger than the two just described, and which appears to be pretty generally distributed throughout the British islands, is the sombre-looking creature called the Old Lady (Mania maura), and it is a frequenter of gardens. It is not at all an active species, though it will flap along in a sort of stealthy manner to the sweet compounds which insect-hunters spread sometimes upon the trees as baits for moths. In fact this Old Lady, like other ancient dames two-footed and not six-footed, has several peculiarities. Mr. Newman observes that "it is fond of resorting to summer-houses, boat-houses, sheds, &c., in the interior of which it may frequently be observed in the daytime sitting on the inner surface of the roof. I once counted twenty-eight in a boat-house at Godalming. A marked specimen has been noticed to return to the same house after being repeatedly rejected." Quite true to character this, old ladies are generally obstinate. But the Old Lady moth has another penchant, which is decidedly not one in which we can sympathise, and this was first pointed out to me by a non-entomologist. In addition to the resorts above named the Old Lady moths are often found in certain places of retirement which it is hardly necessary to name; and this taste is not much more to the credit of the species than the partiality shown by some of our butterflies for decaying or decomposing animal matter.

The caterpillar of M. maura, like those of some other Noctuæ, feeds both upon low plants and trees; when in a garden it prefers fruit trees. I think that in some seasons the caterpillars feed occasionally during the winter on such plants as Dock and Chickweed, being hatched in the autumn. It ascends the trees in spring with the first appearance of leaf-buds, and is full grown during May. This caterpillar is not often observed, as I believe its habit is to extend itself upon the branches during the day, where its dull brown hue matches very nearly with the colour of the bark. It is of good size, with a small head, and has a very velvety feel.

The insect shown in our figure is one which has at times been the source of some alarm to gardeners, and not without a show of reason. In our gardens the caterpillar is common enough at times to be deemed a pest, and yet, as far as I know, it does not do us material injury; partly because it feeds on various plants, and therefore its ravages are less marked than if it attacked only one or two species, and partly because the moth shows no special liking for cultivated ground, but flies about and deposits its eggs indiscriminately, preferring open places to woods. The Silver Y, or Gamma moth (Plusia Gamma) occurs throughout Great Britain and Ireland, being on the wing in greater or less numbers from the end of May to October. The species is one which all young entomologists are sure to make acquaintance with pretty soon in their excursions, and before long they get to regard it as somewhat of a nuisance. The singular silvery mark which adorns the wings of P. gamma is found in other species of the same genus; and unquestionably, if this moth were not so common it would be regarded with admiration.



Plusia Gamma.

We discover the caterpillars of the Silver Y both in the kitchen and the flower garden feeding on a great variety of plants, but rarely or never ascending trees. I have seen Hollyhocks almost defoliated by them, and Newman states that in his garden he has noticed them every year upon a Hop vine. This caterpillar belongs to what are known as the Half-loopers, and when it is reposing it arches its back and tucks in its head. The colour is greenish, marked with white stripes. There appear to be two broods of the caterpillars annually, one feeding-up in early spring, the other in the autumn, some individuals of each brood growing more slowly than the rest of their brethren.

Kirby and Spence give a dismal account of the devastation committed by this moth in one instance. They say, "In the year 1735 it was so incredibly multiplied in France as to infest the whole country. On the great roads, wherever you cast your eyes, you might see vast numbers traversing them in all directions to pass from field to field, but their ravages were particularly felt in the kitchen gardens, where they devoured everything, whether pulse or pot herbs, so that nothing was left besides the stalks and veins of the leaves. The credulous multitude thought they were poisonous, report affirming that in some instances the eating of them had been followed by baneful effects. In consequence of this alarming idea herbs were banished for several weeks from the soups of Paris. Réaumur has proved that a single pair of these insects might in one season produce 80,000." With all deference to so great a name, I feel inclined to doubt whether the latter fact is to be regarded as unquestionably demonstrated. We may keep down the Gammas within certain limits by the adoption of several plans. The eggs may be looked for as they are deposited in small clusters on the leaves, or the caterpillars may be hunted up at early morning especially, for it is true in this, as in other species, that as the early bird catches the worm, so the early gardener secures the caterpillars. A good quantity of the pupæ of the species may be got by exercising a little observation at the right season, as they are not subterranean, but spun up in white cocoons of silk in different plants. Or lastly, to while away an idle hour, the horticulturist might take a net and chase the perfect insects which come freely to flowers, but it can hardly be expected that many will adopt this mode.—J. R. S. C.

NOTES AND GLEANINGS.

There are no less than fifty-nine species of Urtica, more or less distributed over India, most of these possessing textile fibres of great strength and utility. A few of the family are armed, and possess a great deal of venom in their sap; of the latter class we possess on the north-east frontier, and in Burmah, the powerfully-stinging U. heterophylla. However, its pain is only transient; but there is a terrible tyrant of the woods, U. crenulata, which inflicts dangerous symptoms and awful sufferings for ten days, on the slightest touch. Swellings, sneezings, contractions of the jaws, and other tetanic signs rapidly follow a single prick. In the Calcutta Botanic Gardens a French traveller and a workman were stung, and each suffered the above penalty of contact. It was many years afterwards that in the forests of Assam I first made ocular

acquaintance with the "Demon Nettle," as it is called in the island of Timor, another habitat of this ferocious weed. These dreaded guardians of the wilderness attain a stature of 10 or 12 feet, the stems about as thick as a human arm; they are equally shunned by man and beast, and wherever their dense columns are viewed, a hasty retreat is the rule. Occasionally, a high wind will carry the invisible particles and spicula of the pest into a clearing, and soon inflict pains and ailments on the naked squatter. I never feared the plant by daylight, having a quick eye and a ready hand; but it is on those occasions of being benighted or losing your way in such trackless regions that the danger falls on the wanderer sudden and unexpected. With thick backwoods clothing and stout buffalo-hide gloves, my face ran the one sole risk; but it was otherwise with my half-clad native followers and the laden elephants. The latter wise creatures I really believe are guided by acute powers of smell, and I frequently noticed they seemed to swerve from the straight line of travel in alarm at something unseen, probably this vegetation, as we moved along in the darkness, with merely a course set by the stars or the compass!

The Snowy Nettle (Urtica nivea), is unarmed, still more common, and attains the same size as the last-described species: it is known as Bun Rhea, or the wild Rhea, in contradistinction to Boehmeria, or true Rhea, to which it is closely allied. My canoemen, woodsmen, fishermen, &c., all used this very valuable fibre; after beating and washing off the pulp, we employed it for almost all the purposes of hemp, but it is very far superior for all aquatic purposes, as it does not readily rot by moisture or exposure.

Boehmeria, the Rhea of commerce, is largely cultivated in the frontier villages, being the material of which the nets, fishing lines, &c., of the country are manufactured. The fibre is solely stripped off by women and children with the rudest tool imaginable, and hitherto no machine has been found to equal it for cleanness of produce, though, of course, a very slow mode of manipulation. It is one of the most handy plants, also one of the many economic products which were originally introduced into north-east India by the Shans, a people of the Siamese stock. The tool above mentioned merely consists of an old knife blade and a flat piece of bamboo, held together in the fingers to act as a plane.—Eos.—(*English Mechanic and World of Science.*)

THE REV. JOSHUA DIX.

It is with the most painful feelings that we have to record the decease of the Rev. Joshua Dix, M.A., which took place at Langley, near Slough, on the 12th inst. Long a member of the Council of the Royal Horticultural Society, ever taking an active interest in horticulture, and especially in its floricultural branch, his sympathies were too wide to be restricted to this one branch alone, and as a member of the Council of the Society, and as the first Chairman of the Floral Committee, we have reason to believe it was through his influence that much of the useful work which of late years has been carried out by the Society was undertaken. As a member of Council and as Chairman of the Floral Committee, he had at once an opportunity of rendering invaluable service to the Society by representing in the proper quarter any misunderstanding that may have arisen between the governing body and the practical element of the Society. His uniform courtesy and geniality endeared him to all who had the privilege of his acquaintance, and the active members of the Society will long cherish the remembrance of the pleasant days when Mr. Dix laboured in the midst of them.

After the meetings of the Committees of the Royal Horticultural Society yesterday for ordinary business, they adjourned to initiate a memorial to the memory of the late Rev. Joshua Dix. It was proposed by the Rev. H. H. Dombrain, and seconded by Dr. Hogg, that a portrait of the Rev. Joshua Dix be procured, and, with the permission of the Council, suspended in the Council-room of the Royal Horticultural Society, at South Kensington. A subscription list was opened in the room, and upwards of £20 was subscribed. Due publicity will be given to the subject, and it is hoped that all who knew Mr. Dix, and valued the work he has done for horticulture, will aid in this laudable object.

Influence of the Scion upon Stock in Inducing Variegation.—A well-marked illustration of this has recently been noticed by us at Mr. Noble's nursery at Sunningdale. The Golden-variegated Weeping Mountain Ash, two years grafted, standard high, on the common Mountain Ash (Pyrus Aucuparia), had in four separate cases thrown out from the stock variegated shoots—one from the very base close to the ground, and the others about half-way up, about 3 feet or 4 feet from the base. The variegation was whiter than that of the graft, and seemed to be first developed along the midrib of the leaflets, some leaves being only affected in this way, while others had the colour also developed along the course of the main veins.—(*Florist and Pomologist*).

EUCHARIS AMAZONICA CULTURE.

The Eucharis amazonica is one of those plants which amply repay all the attention bestowed upon them. When in bloom, who does not admire their snow-white flowers, contrasting so well with the fine glaucous foliage when in good health? One of its greatest recommendations is, that it can be had in flower at any time by a little forethought and attention to its growth. We find them very useful to come in about Christmas and the spring months. Now is a good time to look them over and see if any require fresh potting; if so, let it be done at once, carefully shaking out the bulbs, as the roots are easily broken off. Arrange the bulbs according to their sizes, putting the large ones into their flowering-pots at once, but not too many bulbs of the largest size in one pot; if too close together the foliage has not room to fully develope, and the flowers suffer. The smaller ones, being put into small pots, will require a shift whenever the roots appear at the side of the pots. This lot can be grown on in autumn—a month or six weeks later than the large ones—and will make a fine succession of bloom the following spring. We find a good fibry loam, chopped up rather rough, with a good quantity of old Mushroom dung sifted through a fine sieve, with a sprinkling of silver sand well mixed, suits them well. In potting, great care should be taken to have the pots well drained, as they are very impatient of stagnant water, although, when growing, they delight in plenty of moisture both at the roots and in the atmosphere.

After potting they should be placed where they can have a temperature of from 65° to 70° at night, with a rise of 16° by day. They are all the better of a little shade on bright days. After they are in full growth a little manure water may be given with advantage; and if a little soot is mixed with the above water, it gives the foliage a brighter appearance. Grow them on in this temperature until about the middle or end of September, the smaller bulbs later, as recommended before, and gradually harden them off until they can stand in a temperature of from 50° to 55°. If there is not much room at command, lay them on their sides under a stage where they can have the benefit of light. Here they may remain for about six weeks, giving little or no water, but syringing them well every day. When wanted to start, let them be taken to the potting-bench, examine the drainage, give them a rich top-dressing; if found to be rather dry, place them in a bucket of tepid water until the ball is thoroughly wet. By plunging the pots in a bottom heat of 80°, with top heat at from 60° to 65°, attending to them well with water both at the roots and syringing frequently through the day, if properly treated before, they will soon begin to throw up their flower stems. We have had plants in bloom which stood for four and five weeks in an entrance-hall in the month of January.—(*The Gardener.*)

PROTECTING FRUIT FROM WASPS.

Wasps and large blue flies have been troublesome within the last fortnight. Before that we did not see a wasp without chase being given, and in most cases he was caught. Whenever they show themselves earlier, the true policy is to give them tempting bottles to go into and drown themselves in the sweet rich liquid. When once their feet are wet and their wings drenched they are powerless to ascend by a smooth glass surface. When they come on us so suddenly there is little chance of enticing them when comparatively few in numbers, though such bottles will help to thin them. We have had as yet no opportunity of testing the mode of killing them advertised in our pages. For a simple trap nothing is better than two hand-lights, the lower one set on four bricks, with a hole or two made in the apex of the glass; the upper glass is set on the top of the lower one, and the space between carefully stuffed with moss, and covered with sand; or stiff clay may be used. A saucer with sweet liquor and decaying fruit is placed in the centre of the lower glass. Wasps and large flies soon

find it out, and after taking what they want, very seldom have the wisdom to go out as they came in. Like higher races of existence whose soaring ambition too often proves their ruin, they fly upwards, find the holes in the hand-light, get through, and fly about in the upper glass until they fall down exhausted. Those who cannot bear the sufferings even of a wasp unmoved, may put all such quickly out of pain and trouble by lighting a paper dipped in brimstone in the lower glass in the evening, and the fumes will be almost dissipated before the morning.

The best security for in-door crops is to stretch some fine gauze netting over the openings intended for ventilation, so as to allow the air freely to pass, and yet keep out wasps and even small flies. On walls—after syringing well to dislodge ants and woodlice, and tarring the bottom of the wall, or even running a cordon of fresh soot along—much may be done to keep away all intruders by covering with fine Nottingham netting, making it secure to the top and bottom of the wall by list or tape. Small pieces may be used to cover individual fine fruit, but it is often difficult to fasten it properly about the stem when the footstalk, as in the case of Peaches and Nectarines, is short. We have often used cotton wadding with good effect, placing it thinly round the fruit, the paper side inwards and the woolly side outwards. Hardly any insects will venture on the loose cotton, as their feet become clogged up and entangled. Put on very thinly, the flavour and colour were little injured.

One of our cheapest resources, however, for fruit out of doors when insects and birds threaten to have more than their legitimate share, is to gather a good quantity of fruit before it is fully ripe—so ripe as to tempt the marauders, and then assist them to ripen with a little heat in rather a close vessel, so as to prevent the juices of the fruit evaporating. We often help Peaches, Nectarines, Plums, Apples, and Pears in this way, and, full of rich juice, no one would know at the dinner-table that they had not been taken ripe from the tree the same day. The birds have begun on some of our latest and hardest Pears, and for that there is no remedy, as they would shrivel if gathered. When the first Pear of Williams's Bon Chrêtien was picked, we took that as a hint to gather a lot of the most forward fruit, and to place them, covered up at first, where they would, after a little full exposure, be juicy and mellow. Much may be done in this way to secure untouched fruit when other means are wanting.—R. F.

BICTON.—No. 2.

The Residence of Baroness Rolle.

The Vines at Bicton could not have been in a satisfactory state in 1869, neither are they at the present time. Several new Vine borders, however, have been made by concreting, dividing, draining, and ventilating. The late vinery in the kitchen garden is a fine house 68 feet long by 16 feet 6 inches in width, the Vines in which are planted in an inside border at about 2 feet apart. These Vines are said to have been planted about twenty years, and soon afterwards mildew is said to have taken and kept possession almost to the present time. Scraping off the Vine bark in the winter, and proper dressings, followed by summer sulphurings seem to have conquered the mildew, for we could detect little, if any. Want of drainage was a great defect, for water was reached within 30 inches of the surface. Excavations were made, concreted, drained, air-pipes laid, and divided into compartments for six borders. The divisions are only brick thick, and give each Vine its own compartment. Replanting a vinery by this plan, the having to sacrifice a whole house for two or three years, is superseded. The question is, whether it is necessary to replant at all, unless by mistake a worthless sort may have been introduced; the roots being so perfectly under control, they can be fed, top-dressed, root-pruned, soil added, and even lifted without injury to the following crop. It is, therefore, only when having found that a bad variety—and there are some of them much talked of just now—that you may have to dig it out, relay your drainage, change the soil, and plant another.

Mr. Bagbie considers the system of air-drains commencing on the front of the Vine border and ascending into the house of great importance, not only as a purifier of the soil, but by a judicious opening and closing of them a much higher root temperature may be secured than by the ordinary method. When we were at Bicton, in mid-August, 73° to 75° was the heat in such borders, and during the summer the average, Mr. Bagbie said, is over 78°, secured by sun heat alone, by opening the air-pipes about 9 A.M., and shutting them at 4 P.M., and this heat, be it observed, is not taken near the surface, but at the bottom of the border next to the drainage. The concrete is laid at 4 feet from the surface, over which at least 1 foot of clean rubble is laid. A 6-inch air-drain-pipe is placed in the centre of each compartment, over the drainage was placed turf in sods of 3 inches in thickness. All was carted in dry weather, and when the soil was neither too dry nor too wet. Over every layer of sods was added a good sprinkling of boiled inch bones, a little soot, and some rough clean plasterers' rubbish. The rougher the soil the better, porosity being the first consideration. Mulchings and waterings in summer the Vines delight in, and rich water too. There is here a row of 4-inch pipes communicating with the drainage and surface of the border, two for each compartment, placed near where the Vines are planted, and by which a supply of liquid to the roots is given when the surface may not require it. There is a large main drain along the front of the border, so as to insure perfect drainage at all times. The borders are not covered in winter by any other material than a surface-dressing of rotten manure, which excludes frost, and encourages the growth of fibrous roots near the surface.

The Heath and New Holland house is a noble structure of 96 feet in length by 17 feet in breadth, and 13 feet in height, with stone table in the centre, stone shelves at each side, and a broad path all round the house. Lady Rolle took great interest in the Heaths, of which she had one of the most extensive collections, and would not allow any other plants to be grown in the same house. Mr. Glendinning had taken great pride in the Heaths, and left them in the best of order. There are now less than one-third, and there were no more when Mr. Bagbie arrived here in 1869.

The Camellia house, besides the Heath house, was designed and erected by Mr. Glendinning, and they bear traces of his talent, both being models of their kind. The house now called the Camellia house, and where Camellias are planted out and fill the house, affords an enormous supply of cut flowers from October until April; indeed, there are few if any places in England which could have supplied during the last winter sixteen dozen of cut flowers daily for sixteen days, and after a short cessation repeated the process without injury, but rather to the advantage of the plants, which remained loaded even then. This house was formerly the orangery, and Oranges were in those days grown in tubs, and were very fine trees.

Some years ago Lady Rolle wished to have her Orange trees near the house, and, therefore, had a noble orangery erected adjoining the mansion, and so placed as to be in connection with the library. It is ridge-and-furrow-roofed, 87 feet in length by 52 feet in width, and 21 feet in height, with a handsome Portland stone path down the middle, and branching off towards the private chapel. Owing to some neglect under former management, either in the concreting, draining, or soil of the borders in which they are planted, the Orange trees, once the pride of Bicton, are now a sad picture. Three parts of them are dead, the others following them rapidly, and gone beyond any gardener's skill to recover.

The kitchen garden includes about four acres, and furnishes an ample supply throughout the year of every kind of garden produce for a large establishment.

There are two specimens of Wistaria sinensis, one measuring 4 feet 8 inches at the base, and covering the roof of a tool shed 54 feet long by 15 feet wide. The other tree runs 72 feet on the coping of a wall, and is a truly grand sight in early spring, when it flowers profusely, and also in early autumn. Near this stands the standard Wistaria, which was supported originally by stakes, but is now nearly self-supporting. Pinus macrocarpa close by is 71 feet high, and measures 8 feet 2 inches at the ground, and at 3 feet, 7 feet 4 inches. This tree has often shown pollen, but as yet has not coned, yet Mr. Cox, of Radleaf, in Kent, has had it coned there, but it has not shown any pollen. Abies Morinda has also coned at Radleaf, and seedlings raised from home-grown seeds are now 9 feet high. Wellingtonias have not done so, and we should much like to hear if it has done so elsewhere in England.

The flower garden on the east and west is bounded by magnificent Magnolia walls, which produce an enormous quantity of blossom during the autumn months. At present they scent the air for a very great distance. Those walls are valued very highly by Lady Rolle, who justly will not allow any other plants to have a place there; no other wall-clother being entitled to compare with it.

Beech trees at Bicton *are* clothed with Ivy, but branching trees, Mr. Bagbie observes, suit it best, and on those it has

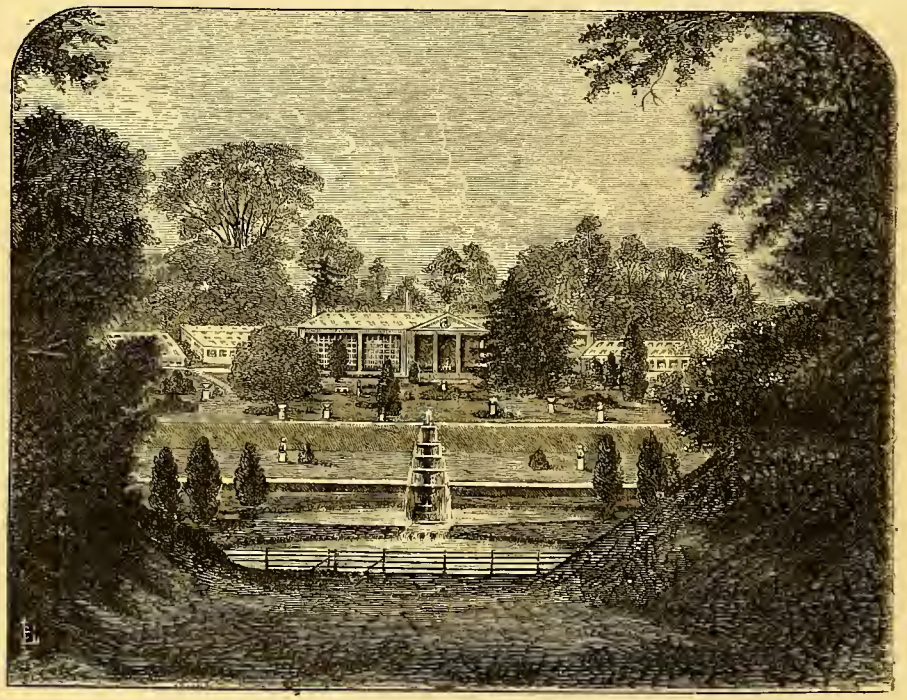
reached to the top. Smooth trees it does not ascend so rapidly, no doubt owing to the smooth surface.

Bicton is a model in all the departments of gardening, and when the errors of the past are rectified, which they will be in a year or two, no place will excel it in gardening. All the minor details are cared for, and we will here quote Mr. Begbie's own words—"For this I give great credit to the old workmen employed in the gardens, old men, some of them born and reared about the place, and who have such an abhorrence of weeds in all shapes, that they never require to be told to keep them underground. I wish it to be put on record that they are industrious, hard-working, and obliging men, of whom I am proud; and I have great pleasure in ascribing three parts of the merit of keeping the place, as it should be, clear of weeds and rubbish, to them. I have yet another word to say of my foremen and young gardeners, for to them is due much of the merit of having cleaned out mealy bug and other filthy insects from the houses and plants. Noble fellows I shall call them, that have never thought of the hours they so freely toiled on from sunrise to long after sunset, and that without fee or reward. All honour to them, I shall ever regard them as 'friends in need, therefore friends indeed,' and I have great pleasure in recording my feelings regarding them."

We have paused to consider whether we could by our pen do justice to the ornamental garden around the house, and have concluded that we could not. If there were arrangements of ribbon borders, or systematic combinations of beds, we could have drawn plans and detailed the planting. But the beauties of the Bicton flower garden are not so constituted. They arise from rich flower beds, placed so as to agree with the very varied surface of the turf; therefore we called in the aid of the draughtsman, and the views with which he has supplied us will enable our readers to estimate that which we should fail if we attempted to describe. Adjoining the mansion is a temple facing the church, from which there is a view of much of the ornamental garden—our artist has represented this, and the view from the church up to the temple.

We will conclude with a few desultory notes.

The whitening applied to the glass for moderating the light and heat from sunshine is toned with Brunswick green. Thea



viridis is in the open air, and unprotected throughout the winter. Coffea arabica was in berry in the stove. The Bamboo, Bambusa arundinacea, had thrown up stems 12 feet high this year, though killed down to the surface last winter. Many bush Camellias endure the winter without protection, and so does Abutilon vitifolium. It bloomed last April. We saw stored away the old stems of Bananas entirely coated with the relics of mealy bug. Those now growing in the stove are among the most healthy we have ever seen. The system of culture is to cut down the stem as soon as it has perfected fruit, its place to be supplied by one strong sucker which has been fostered by its side. Cycas revoluta endures the winter. Alpinia nutans grown out of doors was in flower in mid-August. The fernery is very well stocked with small but vigorous specimens.

In the figgery three crops are ripened annually—namely, in March, July, and October.

Among the specialties now at Bicton is the culture of Ginger for preserving, and Mr. Begbie has obliged us with the following details of its culture. "The desserts have to be supplied with home-grown Ginger during the year. I have endeavoured to calculate how an acre of glass devoted to the growth of this plant would pay. From 10 to 12 lbs. yearly have been considered as an ample supply, which has, I believe, been generally grown in a pigeon-holed Melon pit, and at other times in a deep frame; the *modus operandi*, I am informed, having been to keep the Ginger roots in boxes of dry earth, which were placed in the Palm house during the winter months, and so placed that the heat did not get too low in winter. In early spring—about the 1st of March—the roots were overhauled and planted in pans or pots, and put into one of the Pine stoves to vegetate. When the plants had made from 2 to 3 inches of growth they were then divided, potted into 3 or 4-inch pots, and were afterwards grown in heat until the pots were well filled with roots, and then planted out in a deep pit or frame on a bed of leaves, over which suitable soil to the depth of 12 to 15 inches had been placed, so as to get warmed sufficiently for the reception of the plants. After planting, all that was required was to take proper care in airing, watering, and syringing, as the case may have been. The Ginger harvest is past, and about a quarter of a hundredweight of Ginger sent to the house for preserving purposes. This leaves me with ample stock for the acre of glass, if such a project was likely to lead to fortune.

"My stock is all grown in 10-inch pots, and when full of Ginger the pots contain from half a pound to one pound each. I begin about this time (mid-August) to withhold water very gradually until the tops are well matured, as well as the roots; afterwards, which will be early in September, the pots are laid on their sides, being dry and properly ripened.

"The winter treatment is precisely the same as for Caladiums, which should be kept in a temperature not under 60°.

"Now all will be right until early spring, say March 1st,

when the pots should be introduced into heat in a Pine pit, Melon or Cucumber frame, where there will be a bottom heat of about 80°, with top heat in proportion. The roots, if they have been properly cared for or attended to, will soon show their young growths as thick as a mat, and when they have sprung from 2 to 3 inches take and divide them into small bits with shoots to each; pot in 3 or 4-inch pots in sandy fibrous loam and peat in equal parts, to which a good sprinkling of silver sand has been added. Put them back again in the Pine Melon, or Cucumber pit, for a time, or until the pots are well filled with healthy roots, then repot before they become pot-bound. If time is plentiful use 6-inch pots; but you will have now reached the 1st of April, when there is generally plenty of work on hand, so they should be transferred to 10-inch pots, using the same sort of soil, with the addition of a small portion of well-decayed cow or deer manure. When this last potting is over place the pots in an early vinery, where they will not be too far from the glass, and where they will have plenty of light. Be careful not to use cold water; always use water of at least the same temperature as the house in which they are placed. I prefer it to be warmer, say 80°, which should be about the root temperature if the pots are placed on a shelf over the hot-water pipes, as is the plan here. Water sparingly, syringe slightly, and keep the plants exposed to light. On no account allow them to get drawn; rather stop the tops, so that they may throw out more young shoots.

"We have now arrived at the 1st of May, when we look out our lights, four in number, 9 feet by 3 feet, and, if necessary, have them painted and glazed, so as to have them in good order and as nearly air-tight as possible. We then turn over our leaf heap, and make up a good bed of sweet, warm, oak or other leaves, 3 or 4 feet deep, and well line outside the rough wooden pit, which is a fixture of about 6 feet deep at the back by 4 feet in front, and is made up of rough deal slabs, with a level planed piece of deal top and bottom, so that the lights fit properly, and exclude cold air.

"We have then our 10-inch pots all ready, and plunge them quickly to the rims, taking care the bottom heat does not exceed 90°. This formidable operation, or rather simple one, being accomplished, the summer treatment is precisely the

same as that given to succession Pines—80° to 90° bottom heat; top heat may range between 70° at night to 100°, or even 112° by day, with air and moisture.

"Attend well to sprinklings and waterings—the plants will enjoy liquid manure, properly diluted, occasionally; that from deer dung is proper.

"Stop the shoots when they reach the glass, taking care that only a few are so stopped at a time; but they are the better of not being overcrowded."

At the earliest opportunity we purpose publishing the "Catalogus Lignosus Bictonensis," with Mr. Beghie's experience in raising seedling Conifers.

WORK FOR THE WEEK.

KITCHEN GARDEN.

As soon as that portion of land intended for trenching falls in hand, let that operation be set about. Stiff tenacious soils had better be ridged, so that a large surface may be exposed to the action of the weather. Let all the remaining summer *Cabbages* of a solid character be cut-over in order to obtain a good succession of sprouts. The late sowing of Brown Dutch *Lettuce* should be got in without delay. The cultivation of *Watercress* should not be omitted in the series of salads. A damp shady border is not unsuitable, but wherever the advantage of a small stream is possessed preference should be given. If the trimmings from the bunches are thrown in throughout the season a regular supply of fresh young Cress may be obtained.

FRUIT GARDEN.

Those who have not completed Strawberry planting should do so. The prolific Hautbois planted now 6 inches apart on well-manured beds will succeed well. The housing of fruit should now have constant attention. Let it be borne in mind that it is not requisite to gather all dessert Pears or Apples from a tree at one period, it is far better to collect them at two distinct periods; a more complete succession would be obtained by such means.

FLOWER GARDEN.

Hollyhocks and Dahlias will still require occasional looking-after to secure them against the effects of high winds which may now be expected. Unless seed is wanted cut away decayed flowers and useless shoots, for, although late, every care should be taken to preserve them in beauty for as long a time as the season will permit. Herbaceous plants will likewise require the stalks of decayed flowers removed, and such as are still in bloom carefully tied-up. Asters, some Phloxes, &c., will now be making a fine show, and should have corresponding care

bestowed on them. Let the borders be cleaned and neatly raked over, filling vacant places with spare Chrysanthemums, spring-struck Pansies, or spring-flowering bulbs. As the season is now considerably advanced, the propagation of all the more important bedding-out plants should be brought to a close as quickly as possible; late-struck cuttings are bad to keep through the winter, through having an insufficient number of roots and ill-matured wood. Let Scarlet and other Geraniums struck in the open ground be taken up and potted immediately they have made roots; they will require a close frame for a week or two, when they should be placed on a dry bottom in a southern exposure to harden them for the winter. For the same purpose Verbenas, Petunias, &c., struck in pans and intended to be kept in them through the winter should be placed in a similar situation, at the same time stopping the points of the shoots. It should, in fact, be a point to keep them as hardy as possible by fully exposing them until they are placed in their winter quarters. Mignonette for winter and spring flowering may yet be sown. I have always advocated layering Carnations and Picotees early, and if my directions have been followed out, the layers should now be well rooted. The compost for potting should be turfy loam well rotted. This must be beaten with the back of a spade, but by no means pass it through a sieve, as it is highly essential that the soil should be porous; to this may be added one-fourth river sand and a small quantity of rough charcoal. On taking off the layers from the parent plant or stool, it will be necessary to cut back that part of the stem by which it was attached to the joint which had been divided. Should any of the leaves be withered they must be removed, and two pairs of the lower ones may be shortened. The soil for potting the plants should be sweet. Do not put manure or any other exciting agent in the compost. Put a pair of layers in each pint pot, then water to settle the soil about the roots, and when dry place them in a cold frame on a stratum of sand. The old stools may be planted in the open border, they will often produce in the succeeding summer a good quantity of pipings, which cannot fail to be highly useful to the amateur if he wishes to increase his stock of them. Auriculas will soon require a share of the florist's attention; examine the pots to see none are soddened with wet; if so, immediately look to the drainage. Pansies and Pinks which have been planted out must be carefully tended, the large earthworms being apt to pull them up. If these are troublesome pour a small quantity of lime water in their holes. Take care of the seed of the early flowers, shade and thin the blooms, trap earwigs, and draw-up the soil round the crowns of the roots.

GREENHOUSE AND CONSERVATORY.

All the more tender greenhouse plants should now be housed, and the few remaining out may be allowed a short time longer, provided the weather continues dry. As the majority of our massing plants require for their preservation only sufficient protection to secure them from the direct action of the frost, pits of the most inexpensive character are generally found adequate for the purpose. It is a very common, and at the same time a very injudicious plan, to thrust the general stock of cuttings into greenhouses, vineries, or, in fact anywhere and everywhere, to the injury of the plants, which are excited when they should be at rest, and by no means to the advantage of the proper occupants of the houses, as the plagues of insects and mildew are too often introduced by the crowding-in of Verbenas, Calceolarias, and other bedding stock. It is a good time to set about the construction of store pits if proper accommodation is not already possessed. They should be excavated to the depth of 18 inches, and drained so that no water can enter; a few layers of turf and a framework of wood to receive the lights, mats, or whatever may be provided, will complete the necessary preparation. The employment of heating apparatus might in many cases be obviated by following the practice of sinking pits, allowing only the glass roof to be exposed to the weather. In France and Belgium Camellias, Oranges, and many tender greenhouse plants are preserved uninjured through severe winters by the adoption of this plan. The precaution most necessary in this country would be efficient drainage, moisture being almost as bad as frost. Proper attention to this and ventilation would make them fit receptacles for a vast number of tender plants. The Persian and other Cyclamens should be examined and repotted when necessary. Those autumnal Roses which have undergone a course of preparation in order to have good blossoms through October and November, should be got into shelter towards the end of the month. Any ordinary greenhouse will do, and no fire heat will be requisite for a long time. They should have a light situation not far from the glass, and should receive frequent waterings with tepid and clear manure water in a very weak state. The Lachenalia family should now be brought forth and potted; such on a greenhouse shelf will flower in February. The Heliotropes, Scarlet Geraniums, &c., should also have a light situation very near the glass.

STOVE.

All stove plants which had been removed to the conservatory or other structures should now be taken back to their permanent stations without delay, both for their own sakes and for the sake of a general arrangement in other structures. Give a most liberal ventilation at this time, not forgetting, however, to accompany it with much warmth, for the hardening of growths is not carried out by means of chilling draughts, but by high temperatures, accompanied by a free perspiration from the leaves of the plants. Much attention must be given to watering under the above circumstances. The Orchids are scarcely an exception as to the above atmospheric conditions They, too, must be hardened into ripeness in the pseudo-bulb.

PITS AND FRAMES.

The whole winter's arrangement as to the disposal of these structures should be determined on soon, and a regular scheme laid down and progressively acted upon according to the order of the affair. In an ordinary garden it is quite a puzzle with a limited number of such to apportion them to the purposes in hand. The half-hardy things require a frame or two; some surplus stock belonging to the greenhouse or conservatory, but not quite good enough to be placed there at present, require wintering; the Neapolitan Violets want a frame. Where matters of this kind are not sufficient for the purpose, attention should be immediately given to some turf pits as adverted to in this day's calendar.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

RAN the Dutch hoe among all growing crops where we could find room for it, as the smaller the weeds the more quickly does a day of sun make them disappear. A loose surface is also desirable, as it prevents caking and cracking, and allows the rain to pass more freely. We sowed a few pieces of Lettuces on the chance of their standing thickly over the winter. These generally stand best when the mere surface of the ground is stirred, and what lies beneath is rather firm. We planted out lots of Lettuces and Endive to come in at the end of autumn. As soon as possible we will throw-up some wide-based, sharp-topped ridges, and plant each side and the apex with smaller plants to stand the winter. The harvesting has interfered with a good many of these little jobs, and we suppose we are in the same predicament as many gardeners who see every day what is wanted to be done, and yet cannot find time to do it. It requires much discrimination to attend under these circumstances to subjects which would suffer, or prevent regular successions, by delay. We sowed Radishes of kinds in a nice open place for the last crop which we shall have without any protection. We will soon sow where we can place old sashes or a mat over the plants in a cold night. We often think that sweet crisp Radishes early in spring are more relished when there is a cessation of their appearance in the coldest winter months. A man who has a Cucumber at his table every day in the year, cannot enjoy the first crisp Cucumber in February or March, like the man who does not see a Cucumber for a month or two. It is quite a mistake to let ladies and gentlemen be glutted with any one thing. The very idea of comparative scarcity often gives an additional zest.

We cleared the ground as fast as we could of Peas and early Broad Beans, and after threshing them will use the straw for various protecting purposes; the ground will be turned-up and planted. We have used the crowbar for some strong late plants. Part of the ground will be trenched for next year's root crops, and in their case the rough manure will be thrown to the bottom of the trench.

We pruned back the *Cucumbers* in the small pit that have borne all the season, treated as previously described. They seemed too good to be thrown away, more especially as we can turn the nice young plants that are to succeed them into 6 and 9-inch pots, and thus have them strong before we remove the old ones. We have in a pit a few plants grown over the surface of a bed in the common way, and these, showing freely, will

keep up a good supply before the young plants come in after we remove the old ones, which, but for having younger ones, we feel rather unwilling to do. One plant that bore through last autumn and winter we allowed to remain, and it has been as fruitful all the summer and autumn as the young plants turned out in January. We would here note, for the benefit of the inexperienced, that good plants turned out own and allowed to fruit much before Christmas, unless they receive additional attention, and be in the most favourable circumstances as respects light, &c., will not do much good afterwards. It is well, where a regular succession is required, to have a set of plants to fruit in the beginning of winter, and another set to be allowed to fruit little or not at all until the shortest day is passed.

Quantities of long dung, which we would be sorry to say no to, we have had well watered with sewage and other water, shaking out the shortest, to be mixed with turfy loam for Mushroom beds. Such heaps when worked thus will be greatly reduced in bulk, and will therefore in a half-decomposed state be useful for hotbeds, the bottoms of Mushroom beds, dressings for Strawberry beds, and for digging down in ground to be left trenched, or rather ridged up for the winter. We can allow but very little to have such a frost-sweetening and mellowing.

Mushrooms.—Owing to so much new work we have never been able to repair our old shed—the best and most successful place we ever had, except cellars, for Mushrooms in the hottest months of the year. We have had a fair supply from the Mushroom house, but we do not think the growth was equal to that obtained from the shaded shed open on one side, but the draught of air considerably regulated and modified by hurdles placed along, with branches drawn through them. We have often found that this sifting of the air suits the Mushroom better than anything like a keen open draught, as the latter does away with that close muggy atmosphere in which the Mushroom naturally delights. We have commenced clearing out the oldest exhausted beds from the Mushroom house, the rotten manure being valuable for potting and surfacing purposes when well exposed to the air. We have put in the first piece of a bed, which we shall make rather thin, in order that we may be able to spawn it all the more quickly. For other successions that will take us into the cold months, the beds will be made thicker, so as to retain an equal temperature longer. As we have no Mushrooms this season except those which we have had from the last-made beds in this house, we have been obliged to omit doing what we did every year when we had beds in the shed out of doors, and therefore could give the Mushroom house a rest, and that was to shut up the Mushroom house closely and fumigate it once or twice with burning sulphur before clearing out the beds, and giving the house a regular cleaning before putting up the first bed in the autumn. This sulphur-smoking would pretty well dispose of all living vermin in the house, and therefore slugs, snails, and woodlice would be very scarce if we did not take them in with the material of which the beds are made. As it is, such intruders after the smoking with sulphur rarely troubled us until the spring. After such smoking the house must be well aired and sweetened before a bed is made, as burning sulphur is as great an enemy to all sorts of fungi as it is to intruding insects and snails.

FRUIT DEPARTMENT.

For late vineries plenty of air should now be given, even if in dull days a little fire heat should be used to keep up the temperature.

We went over the dwarf trees as fast as we could, removing the small secondary shoots so as to give more light and air to ripening fruit and maturing buds. A little of this work done now gives a better chance for an autumn sun to perfect the maturing process. Fruit of all kinds must be looked after, and tomtit must be warned not to touch the Pears and best Apples. A few fallen ones he might work his sweet will on as a sort of wages to him for the insects he destroys. Many a morning we have seen from our bedroom window four of these pretty little birds going from twig to twig and examining the under sides of every leaf in search of fat insects. The worst of it is, that like a rat or a blackbird, the finest fruit is selected. We never knew of such quantities of quite green fruit being carried off by mice, rats, and birds as in the earlier months of this year. It was quite common to find a good handful of green Strawberries collected in a corner, and yet hardly a bit of them seemed to be touched.

We almost finished clearing *Strawberry* rows and beds of their runners, and extra buds when the stools were very large, leaving most of the leaves on the plants. Cleared all the runners from Strawberry plants in pots, set them a little thinner for the sun to play on them more fully, and in all cases where the ball was like a cheesecake with roots, put a pinch of soot over the surface of each pot, using rather more of the fine dust than could be taken between the thumb and finger, and not quite so much as might be held between the thumb and two fingers. Pure dry soot is a different thing from what is often sold for such, with its make-up of dust, sawdust, &c. This is best spread over the surface of the pot beneath the leaves with the fingers, and then it is advisable to sprinkle the plants slightly all over from the rose of a watering-pot, and then the soot clings to the soil and will not be washed over by the good waterings that will follow shortly afterwards. Nothing tends more to give a fine healthy green to the foliage than this little soot. The same effect would be produced by clear soot water, but, then, it is difficult to clear it without a little quicklime, though that in moderation does no harm and gives a hint to worms and slugs to keep out of the way.

We find that with few exceptions all fruit is later than usual this season, and we have had to forward some a little by artificial means. So many enemies attack it, too, in this fine weather, that it is often advisable to gather Peaches, Nectarines, Figs, Pears, Plums, &c., before they are fully ripe, and allow them to mellow and ripen in a place of safety. In some cases where the juices of the fruit are fully retained, the flavour is even improved by the process, and the fruit is juicy rather than mealy or mellow.

We gave a good watering to the late Peaches in the orchard house, which we hope will help us for some time yet. Borders in general will now want less watering. We were forced under peculiar circumstances to keep a number of pot plants in the late vinery, but we have partly pruned, at least of all young growth, the earliest vineries whence the fruit had been cut, and we set the plants in them so that the soil and air of the late vinery, now coming in, should be drier. A little fire is put on in most days, on every day the least shady or cold, and air given accordingly, and a little air left on constantly at night, so that no condensed vapour should rest on the branches. Most of the laterals, too, have been shortened or removed, doing it gradually so as not to check root action, in order to admit more light into the house. The pipes have been painted several times with flowers of sulphur and milk, as it is better to keep away red spider than send it away after it comes. The floor was all finely raked so that the surface might almost be dust dry, whilst a little moisture was left beneath. When all the plants have been removed we frequently paint the stages and wall with lime and sulphur. It gives more light to the house by reflection, and the sun heat will bring out some of the fumes of sulphur, but so mild as not to hurt the Vines at all, whilst it seems to say to all intruding insects, Beware. Many gardeners in largish places are never able to devote even their fruit houses to their legitimate purposes; but where plants must be kept, much will depend on being able to thin or remove them as the fruit approaches maturity, and the long-keeping of such fruit as Grapes depends much on the dryish pure atmosphere round them.

ORNAMENTAL DEPARTMENT.

Lawns, walks, beds, and borders have been greatly benefited by the rains, as the ground, heavily cropped, was getting very dry. When walks are all right as respects cleanliness, a comparatively light roller, to be moved by one man, makes all smooth and neat. One walk rather out of the way we could not get at in time, and we see that in places it is a little green. The rest of the walks, treated as lately described, are as bright as can be, and do not show the trace of a weed as yet. Where the lawns are fresh laid, and rather rich stuff has been used to make all level, wormcasts are apt to appear. Sweeping these off at whatever time is apt to leave the grass discoloured behind them, and future rolling will not make it all right to the eye. We seldom sweep for this purpose, but we have long found that a wooden roller from 9 to 12 inches in diameter, and 4 feet in length, acts better than broom and roller. If in the least damp, any part of the heaps which the roller does not press down is taken up, and the cleaning of the roller, when encrusted, with a piece of iron or spatula, acts far better than a sweeping with a broom, for the grass is left beautifully green behind it. The first time we saw these light wooden rollers was at Tingrith more than thirty years ago, and they were then used early in the morning that the dew might be spread, so that the ladies might sooner walk on the lawn with thin-soled shoes. Then was the idea suggested, how useful such simple

rollers would be for putting wormcasts out of sight, and we have used them ever since. When a game of croquet is to be played early in the day, the roller helps much to dissipate the dew, as well as to leave the ground smooth and level for mallet and ball. It is of importance to have such things made so light as to be easily managed by a man or a stout boy. In these days, when in most gardens labour power is generally less than the requirements, it is well to avoid machines requiring two or more men to work them.

The heavy rains of last week rendered picking over the beds necessary, so that the bright fresh bloom should not be interfered with by that which was faded or discoloured. The points of strong Pelargonium shoots in beds may now be picked out, as that would throw more strength into the trusses showing and coming, as many as the weather will allow to arrive at maturity.

We placed many plants in pots out of doors where they could be rendered quickly secure in any sudden change.

We top-dressed Salvias, Chrysanthemums, and Coleuses in pots; cut down Pelargoniums, and prepared for fresh potting those first pruned back; also potted Ferns. The chief work, however, when we could get at it was putting in all kinds of cuttings for the flower garden next year. As stated the other week, we use chiefly shallow wooden boxes not too large for a man to move easily. We almost envy some who can obey the advice so often given about having all such cuttings potted and established before winter. We rarely pot anything; the rooted cuttings must stand thickly in boxes until spring. We should look in vain for room for pots of what we even now need, and that is much less than formerly. At the same time, where room can be afforded, it is right and advisable to pot singly; but we never could do it, and the plants succeed very well, nevertheless. In putting cuttings in and potting, let us urge on beginners to use as much as possible fresh sandy soil, however poor.—R. F.

TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Hyacinths, Narcissus, Tulips, &c.*

John Scott, Yeovil, and Merriott Nurseries, Crewkerne.—*Catalogue of Flower Roots.*

Robertson & Galloway, 157, Ingram Street, Glasgow.—*Catalogue of Dutch Roots, and of Plants for Winter and Spring flowering.*

Baltet Frères, Grande Pépinière de Croncels, à Troyes.—*Catalogue Raisonné.*

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Books (*Idem*).—We do not know what you wish for by asking for "a book on the botany of plants, such as those in a greenhouse." Do you mean descriptions of the plants? Perhaps "The Cottage Gardeners' Dictionary" would suit you. You can have it from our office if you enclose 7*s.* 2*d.* with your address.

Potatoes Influencing their Neighbours (*F. H.*).—We do not think that kidney and round Potatoes grown near each other and flowering at the same time would have their tubers affected, although their flowers were cross-impregnated. The seeds would produce cross-breeds from such intermixture.

Arbor-Vitæ Browned (*H. D.*).—We should attribute the brownness to ill-health, and we think the manure given during the past two years is most likely the cause. We should advise your at once removing the surface soil down to the roots, removing all the old soil you can from amongst them, replacing with fresh turfy loam enriched with one-third of decayed leaves, and giving a good watering. The tree, judging from your drawing, being very open, we would not prune but tie in the shoots or branches so as to form a more compact specimen, and this by giving warmth and preventing the wind acting on the otherwise open head, will enable you to secure a better growth next season. Water early in summer and until the growth is complete, but with your light soil over clay it is well to look to the roots. See that the water does not lodge in the subsoil.

Pruning Espalier Apple and Pear Trees (*X. Y. Z.*).—The longitudinal branches or shoots at their extremities being required for extension, should be trained in at their full length without stopping or pruning until the extent of trellis or wireing be covered, and then they should be treated the same as the shoots on the branches.

Dicksonia antarctica Browned (*Ignoramus*).—We should attribute the browning of the fronds to the draught you speak of, but the atmosphere may be too dry, and an attack of thrips may have been the result. Look well to the under side of the fronds, and remove to a position where the air is more still. It can hardly have too much water, the drainage being good.

Protecting Filberts from Squirrels (*G. M., Berwickshire*).—We know of no better means of keeping off these animals than netting the trees, and the nets require to be small, or the squirrels find their way through. We have no experience of any application to stems that would keep squirrels from ascending, and should be obliged if those who know any mode of keeping off these creatures would communicate it. It would be a shame to resort to the gun.

Pandanus and Alocasia metallica (*R. T. J.*).—Pandanus javanicus variegatus and P. utilis will succeed in a greenhouse with a temperature not lower than 45° in winter, keeping it rather dry, or with no more water than enough to prevent the foliage from shrinking. Alocasia metallica may also be wintered in a warm greenhouse; but to do well in summer it requires a night temperature of from 65° to 70°, and 75° to 90° by day, with abundant moisture and slight shade.

Reduction of Wages (*Short Wages*).—We can hardly advise you how to act, as we do not know all the circumstances. Your course, to be straightforward, was to have declined the reduction of your wages when you moved to the country place in June. If you have received these reduced wages since—whether you had something to make up the loss in other ways or not—we fear your taking the reduced sum for three months would be a bar to your legally demanding what you were paid at the other place. Why did you consent to take a fourth less wages, or even seem to do so?

Fungus on Strawberry Leaf (*F. E. P. Eastcliffe, Chepstow*).—The fungus on the Strawberry leaf is an immature Myxogaster. It is impossible to name it in the mucous condition before the spores are developed.

Trees for Boulevard (*W. D. jr.*).—Either Limes or Oriental Planes.

Ophiocaryon paradoxum (*T. H. T.*).—It is a tree hitherto found only in British Guiana, on the banks of its rivers. The generic name is literally "Snake-nut," and refers to the embryo of the seed, which, as you say, "is like a small snake curled up." The genus belongs to the natural order Sapindaceæ; the leaves are pinnate, the flowers small and in panicles, the fruit like a small round walnut. The natives use the seeds as a remedy against snake bites, but they have no known medical power. The seeds are often imported as curiosities. We cannot answer your other queries.

Glastonbury Thorn (*H. Bedwell*).—It is not true that there is a Thorn growing where Joseph of Arimathea pitched his staff, for he never was in England. There was, and probably is, at Glastonbury Abbey, a Thorn, which, as Loudon observes, "comes into leaf in January or February, and sometimes even in autumn, so that occasionally in mild seasons it may be in flower on Christmas-day." It is only a variety of the common Hawthorn, and known to botanists as Cratægus Oxyacantha præcox. Plants may be purchased of nurserymen, and they leaf and bloom eccentrically wherever they are grown.

Planting an Orchard-House (*W. B.*).—You do not tell us what use you are going to make of the back wall, but if that is to be covered a trellised path would be best. For the border in front 7 feet would be ample, and provided it is properly drained, 18 inches in depth would do. The soil, if good, may answer, but for clean growth we would prefer maiden loam. We like people to think for themselves, and do what they can for themselves. We want you, therefore, to calculate for yourself the loads of fresh loam you would want if it were all to be fresh or half fresh. A single horseload will in general contain a cubic yard; if your depth is only half a yard, you will see how far that one cubic yard will go, and can calculate accordingly.

Vines Mildewed (*Sussex*).—Your Vines having the mildew twice in succession, we conclude that the situation is low, the house ill-ventilated, though you say there is abundance of air, or the drainage imperfect. The present dull season is enough to cause mildew in an unheated house, as the ventilation must have been limited to keep up the required temperature. Apply a little fire heat; it will be very beneficial in ripening the wood, and at once dust every part of the Vines with flowers of sulphur, and repeat this in two or three days. In winter, after pruning, dress the canes with a composition of 4 ozs. of soft soap, and enough sulphur to bring a gallon of tobacco water to the consistency of paint, applying the mixture with a brush at a temperature of 120°. Next season, if the mildew appear, sprinkle guano and salt over the border—two parts guano to one of salt, and one peck per rod, and give a thorough soaking with water 5° higher than the temperature of the border, washing in the guano and salt thoroughly, and dust the infested parts on its first appearance with flowers of sulphur. Except in hot seasons, Lady Downe's and similar kinds will not succeed without fire heat. The rain-water tank we presume is covered. The vegetables attacked with mildew would not communicate it to the Vines, and to keep it from the vegetables dress liberally with guano and salt—two parts guano to one of salt, supplementing with a good watering if dry weather follow.

Vines for Vineries (*Balham*).—For the house in which you wish to ripen the Grapes in June, we would have four Black Hamburgh, two Frankenthal, one Black Champion, two Buckland Sweetwater, two Foster's White Seedling, and one Trouéren Frontignan. For the other house, to maintain a supply to the end of the year, though some will hang well until March or later, we advise two Mill Hill Hamburgh, one Black Muscat, one Mrs. Pince's Muscat, one Madresfield Court Muscat, two Alicante, one Lady Downe's, two Muscat of Alexandria, one Bowood Muscat, and one Trebbiano. The whole of the last require a good heat, but are not otherwise more difficult to grow than Hamburghs, succeeding admirably in a border partly inside and partly outside the house, the Vines being planted inside. The border not being ready now we would defer planting until March, but securing the Vines early, and pruning them in December so that they will just reach the wires. The parts cut off will be available for propagation from eyes, keeping the canes out off with their ends stuck in moist soil until required for insertion. One inch of bones and old mortar rubbish are good for forming Peach tree and every description of fruit border. We omit, however, the lime rubbish, and give instead one part in six of marl, employing good, rich, and rather strong loam for Peach borders.

Vine Leaves Spotted (*Amateur*).—We cannot find any trace of insects on the leaf sent us, and we think the brown spots are a result of the leaves being wet whilst the sun's rays fell powerfully on them. Give a little air at night, and you need not fear for the fruit.

Vine Border Making (*J. H. S.*).—We have several times seen pond mud for Vine borders, but it never answered well unless it was exposed to air and sweetened for two years before being used. The preparation would greatly depend on the nature of the mud. On the whole, unless we were sure of the sweetness we would use none of it, and even then use it sparingly. To your using two parts of this mud, one part of stable manure, and only one part turfy loam with a little lime rubbish, we attribute the weak state of your Vines. The richest salmon and the fattest pork are good things, but not quite the things to feed infants on.

We would prefer three parts turfy loam, half a part of old rough brick and lime rubbish, one-fourth part bruised boiled bones, and a like quantity of sweet rotten manure, and, if not sweet, more bones instead. As soon as the Grapes are cut we would certainly take up carefully the Vines you mean to save, and replant them in such a sweet compost as stated above, and the sooner you do it the better the Vines will succeed. Do not mind taking them up entirely—that is what we should do, tracing out the roots carefully, and preventing them becoming dried, saving every root possible however small, and when all were up wrapping them in a mat with damp litter until the border were ready to plant them in again. Then we would plant carefully, spreading out the roots some 6 inches from the surface, and damping them with water at about 80°. Then we would mulch the border with warm dung from 9 to 12 inches thick, add more in winter, rough-thatch to keep off the wet, and we should expect the old Vines to do rather better than the young ones. We think so much mud has been your drawback.

Vines with Peaches (*H. Brace*).—If you plant Vines in front and Peaches against the back wall, it would be as well to run a low wall along the middle of the house, but so low as not to be seen. That will be sufficient to keep the roots separate. We do not, however, give you much hope of full crops on the back walls unless your Vines are trained to single stems on the spur principle, and these stems of Vines are from 4 to 6 feet apart. If the Vines are closer together there will not be enough of light for the back wall. On the whole, with wide openings we would prefer Vines on the back wall; but if your roof is rather shaded the Vines will soon cease to do much good on the back wall, and only that which is near the glass will bear. With Vines up the roof at 5 feet apart, however, we have seen fine fruit on the back wall from top to bottom. There is no secret, however, in the matter. To have good returns from the back wall you must let the sunshine reach it. For the depth of border, from 20 to 24 inches will be good, with rubble and drainage beneath the border. We would make the border inside the whole width, but divided as above, if you depended on the back wall. The border outside might ultimately be as wide as the house, but we would prefer the outside border to be from 3½ to 4 feet wide at first, and add a couple of feet or so every second year. Three parts of turfy loam, one of rough lime rubbish, one-fourth part of crushed bones, and one-fourth sweet decayed manure will answer well. The height of the back wall must depend on the construction of the house. With a sloping roof you will have a nice slope with a front wall a foot high and the back wall 16 feet in height; but if you have front glass, say wall and glass 6 feet in height, then a back wall of 15 feet or so would do, as the front light lets in the winter and spring sun. We do not approve of such a size of pane for common houses as 24 by 36 inches. We would rather have the panes 12 by 18 inches. We should be perfectly satisfied with 26-oz. glass.

Planting Vines Inside or Outside (*Feeling His Way*).—We should decidedly plant the Vines inside the house. For such a border forty bushels of half-inch bones would not be too much. We would sooner use more than much manure with the turfy soil.

Fernery Painting (*E. P. S.*).—We cannot perceive the necessity for the extra strong heat, for on the removal of the plants, and, of course, the source of moisture, the house will soon dry if air be given. Of course fire heat must be afforded, so as to maintain the proper temperature, and from the increased ventilation the amount will need to be greater. We would first of all have all the woodwork thoroughly washed, and then allow a few days for drying, proceeding with the painting at once, and admitting air constantly, and whilst about it give three coats of paint. The great difficulty is with the climbing plants, and especially the Lygodiums. You will need to cover them over with canvas or other material, so as to keep them from being sprinkled with the paint, for if it falls on them it will leave its mark. With air the painting will not injure the climbing plants and Ferns. In about a week you may return the Ferns to the house. The reason of the climbing plants not doing well is the shade. Afford them more light, and they will no doubt flower satisfactorily.

Mesembryanthemum glaciale Flowering Out of Doors (*A. R.*).—It is rather unusual, because it is not commonly placed out of doors in summer, though nothing is finer for sunny rockwork than this class of plants.

Rubbing off Young Figs (*Idem*).—Young Figs now the size of walnuts have no chance of ripening, and would be best removed at once. We never leave any larger than a bean or hazel nut.

Scale on Peach Trees—Mealy Bug in Vineries (*W. T.*).—The fruit being off the Peach trees, syringe them a few times with a solution of 2 ozs. of soft soap to the gallon, using it at a temperature of 160°, and when the leaves have fallen dress with a composition formed of tobacco water as sold by the manufacturer, adding to every gallon 4 ozs. of soft soap, and enough flowers of sulphur to bring the whole to the consistency of paint. Apply it with a brush, and be careful not to dislocate the buds. Repeat the application before the buds begin to swell. This is for the scale. For the mealy bug—the Grapes being cut, shut up the house closely, and sprinkle the floor all over with guano, putting it on the paths quite one-eighth of an inch thick, and then syringe the Vines with all the force you can command from an engine or syringe, using water at a temperature of 140°, adding to every gallon a wineglassful of spirits of turpentine, repeating in a fortnight. Apply on a calm evening. When the leaves fall, have the house thoroughly cleaned and painted, and the Vines dressed (stripping off all the loose bark) with the composition named for the Peach trees, and adding to every gallon a fluid ounce of spirits of turpentine. When you commence forcing, place hot dung within the house, and turn it over frequently, so as to cause the vapour to pass off more freely. Syringe the Vines morning and evening, except when in flower, up to the time of their changing colour, and keep a strict watch on the Vines, and if any insects are seen remove them with the hand. Lay the Azaleas infested with mealy bug on their sides, and syringe them with water at a temperature of 140°, turning them round so as to apply the water with force to every part of the plants. Repeat this as often as you notice one bug on the plants.

Alternanthera magnifica Propagation (*Amateur, T.*).—Take cuttings of the growing points now with two joints and the growing point, removing the leaves from the lowest joint, cutting immediately below it. Insert the cuttings an inch apart in pans, filled to within half an inch of the rim with two parts light loam, one part leaf soil, one part sandy peat, and one part silver sand, giving fully an inch of drainage, and a good sprinkling of the rough of the compost, which should be sifted, over the drainage, and the half inch filled up with silver sand. Water gently, and place the pots in a hothed of from 70° to 75°, shading from bright sun, and keeping just moist. When well rooted remove to a house with a temperature of 45° to 50°, and keep near the glass, well aired. The old plants may be taken up in October, potted, and wintered in a like structure, and should be kept rather dry. In February they will give you cuttings that will strike freely in a hothed, and being potted off when rooted and grown on will make nice plants by May. The cuttings in pans should be pricked off in pans about 3 inches apart in March, or potted off singly, grown on in heat for a time, and then be gradually hardened off prior to planting out.

Various (*T. H. D.*).—As the fruit is cut, the leaves falling, and the soil is very dry, we would water the inside Vine borders sufficiently to prevent the roots suffering from being very dry. Then, as you purpose starting the house in February, we would top-dress in January, and use more water then, just to make the soil kindly moist, using water at a temperature of about 80°, as the soil will be cool. Unless there is a sediment in the boiler, in which case it is as well to empty the pipes in summer, we would prefer allowing the water to remain, as then there is less corrosion and less oxide of iron formed than if fresh water were often added. We would empty the iron tank, scrape off the rust, and well paint the inside. A little oxide of iron, however, will not injure Vines or plants, but an excess would tell on tender roots. If you expose the water for twenty-four hours previous to use, add a spadeful of quicklime for a rather large tank, and allow it to settle for that time; you will find the most of the rust will be precipitated to the bottom.

Abutilon Wintering (*S. W.*).—The Abutilons are not hardy, though A. striatum is nearly so, succeeding in sheltered situations against a south wall. The species you name we do not know. Passiflora cardinalis does not generally succeed in a conservatory, but requires a stove. We think it is from cold and too much moisture that the leaves are spotted. Keep the plant drier at the roots. It may do better another season.

Dividing Arabis and Cerastium (*S. A.*).—Now is a good time to divide the Arabis and Cerastium if the soil is light, but if it is wet and heavy spring is preferable. Beta chilensis now in pots may be planted out, and it will survive the winter as well as Beetroot. Coprosma Baueriana variegata is not hardy, though it is likely it would succeed out of doors in dry soils and warm situations.

Housing Chrysanthemums (*A Young Amateur*).—The Chrysanthemums should be taken into the house before frost, in general about the second or third week in October. They will continue to flower up to January. Hyacinths that were flowered in pots last year are not of much value for flowering this winter, and we would plant them out now in the open borders, covering the crown with 1½ to 2 inches deep of soil. If you continue them in pots they will probably do fairly, but they will not bloom nearly so well as fresh bulbs, and the best time to repot them is the present. Camellias and Azaleas should be placed under glass without delay, and if they require repotting it may then be done, but it is perhaps best to repot them immediately after flowering. This, however, is a good time when the spring potting has been neglected, and the plants are in small pots and need a shift.

Temperature for Phormium tenax Veitchianum (*Capella*).—It requires a greenhouse temperature, or 40° to 45° from fire heat.

Plant for Greenhouse Back Wall (*A. A.*).—The back wall of your greenhouse facing east will be suitable for a Camellia, providing the wall to the south is not of greater height than the greenhouse; if so, we fear the wall would shade the house so as to deprive it of too much solar heat. If there is a chance of a Vine succeeding on the rafters, there is no doubt of a Camellia succeeding well against the wall, providing a proper border be formed, and the bedding plants on the stage be not allowed to cover the foliage of the Camellia.

Heating with Hot-water (*W. R. Armstrong*).—The plan may be made to work with several air-pipes, but even then not very satisfactorily. It is always best to have the flow-pipe higher than the top of the boiler.

Wasps in a Vinery (*R. W. T.*).—Sulphur cannot be burned in any house to destroy insect life without injuring every plant having leaves there. You may exclude wasps from the vinery by nailing over the openings hexagon netting, putting it on inside, and so as to work clear of the lights. In addition to this we half fill a few dozen soda-water or lemonade bottles with beer, the stronger the better, as they are attracted by its smell, and, being very fond of it, drown themselves. They care nothing for Grapes with us so long as there is plenty of beer for them to drown in. When the smell of the beer passes away the wasps are slow of entering, therefore empty occasionally and replace with fresh.

Insects in Frames (*A Trouble*).—We cannot, from your description, form any idea of what the insect is. It cannot be thrips, as it does not attack at the surface of the soil. It is probably one of the small mites that are abundant where there is decaying vegetable matter. Dusting with quicklime will drive them away.

Caterpillar (*Miss J. M.*).—It is the larva of the Privet Hawk-moth, Sphinx ligustri. Not uncommon.

Name of Insect (*E. S.*).—The moth you enclosed is the Sphinx Convolvuli, or Bindweed Hawk-Moth. It is uncommon. We cannot be sure what the other moth is which you mention; probably it is the Sphinx Ligustri, or Pivet Hawk-Moth.

Names of Fruits (*John Ormandy*).—1, Scarlet Leadington; 2, Ravelston Pippin. (*G. J. C.*).—It looks like Black Prince, but we cannot name Grapes with certainty from a few berries. (*W. Morgan*).—Beurré de Capiaumont. (*C. F.*).—The Plum is the Goliath. (*A. O. R.*).—2, Beurré Diel; 3, Nouveau Poiteau; 4, Louise Bonne of Jersey.

Names of Plants (*J. T.*).—We have repeatedly given notice that we can only name six specimens from one correspondent at the same time. We have also said we cannot name from leaves only. You have sent more than twenty specimens, and many of leaves only. If you will select six flowering plants and send fresh specimens we will name them. (*Oswell*).—Vallota purpurea; sometimes called the Scarborough Lily. (*C. A. J.*).—Your plants are, no doubt, seedlings (self-sown), of Physalis Alkekengi, the Winter Cherry. It is a plant of annual duration only, dying in the winter. As to the Cuphea, we do not consider it by any means unusual for it to sow its seeds. (*A. W.*).—The very interesting plant you send is the Jussulloa parasitica of Ruiz and Pavon, a charming plant, a native of Peru, where it is considered a great

rarity. (*Acton Castle*).—We omitted to mention the Monkey Flower, Mimulus cardinalis, as being one of the plants sent by you to be named. (*W. C., Foto Island*).—Bupleurum fruticosum. Its congeners are known by the English names "Hare's-ear" or "Thorough-wax." (*T. M. Shuttleworth*).—Another interesting and beautiful plant, the Tricyrtis hirta of Hooker, one of Mr. Fortune's introductions from Japan. (*M. T.*).—The Purple Orach, a variety of Atriplex hortensis. (*H. T. M.*).—1 Sempervivum Haworthii; 2, Crassula arborescens; 3, Kleinia repens; 4, Sedum hybridum; 5, Reineckia japonica variegata; 6, Campanula garganica; 8, Asplenium fiabellifolium. (*W.*).—Polygonum cuspidatum, a shrubby Japanese species.—(*C. B., Hampshire*).—Physianthus albens, a very interesting tropical American Asclepiad, an old inhabitant of gardens. (*Bill*).—The Bluebottle, Centaurea Cyanus; and the Hares's-foot Trefoil, Trifolium arvense. (*W. H., Ayr.*).—1, Dolichos lignosus (otherwise D. gibbosus), a native of the Cape of Good Hope; 2, Myoporum parvifolium, native of southern Australia. (*W.C., A Reader*).—1, Polygonum cuspidatum (as above); 2, French Honeysuckle, Hedysarum coronarium; 3, Abutilon Thompsoni.

POULTRY, BEE, AND PIGEON CHRONICLE.

HEADS.

We believe the different types of skulls among fowls to be as distinct as those of the human race. We are not singular in that respect. How often have we heard at shows criticisms on awards and surprise expressed that a prize should be given to such a "coarse-headed brute?" As a rule, and where competent judges act, the decision is a right one. Nothing in the shape of the head sins against the requirements of the breed, but it does against beauty. We want in breeding to produce and continue the most perfect specimens of the race. In choosing, then, we should closely examine every point, and none is more important than the head.

Let us begin with Cochins. The best head we ever saw was one of the earliest among the celebrated strains. It was the Lovell. The name was adopted because the birds were brought from China by a captain of that name. We differ from many of the modern judgments because this character is not sufficiently noted and cared for. Large size, great weight, heavily-feathered legs are looked for and rewarded. But they cause a fleshy, wrinkled, and dull face, with an exuberant comb (erect for this show only) to be passed over. We want the small neat head; the scanty comb, perfectly upright and full of serrations; the bright eye, almost projecting from the face; and the look of quiet intelligence that is a real characteristic of the breed. We have seen some that had the expression of the Malay, and the cauliflower face of an old Spanish cock. We are bound to admit these belonged to birds of great weight, but they also belonged to birds of great age. We want the weight that is gracefully carried by youth accompanied by a smiling face, and not the unwieldly heaviness of senility.

Just as much as we admire the intelligence and cheerfulness of the Cochin, so do we appreciate the hard cruel expression of the Malay. He should always look as if he had a concealed creese, and was ready to "run a muck, and tilt at all he met;" and his mate a sort of cross between Helen McGregor and Mrs. Brownrigg. (A traveller some years since was asked to define a consul, and replied, "He should be a cross between Lord Aberdeen, then Foreign Secretary, and a Bow Street runner.") Anything pleasant in the face of a Malay would be out of place. Everything about them is hard; the body feels as though it had been dipped in Styx, and the face is the index to the disposition. Take, again, the Game cock—his sharp fearless look, no cruelty in his eye; assurance and conceit are there; and denuded of comb and gills, he walks as it were on tiptoe, that his gait may carry out the promise of his head and face.

The Spanish cock is the aristocrat of the yard. We should not be surprised if some called him the Castilian. His round head, white face, red comb, and piercing black eye tell you he is conscious of his worth and position. It is a different expression from any of the others. Not so intelligent as the Cochin, so cruel as the Malay, so bold and saucy as the Game, he has, nevertheless, an air and sense of dignity that become him and his nation; and if you were called upon to find a snuff-box-bearer among fowls for one of the old kings of Spain and the Indies, you would fix on the Spanish cock.

Our old useful friend the Dorking expresses none of these; there is nothing smiling in his face, but his round head and well-shaped forehead give promise of good qualities, and those who seek them generally find them. His partner is also a thrifty and good helpmate; she looks as though she performed her duties well, and she does. None of the pride of the Spanish about her; she does not put her children out to nurse, she brings up her own. The Brahma, with his useful head and cheerful face, giving earnest of his good properties, seems to us the Sir Balaam (in his good days) of poultry.

"Honest, punctual, and so forth,
His word would pass for more than he was worth."

It is a face of sterling quality, and it does not lie. It, however, when surmounted by his pea comb, does not fail to be quaint.

If we take the French breeds we have there entirely different types. Take the saucy fussy Houdan. If there be any comparative physiognomy, and if man and bird can represent the same character, then a Houdan cock and Lemaitre both represent Robert Macaire. The likeness is ridiculous. The skull of the Houdan is small, but being bearded and top-knotted it does not show. A quiet, self-possessed, and well-bred fowl is the Crêve-Cœur; his large, round, well-shaped head gives promise of good qualities, and he has them. The reverse is true of La Flèche; he has an ugly mis-shapen head, which promises nothing, and does not disappoint its possessor.

We purpose making a collection of skulls, and being the Professor Donovan of poultry.

POULTRY EXPERIENCE PURCHASED.

However gratifying it may be, when we have climbed that steep hill called Experience, and have at length reached the delightful summit of Perfection, still to come to grief so often on the journey (and we invariably do so just as we appear most certain of success), is very trying to the best-regulated temper.

For the benefit of any amateur whose knowledge of poultry lore may have been as limited as my own, let me tell how I "purchased experience," with a splendid White Cochin pullet, that grew and prospered so well that in my fertile imagination I was already the happy possessor of handsome cups, and first prizes innumerable. But one morning while feeding them, I noticed that the bird "on whom my hopes were built," had an unusual protuberance in the breast, and on closer inspection found it was decidedly crop-bound. I gave it several doses of castor oil, yet as day by day went on, it got no better, and I said to myself, "J. K. L., I charge thee 'fling away ambition,' for you never did, and you never will get so much as an 'H. C.' towards the realisation of all your brilliant visions." Now, I never had the pleasure of a *tête-à-tête* with a learned poultry-keeper, since I am not acquainted with one, or I should have listened with reverence to his advice, and I obtain no sympathy from the "head of the family," who considers the study of hens and chickens very tame and insipid. "Better study flowers, and Ferns would be a far more lady-like occupation," and ends his advice with a parting shot (very much *sotto voce*, I admit), something about "little things." And really *I* consider, since my poultry cannot get "highly commended," the judges ought to award something to my unwearied energy and perseverance, because for the last five years, with nothing to back me but my purse and my enthusiasm (and I positively affirm that the two are inseparable), I have slowly learnt my lessons in experience. Again, my invalid neighbour complains of the perpetual cock-crowing, the servants of the extra work "them dirty brutes" make, and I am periodically informed by the "head," that those horrid pets of mine have got into the garden, and for the third time have eaten all the young plants; and all these little drawbacks are calculated to damp the ardour of their warmest friends. But I am digressing; *revenons à nos moutons*, my crop-bound pullet.

On referring to "our Journal," I found you had advised "An Anxious Reader," apparently in the same difficulty as myself, "First to secure the bird firmly, clip away the surrounding feathers, cut open the crop, and remove all the food there, carefully sew up the wound, and for a few days feed the bird on soft food only." These directions I followed to the letter, and I was so deeply impressed by my own skill and ability, that I felt confident I had only to receive a few lessons at the school in Edinburgh to become a very formidable rival to Messrs. Jeg, Blake, & Co., but my proposition to that effect was so hopelessly quashed by the "head," that I gave up the idea on the spot.

Well, my patient seemed to progress favourably, and my hopes were again in the ascendant; still I noticed she could not hold up her head as formerly, so I imagined the wound must still be very stiff, and that time would restore it; but time did not, for at the end of three months she still walked about with her neck very much contracted, and we both seemed to lose heart together (only she lost flesh as well), and one day while carelessly looking over a stray number, I dis-

covered the cause of my unsuccessful surgery. "Be careful not to sew the two skins together," and making this moral I will end my letter.—J. K. L.

[We shall be proud if benefited exclusively as promised in your P.S. If we can do anything to effect the conversion of *that* "head of the family," command our services. To be unfortunate and without sympathy is a superlative trial.—Eds.]

POULTRY-KEEPING UNDER DIFFICULTIES.

No. 2.—BREEDING.

In commencing to keep prize poultry, I would advise the outlay of not more than £1. For this sum you may obtain an imperfect cock and hen of a good strain, or a sitting of eggs from one of the best breeders. In the latter case, select one on whom you can depend, because you are entirely at his mercy.

I commenced with a cock and two hens, for which I paid £1, but the cock showed a little Dorking in his fifth toe. However, they were equal to my experience. I bred some chickens from them, and then sold the old birds for what I gave. I expended little on food for I risked only £1 on the birds, and I lost nothing my first year.

There is no wisdom in throwing pearls before swine, because they would be trampled under foot, and so would good chickens in my first year. The great danger is in expending too much money at first. When this is done without experience, the new fancier often sickens and dies—not respected by all poultry friends who knew him.

The next year I launched-out and bought a sitting of eggs from a well-known Birmingham breeder for 15*s*., and hatched and reared thirteen, I think, out of fifteen. Out of this lot I sold one for £1 10*s*., one for £1, and three for 10*s*. each. The best cockerel I kept for a stock bird for the next season, and sold him, as stated above, for £1 10*s*. This hatch paid well, but I was disappointed in not having a single bird that could be called good—free from glaring defects. The crooked combs could not be made straight, even when the sprigs were cut off; nor the lop-comb to stand even with splinters. I waited for the mottles to feather-out, and the shallow to become deep, but they did not.

If, after the first or second year, a few good shows be visited, and such books as the "Poultry-keepers' Manual," published at the Journal office, be carefully studied, more money may be safely risked on stock birds. The object of the breeder should be to produce birds better than his old ones.

I prefer stock birds to be not less than one, nor more than three years old. If the male bird be the same age as the hen, I should prefer them two years old; if of different ages I do not care which is the older of the two. It is said by some that a cockerel and a hen will breed the majority cockerels. This year I have bred from a cockerel and a hen, and the majority are pullets. In choosing birds to cross be careful to select those that have the points extra good which are wanting in your own. Golden-buff is safer to breed from than lighter shades, although a lighter-coloured hen mated with a darker cock will often produce a fair number of chickens of a good gold colour. Take care that the secondaries of the male bird be sound in colour. Beware of falling combs, or your trouble and expense will probably end in disappointment. A crooked comb is as troublesome, with this difference, that the falling comb does not show itself till the bird is seven or eight months old; whereas the crooked comb can be detected at the end of two or three months. The birds from which it is intended to breed had best be kept by themselves to prevent mistakes in eggs, and to insure stamina. Two hens will lay from forty to sixty eggs, a greater number than it will be advisable to set in such a space as I have described.

I set three sittings of nine or ten each. The second and third lots are given to the breeding hens to afford them as much rest as possible. Each sitting-hen has a house to itself, and is furnished with a nest 18 inches square, made in one corner by nailing two pieces of wood together 4 inches deep. Oat straw well rubbed is used for the nest, which is made on the floor in a slight hollow. Each hen is allowed half an hour in a morning, never more; in fact, they seldom take the time allowed. Cochins do not like to leave their nests as a rule, so each hen is lifted off by placing the hand under the breast and allowing the legs perfect freedom; there is then no struggling. When the hens are off their nests let them have a run the first thing. This will insure their speedy return to their yards, when they should have as much wheat or barley as they will eat, plenty of fresh water, something to dust in, and some green food. The eggs should be sprinkled with water during the last ten days when the hen is feeding. During the period of hatching the empty shells should be removed, or they will sometimes adhere to eggs not hatched, and prevent the egress of the chick.

Unfertile eggs may be detected at the end of a week by holding them, when it is dark, between the eye and a candle. The opaque ones are good. Eggs when laid should be dated and placed in bran, with the thin end downwards, till they are put under the hen. Some say this is unnecessary, unnatural. However, it answers, and is as convenient as laying the eggs on their sides. Eggs kept in the way I have described may be safely set at the end of three weeks. Of course, the sooner an egg is set the better. From sittings of ten I average eight or nine chickens.—W. J. Peace, *Driffield.*

HANDICAPPING POULTRY EXHIBITORS.

The idea is certainly novel, but I am afraid that is the most that can be said for it. The originator of the idea says, "I breed five or six different kinds of fowls," and then he complains of the results of his exhibiting, and mentions the names of several exhibitors who are generally to the fore. Now I think I can suggest a remedy that, if tried, will very soon banish all thoughts of handicapping out of his mind. It is simply this: Breed one, or at the most two kinds. Then if he breed from well-bred birds and pay proper attention to them, not only will he require no handicapping, but I warrant that he will beat all the exhibitors he has named, and, moreover, will himself be classed amongst the very men he has mentioned as noted exhibitors.

He is, perhaps, little aware how few birds many of our noted exhibitors actually breed. My experience leads me to say that to make poultry pay you must either go into the fancy almost as a trade, or you must be content to keep one or two breeds and breed them only. If you exhibit on a large scale you must attend, either personally or by a deputy who can be thoroughly relied on, and who is a first-rate judge, at nearly all the shows, so that not only your birds are properly attended to, but better birds than your own are bought wherever there is a chance of getting them reasonably. Anyone attending shows who is really a judge has an enormous advantage in picking up birds reasonably, and this is one of the main sources from which many of our noted exhibitors get their birds; and if the gentleman who has written the paragraph as to handicapping has not done this I can well understand his non-success. To breed five or six varieties I consider almost more than anyone can do with success, and especially if he exhibit only birds bred by himself. Many amateurs make the same mistake that he has done. I did it amongst the number, and never till I settled down to one breed did I find it either profitable, or was I really successful at exhibitions.

There is also one other great objection to handicapping—that is, the admission, by being handicapped, that your birds are inferior to others. Now this is not a pleasant reflection, and if I did not think that my birds could hold their own with any in the kingdom I should soon give up exhibiting; and I am certain that nothing tends more to raise the quality of poultry of all kinds than the laudable desire to breed birds to take their share of prizes at good exhibitions, and how much greater is the pleasure of winning with birds bred by yourself it is needless for me to say.

I am afraid I have spun a very long yarn on a very dry subject; but still I feel confident if amateurs generally, and especially those whom I call the head of their profession, the actual breeders of exhibition poultry, will breed only one or two sorts with proper attention and choice in selecting the breeding stock, success must and will reward their endeavours, and they will hold their own against all comers.—T. E. Kell.

AYLESBURY POULTRY SHOW.

Noted as Aylesbury has ever been for the excellence of its poultry shows, and the success throughout the kingdom of its local breeders, few persons could have anticipated so good a collection as that which was exhibited on the 13th inst. The profusion of excellent silver cups, the gifts of the nobility and gentry of the neighbourhood, no doubt had its influence in promoting this result, equally with the well-known appointments always attendant on the Aylesbury shows.

The Grey *Dorkings* were one of the finest collections of chickens we ever saw, the cup being taken with a pen of very dark, high-conditioned, single-combed chickens shown for the first time. A pen of unusually good White Dorkings were second, and Greys third. It

was the impression of all who saw them, that even had the prize birds been taken away, a first-rate class would have still remained. *Brahmas* were an equal treat to visitors, both Light and Dark-feathered birds being among the prizewinners. *Spanish* were not numerous, but very good. Lady Gwydyr's Buff *Cochins* and Mr. Sidgwick's Partridge-feathered were marvellously well shown, and this remark is equally applicable to Mr. Matthew's *Game* fowls. The Spangled *Hamburghs* were remarkably good, but the Pencilled were far behind those shown in this district in former years. That Mr. J. K. Fowler had it entirely his own way in *Geese* and *Ducks* would be almost anticipated; they were a show in themselves, but it must be remarked that the cottagers' pens of Aylesbury Ducks were closely competing. The best pen of Rouens weighed 15½ lbs. the pair, the Aylesburys 16½ lbs., and the cup Geese (Grey), 54 lbs. the pair. A grand collection of *Pheasants* amply repaid the attention of visitors. A pair of that rare variety known as the Swinhoe Pheasant took the first prize, and a large display of Silver and Gold Pheasants called forth continued remarks of approbation from visitors. All kinds of *Bantams* were included in a general class, Silver-laced Sebrights and Blacks taking the prizes.

Dorkings (Any variety).—Cup, J. Martin, Clainca. 2. O. E. Cresswell. Hanworth. 3, J. Smith, Shillinglee, Petworth. *hc*, C. A. Barnes, Chorley Wood; J. Smith; Rev. E. Bartrum, Great Berkhampstead: Miss E. Williams, Henllys, Berriew; J. Clift, Dorking; L. Patten, Hillmore, Taunton. *c*, Rev. E. Bartrum; T. W. Tapping, Hartwell.

Brahmas (Any variety).—Cup, H. B. Morrell, Caer Mawr, Clyro. 2, M. Leno, Markyate Street, Dunstable. 3, Lady Gwydyr, Stoke Park, Ipswich. *hc*, Hon. Mrs. B. Hamilton, Ridgmount, Woburn (2). *c*, Rev. E. Alder, Etwell Vicarage, Derby; H. Lingwood, Creeting, Needham Market; J. K. Fowler, Aylesbury.

Spanish.—Cup, Mrs. Allsopp, Worcester. 2, W. Davy, Brixton. 3, E. Jackson, Finchfield, Wolverhampton. *hc*, Mrs. Allsopp, Worcester; S. Burn, Whitby; F. James, Peckham Rye.

Cochins.—*Buff.*—Cup, Lady Gwydyr. 2, H. Tomlinson, Gravelly Hill, Birmingham. 3, C. Sidgwick, Ryddleaden Hall, Keighley. *Partridge.*—Cup and 2, C. Sidgwick. 3, H. Lingwood.

Game.—*Black-breasted and other Reds.*—Cup, S. Matthew, Stowmarket. 2, T. Dyson, Halifax. 3, J. Fletcher, Stoneclough, Manchester. *hc*, J. Fletcher; W. E. Oakley, Atherstone (2). *c*, W. Adams, St. Clements, Ipswich. *Any other Colour.*—1, S. Matthew (Duckwings). 2, W. Dunning, Newport, Salop (Duckwings); J. Goodwin, Liverpool (Red Piles).

French Fowls (Any variety).—Cup and 2, J. J. Malden, Biggleswade (Crêve-Cœurs). 3, Hills & Co., Brighton (Houdans). *hc*, C. A. Barnes (Crêve-Cœur); W. Dring (Houdans): Hon. Miss B. Hamilton (Houdans); J. K. Fowler (Crêve-Cœurs) (2). *c*, C. A. Barnes (Houdans).

Hamburghs.—*Gold or Silver-pencilled.*—1, J. Wing, Oxford (Silver-pencilled). 2, S. & R. Ashton, Mottram (Gold-pencilled). 3, R. S. S. Woodgate, Pembury, Tunbridge Wells (Gold-pencilled). *Gold or Silver-spangled.*—Cup and 3, Mrs. Allsopp (Silver-spangled). 2, E. T. Gardom, Newcastle (Golden-spangled). *hc*, Ashton & Booth, Broadbottom, Mottram, Manchester. *c*, G. Brawn.

Bantams (Any variety).—Cup and 3, M. Leno (Silver-laced). 2, S. & R. Ashton, Mottram, Manchester (Blacks). *hc*, M. Leno; Rev. F. Cooper, Ampney Crucis, Cirencester (Duckwings); Bellingham & Gill, Woodfield, Burnley, Lancashire (Black Reds and Red Piles); W. Adams (Brown Reds and Black Reds). *c*, S. Stephens, jun., Ebley, Stroud (Brown Reds).

Ducks.—*Aylesbury* (Prizes offered by S. G. Smith, Esq., M.P.) Cup, J. K. Fowler. 2, H. Jones, Hartwell, Aylesbury. 3, W. Castle, Stone. (Cup presented by Lady A. de Rothschild).—Cup, 3, and *hc*, J. Hedgea, Aylesbury. 2, J. Funge, Long Marston. *c*, W. Stonehouse, Whitby. *Rouen.*—Cup and 2, J. K. Fowler. 3 and *hc*, S. H. Stott, Preston.

Geese (Any variety).—Cup and 2, J. K. Fowler (Grey and White). 3, M. Kew, Oakham (Grey).

Pheasants (Any variety).—1 and 3, M. Leno (Swinhoe and Gold). 2 and *hc*, J. K. Fowler (Silver, Gold, and Kelledge).

Selling Class.—1 and 3, J. K. Fowler (Aylesbury and Houdans). 2, J. Wing, Oxford (Silver Fowls). *c*, H. Yardley, Birmingham (Grey Dorkings).

Extra Stock.—*Turkeys.*—*hc*, Lord Cheaham, Latimer (2).

Mr. Edward Hewitt, of Sparkbrook, Birmingham, officiated.

WHITBY CANARY SHOW.

The duties of an honorary secretary are endless; so are his anxieties. He has his pleasures, too—that is, pleasures of a kind, pleasures which to anyone in his senses would be considered pains. The beginning of the thing (I'm talking about the getting-up of a show) is awfully jolly, but the end thereof is weariness. The intermediate state is——"a mixture of hopes and fears." Thank you. That expresses it very nicely: a mixture of hopes and fears. The line is not mine, but it will do. I was going to say (when a white *piqué* so naïvely suggested the other idea) that the intermediate state is one of perspiration, copious and suppressed, hot and cold; the final agony on the eve of the close of entries being a sleepless night, with cold drops trickling down one's back like little shots, the committee meantime slumbering peacefully, alike unmindful of the Hon. Sec. or his anxieties. I was not astonished, then, to know that the Hon. Sec. for Whitby had been suffering from those symptoms which the annual return of the Show induces, having experienced them myself when placed in similar circumstances; nor will I deny that some slight misgivings as to the success of the Show occasionally arose in my own mind when I remembered how early in the season it fell, and what a poor year it had been for rearing young birds, and I pictured to myself the ample staging only very sparsely covered with cages judiciously spaced out to make a little go a great way. But I received intimation from the white *piqué* that the mercury had risen in the executive barometer. "All our old friends—Moore & Wynn, Bexson, Bulmer, Harrison, Hawman, Gayton, Burniston, Mills, Stevens, and a host of new ones have turned up, and we received nearly two hundred entries this morning," and——ever so much more, all enclosed in a scented envelope, on which "J. R. W." struggled in a Laocoon kind of monogram.

The two hundred entries had swelled to nearly 250, when, after a two-hours drive through some of the picturesque scenery of the Esk, I was set down at the door of the Congress Hall, and found myself face to face with the first collection of young birds entered for competition this season; so numerous an entry at such an early day, showing the high estimation in which the Whitby Show is held, and attracting by its intrinsic excellence many well-known fanciers, anxious to get a first peep at the budding beauties of the year. Among the familiar faces of many who were scanning the cages with severe criticism, I saw Mr. Wallace, Mr. Hawman, Mr. Bulmer, Mr. Mills, Mr. Young, Mr. King, Mr. Burniston, and many others whose faces are well known to me, but whose names I forget, all good men and true, men who are the mainstay of our exhibitions, entering every feather which has a chance, and many which have no chance, of winning, simply from kindly feeling and a desire to support a hobby in which they feel interested. To all such, greeting.

I must dispose of Moore & Wynn, by saying that they are still in the moult, and being short of preparation failed to stay the distance; but I hear of some dark youngsters in the Northampton stable destined to play a prominent part at future meetings.

In Clear Jonques, Mr. Bunting, of Derby, was first with a sensation bird, which found a ready purchaser at its catalogue price, £3, and ought, like many other high-priced yearlings, to pay its way. My attention was directed to it later in the day by men who ought to know a high-class bird when they see it, some of whom affirmed it was painted, while others discovered a microscopic tick; but my own opinion was, that it had only received a true Derby polish, and that the tick which ultimately reduced itself to one imaginary minute feather in front of the left eye, and an illogical inference that tweezers had been applied to others which might have been there, never existed at all. I don't know how Mr. Bunting will like all this, but as the bird must be well known in Derby, it may be that these remarks may be noticed in as kindly a spirit as that in which they are penned. I only mention what some thought and said. The prize award will show what I thought and did. Mr. Close, of Derby, and Messrs. Adams and Athersuch, of Coventry, were second, a good length behind Mr. Bunting. There being large entries in some of the classes, the Honorary Secretary for Whitby at once complied with my request, that I might award extra prizes, and supplemented the permission by a generous intimation that the extras need not of necessity be third prizes. Such a liberal policy speaks for itself. No. 7, Barwell and Golby, Northampton, was the second best bird for colour, but upon close examination I think it will be found to be scarcely eligible for exhibition in a Clear class.

Mealy Norwich were strong in numbers and excellent in quality, Adams & Athersuch winning easily, taking first and second, with Barwell & Golby special second with a nice bird. Messrs. Smith and Preen, of Coventry, had a good entry in this class, but by some mistake of their own, it found its way into Class 6, and their representative there into the Clear class. But for this error their Clear Mealy would have run into a place. The "mentioned" birds all had merit, and the competition was so close that I was glad when I turned my back upon the forty-six Clear birds, and got to the Variegated classes.

In Evenly-marked Jonques Barwell & Golby made a decided mark with their bird, which, when one or two I know of are out of the way, will take some beating. But I wish they and other no-doubt well-intentioned exhibitors would have doors to their cages, and not make it necessary to extract half a dozen screws before a bird can be got at; besides, there is great risk of a bird escaping when the entire front of the cage is removed. I say nothing of the unnecessary and uncalled-for waste of time to the Judge. If security be the object, a simple padlock will answer all purposes, and the key can be lodged with the Secretary. Think of this when you send your birds to the next show. Adams and Athersuch were a good second; and Messrs. Holmes & Doyle, of Nottingham, third with one not quite A1 in exactness of marking, but of grand quality. Mr. Bunting also showed a good bird, marked and capped, and Moore & Wynn sent their hero of many fights, who was in such a dilapidated state that I hardly recognised him. But when I mused over his fallen greatness, and wrote *sic transit* against his number, he whistled *resurgam*, and said that even if he were, like his owner, not so young as he once was, he would still, like him, be heard of to greater advantage before the end of the season.

Adams & Athersuch had no difficulty in scoring first again in the Evenly-marked Buffs with a grand bird, a very good mealy edition of Mr. Hawman's famous Jonque, which is, I believe, a nephew of Messrs. Adams & Co.'s bird, and was bred by them. Mr. Bunting's second was neat, very neat.

In Ticked Jonques Mr. Close's first was of delicious colour and quality. Mr. Bunting's second, too, was good, and the v.h.c. of Bexson & Bennett, of Derby, a credit to the firm. Mr. Readman, of Whitby, was mentioned with one of the right kind.

Barwell & Golby came in alone in Ticked Buffs. I heard a person say it was an awful bird. Bexson & Bennet made a good race for second with a very fine specimen which in nine years out of ten would have been first; but Barwell & Co.'s bird gave nothing a chance. Mr. Bunting would not be left out in the cold, and Mr. Cleminson, of Darlington, beat all the commended birds, earning a special third.

In Crests it was Bridgenorth election again—"all on one side. Barwell & Golby showed one of the best Crests I have seen for years, perhaps *the* best. The bird has nothing to boast of in its markings, nor is its colour extraordinary—on the contrary. I think, however, it is a hen. Still the colour it has is the right quality. Its crest is its chief attraction, and that feature is something beautiful—flat, well filled in behind, of good large silky feathers, close, compact, and dense,

and with splendid entrance and centre. Holmes & Doyle earned second place more from their bird (a rich Jonque variegated) being high up in Norwich properties than from the excellence of its crest. As a rule, the birds in this class were backward in condition, and the greater portion only earned a simple commendation.

Belgians were meritorions, but out of show condition. Mr. Robinson, of Middlesbrough, was first in Yellows with a bird a long way above the average; Mr. Bulmer, of Stockton, running him very closely, taking second and third and all there was to offer in the Buffs; Mr. Harrison, of Belper, and Mr. Robinson having to succumb. But it is almost impossible to say what "position" birds are like when out of condition.

The Yorkshire classes I was not much struck with, and I pass over the Cinnamone, in which Messrs. Barwell & Co., Holmes & Doyle, and Mr. Mills, of Sunderland, shared the honours, to get at the Lizards, and say a word of praise for Smith & Preen's Golden-spangled birds, and Mr. Ritchie's (Darlington) Silvers—they walked in.—W. A. Blakston.

(To be continued.)

PIGEONS OF EGYPT.

[The following notes have been obligingly sent to us, in answer to a correspondent's inquiry, by the Secretary of the Birmingham Columbarian Society.]

The Egyptians are great admirers of Pigeons. M. de Norr says, "The houses of Upper Egypt are vast dovecots, in which the owner reserves only a chamber for himself, and there he lodges with the hens, chickens, &c., exposed to the devouring insects which beset these animals." The Egyptians spend much time on Pigeons. They have many singular varieties, but, like most earnest fanciers, they keep the best for themselves, so that it is difficult to obtain even a sight of their best birds. Out of the varieties which are to be found in Egypt may be mentioned Turbits, Owls, Turn-crown Barbs, Tumblers, Lahores, Swifts, and hosts of others, no doubt, with which I am not familiar. Lahores are said to be Indian Pigeons; such may be the case, but I know they are cultivated extensively in Alexandria, for I have on several occasions seen them unshipped at Liverpool from that place. Swifts are Egyptian birds, and remarkable ones; they are almost unknown in England, therefore I briefly describe them. They have a round head, short thick beak, and a very singular-looking pale yellow eye. They are actually small birds, though in appearance they are large. Their wings and tail are unusually long, and give the bird a novel appearance. The legs of these birds are short. Their colours are various; the most striking are those with a bronzed appearance and light hackle. Pied and spangled ones seem the most numerous. Why they are called Swifts I cannot comprehend. It cannot be from the speed at which they fly, for, like most birds with long pinions, they cannot fly fast. The long wing is most desirable in birds that have to perform great distances, but the short and sharp-pointed wing for speed. Owls, of course—that is, the smaller and better kind, are peculiar to Africa, as most fanciers know; in fact, that fruitful portion of Africa abounds in high-class Pigeons.—J. W. Ludlow.

PIGEON-TRIMMING AT ALLERTON SHOW.

I shall be glad if you will insert the following in your next issue. Being a member of the Allerton Committee I was appointed Field Steward to the Pigeon department, and to accompany the Judge during the time he was making his awards on the day of the Show, and I most distinctly state that I not only saw Mr. Hutton examine the Nuns in question, but also witnessed him take out of their necks several dexterously-cut feathers, which I presume had been trimmed for the purpose of obtaining even marking.

Respecting the Dragoons I do not exactly remember what he said further than this, that he believed them to be two cocks, but in consequence of their being so young he could not positively determine, and so gave them the benefit of the doubt.

Threats are at all times considered poor argument, and in this case I think it may be taken as an attempt to destroy honesty of purpose.—D. Clayton, *Washington Street, Girlington.*

[We are induced to insert this because we are informed that letters have been written endeavouring to injure Mr. Hutton. —Eds.]

FOUL BROOD—TRANSPORTING HIVES.

I have sent you a small piece of brood comb from a hybrid stock of bees, which I am afraid is afflicted with the foul brood disease. You will observe that some of the cells are empty, and I perceive here and there a young bee struggle out, and this morning, when I cut from the frame the piece sent, I distinctly saw some of the smaller grubs move. The stock is a late artificial swarm, or rather a number of brood combs taken from a yellow stock and placed in a position previously occupied by a black stock, and this is the first batch of brood from the young queen. There are five frames of brood, and all alike. I have removed two frames, but have no others in stock with which to replace them, without taking them from other hives.

I have also bought a lot of bees in Suffolk, in old-fashioned hives (eighteen), which I have to bring to London. Will you give me a little advice on the subject? My own idea is to cut a hole in the top of each hive (about 3 inches), secure on the top with plaster of Paris and long pins a piece of wirework or zinc perforated, put a piece of a lath through to support the combs, stop the entrance with clay, pass a piece of cord round to secure the hive to the floor-board, and send a light spring van to fetch them. I have plenty of empty Woodbury hives with frames, if you think it would be best to put two stocks together, as advised by Mr. Pettigrew, and make nine strong ones of the eighteen.—T. F. W.

[We have carefully examined your comb, and have come to the conclusion that there is as yet no decided proof of its being affected with foul brood. Some of the brood was dead and in a state of decomposition, but this may have arisen from the lapse of time since the piece of comb was excised. Examine your hive in the course of two or three weeks, and if you find dead and putrid larvæ, or numbers of sealed cells having minute perforations in the centre of the covers, you may then decide that you are troubled with this dread disease.

Your proposed plan for removing your hives may answer very well, but the method we have always adopted and recommended for the safe conveyance of straw hives which have to travel any considerable distance, is to procure some coarse open canvas, or what is known as cheese cloth, and cut it into squares just sufficient to allow of the four corners being tied together over the crown. Remove the hive from its bottom board, and put it down on the middle of the cloth, quickly securing the ends over the top. Then take a long piece of stout string and tie round the hive about an inch from the bottom. During carriage care must be used that the hives do not rest on a flat surface. If the bottom boards had two pieces of wood 1 inch square nailed 10 inches apart across their upper surfaces, the hives could stand on them, being secured, if necessary, by cord. A spring van, with plenty of straw on the bottom, might convey the hives safely; but we have generally preferred the rail, where it was practicable, for long distances. If you desire to have fewer but stronger stocks, and to transfer them into frame hives, you would save yourself considerable trouble in their transport; but the combs would be hardly secured enough for some time to come to enable them to resist the shaking they would get. If you could transfer the combs now, feed liberally, and defer the removal of the hives until winter or early spring, we should advise your doing so. You would save expense and trouble in cloths and carriage.]

HIVING ITALIAN BEES.

Several parties have written to me saying they find it more difficult to hive Italian than black bees, and wish to know why it is so. The reason I would give is this: They are naturally more lively, more energetic, and when aroused and in a state of excitement, the excitement is more intense. Hence the disturbance caused by swarming or issuing from the hive does not so readily abate as with the black bees; they are consequently longer in clustering, and when clustered, the heat generated is far greater; they do not, therefore, cluster compactly, but the cluster is larger or more spread about than with black bees. Thus it happens that when one attempts to hive them immediately after they cluster, they are sure to take wing in large numbers; when they are shaken down, and when turned out of the hiving dish, or cloth spread to receive them, they spread out over a large surface, and, like hot ashes, are very difficult to handle. This is nothing against them, however, as it proves their more energetic disposition. It is well to allow the cluster to become well settled, and if convenient sprinkle with cold water. Where artificial swarming is practised, this trifling difficulty does not appear. When not under a state of excitement they are more easily managed, as their labours seem to wholly engross their attention, and a card of comb may be lifted from the hive and not a dozen bees leave it, and the

queen will often continue laying as if nothing had occurred.—J. H. Thomas.—(*Canada Times.*)

[We have had considerable experience with Ligurian bees, and have hived many swarms of them, but we have never found any greater difficulty in inducing these bees to "settle," than with swarms composed entirely of the ordinary variety. Mr. Thomas is quite correct in his ideas regarding their more easy management where artificial swarming is practised.—Eds.]

OUR LETTER BOX.

A Prize Dorking Cock (*An Old Subscriber*).—The cock has done well. Success is unmistakeable evidence, and in your place we should perpetuate the strain. You must be the judge of appearances. If he seem in vigorous health we should put him, not to hens, but to strong forward pullets, not more than two or three. It will probably be his last season.

Houdan Cockerel Hoarse (*E. W.*).—Camphor given in pills two at a time, the size of a garden pea, will probably restore the crowing capabilities of the Houdan cock, but as you say he is in perfect health we advise you to let well alone. At the same time watch him; if, as we think likely, the dumbness is the result of cold, it may get worse, and that is not desirable at this time of year. Bread and ale are very good things for a cold. While on the subject of crowing we can answer another question from "*Gallus*," who says his cocks crow day and night, and wishes to know if a narrow strap round the throat will prevent it. If buckled very tight it will prevent it, but it is injurious to the bird.

Sending Fowls by Railway (*Ducklings*).—Get a round basket high enough for the cock to stand upright in, and roomy enough for the three birds to squat in. Cover it with coarse canvas, put some nat straw at bottom, and despatch your birds. Send them off by a night train, and they will want no food nor attention. There is no physic for Ducks, and therefore when anything is amiss we always try change of food. Discontinue the potatoes and Indian corn. Give the ducklings some gravel mixed up with their food. If they are in confinement give them in the vessel with their meal a sod of growing grass with plenty of mould. These are very conducive to digestion.

Consequences of Non-prepayment.—"A man, signing himself 'R. H. Ellison,' wrote to me a fortnight ago from Roby, near Liverpool, asking me to send him some Partridge Cochins which I had advertised for sale. I am sorry to say I complied with his request. The letter appeared to be genuine, and was written on deep black-edged paper. I have not heard from the man since, though I have written to him for the money, and all I can find out is that he sends for his letters to the Roby post office, and has had many lately.—Fred. Temple Hillyard, *Southam, Warwickshire.*" [Inform the Liverpool police.—Eds.]

Cottingham Show.—Mr. R. P. Moon, of Driffield, informs us that he won the first prize for Trumpeter Pigeons.

Our Pigeon Portraits (*A. C. R.*).—Since the Fantail in No. 512, the following portraits have been published by us:—The Turbit, No. 523; the Jacobin, No. 526; the Owl, No. 533; and the Beard and Baldhead in No. 541.

Pigeon Book (*W. H., Leeds*).—It will be the same as the last edition, and will be ready in a week.

Skins of Himalayan Rabbits (*J. D. C.*).—The skins of the Himalayan Rabbit are not so valuable as those of the Silver-Grey, yet both are of use to the furrier, who will generally purchase them if in the season. If they are not purchasers themselves, they will furnish you with the address of dealers who will, and at more than the price you name per skin.

Turning-out Belgian Hare-Rabbits (*Idem*).—They and Silver-Greys also are profitable for turning down; the former to increase the size of the common Rabbit, and the latter to increase the value of the fur. Both are sought after for the purpose just now, yet they should be five or six months old to insure their doing well, and should have some protection from the cold. We would advise the spring, or even now if four months old, to be fully grown by the breeding season. We recommend the introduction of the largest specimens obtainable, especially of the Belgians.

Uniting Bees (*R. F.*).—If you can shift your two hives, a foot at a time, rather nearer to each other, it would be as well to do so; but if not able to do so, perhaps you could manage to drive the bees of both stocks into the same empty hive, and then shake them into the one they are intended to occupy. There would be little risk of fighting, or of many bees being lost by returning to their former stand. We should not recommend your putting the expelled bees into an empty side box. We have known bees refuse to unite under such circumstances, and to be individually killed as they attempted to leave the hive for forage or exercise, to say nothing of a general slaughter.

What is Foul Brood? (*Idem*).—The disease called "foul brood" consists in the death and decomposition of the brood. The cells so affected have usually little perforations in their centre, and on the sealing being removed there will usually be found the remains of the tenants in a more or less advanced stage of corruption. Some healthy larvæ may be brought to maturity in the vicinity of, or surrounded by cells so affected. Eventually, however, the entire breeding space becomes so clogged-up with the remains of the victims of the disease, that the queen cannot find room for her eggs, the bees gradually dwindle away, the hive perishes altogether and is visited and robbed by the bees of other stocks, who convey the contagion into their own habitations. Even the honey the diseased stock may contain is contaminated, and will be the vehicle by which the malady will be conveyed from one colony to another. When its existence is discovered in any hive, burn the combs and bees; if the hive is not very valuable burn that also; if otherwise, thoroughly cleanse it by scraping and boiling water, and wash it out with a super-saturated solution of chloride of lime. If you can refrain from using the hive for a couple of seasons, so much the better.

Foul Brood (*D. N. Cantab*).—Although the piece of brood comb sent seems to possess some of the symptoms which indicate the presence of the disease, yet we are not quite satisfied on the point, and hesitate to pronounce a decided verdict. We should recommend the combs to be examined in three or four weeks' time, and if, in addition to the present symptoms, some of the cells have perforations in their covers, with a dark viscous fluid within, and the hive's interior gives forth a nauseous smell, your friend may at once condemn the combs, frames, and bees to the fire, treating the hive as advised to another correspondent. We believe that there are two kinds of the disease called foul brood, one malignant and incurable, the other not malignant, and not only curable by treatment, but such as may die out of itself. The latter may, and often does, pass into the former.

Feeding Bees (*R. W.*).—You had better remove the super entirely, passing the string through as you did before. You will probably find less honey in the comb than when you previously examined it. Having removed the super, you will be able to ascertain, by lifting the stock, whether it requires feeding, and if so, you will have no difficulty in using the bottle-feeder. If your hive is made of straw, you may put down the weight of hive, combs, and board, at about 10 lbs. or 12 lbs., and deduct that amount from the gross weight. If made of wood a larger allowance must be made.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Sept.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 13	30.231	61.6	56.3	N.E.	62.2	71.6	65.3	118.2	54.2	—
Th. 14	30.277	59.8	54.2	N.E.	62.0	71.6	56.0	104.0	54.3	—
Fri. 15	30.227	65.2	58.6	S.E.	61.5	73.0	53.8	115.4	50.0	—
Sat. 16	30.224	64.0	60.0	E.	61.8	74.3	53.0	121.5	52.5	—
Sun. 17	30.215	59.6	56.3	N.E.	61.6	69.2	52.0	106.0	49.8	—
Mo. 18	30.135	56.8	49.5	E.	60.5	65.1	51.2	111.2	48.6	—
Tu. 19	30.114	64.8	48.7	N.E.	60.9	65.1	49.2	113.3	49.2	—
Means	30.203	60.3	54.8		61.3	70.2	52.9	112.8	51.2	—

REMARKS.

13th.—Fine day, but at times oppressive and stormlike; heavy clouds at sunset, afterwards very clear till 9 P.M., at which time a very peculiar cloud (more like the smoke from a distant fire) suddenly spread nearly all over the sky, the parts between looking an intense blue from the contrast.

14th.—Rather dull all day, but no rain.

15th.—Rather dull in early morning, but very fine after, the sun being bright with a cool breeze.

16th.—Fine morning, lovely day, wind rising at night.

17th.—Very fine all day, but quite cool in the evening.

18th.—A similar day, but if anything more chilly and autumn-like in the evening.

19th.—A rather dull and autumnal-looking day, and cloudy at night.

Cooler than last week, but temperature still above the average. Dry easterly winds prevalent, and no rain during the week.—G. J. Symons.

COVENT GARDEN MARKET.—September 20.

Business transactions continue to be of the usual character at this season. We have a fair supply of Peaches and Nectarines, but that of good descriptions of Apples and Pears of home-growth is somewhat limited. French varieties comprise Duchesse d'Angoulême, Louise Bonne, and Jersey Gratioli. Hothouse Grapes are abundant.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples	½ sieve	2	0 to	4	0	Mulberries	lb.	0	6 to	1	0
Apricots	doz.	0	0	4	0	Nectarines	doz.	1	0	3	0
Cherries	lb.	0	0	0	0	Oranges	℔ 100	20	0	0	0
Chestnuts	bushel	0	0	0	0	Peaches	doz.	2	0	8	0
Currants	½ sieve	0	0	0	0	Pears, kitchen	doz.	2	0	0	0
Black	do.	0	0	0	0	dessert	doz.	2	0	3	0
Figs	doz.	1	0	3	0	Pine Apples	lb.	3	0	5	0
Filberts	lb.	0	0	0	9	Plums	½ sieve	3	9	5	0
Cobs	lb.	0	6	1	0	Quinces	doz.	0	0	0	0
Gooseberries	quart	0	0	0	0	Raspberries	lb.	0	0	0	0
Grapes, Hothouse	lb.	1	0	6	0	Strawberries	lb.	0	0	0	0
Lemons	℔ 100	8	0	12	0	Walnuts	bushel	10	0	16	0
Melons	each	2	0	5	0	ditto	℔ 100	1	0	2	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	doz.	2	0 to	4	0	Leeks	bunch	0	2 to	0	0
Asparagus	℔ 100	0	0	0	0	Lettuce	doz.	0	3	1	0
Beans, Kidney	½ sieve	1	0	3	0	Mushrooms	pottle	1	0	2	6
Broad	bushel	2	0	3	0	Mustard & Cress	punnet	0	2	0	0
Beet, Red	doz.	0	0	0	0	Onions per doz. bunches		2	6	4	0
Broccoli	bundle	0	9	1	0	pickling	quart	0	6	0	0
Brussels Sprouts	½ sieve	2	0	3	0	Parsley	sieve	1	0	1	6
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	2	1	0
Capsicums	℔ 100	0	0	0	0	Peas	quart	0	3	1	0
Carrots	bunch	0	6	0	0	Potatoes	bushel	1	6	3	0
Cauliflower	doz.	3	0	6	0	Kidney	do.	3	0	5	0
Celery	bundle	1	6	2	0	Radishes	doz. bunches	0	3	1	0
Colsworts	doz. bunches	2	0	4	0	Rhubarb	bundle	0	4		0
Cucumbers	each	0	6	1	0	Savoys	doz.	0	0		0
pickling	doz.	2	0	3	0	Sea-kale	basket	0	0	0	0
Endive	doz.	3	0	0	0	Shallots	lb.	0	3	0	9
Fennel	bunch	0	3	0	0	Spinach	bushel	3	0	4	0
Garlic	lb.	0	3	0	0	Tomatoes	doz.	1	0	2	0
Herbs	bunch	0	3	0	0	Turnips	bunch	0	3	0	6
Horseradish	bundle	3	0	4	0	Vegetable Marrows	doz.	1	0	2	0

POULTRY MARKET.—September 20.

Grouse continue plentiful, though the glut is over. Partridges are scarcer than they have been for many years. There are very few young birds.

WEEKLY CALENDAR.

Day of Month	Day of Week.	SEPT. 28—OCT. 4, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
28	Th	Length of night 12h. 11m.	65.1	44.0	54.5	22	56 af 5	45 af 5	14 af 6	5 af 5	○	9 16	271
29	F	Michaelmas Day.	65.5	44.3	54.9	26	58 5	43 5	31 6	20 6	15	9 33	272
30	S		65.0	43.3	54.2	24	59 5	41 5	48 6	33 7	16	9 56	273
1	Sun	17 Sunday after Trinity.	63.4	44.7	54.1	21	1 6	40 6	6 7	45 8	17	10 15	274
2	M		64.4	43.9	54.1	19	3 6	38 5	27 7	57 9	18	10 34	275
3	Tu		63.7	41.5	52.6	16	5 6	35 5	52 7	6 11	19	10 53	276
4	W	Royal Hort. Soc., Fruit, Floral, & General Meeting.—International Fruit Show.	63.7	42.4	53.1	21	7 6	32 5	22 8	11 0	20	11 11	277

From observations taken near London during forty-three years, the average day temperature of the week is 64.4°, and its night temperature 63.4°. The greatest heat was 80°, on the 4th, 1859; and the lowest cold 17°, on the 2nd, 1853. The greatest fall of rain was 1.39 inch.

RUBUS DELICIOSUS.

I MAKE no apology for contributing the following additional information to that given at page 179 in reply to your querist "G. S.," relative to this very showy shrub.

In 1866 or 1867 seeds of the Rubus deliciosus were purchased at Stevens's rooms, Covent Garden, by David A. Patterson, Esq., of Dalnagear, who, at his town residence, Restalrig Park, has one of the most interesting collections of both hardy and tender plants in the vicinity of Edinburgh. A portion of those seeds which he kindly gave to me produced several plants; one of which flowered here in May, 1869, and another bloomed about a week later in the neighbouring garden of I. Anderson-Henry, Esq., of Woodend; these plants having been, in so far as I can learn, the first that flowered in Europe. In May of the present year my plant had attained to over 4 feet in height, by fully as much in diameter, and for fully four weeks it was profusely covered with large, showy, white blossoms, resembling, in size and appearance, those of the white-flowering wild Dog Briar, to which the plant also approximates so closely in the peculiar arching branched habit of its growth that visitors frequently remarked, "That Wild Briar is blooming remarkably early;" and only on a closer inspection did they detect the difference by the absence of spines and the undivided form of the leaves. Only two of the flowers have as yet produced berries, and these only partly developed, or having but a few of their pips full-sized. When fully grown they are likely to resemble those of the Cape Berry of North-west America (R. nutkanus) in size and flattened roundish form. The few pips were of a dull, hoary, purplish colour, and had a pleasing, luscious, somewhat musky flavour; but whether they deserve the specific name applied to them by the discoverer, Dr. James, more than thirty years since, can only be satisfactorily ascertained when fully-developed berries are produced.

The plant belongs to the lobed, not pinnate-leaved section of the genus Rubus, and has permanent shrubby branches, instead of these being biennial, as in the common Raspberry and Brambles. Dr. Torrey, the American botanist, by whom it was first described, merely supposed its flowers to have been purplish, and accompanied this part of his description by a (?), which Loudon and others have omitted: hence the apparent discrepancy. Dr. Hooker, however, has no doubt of its being the true R. deliciosus, from an inspection of specimens sent to him by Mr. I. Anderson-Henry. From a portion of the seeds which were kept a year longer before sowing, and then lay over a year before vegetating, other plants have been grown, which are expected to flower next year, from some of which, or by fertilising the blooms of one plant with those of another, it is hoped that berries will be more readily produced. The seeds grown from the afore-mentioned imperfect berries have also been sown with this view. That some exotics thus become fruitful which were almost barren at first is exemplified by the Berberis dulcis, the original plants of which scarcely yet produce any fruit, while their descendants of only a few years old are bending under their berry-loaded branches.

I may mention that the R. deliciosus was figured and described by me in the horticultural columns of *The Farmer* in 1869, and it was also figured and described in the "Villa Gardener" for September, 1870, page 280.—William Gorrie, *Trinity, near Edinburgh.*

ROSE GOSSIP.

Your correspondent who a week or two since inquired about the best Tea Roses, appears to be without three kinds, which, in my opinion, are amongst the very best—viz., Madame Falcot, Madame Bravy, and Devoniensis. The first of these is, if not the very best Tea-scented Rose, very nearly at the head of them. It is true and distinct in colour, hardy, of a nice bushy habit, and exceedingly floriferous. Early in the season it is scarcely full enough, but in the autumn no fault can be found with it in this respect. The second is not very floriferous, but it is a good Rose, well shaped, and distinct, and pretty hardy. There is little or no difference between it and Alba rosea. Devoniensis your correspondent must know, and I wonder he does not grow it. Although an old Rose it is not yet approached in its particular colour. Rubens, which is somewhat like, and which flowers more profusely, has not the substance of Devoniensis.

Your correspondents who a little time since mentioned some good garden Roses, omitted one of the very best—viz., Anna Alexieff, a hardy robust Rose of a bright pink or rose colour, and remarkably floriferous. One of them recommended Prince Léon, and I must say to my great surprise, for it is not brilliant nor choice in colour, and it is a wretched grower. I had it several years ago, but I really could hardly keep it alive. I would strongly advise amateurs who are without this Rose not to get it, for I am certain it will disappoint them. It is certainly a nice-shaped Rose, though it is not even in that respect a model. There is not sufficient depth of petal.

I often see it asked, "Which are the best twelve Roses?" In answer to this question I have seen Roses recommended which I should not place in the first thirty-six. Either, therefore, people's tastes differ considerably, or some soils and situations suit some Roses better than others. Very likely the differences in the answers to this question arise from both of these causes. Certainly there is a good deal in the soil, for I can never obtain blooms of such intense and vivid colouring as those grown at Waltham Cross and Cheshunt. Some people believe that to obtain this brilliant colour the soil should contain a large portion of iron in some form, and I am inclined to think that this is so. If you will permit me I will tell you which I think to be the best twelve Hybrid Perpetuals—this as a means of eliciting the opinions of other growers on the point. If I were limited to twelve Hyhrid Perpetuals, then I would choose Marie Baumann, Baroness Rothschild, La France, Louis Van Houtte, Countess of Oxford, Mdlle. E. Verdier, Madame Vidot, Charles Lefebvre, Marquise de Castellane,

M. Noman, Edward Morren, and Comtesse de Chabrillant' and I estimate them in the order named.

Marie Banmann is perfect in form, beautiful in colour, very constant, and a good grower. The only fault I have to find with this Rose is that the flower stalk is not stout enough to keep the bloom erect. Baroness Rothschild is perfect in form and most beautiful in colour. What can surpass its pinky shell-like petals? It is, too, a famous grower, has splendid foliage, and is very constant. There is only one drawback, it is not very sweet-scented. If it had but the odour of La France it would be a flower almost too good for this world. La France is a splendid Rose, and so distinct too. It evidently has Tea blood in it. I admit that it is not choice in colour, but its form is to my mind perfection; and then its scent—what Rose equals it in this respect? Take a bloom just at it is opening, blow it open, and what an odour seems to be set free. La France is, too, a good grower, and wonderfully floriferous, and I am even now not quite sure that I ought not to have placed it at the head of the list. Certainly it is first-rate, and will not soon be pushed aside. Louis Van Houtte, a Rose of 1869, has been so well shown this summer, and is so choice in colour and so sweet-scented, that I have no hesitation in setting it down as first-class. The "if or but" in this case is, Is it a good grower? I hope it is, but I do not feel quite sure about this. Countess of Oxford, another of the 1869 Roses, is also a splendid addition to our very choicest varieties; it is very distinct in colour, having that fine, dark, vivid scarlet crimson tint which is, so far as I can recollect, only seen in that good, when caught well, though very inconstant Bourbon, Rev. H. Dombrain. The drawback to this flower, and it is the only one I can name, is that it is not a fine-scented Rose, for it is certainly a good grower and very constant.

My next Rose, Mdlle. E. Verdier, is also a Rose of 1869, and is good in every respect but one—it is not highly scented. It has a good waxy very light pink petal shading to white, grows well, and is constant. Madame Vidot is an especial favourite of mine, and when it comes all but white, as it often does, I know of no Rose which I would exchange for it. I shall never forget a bloom of this Rose which Mr. Cant once exhibited in a stand of twelve some years ago—I forget where it was, but the Rose was photographed in my mind's eye, and there it is now. Madame Vidot is a good grower, but it must be propagated every two or three years, if you would obtain good healthy wood and fine blooms. Charles Lefebvre is a flower too well known and appreciated to make it necessary to say much about it. I place it thus low down in my selection because it is not highly scented, and has not a nice habit of growth. The growth is strong enough, but it is too fond of sending out one or two very gross shoots at the expense of the rest of the plant. The individual blooms are, perhaps, the finest that we at present have, and those who saw the three blooms which that clever florist Mr. Keynes showed some years ago at South Kensington (set up, horrible to say, in blacking or ginger-beer bottles), will not easily forget the sight.

Marquise de Castellane is a fine addition to our clear light pink Roses. In one word, it is a pink Baroness Rothschild, and I can hardly say more in recommendation of it. This is also a Rose of 1869, thus making four first-class Roses added to our lists in that year. M. Noman is a fine-shaped, thick, and deep-petalled flower, and was last year very constant with me. This wet season, however, did not suit it, and almost all the buds turned brown and rotted without opening. In an ordinary season this is a Rose that I am sure will give great satisfaction to the rosarian.

Edward Morren, when good, is grand indeed, and really does by far surpass that good old useful Rose Jules Margottin; it is larger, much more brilliant in colour, and I think of a better form. What a pity it is that one only gets about one good bloom in a dozen. If it were but constant it would be the best Rose out—at least, so I think. The last Rose of my selection is the good old Comtesse de Chabrillant. Some call it a formal Rose, but in my eyes it is perfect in form, and its clear bright colour, its constancy, good growth, and fine foliage, in my opinion, fairly entitle it to the position I have assigned it.

Of coming Roses I know but little. I understand on good authority that Mr. G. Paul has a very fine seedling called R. Marnock, from Duke of Edinburgh, of a dark maroon colour, but I have missed seeing it, and therefore cannot of my own knowledge say anything about it. I have, however, no doubt from what I hear that it is a fine flower.

Mr. William Paul showed a new Rose called Princess Beatrice at one of the meetings of the Floral Committee this spring, when it took a first-class certificate. It was not quite sufficiently out when shown, but that it was a good Rose was then evident, and a personal inspection of a number of plants of it in Mr. William Paul's nursery enables me to say positively that it is an exceedingly fine new Rose, one that every rosarian ought to add even to the choiceet collection, and one that will remain in the lists for many a day. I fear I shall tire your patience, and so I will now stop, though when wound up on this subject I hardly know when to do so.—P., *Essex*.

TRIAL OF PEAS AT SEAHAM HALL, SUNDERLAND, 1871.

ALL of the following varieties were sown on the same day, March 4th.

NAME.	In flower.	Height.	Ready.	Average number of peas in a pod	Remarks.
		feet			
Auvergne	June 27	6	July 30	5	Good variety.
*Advancer	„ 18	3½	„ 19	6	Good variety.
*Carter's Leviathan	July 3	7	„ 26	6	Good tall variety.
*Blue Scimetar	„ 1	4	„ 27	4	Good useful variety. Best for a dry season.
Bishop's Longpodded	June 12	3	„ 20	6	Good dwarf variety.
*British Queen	July 8	7	„ 28	6	Very good tall variety.
*Champion of England	June 22	6	„ 20	6	Very good.
*Carter's Invicta	„ 3	5	„ 7	5 to 6	Good new sort.
*Competitor	„ 3	8	„ 29	5 to 6	Tall variety, large peas, and good flavour.
*Climax	„ 10	4	„ 19	5	Very good useful sort.
Champion of Scotland	July 2	7	„ 26	5	Cannot recommend this, bad flavour.
*Dickson's Favourite	June 19	6	„ 6	5	Good useful kind.
Dwarf Sugarloaf	„ 26	3	„ 20	6	A useless variety.
†Dickson's First & Best	„ 5	4	„ 6	5	One of the best early vars.
Eley's Essex Rival	„ 18	7	„ 23	—	Good.
†Eastes' Kentish Invicta	„ 5	7	„ 7	5	Very good new sort.
*Evershed's Marrow	„ 20	5	„ 28	6	Good.
*Epicurean	„ 8	6	„ 23	—	Good.
†Fortyfold	„ 22	7	„ 23	—	Good useful kind, and good cropper.
*Glory of Cassel	„ 22	6	„ 19	6	Good.
Grotte	July 13	7	„ 20	—	Tall late kind.
†Hundredfold	June 27	8	„ 20	6	One of the best.
Harrison's Glory	„ 16	3	„ 21	6	Good, but not the best.
*Huntingdonian	„ 18	8	„ 23	6	A good tall variety.
*Hallett's Large	„ 19	7	„ 22	5 to 6	A fine tall variety.
Imperial Green Marrow	„ 27	7	„ 21	5	A good useful Pea.
Imperial Wonder	July 2	8	„ 29	—	Too large to be recommended.
King of the Marrows	June 29	8	„ 24	—	Too large to be recommended.
†Little Gem	„ 8	2	„ 10	5	Can highly recommend this for general use.
*Laxton's Quality	„ 8	7	„ 12	—	Good new kind.
†Laxton's Quantity	„ 8	7	„ 28	—	Good. Rightly named. One of the best.
†Laxton's Alpha	„ 7	6	„ 12	5	Good.
†Laxton's Supreme	„ 27	7	„ 20	6	Very good. Highly recommended.
Maclean's Wonderful	„ 28	3½	„ 28	6	Good.
Mammoth Dwarf	„ 28	3½	„ 30	5	
*Maclean's Prolific	„ 22	5	„ 20	6	Good.
†Maclean's Premier	„ 30	3½	„ 14	6	One of the best.
Mumstead Marrow	„ 30	7	„ 28	5 to 6	A good tall variety.
Nonpareil Marrow	„ 30	8	„ 22	5 to 6	Good tall variety.
Nelson's Vanguard	„ 11	3½	„ 15	—	Very good.
†Ne Plus Ultra	„ 30	8	„ 24	5 to 6	One of the best for general use. Highly recommended.
Paradise Marrow	„ 27	8	„ 20	5 to 6	Good.
*Prizetaker	„ 18	8	„ 26	6	Good dark green variety.
Peabody	„ 1	2	„ 28	4	A useless variety.
†Princess Royal	„ 27	3½	„ 26	6	Highly recommended.
†Ringleader	„ 3	6	„ 6	6	Good early variety; one of the best.
Surprise	„ 22	7	„ 26	5	Good.
*Sangster's No. 1	„ 6	5	„ 10	6	Very good early kind.
†Suttons' Early Champion	„ 6	5	„ 8	6	Good.
†Taber's Perfection	„ 6	5½	„ 7	—	Good. The pods are warty, much like those of Grotte. Too tall for general use.
*Tom Thumb	„ 11	3	„ 26	—	Good.
The Australian	„ 12	8	Aug. 8	6	
Veitch's Perfection	„ 27	3½	July 28	6	A good useful Pea, of good flavour.
Waterloo Prolific	„ 30	7	„ 28	—	
†Dwarf Branching	„ 11	3½	„ 30	6	One of the best; very prolific. Highly recommended.
†Yorkshire Hero	„ 28	4	„ 89	6	A good useful sort.

The preceding are the results of the trial of Peas at Seaham Hall this year. Fifty-six varieties were tested. It is due from me to say how satisfactory it is to find the great care taken by the trade in keeping the sorts so select. I actually find out of so many kinds scarcely two Peas resemble each other. Those marked with an asterisk (*) I can recommend, and those with an obelisk (†) I can highly recommend as the most useful kinds.

I may say I have had six practical gardeners to assist me in deciding on their merits. All the kinds have grown so tall, owing to the wet season, that the extreme height cannot be taken as a standard. As to flavour, the trial was made in the raw state, which I think is not a good criterion. Although some gardeners pretend to judge of the quality in the raw state, I have failed as yet to master this part of judging. I must highly recommend to the notice of gardeners Maclean's Little Gem. I consider it the best Pea; it requires no stakes, has a good flavour, is early and productive; can be grown in rows only 1 foot 6 inches apart, and the produce is equal to or more than that of the tall varieties, taking into consideration the same space of ground. It should, however, be trenched 2 feet deep, and be well manured.—Robert Draper, *Seaham Hall, Sunderland.*

TILLANDSIA LINDENIANA CULTURE.

This very remarkable and handsome Bromeliaceous plant was introduced from Brazil a few years ago by Mr. Linden, of Brussels, in honour of whom it is named. It was exhibited at the Paris Exhibition and also at the St. Petersburg Show in 1869, where it excited much astonishment and admiration by its extreme beauty. The leaves of this plant are crowded round the base of the stem, spreading out on all sides, slightly recurved towards the ends, and thus forming an elegant vase-like plant; they vary in length from 9 to 18 inches, and are about an inch across at the base, tapering upwards to a point, dark green on the channelled upper side, the veins on the under side being of a deep reddish purple. The flower scape rises from the centre to the height of 12 or 18 inches, the upper portion or spike, some 6 or 7 inches long, clothed with distichous, imbricating, boat-shaped bracts, which are about 2 inches in length, dark green, suffused with rosy pink towards the edges. The flowers are, perhaps, the largest of any known species of this genus, measuring 2 inches or more in diameter; the colour is light violet, shading-off into azure blue, with a feathery streak of white running up into it from the base of each petal, forming a brilliant ornament to the plant house, and that, too, of a colour which is exceedingly rare amongst the denizens of our stoves.

Tillandsia Lindeniana (with, indeed, many other plants belonging to the order Bromeliaceæ), is well deserving of a place in every garden where stove accommodation can be afforded it, combining as it does such extremely beautiful flowers with a neat and compact habit of growth.

There is, perhaps, no class of plants so easily cultivated as the Bromeliads, and yet we seldom see them grown in a satisfactory manner. The soil best adapted for them is a mixture of peat and loam in about equal parts, with a good quantity of sand mixed in it. Large pots are not at all necessary, but it is very essential that good drainage should be secured; in addition to this these plants have another means of subsistence, which, however, is too frequently overlooked or disregarded by the majority of gardeners either through ignorance or carelessness, but if anyone will take a glance at these plants their peculiar construction will at once be apparent. Their leaves are all sheathing at the base and form large cavities which hold water, and as the upper surface of the leaves in most instances is channelled, they conduct whatever water falls in a state of nature into the before-mentioned cavities, and this undoubtedly is of material advantage to the plants. Yet how frequently have we seen men who consider themselves good gardeners, deliberately empty the water out, and hence, as a consequence, the miserable and unsatisfactory condition in which the Bromeliads are usually seen. My advice, therefore, is, Always apply water to these plants upon the leaves, so that the latter may have a constant supply standing in these natural receptacles, for this is in my opinion of much greater consequence than the soil in which the plants are potted.—Experto Crede.

POTATOES.

Your correspondents, "D., *Deal*," and Mr. Thos. Rivers, in No. 515 of this Journal, cannot, I think, have the "true Early Rose," but a kind almost identical in appearance externally, the American Red, for when first dug nine-tenths are in size and shape as nearly alike as two peas, and would deceive five out of six observers; but cut them and cook them, and you will then detect the difference. The true Early Rose is, I maintain, one of the finest Potatoes grown. I have grown it for the last three years with many other kinds, both English and American, which are lauded to the skies, but not one have I found to come up to the Rose in any one particular. Mind, I am writing with reference to early kinds. The Rose I have is anything but "watery," "nasty," "uneatable," "harsh," and "unpleasant," as described by Mr. Rivers. This is my experience of the kind—that it has not been over-extolled, that it is fit for the table in sixty days after planting, that the yield is enormous, that the flavour cannot be surpassed (at least, I have not met with any one kind to equal it, and I have tried every reputed "first quality," both English and American), that it is anything but "watery," "earthy," "dry and harsh," as described by Mr. Rivers. This is what I have found it. In this respect, at sixty days, though as large as a very large duck's egg, it is like most other new Potatoes; at seventy days the tubers begin to ripen somewhat, and then burst in boiling, and for a third of their thickness are somewhat floury; when fully grown and ripened they literally fall to pieces in cooking. They continue to retain this quality till they begin to start, towards the end of April with us, but if its eyes are rubbed off it continues a month or six weeks later, which is quite as much and more than obtains with most other early kinds.

I have grown the subjoined, and up to this date have discarded all but the Early Rose and Harrison's, a Yankee late Potato.

Rivers's Royal Ash-leaf	Early Handsworth	Early Sovereign
	Dalmahoy	Rocks
Mona's Pride	American Reds	Climax
Myatt's Ashleaf	Goodrich's Early	Owen's
Early Rose	Flukes	Blues
Early Goodrich	Red Ashleafs	Christie's
Jackson's White	Paterson's Victoria	Harrison, and a host of
Prince of Wales	Regents	local varieties.

This year I have planted the Red-skinned Flourball and the Early Racehorse. The latter I have tried, but it does not come up to my Early Rose in any way (size, earliness, and flavour). The Early Rose is not what can be called a rank grower; but, then, I do not plant Potatoes in over-rich ground, so that this may account in some measure for size and quality. I plant but a single eye, and in drills, and earth-up but once. Should an eye have the appearance of throwing out many side shoots I cut it in two. My average yield is 5 lbs. to 7 lbs. from every eye. If the eye is planted entire the yield has come up in five out of six roots lifted to 7 lbs., if cut in two, 5 lbs. For seed I do not let the tubers get over-ripe. I cannot imagine climate can affect their qualities.

I have no hesitation in recommending this fine Potato, despite all that has been written against it. I could supply anyone with a small quantity of the kind I have. I would not be bothered with sending away from this a large order, for I am no farmer, but cultivate a few things for home consumption, and by way of introducing superior kinds of vegetables. I have found the Goodrich valueless. The Harrison's in my opinion is the finest late Potato grown, yield 490 bushels to the acre with me. It keeps well, and is as floury as the Early Rose. I cannot imagine the Flourball will beat the Harrison's; should they, then I shall patronise them instead.

I am curious in Peas, and have tried every known kind. The Ringleader, Laxton's Supreme and Prolific, the Prizetaker, and Drew's Dwarf bear the palm.—K.

TEA ROSES.

It gave me much pleasure to find myself supported in my appeal for Tea Roses by such an experienced hand as Mr. W. Paul. I must, however, repeat, that in my experience the Tea Rose can be grown without even the protection of a wall. On referring to my Rose book before me, I find I have somewhat over sixty varieties of Tea-scented Roses. My garden, a fine rich loam, runs down to a river; it faces south, but is more open to S.W. and N.E. winds than it ought to be. My Teas are planted in borders by themselves, in lines north and south. I had about 250 of them, mostly on the Manetti stock, but a good number on short Dog Rose stocks, planted out all last winter, and though I had a week's skating on the river at their feet, I did not lose a single Tea Rose, though I lost a few Perpetuals. The only protection my Roses had was about 3 inches of old hotbed manure and half-rotten leaves over the surface of the beds, put on at the beginning of November. I need not say that I did not let them see the knife until quite the end of March. I cut my first blooms this spring about the third week in May.

Your correspondent, "CORNUBIA," gives a list of his Teas, and asks for a list of the best twelve. I congratulate him if he has succeeded with Monplaiser. I have tried it in every form, and I think it a regular imposter, and so has every Rose-grower with whom I have "chatted" this year; it will not open, and not one flower in two thousand would be fit to put in a stand at any country show. My advice is, work Maréchal Niel on every plant of it you may have. Adrienne Christophle is most uncertain, it so rarely opens a perfect flower, but yet is, undoubtedly, a fine Rose; it will not, however, do on the Briar, it is not strong enough; my best are on the Manetti stock. I now give my list of twelve, with the stocks on which I grow them. D stands for Dog Rose, M for Manetti budded low, the junction being 2 inches underground:—

Souvenir d'un Ami, rose. D or M.
Comte de Paris, pale flesh. M.
David Pradel, rose and lavender. M.
Louise de Savoie, lemon. D.
Madame Bravy, white, rose centre. D or M.
Rubens, white and rose. D or M.
Souvenir d'Elise, white and blush. D or M. The best Tea.
President, pale rose and salmon. M.
Niphetos, pure white. D or M.
Madame Willermoz. D or M.
Moiret, fawn. D or M.
Souvenir de David, crimson. M.

To these I must add—

Madame Margottin, Madame Charles, Madame Falcot (yellow). D or M.
La Sylphide, cream, centre fawn. M.
Bongère, rosy bronze. D.

These I have tried some time and can thoroughly recommend. There are several new varieties which promise to be great acquisitions, but only having had them one season I cannot as yet speak positively—viz., Catherine Mermet, Belle Lyonnaise, Tour Bertrand, Jean Pernet, and Unique.

The following cannot be grown out of doors—viz., Elise Sauvage, La Boule d'Or, Smith's Yellow, Marie Sisley, and Reine du Portugal. They make, however, fine pot plants.

Tea Roses on the Manetti stock should be turned out of pots in May, well mulched, and freely dosed with liquid manure (I use guano water), mulched again in autumn, and not pruned till March.—STIFF SOIL, *Somerset*.

HORTICULTURAL PARIS IN 1871.—No. 2.

THE SUBURBS.

IF one is surprised at the manner in which the Parisians have resumed their wonted life when they now look round on the blackened ruins of their public buildings in the interior of their city, one is still more surprised when he gets outside and sees the awful destruction that the civil war has occasioned. None who have ever visited Paris can forget the wonderful changes wrought under the Empire in the line of boulevards and roads that debouche from the Arc de Triomphe, especially the charming Avenue de l'Impératrice with its beautiful villas, neatly laid-out gardens, and handsome surroundings. Now on all this the "fell dogs of war" have been let loose, and, alas! all is changed. Houses are knocked about, trees destroyed, gardens rooted up, lamp-posts broken, while in other places the desolation is complete. Go down to the Porte Maillot, or rather where the Porte Maillot was, and you see one mass of ruins. Of the railway station at Auteuil not a stone remains. If one wants to see what the modern implements of war can do, let him turn aside into the Avenue de Reuil, and go into the garden of what was No. 50 in the Avenue. There is literally not one stone left upon another; there is not a tree in the garden that has not been cut off by the "obus" from Valerien; there is not one in which you cannot see balls or pieces of shell, while whole piles of them are to be found in different parts: yet this was evidently a pretty villa with a well-tended garden. What did the proprietor think when he returned to his favourite residence? and what would you think, my good reader, if your pretty villa had shared a similar fate? It was a melancholy sight, and yet withal it spake something of the character of the owner that, amidst all this ruin, his men were at work clearing away, and had planted out a bed or two of Pelargoniums, which were shedding a trifle of gaiety on the desolate scene.

How well known to all visitors to Paris was the Bois de Boulogne, that dear resort of all who could afford a fiacre or boast a trap! When the Prussians surrounded the city all that portion of the Bois which was close to the enciente was cut down by order of General Trochu, and now this space is all bare; in fact, one can see that the fortifications were a mistake, or, at least, if they were to be of any use, that neither trees should have been planted nor houses built near to them. As you drive on further into the wood the destruction is not so great as one might have imagined it would have been; and I dare say after some time, provided there be no more revolutions, it may resume somewhat of its former appearance. Driving along from the Porte Maillot to Point de Jour, Passy, &c., on every side you see traces of the frightful civil war that disgraced Paris in the months of March, April, and May, when the city was ruled by the Commune, and when wretches gathered out of every nation, the *forçats* of the galleys and the gaol birds of France, held high revel in the palaces and buildings of the City of the Seine. Had the Prussians committed one-tenth part of this destruction they would have been regarded as worse than Goths and Vandals—they are regarded by some Frenchmen now as pretty nearly as bad. But all this has been the work of Frenchmen; and it is enough to make one feel sad at heart to think that all this was done in the nineteenth century, in the very capital of what is called civilisation.

But you want to know, perhaps, how individuals have suffered by it. My friend Mr. Douglas wrote a paper in the Journal two weeks ago, in his usual practical style, on the Phlox, and gave the names of some good and select varieties. Now, there is no one to whom we are more indebted for the improvement of this flower, or so much so, as to poor Lierval, who had for many years given great attention to it. No sadder history than his is to be told in connection with the war. Some years ago he left his former comparatively mean establishment for a new one, on which he had expended the savings of many years. He had built a new dwelling-house, a fine range of iron greenhouses, and some wooden ones also; he had gathered together a fine collection of stove and greenhouse plants, Palms, Ferns, &c. When the siege commenced he removed there with one son about fourteen. In the beginning of December he was seized with small pox, and that terrible disease acting on a feeble body, rendered still more so by anxiety and insufficiency of nourishing food, carried him off. He did not die of starvation as it was reported. His son-in-law then undertook the care of the place; but, alas! what could he do? The severest winter known for many years in France came on apace; fuel became scarce, none could be had for heating greenhouses and stoves, while people were perishing from cold, and so Lierval's collection was doomed. An effort was made to get some of the plants into the dwelling-house and so save them, but it was fruitless. Then came the shells from Valerien, and now blank and utter destruction marks the place; the garden is overgrown with weeds; the houses filled with pots, in which may be seen the skeletons of the plants that last autumn were in the fulness of beauty; and the ruin is complete. Of all his fine collection but one plant remains. His houses are greatly injured, his family have no means to re-establish the business, and unless they can obtain some compensation from the Government it will be hopeless. In a garden near at hand the collection of Phloxes has been saved. Some fine varieties will probably be sent out this autumn or next spring, for, being hardy, they did not require the care and attention that the house-plants did; and lovers of this beautiful flower may help the widow by ordering collections of these novelties, among which I saw some really fine things. I would gladly transmit such orders.

One cannot look round on such destruction as this inflicted on men who hated war and loved peace, without feeling strongly the terrible wickedness of such a wanton and unprovoked war as this last. I shall in another paper detail what I saw at the more southern portion of the suburbs, at Bourg-la-Reine, &c. Truly in the language of the Hebrew prophet, "they have laid the pleasant land desolate."—D., *Deal*.

RESULTS OF THIS YEAR'S SPRING AND SUMMER.

IT would, I think, be interesting if some of your readers were to give us their experiences during this season. It has been so unprecedentedly vicious, that especial value must attach to all plants that have done well through it. We ought to have notes from England, Ireland, and Scotland, as it would be interesting to know the effects of the season in each locality.

I write from the north centre of Ireland. During the early part of the season we had a long, cruel, binding drought, scorching sun, bitter east wind, and hard—very hard frosts every night. I had terrible work in keeping alive a large plantation of dwarf Pears and Plums planted in the middle of March. After this drought there came on the ground (cold as ice, be it remembered, with constant frosts) two months of in-

cessant heavy rain. The consequence was that the more delicate Tricolor and Bicolor Geraniums were perished, and went back every day. Impératrice Eugénie, Crown Prince, Goldfinder, Bullion, Safrano, and Duke of Edinburgh grew small by degrees and beautifully less, till they reached the vanishing point. The only new varieties I had that did really well were Waltham Bronze and Princess Louise; these I think remarkably beautiful. So, though to a less degree, is Plutus. I never saw E. G. Henderson and Her Majesty do so well. They colonred most beautifully, altogether eclipsing their performances last summer; Beauty of Calderdale, also, and Kentish Hero were first-rate. The Tricolors were all dull with me till the end of August, when they improved. I find no kinds at all comparable to Lady Cullum and Sophia Dumaresque. I do not think Mrs. Pollock, Louisa Smith, Sophia Cusack, or Sunset worth growing, at least not in this soil and climate.

Now about Geraniums grown for their bloom. In such a season none but those with stout petals had a chance. The much-vaunted Violet Hill was nowhere; much the same may be said of the two Wilsii's, both very pretty in a good summer. I had many new kinds on trial this year, and I unhesitatingly endorse Mr. Thomson's award last year, and give the palm to Vesuvius. It is wonderfully good. I know no bedding Geranium which gives so much bloom on the same surface. I suspect the nurserymen do not like it, because it does not give them enough wood to propagate a great stock quickly; they condemn its colour for not being intense enough. It is a light, but a most glowing scarlet, and looking from some distance on a bed with about twenty different kinds on trial in it, you could pick out Vesuvius as the most brilliant spot by far. Omega does not bloom so freely. Charley Casbon is not so good a flower, and is looser in its truss, and more easily knocked about. Memnon is, I think, very good indeed, and a useful colour; so is Géant des Batailles. I think very highly of the colour of Claude Lorraine, a very purplish shade of crimson, with a flush of vermilion on some of the petals, but it goes too much to leaf and wood. In a dry season I daresay it would do much better, or perhaps if sunk in its pot. Jean Sisley I have not, and I have only seen it as a very small plant fresh from the nursery. It has a high character, but I should fancy that it resembles Charley Casbon in the flaccidity of its petals.

Will Mr. Thomson be kind enough to give us a comfortable article from Drumlanrig, and tell us his experiences of the year, and whether Vesuvius is his last as well as his first love?

Double Geraniums are of no use whatever here as bedders, and so I pass on to other things.

In Tom Thumb Ageratum we have a treasure—an invaluable colour, low-growing, early blowing. I hope to have next year two match beds of Vesuvius edged with this. Imperial Blue Pansy has not done so well with me this season as it did last year. I suspect there is something in its bed that it does not like. Still, as it is in fair blow now, and began its work in March, it must be acknowledged as first-rate.

I think I never saw Iresine Herbstii such a good colour all through the season. Iresine Lindeni has also done well. Coleus Verschaffelti will not do with me; it merely exists. This is curious, for I know places fifteen miles further north, where there are beautiful beds of it this year—beautiful, though not equal in hue to other years. Still it has grown luxuriantly there, while with me, in a sunny situation, it is stunted and brown.

I excessively admire Abutilon Thompsoni, but I wish some one who has used it extensively and successfully would tell the exact way to manage it, as it is apt to be scraggy. It has a vein of delicacy in it, and requires a genial situation.

By far the best bedding-out in this part of the country is at Loughcrew, the seat of Mr. Naper, where, in spite of a very cold climate, the genius of Mr. Burns, the very clever gardener, produces wonders. Well, there are two beds there, each with a centre of Abutilon edged with Lord Palmerston Geranium. These beds are not 6 yards from each other, and yet in one bed, and that one, too, which received by far the strongest plants at bedding-out time, the Abutilon is scarcely more than half the size it attains in the other, simply because it is not quite so well sheltered from the north-east. Some other time I should like, if you allow me space, to enter more into detail about the gardens at Loughcrew. [You shall have all the space you need.—Eds.]

I must, before I conclude, say that I find no Aster so satisfactory a bedder as the Victoria. It has so strong and vigorous a stem, that it resists rain and wind better than any other variety. I have a bed now in bloom which has been a thing of beauty for six weeks, and as yet shows no sign of decrepitude, while a match bed of Pæony Asters went to smash entirely in the wretched weather we had three weeks ago. I should like a centre of Victoria Aster, a broad band of Abutilon, and an edging of Iresine Lindeni.—Q. Q.

HYDE PARK.

Old George Stephenson being asked, "What is coal?" answered, "Just a bottled-up sunbeam." And the researches of more scientific investigators, but not more practical men, have confirmed the truth of the great, original-minded engineer's definition—have proved that the amount of heat required for a plant's growth is exactly proportioned to that which it will yield on the combustion or decay of it and its products. "The bottled-up sunbeam" is one of the main features of the system pursued by Mr. Gibson with such grand effects when he was at Battersea Park—the system of planting-out natives of warmer climates than our own that they may grow and flourish during our summer and autumn, and afford a relief from the excess of colour which so often renders modern flower gardens painful to the eye. With the view of securing a greater amount of heat in the ground, the beds intended for plants from warm parts of the globe are placed in a sheltered position, and so that the sun may warm one or other of the sides throughout the day. A site larger than the proposed bed is dug out 9 inches below the general level, and 18 inches or more of brickbats are placed at the bottom and round the sides, which are made with a slope towards the sun. Over the brickbats turf is laid grass-side downwards at the bottom, the compost is filled in, and the outsides covered with a thin layer of soil and turf. By these means it is conceived that a considerable amount of heat is stored up in the brickbats and soil of the beds during warm days, and that this accumulated heat prevents the soil becoming so much cooled at night and during cold weather as it would otherwise be. Good drainage is likewise secured, and on the advantages of this in preventing the soil becoming soured, and the roots inactive from stagnant water, it is unnecessary to dwell. Moreover, good drainage of itself contributes to an increase of heat in the soil, as it enables the warm rains of summer to pass downwards, as well as the heated air. But apart from all this, there can be little question that many plants from regions bordering on the tropics, and even within them, will live out of doors in this country. Many Australian plants, for instance, would be killed in a New Holland house if the temperature fell below freezing, although in their own country they are often exposed to slight frosts. This may be accounted for by their growths being less perfectly ripened under artificial conditions than they are under natural conditions—we all know how much more liable the gross, succulent shoots of plants, even hardy in Britain, are to be injured by frost, than those which are firm and well ripened, especially if there be any excess of moisture. The term subtropical, however, has acquired a wider signification than that which confines it to plants from the warm parts of the earth; for as now used it may be said to include plants hardy and plants not hardy which recommend themselves by their beauty of foliage, picturesque habit of growth, and distinctness of character. With such plants judiciously employed fine effects have been produced in the public gardens of Paris, at Battersea Park, and in other places, and the system was introduced a year or two ago into Hyde Park to a limited extent, this year to a greater extent, and in future years, when the preparations shall have been made, we may look forward to its acquiring, with the increased scope, a greater development and a higher degree of perfection than it has hitherto done.

In giving an account of the most noticeable features of the subtropical portion of Hyde Park—that portion which lies between the Drive, parallel to the Great Western Road, and an imaginary line north of Rotten Row—we shall commence at the Albert Gate end of the Drive. Here we find on the western side of the ground, and extending towards Rotten Row, a series of circles, about 4 feet in diameter, variously filled, some of them consisting of beautiful cushions of Alternanthera magnifica, edged with the minute silvery-leaved Antennaria tomentosa or Sempervivums, others of golden-leaved Pelargoniums Crystal Palace Gem and Robert Fish, edged with Alternanthera magnifica and margined with Echeveria secunda glauca and E. glauco-metallica, a hybrid between E. metallica and E. glauca dwarfer than the former, having the glaucous colour of the latter, and in many cases varying considerably in its outline.

At the back of these beds are others of larger size, kidney-shaped or scroll-like, variously filled, some containing Rhododendrons. One of the most striking consists of Canna Bihorelli, a bold-leaved sort with orange-red flowers, and Canna discolor, carpeted with Coleus, and edged with a dark-leaved Beet; another pleasing bed is of Coleus Verschaffelti, intermixed with Centaurea candidissima, edged with the golden-variegated form of Euonymus japonicus, and margined with Echeveria secunda glauca.

Turning back now, and making a fresh start eastwards along the Drive, we find a series of small circles round standards of Robinia inermis, similar to those just described, and for the most part similarly filled; and further back a number of variously-shapen beds. In the intervening spaces are plunged, care being taken to secure ample drainage by a bottoming of brickbats, &c., or placed in tubs, Palms, Bananas, Dracænas, and other ornamental-leaved plants. The finest of these are Chamærops excelsa, Fortunei, and humilis; Latania borbonica, Monstera deliciosa; noble specimens of Seaforthia elegans and robusta, two of the most beautiful Palms that occur in the whole arrangement, or, in fact, that could be employed; Phœnix dactylifera, P. reclinata, the Variegated New Zealand Flax quite equal to some of our best exhibition specimens, many fine plants of Dracæna indivisa, and two or three specimens of the magnificent Abyssinian Banana, Musa Ensete. The last-named are all that can be desired as regards growth, but the leaves are much torn by the wind, showing its unsuitability for all but the most sheltered positions, and there it has a grand effect. Kindred plants to this in appearance, though not in size, are Musa superba and Strelitzia angusta, which have their foliage uninjured by wind. Among the beds at the back the most noticeable are one of Caladium esculentum, carpeted with Tradescantia zebrina, and edged with the prettily blotched Farfugium grande; then an arrangement in which are two heart-shaped beds with Dracæna indivisa in the centre, surrounded with Alternanthera amœna, dotted alternately with Sedum Fabaria, edged with Golden Feather Pyrethrum, and margined with Echeveria secunda glauca. These beds, and others like them, are the perfection of horticultural mosaic work. So even in height, so brilliant in colour, and yet so chaste, it is difficult to conceive how they were produced. We know the Alternanthera is dwarf, but we know the Sedum is not so dwarf—but Mr. Gibson informed us that he struck the ends of the flowering shoots of the Sedum, which was easily effected, and thus produced a nondescript plant and an effect which cannot be too much praised. Mr. Gibson makes no secret of the means which he adopted—he would not resort to "a dodge," but the means used to secure the end may be worth knowing, and imitated extensively with the best results. Intervening between the two beds just alluded to is one of Begonias, carpeted with Tradescantia zebrina, edged with a bronze-leaved Pelargonium, and margined with Mesembryanthemum linguum, a thick, fleshy-leaved species with large yellow flowers. The next arrangement is four half-moon beds of Purple King Verbena, Golden and Bronze Pelargoniums, surrounding a circle of that pretty little ornamental Grass Dactylis glomerata variegata, edged with Echeverias. Then we come to a fine heart-shaped bed of Eucalyptus globulus, India-rubber, and Musa superba, carpeted with Coleus Verschaffelti, edged with Salvia argentea, and margined with Echeveria metallica. At the opposite end are two more heart-shaped beds, one of which consists of Iresine Herbstii in excellent condition, with the pretty and useful white-edged Euonymus radicans variegatus as an edging; and in another plants of Musa superba are plunged. Some Rhododendron beds here are interspersed with Acacia lophantha and Aralia papyrifera, which serve to relieve the outline of the Rhododendrons while not in flower. The next arrangement is four demi-lunes of dwarf bronze-leaved Geraniums, interspersed with Viola cornuta, having for its centre a circle of Fuchsias panelled with dark and light kinds alternately. These are surrounded with Iresine Lindeni, which is everywhere very effective, edged with Golden Feather Pyrethrum, and margined on the ramp of the bed with Echeveria secunda glauca.

We now turn westward along the north side of Rotten Row, finding plunged on our way fine specimens of Dracæna indivisa. One of the first and most striking beds we come to is Caladium esculentum, carpeted with Coleus nigricans, and edged with Centaurea acanthifolia, with leaves beautifully cut. At the back of this is a large bed of Ferdinanda eminens, one of the most noble of the plants used in subtropical arrangements; and adjoining this are beds of Castor-oil Plants, carpeted with Solanums, of Erythrina crista-galli, and of the scarlet-flowered Canna Van Houttei, with the dwarfer bronze-leaved Canna expansa nearer the edge of Golden Fleece Geranium, with a margin of Euonymus radicans variegatus. Passing on we come to a pleasing circle of Solanum Warasewiczioides, with Cyperus alternifolius as a carpeting, and at the back of it a large shrubbery diversified with Tritomas, Acacias, and Abutilons; then to a circle of Cannas; and, reaching the corner of the footpath we find a half-moon of Wigandia caracasaana, than which no plant used in subtropical gardening is productive of a more superb effect, noble in habit, and its leaves like the richest fabrics of the loom. Like crimson-clad soldiers in line stands a row of Chilian Beet, the leaf-stalks as well as the blades of which are beautifully coloured, the one most brilliant, the other of a rich but sombre greenish bronze. A bed of Solanum marginatum is singularly effective by its silvery foliage; in fact, this and S. robustum, of a rich cinnamon colour, are two of the most effective of the genus—indeed, of subtropicals. Among other beds here are one of Eucalyptus globulus, another of the graceful Yucca recurva; others of Cannas Van Houttei, limbata, Chatei, and expansa; Castor-oil Plants; Indian-rubbers; Polymnia grandis, Caladium esculentum, Aralia papyrifera, and Aralia Sieboldii, variously carpeted, chiefly with Coleuses, edged with golden-leaved plants, and margined with Echeverias and other succulents. As prominent among these yellow-leaved edging plants must be mentioned Mesembryanthemum cordifolium variegatum, which here as elsewhere in the bedding-out has been used with the happiest effect, and which can be safely recommended from the variety of situations in which it is to be seen—under trees, in sun, and in shade—as a most desirable plant where a dwarf cream yellow edging is desired.

At the east end of the Serpentine is a dell, in which there is a mixed collection of plants—Tritomas, Cannas, Yuccas, Rhododendrons, &c., near the water, and a bank of shrubbery rising to the road above. The whole is neatly arranged, and it is worthy of note that in the valley, with its roots almost in the water, Aralia Sieboldi has stood the last two winters without the loss of a leaf. The position is by no means sheltered, being exposed to the full sweep of the east winds, though the plant is a little screened from their force by being in a hollow; yet its low position near the water would be in the last degree unfavourable to it in those severe frosts with which we in the valley of the Thames are so often visited, and the only conclusion to be arrived at, is that Aralia Sieboldi (like the Aucuba japonica, which was grown in a greenhouse when first introduced, and is now known to be one of our hardiest shrubs), is much more hardy than is generally supposed.

We will now cross the Park to Stanhope Gate, between which and the Marble Arch there is a long series of beds filled with flowering plants and those remarkable for their leaf-colouring. This portion of the Park, though considerably shaded by great Plane trees, is simply a large flower garden, with the turf close-shaven, like so much velvet, and of the brightest green. That there are no brown patches is in a great measure due to the use of the economical watering-hose on wheels, which, on being connected with the supply pipe, affords without further labour a watering much more efficient than could be given by hand. Not a fallen leaf could we see, not even the scattered fragments of paper, the remains of fusee-boxes, and the numerous odds and ends which are so often left to disfigure our public places; no, everything is as clean and as neat as in the best private gardens to which the multitude have not access. Proceeding from Stanhope Gate towards the Marble Arch, all the beds on the right-hand side are edged with Golden Feather Pyrethrum, and margined with the silvery Cerastium tomentosum, while the circles on the left are edged with Iresine Lindeni, one of the finest of our new bedding plants, much more richly coloured than I. Herbstii, and standing the weather well, the outer ring or margin being neat rosettes of Echeveria secunda glauca. The long beds on the same side are edged with Iresine Lindeni, with a margin of blue Lobelias and Dactylis glomerata variegata planted alternately. The beds in this part are chiefly masses of Calceolarias and Pelargoniums, the best of the latter being Amy Hogg, Cybister, Chieftain, Mrs. Laing, Vulcan, Lord Palmerston, and Waltham Seedling. The last-named produces its dark crimson flowers in the greatest profusion, and in this respect is evidently one of the very best. Forget-me-not, deeper in colour than Christine, is scanty of bloom. Excellent, scarlet, is good. The only Calceolaria employed is Gaines's Dwarf, and this, wherever it is met with, forms dense masses of golden blossom, proving itself, here at least, to be

one of the most effective varieties that can be grown for bedding purposes. One arrangement on the left consists in the first bed of Culford Rose in the centre, triangles of the golden-leaved Crystal Palace Gem at each end, and the spaces at each side of Mrs. Pollock, which, however, is here by no means bright in its leaf-colours. The next oblong consists of the silver-variegated Queen of Queens intermixed with Purple King Verbena, an effective combination. The third oblong is the same as the first, and the fourth the same as the second.

We now come to a splendid series of beds, in which the oblongs on the right are filled with Pelargoniums, mostly of the kinds already named; Gaines's Dwarf Calceolaria, Heliotrope Miss Nightingale, a very free-flowering kind, and Ariosto Improved Verbena, interspersed with Pelargonium Annie, silver edged. The whole of these beds are edged with Purple King Verbena, and margined with Iresine Lindeni. It is, however, on the other side of the walk that the bedding is seen to the best advantage—it is superb, and a triumphant example of what may be done by the use of plants with coloured foliage alone without the aid of flowers. The circles are filled with Alternanthera magnifica, edged with Iresine Lindeni, and margined with Sempervivum californicum. These are very fine, but much more so are the five oblongs with rounded ends; three filled with Coleus Verschaffelti, presenting a broad mass of rich brownish crimson, outside of which is a line of the silvery-leaved Centaurea candidissima, an edging of Golden Feather Pyrethrum, and a margin of Echeveria secunda glauca. The two intermediate beds consist of the pretty gold-mottled Abutilon Thompsoni, beneath which is a carpeting of Coleus nigricans.

The next combination consists of heart-shaped beds at each end, Iresine Lindeni being used in the one case and Alternanthera magnifica in the other, the edging being Antennaria tomentosa and Mesembryanthemum linguum, a grass-green, fleshy-leaved, yellow-flowered succulent. The oblongs are filled with silver-leaved Pelargoniums and blue Lobelias intermixed; with Purple King Verbena and Queen of Queens or Hendersoni Pelargoniums; with Ariosto Improved Verbena and Mrs. Pollock Geranium, or Beauty of Oulton; with Heliotrope Miss Nightingale, Gaines's Dwarf Calceolaria, &c.

The next series of beds extends from Mount Street to Grosvenor Gate. The edgings of those on the right consist of Blue Lobelias, the margin being alternate plants of Viola lutea grandiflora and the pretty white-variegated form of Dactylis glomerata. On the left Purple King Verbena and Alternanthera magnifica are used, the latter not strong enough to be apparent above the rich marginal line of Golden Feather Pyrethrum. The yellow-flowered Viola on the right has also a rather rough appearance, though blooming freely—a drawback, no doubt attributable to the season being so much more favourable to the production of leaves than of flowers. In this group there are effective beds of Pelargoniums Duchess of Sutherland, Lucius, Madame Vaucher, Madame Rudersdorff, Beaton's Indian Yellow, Mrs. Laing, Dr. Lindley, an excellent variety both for beds and pot culture, Golden Fleece, Crystal Palace Gem and Luna, intermixed with Viola cornuta, and Mrs. Pollock. Gold is the prevailing colour in this arrangement. We now come to a mixed bed, the arrangement of which is so complicated as to baffle description without a diagram, but very pleasing in its effect. Its principal components are Palm Grass, the hoary-leaved Solanum marginatum, and Dracænas, the ground beneath being carpeted with Alternantheras, Mesembryanthemum cordifolium variegatum, and Iresine Lindeni, with an edging of blue Lobelias, and an outer line of alternate plants of Dactylis glomerata variegata and Viola lutea. Two heart-shaped beds of Alternanthera versicolor on the opposite side of the walk are edged with a pretty little green-leaved Thyme, name unknown; and after passing a bed of Rhododendrons, and light and dark Fuchsias, we come to two more heart-shaped beds of Alternanthera magnifica, surrounded with Echeveria secunda glauca. In this section of the bedding-out, Pelargonium Rev. J. Dix, deep scarlet, Lucius, before noticed, and Chieftain, are conspicuously good. There are also some beautiful beds of Alternantheras which are much admired.

The last division to be noticed in this part of the Park i that extending from Grosvenor Gate to the Marble Arch. The first combination is one of three beds—namely, a long parallelogram with a circle near each end. This has a very good effect. The circles are filled, one of them with Mrs. Pollock Pelargonium, the other with Crystal Palace Gem, surrounded with a line of Iresine Lindeni, and outside of this is Echeveria secunda glauca. The parallelogram is chiefly occupied with Coleus Verschaffelti richly coloured, set in a bordering of Centaurea candidissima, and edged with Golden Feather Pyrethrum. Next we come to a series of circular and oblong beds with rounded ends. In these Coleus Verschaffelti and Centaurea are introduced with splendid effect. An oblong of Pelargonium Queen of Queens, intermixed with Verbena Ariosto Improved is very good; so are several beds of Waltham Seedling Pelargonium, Golden Fleece, and Crystal Palace Gem. Before arriving at the Marble Arch we pass several large and small circles. These are very neatly planted with Pelargoniums surrounded with Lobelias, alternating with Alyssum variegatum, and an outer ring of Iresine Lindeni. Finally, we have a figure-8 bed centred with Coleus Verschaffelti set in Centaurea edged with blue Lobelia, with a margin of Iresine Lindeni. This bed is very telling, so is the small circle of Pelargonium Excellent, at the end next the Marble Arch.

The last part of the bedding which we shall attempt to describe—and we can only attempt to do so—is that respecting which three young ladies wrote to us a fortnight ago, saying they had heard it was the smartest piece of bedding anywhere to be seen. "When you get to this place you must take out your note-book and give us in 'our Journal' a crayon sketch of the semicircular bed, &c." We are very sorry to disoblige any ladies, and especially young ladies, so we took out our note-book and made a pencil sketch of the arrangement while the shades of evening were drawing on ("Young ladies like that," said one of the Editors with a nod and twinkle in his eye), but it was not to the sketcher's satisfaction, and he therefore wished to be excused from making a public display of his artistic talents, whilst confessing the necessity of a drawing to give an adequate idea of the arrangement; wherenpon he grew sour, and declared that the group was not quite perfect—there was some irregularity in the balancing, but the effect as a whole was very beautiful, and that the superb beds of Alternantheras and Coleus by Park Lane were far more chaste. The bedding here referred to is that at "the Temple," the house where Mr. Chamberlain, Mr. Gibson's esteemed *aide* lives. In front of this there is a horseshoe bed, the ends of which are planted with a great variety of subjects, cut off from the rest by a band of Alternanthera magnifica, which is also extended along the middle of the horseshoe, meeting at intervals circles of Centaurea, whilst segments of circles on each side of the middle band are filled with the brighter-coloured Alternanthera amœna and A. versicolor. The same arrangement is continued all round, and the whole is margined with Echeveria secunda glauca. Two heart-shaped beds near the centre of the horseshoe are planted with Pelargoniums Mrs. Pollock and Variegated Stella, edged with Alternanthera magnifica, and bordered with Sempervivum californicum; two more, one on each side of these, consist of silver variegated Pelargoniums and blue Lobelias intermixed, and Mrs. Pollock, edged with Alternanthera versicolor and margined with Mesembryanthemum linguum. In the circles the materials used consist of Coleus Verschaffelti, Centaurea candidissima, Bronze Pelargoniums, Alternantheras, Golden-feathered Pyrethrum, Mesembryanthemum cordifolium variegatum, Iresine Lindeni, Sempervivum californicum, and Echeveria metallica. Between the beds are plunged plants of Musa superba, the Bird's-nest Fern, Chamærops, Caryota, and next the walk Acacias.

The bedding-out at Kensington Palace is also most efficiently carried out, and many of the beds being less shaded, afford even a better floral display than those in the Park.

It will thus be seen that Mr. Gibson, even in his first few months of management, has done great things in improving and rendering more attractive London's greatest park; but we expect from him greater things in the future, when the means shall have been afforded to make the necessary preparations. The London parks are the property of the rich and the poor; to the one and the other they are capable of yielding much enjoyment and instruction, and by neither is the amount of damage done worthy of consideration, save when the London "rough" has a "demonstration."

PLUMBAGO CAPENSIS CULTURE.

The following is the mode of culture which I adopt. Having received a plant of Plumbago capensis in January last, when it was in a 4-inch pot, and little more than 6 inches in height, in March I shifted it into a 5½-inch pot, and in the latter part of May I gave it a second shift into a 7½-inch pot, as by that time it had made good growth. In June I cut some of the leading shoots, for the first and last time using the knife. The plant is 2 feet in height, is now in flower, and has been so

for the past three weeks. It has thirty-two trusses of splendid flowers. All the time it has been kept in a cool greenhouse. The compost I used was three parts fresh loam, and one part leaf mould, adding a little manure and silver sand, as the plant is a gross feeder. It should never be allowed to get too dry.—J. N., *Ennis*.

MESSRS. SUTTON'S COLLECTION OF POTATOES AT KENSINGTON.

The interest that is felt in the cultivation and varieties of this useful root was evidenced by the collections which were put up at the Royal Horticultural Society's Meeting on the 20th inst. Four good collections were staged. Mr. Fenn's was remarkable as the product of years of unceasing energy and skill in cross-breeding and cultivation; Messrs. Lee's was a fine example of good growth; Mr. Dean's also contained some fine specimens of culture; while that of Messrs. Sutton, of Reading, of which I would now write, was remarkable for the large number of varieties staged. They call for no special remark as to size and appearance. They had evidently not been grown for exhibition, were the samples of an average field crop, but they gave one an excellent opportunity of seeing some of the many varieties which now puzzle cultivators quite as much as florists' flowers. The collection contained the following varieties, they comprised three divisions—viz., new varieties sent out in 1871, American Potatoes, and a general collection.

Of the first division there were—1, Giant White Mammoth; 2, Giant Red Mammoth; 3, Canadian Kidney; 4, Erdington Monarch; 5, Ramston Kidney; 6, Early Red; 7, Red Fluke; 8, Golden Zone; and 9, Nuneaton Seedling. The last two seemed from appearance to be good Potatoes in their respective classes, but as I have ever maintained, one can never judge from appearances.

The second division contained the following American varieties:—

10. Early Goodrich
11. Bresee's Prolific
12. Pranse Seedling
13. Pink-eyed Rusty Coat
14. Peach Blossom
15. Early Rose
16. Peerless
17. King of the Earlies

Most of these I have myself grown, many of them are good croppers; and if people do not study much the flavour of a Potato, or like them, not *au naturel*, but mashed or fried, they may answer, but in a small garden and for general use avoid them. Besides these there were Red-skinned Flourball, sent out by Messrs. Sutton in 1870, and samples of some which had been sent out as such by other firms, and certainly bearing very little likeness to the real Simon Pure. My opinion of this Potato has not changed. For baking purposes it is admirable, but it is too large for steaming, and not of sufficiently good quality.

The third division contained:—

18. Bovinia
19. Red Regent
20. Early Shaw Improved
21. King of Potatoes
22. Royal Ashlea f
23. Drummond's Prolific
24. Wood's Scarlet Prolific
25. Early Emperor
26. Prince of Wales
27. Dalmahoy
28. Dawe's Matchless
29. Early Giant King
30. Improved White Rock
31. Walker's Improved Regent
32. Paterson's Scarlet Blue
33. Haigh's Kidney
34. Scarlet King
35. Paterson's Victoria
36. Snowball
37. Flourball
38. Fortyfold
39. Myatt's Ashleaf
40. Fluke
41. Milky White
42. Early Oxford
43. Red Farmer's Glory
44. Paterson's Field White
45. Paterson's Red Kidney
46. Early Coldstream Fox's Seedling
48. Sutton's Early Racehorse
49. Wellington
50. Paterson's Regent
51. Skerry Blue
52. York Regent
53. Lapstone (true)
54. Paterson's Albert
55. Headley's Seedling
56. Early Walnut Leaf
57. Belgian Fluke
58. Red Ashlea
59. Negro (black flesh)
60. Paterson's Perfection
61. Paterson's Early White
62. Oxfordshire Kidney
63. Early Ashleaf
64. Fir Apple Potato (very curious)

Some of these sorts are well known and bear high characters, some are unknown to fame, and many I have never seen before to my knowledge, nor tasted. I know that Royal Ashleaf, Myatt's Ashleaf, Lapstone, and Haigh's Kidney are good amongst the kidney-shaped Potatoes. I know, too, that many whose judgment I highly value esteem King of Potatoes, Dawe's Matchless, Paterson's Victoria, Early Racehorse, Skerry Blue, and Headly's Seedling very highly. Amongst round Potatoes—Dalmahoy, Wood's Scarlet Prolific, Improved Regent, Early Coldstream, York Regent, and Early Oxford are good; others seemed to me from their appearance and weight as likely to be valuable, such as Golden Zone, a round clean-looking Potato, and Snowball. There may be, and doubtless are others that are good, but in the Potato appearances are often deceitful, and it is not until the tubers are cooked that their merits can be determined on. It is, however, a satisfaction to see the Potatoes that are brought before the public; and the eminent firm whose collection I have thus briefly passed in review well deserved the special certificate awarded them, in thus enabling the frequenters at the Royal Horticultural Society's meetings to see so large a number brought together.—D., *Deal*.

THE PROPER WIDTH OF ORCHARD HOUSES.

This is a subject which in my opinion requires some discussion. I am now about to speak of the maximum width of span-roofed houses; in short, the best width to be selected for large span-roofs. The house at Chiswick is 30 feet wide; this gives good growth but not high-flavoured fruit. There are now numerous houses of this width, seemingly built after Mr. Foster's plans for Mr. Pearson, of Nottingham; now, as a rule no houses of this width give fruit of fine flavour, the low ventilation is too weak, so that the trees at a little distance from the sides give good growth and fine fruit to look at, but generally failing in flavour. I know this from much experience, and am often reminded of Mr. Bewley, of Black Rock, Dublin, one of the first to grow orchard-house trees, and he grew them well in what he called "hovels"—small orchard houses—I never saw finer Peaches in pots. Well, he thought of leaving his teacher, Mr. Rivers, far behind, and accordingly built a house 40 feet wide, which his teacher told him would not do, as the ventilation was not enough. After some experience this proved quite correct, as the Peach trees gave fruit of inferior flavour, and the house was turned to some other purpose.

The span-roofed houses, each 100 feet long and 24 feet wide, at Sawbridgeworth, have never yet failed in giving fruit of the finest flavour. They are ventilated with shutters 20 inches wide, on hinges opening downwards, the lower part of the aperture being 20 inches from the surface of the soil. The roof is fixed, without any apertures in it, but at each end just under the gable is an obtuse triangular space about 9 inches in depth, and 22 inches wide, for the emission of the heated air. These are unglazed and always open. Nothing can be more perfect than this simple mode of building, the only fault is a want of height. They are 12 feet in height to the centre of the ridge; they should be 15 feet (as recently advised by Mr. Rivers), for the large standard trees now touch the glass, and although they bear quantities of fruit, they annually require severe pinching and winter-pruning. I may remark, that it is curious to observe these fine standards growing in the calcareous clay over which the orchard houses are built. The soil is like a well-trodden path, and is never stirred, neither are the trees watered, still it is evident that the abundance of water given to the trees in pots standing near them is sufficient to keep them in fine and vigorous health.

It will, I think, be seen from my description of these simply and cheaply-built houses without ornamentation, that thorough low side ventilation is the most perfect of all; and although in a house 30 feet wide it may remedy the defect of too much width, so as to give Peaches of good flavour, I have reason to doubt it from all that I have experienced, and am inclined to adhere to the width so thoroughly carried out in the houses at Sawbridgeworth—viz., 24 feet, which, as I well know, produces the finest-flavoured and largest Peaches I have ever eaten, besides which the trees are such pictures of health and vigour.

It would be interesting to hear from some of your correspondents as to their experience in the width of orchard houses, for, as far as mine goes, I should rather advise 20 feet than 30 feet as the width of them. There is another point on which I should like to hear the opinions of others, and that is the unbroken roofs of span-roofed houses. Almost universal at Sawbridgeworth, this is not, as a rule, followed elsewhere, and hence much expense is incurred, most persons fearing a lack of ventilation—an idle fear, as I think I can prove by stating the cause of the thorough ventilation of those entire-roofed houses. In sunny weather the air is rapidly rarefied and ascends to the roof, where the temperature is often 100° and 105°. This is comparatively a vacuum, and the cool outer air, rushing in from the bottom, so rapidly ascends to the roof

—escaping at each end—as to move every leaf, and thus the air of the house even in a sultry day is in motion, and every leaf aërated. This I opine is the cause to a great extent of the extreme health and vigour of the trees; whereas openings in the roof do not allow of the accumulation of heat, hence the rush of air is less violent and less effectual. This is, perhaps, a new idea, but I think quite sound.

I may also observe that one house of the same length and width, with an unbroken roof, and the apertures at each end enlarged and closed in winter, is used as a forcing house, and in this house are the same signs of vigour and health in the Vines and trees. This system will allow us to have orchard houses with a maximum width of 24 feet, built at a much cheaper rate than those of Mr. Ayres or Mr. Pearson, and yet equally effective.—Inquirer.

GOLDEN CHAMPION GRAPE.

When discussing with others the merits and demerits of this Vine last spring, I felt bound to speak favourably of it so far as my experience then went, reserving my full opinion until I should have had another season's practice in its culture. Having again grown and fruited Golden Champion in two separate houses under somewhat different treatment I feel better able to speak without reserve on the subject, and shall now give my candid opinion.

At the outset allow me to assert that my opinion has undergone no change as regards the high qualities of this Grape; but I am rather more convinced that after a few more years, when its peculiar cultural requirements shall be better understood, Golden Champion will have a place in most vineries. But now to speak of it as I have found it. Here, as regards growth (on its own roots of course), it has fully maintained its reputation, producing in both houses canes equal to those of most other varieties. The spurs of last year broke freely into fine short-jointed laterals, with one or two fine-formed bunches on each. With a few exceptions which occurred in the early house, the berries in the house named set very thickly, and swelled with a rapidity far surpassing any other Vine in the house, showing the necessity of running the scissors several times among the berries long before the proper time for final thinning. This rapid swelling was constantly sustained until the fruit had attained the dimensions of ordinary Grapes when ripe; at this period it slackened, and then the second swelling and the ripening followed.

The berries on this Vine were of the usual oblong form, of a golden amber colour, and each was a mouthful. Spot, I am sorry to say, was present on a few of the berries on two of the bunches. This blemish shows itself just under the skin, and its effect is anything but pleasant. It in a great degree mars the beauty of a bunch, no matter how perfect it may be in every other respect. Besides, when the berries attacked begin to colour this blemish takes more or less the character of a spreading wound, which renders necessary the instant removal of the affected berries, in order to prevent the disease being communicated to those next them.

As regards the hanging properties of Golden Champion after it is ripe, I have found that it will not keep long without shrivelling, although by this the flavour of its fruit is not in the least impaired.

Having described the behaviour of this Vine in an early house chiefly planted with Hamburghs, I shall now speak of the Vine in our intermediate or Muscat house. This Vine, from the day it was planted—three seasons ago—has been less robust in growth, with the peculiarity of having its berries round and flattened at both ends instead of oval. Only two bunches were permitted to ripen this year, owing to the weak growth of the Vine as compared with that in the early house. These bunches ripened in the fullest sense of the word without spot or blemish. I have just cut the last. It had a flavour dangerous to try, so rich and so peculiarly agreeable—more so than I ever experienced on any former occasion.

Now we shall see what effect wind and hot vapour have upon the fruit of the Golden Champion. To test both I allowed one bunch to remain; it hung close to the front ventilator, so closely that when air was admitted the bunch was constantly swayed to and fro by the current. The other bunch was situated immediately over the gutter on the flow-pipe, and within 18 inches of it; it was consequently subjected to an incessant flow of hot vapour day and night from the time the house was started until colouring commenced, when no water was allowed in the troughs. Those two bunches were not in the least injuriously influenced, but were all that could be desired when ripe.

In conclusion, it will be seen that I have no reason to complain of this Grape as far as my experience has gone. It has done well with me both in a moderately early house, where the temperature has been kept also moderate; but, if possible, I think it ripened its fruit better in the Muscat house, though in the latter case the wood was not to be compared for strength with that in the other house. Another hint: I find when thinning the fruit of the Golden Champion that the most scrupulous care must be exercised to avoid handling; the most tender touch will leave a lasting mark, and the faintest scratch becomes a vulgar scar when the skin gets expanded by age and the growth of the fruit.—A. Kerr, *Carbet Castle.*

Carter's Cricket Club played its last match for the season—Married *versus* Single members—at Dulwich on the 16th inst., and the result was a victory for the Single by one run. Score: Single, 87; Married, 86. The match was followed by the annual dinner, at which thirty-five members of the Club sat down. After the usual toasts had been proposed and responded to, the Secretary gave a *résumé* of the doings of the Club during the past season, when it transpired that four matches had been won, three lost, and five drawn.

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 19.

I suppose almost every person of any observation is well acquainted with the external appearance of a wasp. We have all seen this insect if we are not blind. We have not all felt it, though; no! and those who have not may be regarded as having—a pleasure yet in store? Well, not exactly that, but the sting of the wasp, except with certain peculiarly constituted individuals, is not really so painful as common report alleges. I conceive the wasp is in many things an individual grievously calumniated; he is the victim of spite, which has been nursed and fostered by successive generations until even his exterior is regarded as disgusting, and an adjective coined from his name is expressive of a disposition anything but amiable in the human family.

What are the leading charges against the wasp? First and foremost, it is said, he is a notorious thief, and spares no sweets which come within his reach, attacking also other produce at times. Granted that he does, yet other species of insects are just as annoying and predacious as he is, and they are not visited with such extreme censure. Moreover, it must not be forgotten that the wasp is also carnivorous, and kills and carries off other insects, even at times our pertinacious enemy the blowfly. Secondly, he is charged with being highly malicious and spiteful. "The wasps," says a foreign author, "are a race of dangerous brigands which live by rapine, are incessantly fighting battles, and exist only to do harm. They are an excitable race it is well not to cross. If great heat adds to their natural irritability they savagely attack those who annoy them, and pursue them to a distance." Very dreadful indeed! Perhaps the Continental wasps are worse in demeanour than our British specimens.

My own experience corresponds rather with that of Mr. Cox, who observes, "The wasp is not vicious, but simply resentful. It does not attack or sting unprovoked, and if allowed peacefully to pitch upon us without previous hunting, it will most probably do us no injury." And I have myself even hunted them (by accident)—that is to say, I have struck them down when chasing other insects, and have found that when liberated from the net they were usually only too glad to take their departure, though now and then an individual would perform some gyrations in the air in one's vicinity for a short time, the attention being necessarily concentrated upon these gyrations until the offended Hymenopteron went off. "But," exclaims some one, "wasps *are* malicious. I have seen one at rest, and he (or more properly she, for the male wasps are stingless), kept thrusting the sting out, as if longing to employ it on somebody." Quite true, I have seen that also; but what is there in the fact? Why simply this, that the wasp's sting is a most important weapon to its owner, and it is incumbent upon the insect to keep it in good order. The movement of the sting in and out of the sheath is a merely mechanical act, on a par with the "dusting and brushing" operations gone through by many insects. I do not think it can be proved that wasps are quarrelsome amongst themselves to any great extent, cer-

tainly not so markedly as are the hive bees. They will pounce upon bees of all kinds, it is true, whenever they have a fancy for so doing, and take their honey if they can get it. "This is thieving?" Well, of a sort, but we do not expect high morality amongst the Vespine tribes. The gardener, as it seems to me, is the individual who has most reason to inveigh against wasps —more so than the fashionable lady in her drawing-room, or the shopman behind his counter; yet I have not noticed gardeners so bitter against the wasp as they are against others of their insect enemies.

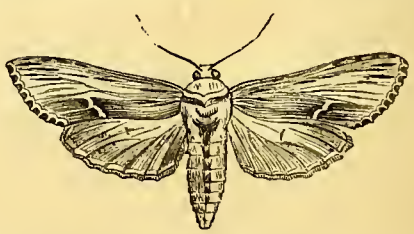
Just now in many districts wasps are numerous enough to be troublesome, and they are fond of entering vineries and hothouses, as well as tolerably impartial in their attacks upon ripe fruit out of doors. But if they do much mischief to fruit under cover it is surely a good deal the fault of the gardener. A friend remarked to me once, "I can't tell how it is; other people get back money they have lent, but whenever I do such a thing I never get repaid." The answer naturally was, "The remedy is simple—don't lend any more." So it is with regard to hothouses: prevention is the plan to pursue. Keep the wasps out, and they cannot do harm. Tolerate no broken nor even badly cracked panes, and when the windows are necessarily open cover with netting to exclude uninvited visitors.

Some confusion of ideas will be found even amongst educated people regarding the economy of the wasp. We have two notable British species which particularly frequent gardens and the abodes of men. The tree wasp (Vespa norwegica, alias britannica) is less common, at least in the south of England. Mr. Harding, in "The Entomologist" of 1865, gives some account of the proceedings of a colony of this species which he observed near Deal, in Kent, and I believe other instances of its occurrence southward have been noted of late, but I have no recollection of having seen this species or its nest since insects have come under my observation. The nest in this species is attached to a branch, and specimens of it may be seen in various museums. Rennie thinks that this wasp has a particular liking for the Silver Fir. The tree wasp is rather larger than the better-known species; in its habits and modes of building it is similar to its relative, with the exception noted as to the locality of the nest. Upon this, however, I am not going to offer any further remarks, confining myself to the common wasp, Vespa vulgaris.

The nest of this species is almost invariably constructed in the ground. Sometimes it may be excavated for the purpose, if a tempting spot on a bank presents itself, but no doubt, whenever possible, the queen wasp selects some hole already existing which may suit her purpose, such as the deserted lair of a rat or mouse. The survivors of the last season are often seen in the spring busily engaged in researches about the hedges rows and fields. These are much larger than the ordinary females, perhaps four times their bulk; whether they can sting with fourfold virulence I really cannot say. The material of which the wasp's nest is constructed, and the fashion of its cells, have been often described in books, and on these I need not comment, but proceed to a few facts less generally known.

Mr. Holland, who watched carefully the proceedings of these insects in the spring of 1865, observes that they are careful to select wood of a soft fibrous texture. On a suitable tree queen wasps may be seen settling in small parties during the first warm days of spring. With their jaws, which are of great power, they tear off fragments, which are thoroughly moistened, and then rolled into balls. They invariably worked backwards. Another thing is curious—namely, that they bring their materials to the spot where they are about to work, and usually pile them up in a little heap, waiting until a certain quantity has been accumulated. Great care is taken by the wasps, in the successive enlargements which are needed from time to time, that no earth shall be left in an insecure position, and the walls are made of considerable thickness. Though the cells are hexagonal, like those of the bee, they are placed in a reverse position, with the open ends downwards, and not horizontally. An egg is laid in each, but not at the bottom of the cell; it is situated at about one-third of the distance from the base to the top. Now here is a strange problem. The newly-hatched larva, which has no feet, and has not the agility which some apodous larvæ possess, does contrive somehow or other to reach the bottom. "How?" asks Mr. Murray, in one of his contributions to the "Annals of Natural History." "It cannot fall out of the egg-shell to reach it at one stroke, for the cell is mouth down and the bottom is at the top; it cannot fall up; it has, therefore, to work upwards. It is said by some the larva throws itself into a loop, and catching hold of the walls of the cell with its teeth (jaws?), then releasing the tail and throwing another loop, fastening its tail again as a sucker, and releasing its head, and so on, by a succession of sommersaults; but this to me seems impossible." However, the larva does get to the bottom; as to the question of its escape from the egg-shell, it appears that the egg has no shell, or a mere membrane, which is absorbed by the young larva. In this position the nurse wasps supply it with food, vegetable or animal, duly comminuted to suit the digestive organs of its immature condition. When full grown the grub or larva of the wasp is plump, rather unpleasant-looking, the head being black, and the interior exhibiting itself partially through the transparent skin of the back. Having finished eating it closes the opening of its cell by means of a silken pad, and is torpid until it emerges from the pupa stage a fully formed male or female wasp, to take its share in the duties of the community, which are really observed with commendable faithfulness and regularity.

A friend was the other day adverting to the intense satisfaction he had derived from reading an account of a parasite which haunts the flea, and whose history verified the poetic statement upon the subject, which he had always hitherto felt rather incredulous about. It was such a comfort, he observed, to believe that when a flea was nipping your leg it was exceedingly probable that his leg, or some other portion of his exterior, was also being operated upon! Now those who are enemies to the wasp will rejoice in the fact that it has a parasite, which rejoices in the name of Rhipophorus paradoxus, and, it is presumed, helps to keep the species from multiplying more rapidly. The conjectured history of this parasite is singular. Mr. F. Smith, our great hymenopterist, has devoted much attention to it, and from the observations communicated to him by a friend, he maintains that the eggs are deposited by the fly in the larva-cells of the wasp, and the larva feeds upon, or, in fact, in most cases kills the nearly adult larva of the wasp. I say in most cases, because Mr. Smith thinks that sometimes this parasite does only partial injury to the wasp grub, which becomes a pupa, though stunted. On the other hand, Mr. Murray believes that the supposed parasite only feeds upon the provision which is bestowed upon the young wasps by their foster-parents. It is seemingly a weak point in Mr. Smith's theory that he regards the young parasitic larva as the successful foe of the adult wasp larva, and it is certainly singular that it should be able to seize and devour one so much superior to itself. "Who shall decide when doctors disagree?"



Cucullia Verbasci.

In some seasons, as shown by Professor Westwood, a disease like that which occurs in apiaries, and which is called foul brood, destroys a large number of the young wasps ere they have completed their transformations. Toads, as is proved, devour bees without hesitation, yet it is thought they reject wasps; still the matter is dubious. McIntosh recommends the destruction of all nests in the radius of a mile from gardens where wasps are troublesome. The position of the nests must be ascertained by day with caution; and at dusk you sally forth, a deadly purpose in your heart, and with an uneasy expression of face, you fire a squib of gunpowder in the holes, or thrust therein a pad of wool well moistened with turpentine. Others recommend gas tar as efficacious. It is of great utility to secure in spring the mothers of the coming race. This may be done by a forcep net. Some authors assert that Hoya carnosa placed in the vicinity of fruit will draw all the wasps away from it; and as a more easily available expedient slices of boiled carrot have been suggested. I have not seen these tested.

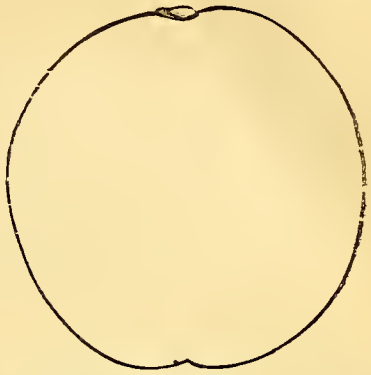
Our figure exhibits an individual of the Lepidopterous order —namely, the Mullein Shark (Cucullia Verbasci), the gaily coloured caterpillars of which feed in small parties on the Mullein, and occasionally on some species of Scrophularia. We show this, however, only for the sake of its relative the Aster Shark (C. Asteris), which, though generally a rare insect,

is at times found attacking China Asters. In and near woods the caterpillar of this moth is mostly found on the Golden Rod, and it is often sought for by entomologists at Darenth Wood in Kent, and West Wickham Wood in Surrey. Some years ago several of these caterpillars were discovered and brought to a friend of mine from a nursery at Norwood, the proprietor being annoyed at the new blight which was assailing his choice flowers. This caterpillar, which is elegantly marked with longitudinal lines, feeds through August and September, and, entering the earth, appears as a moth in June. It is hardly a species likely to become common enough to do injury.—J. R. S. C.

THE SULTAN PLUM.

This is a seedling raised by Messrs. Rivers from the Belle de Septembre Plum in 1864. It bids fair to be a valuable culinary Plum, as it is large, and excellent when cooked. Its

productiveness is something astonishing, as every stem is covered with fruit, and it forms a compact and most fruitful pyramid. Its fruit is of a deep purple, shaded with bright red. The tree sent to us was no more than 2 feet high, and two years old. It had on it six Plums, each the size of a large



Orleans, 6 inches in circumference, and, like it, its season is August. Its dwarf, pyramidal habit enables it to be planted in rows 6 feet apart, and 4 feet apart in the rows.

RENDLE'S PLANT PROTECTORS.

I am a perfect novice in gardening, live within four miles of London, have a small garden, and have no instruction nor advice except from your columns. From your recommendation I went in for ground vineries, and succeeded very well.

A few months since you published a letter giving a decided preference to Rendle's earthenware protectors over the older sorts, and, wishing to increase my stock, I took the writer's advice. I have been in trouble with my new frame ever since I have had it. I fancy the brick sides with glass top only cause the plants to draw. The wind blows the grooved bricks down, and plays havoc with the glass. I follow suit in trying to get at the plants. If I want to move my protector I find it rather a tedious job, and my wife wo'n't help me—she always takes one end of the wooden frames—and in fact I am bothered; but looking at the long string of testimonials, and large orders after trial from noblemen's gardeners, I think my misfortunes must be the result of my own ignorance and not understanding directions for fixing. Imagine my surprise, then, on finding that Mr. Rivers (advertised as a special admirer of the bricks) had to support his trial brick ground vinery with an unsightly wooden frame "to keep it from blowing down!" says his man. I hesitate no longer, but write to ask you to get one of those head gardeners who have hundreds of feet of the brick protectors (*vide* testimonials) to give me, and no doubt many others, some instructions how he guards against the effects of wind, &c. Of course, I do not suppose that a gardener plants Vines under these frames. If the maker of the wooden frames had called them Cauliflower, early Pea, or salad-protectors, or Strawberry-forwarders he would have had his testimonials and orders for hundreds of feet; perhaps he has, though he has not advertised them. Do, Messrs. Editors, give me and my class—viz., office until 6 P.M., and garden 100 feet by 20—a small space in "Doings for the Week" to ourselves, and let the writer—one of these great guns, of course—tell me in his first article how to make my brick protector as handy and little liable to damage as my wooden ground vineries.

By the way, am I conceited or is it true that my Grapes are larger, my Rivers's ground vineries (Rivett's improved), better made and better-looking than Mr. Rivers's own? But, then, his double-worked Maréchal Niel Roses in pots—have you seen them? A good many people have not, or not one would be left at Sawbridgeworth. I am tired of writing, you must be of reading; so—Au revoir.

WORK FOR THE WEEK.

KITCHEN GARDEN.

While the dry weather continues hoe every part of the garden thoroughly, as the seeds that were ripened in summer (where weeds were allowed to perfect seed and to shed them), have now vegetated and may be destroyed effectually, which is better than allowing them to stand over till spring among other crops. When a kitchen garden is at this season well stocked with autumn, winter, and spring crops, all neatly arranged and

well cultivated, and the walks, &c., in good order, I think the present not the least interesting period of the year in this useful department of gardening. Where the stems of *Asparagus* have become brown they may be cleared away, and the beds may be hoed, raked, and have their surface stirred to admit air into the soil as much as possible without disturbing the roots. Prepare ground on a south border or other favourable aspect for planting *Cauliflower* plants under hand-lights; a quantity may be pricked out in cold frames to receive protection from severe frost in winter. Let no favourable opportunity of earthing-up and otherwise attending to Celery pass by, but on no account let it be earthed-up so as in any way to bury the heart of the plant. It is much safer for the present to err on the other side. Prepare ground for plantations of Brown Cos and Hardy Green *Lettuce*, a double row of which may be planted at the foot of the south-east or west walls; the plants may be 4 inches apart in the row, and should they all stand over the winter, which is seldom the case, every alternate one can be removed to form other plantations.

FRUIT GARDEN.

Apples and Pears that have been gathered within the last fortnight should now be looked over carefully, when it will be found that those that were bruised or injured have begun to decay, and unless removed will infect others. Filberts are now ripe in most places and should be gathered. They are kept in good condition in a moderate-sized hamper packed firm; in this way they do not suffer from excess of moisture, and the kernels keep plump and sweet till May or June. The removal and transplanting of evergreens may be done as soon as rain occurs, with more chances of success than at any other period. The natural warmth of the soil placed about the roots, and the close damp weather generally prevailing in the autumn months, are the principal causes operating to insure success. Add to this a tendency well known to those who have planted largely at all seasons, in plants to form roots more readily after the season of active growth and during the ripening of the wood than at any other. Whether planting is done in masses or singly, the ground should be well trenched and drained before attempting to put a plant in. For single plants, if they are meant to thrive, a mere hole just sufficient to hold the roots is not sufficient, but the ground for some space round should be well worked-up to facilitate the progress of the future roots, as well as the escape of water. As each tree or shrub is planted secure it from the action of high winds. Mulch the surface to prevent evaporation from the soil, and besides occasional waterings at the roots when the earth becomes dry, and then only, sprinkle the tops well each evening, wetting the bark and foliage completely. This will be a much safer plan to promote their growth than pouring water on the roots of a plant when the soil around them is already in the shape of mud. Cuttings of Laurels, Privets, Yews, and various other evergreens may be now put in, and the layering of others which do not strike readily from cuttings should be proceeded with.

GREENHOUSE AND CONSERVATORY.

The conservatory will still be kept gay by fresh introductions of plants in bloom, and the removal of such as begin to decay. It will, however, be desirable not to overcrowd the house at this season of the year, as the permanent inmates will require to have all the light and air possible to effect the ripening of their wood. The climbing plants in this and other houses should likewise have a weekly regulation, shortening-back the shoots going out of bloom, and training the remainder in a suitable manner to cause a free natural growth. Climbing plants in pots, as Kennedyas, Hardenbergias, &c., should likewise be neatly tied to their trellises and exposed to a good share of light. The borders in the conservatory will require less water, and this should be still further reduced as the days shorten, making a difference, however, with strong-rooting plants, which will require larger quantities than others. The buds of Camellias where too thick should be thinned-out according to the strength of the plant; water plants which have not been recently potted with clear soot water, to help them to perfect good-sized blooms. A batch of Roses having had a short rest may now be placed in a light pit, for after removal to the plant houses or drawing-rooms they will be useful when the out-door ones are over. For a number which are useful I recommend the following varieties as blooming very late—namely, Devoniensis, Elise Sauvage, Goubault, and Smith's Yellow among the Teas. Most of the Perpetuals and Bourbons should likewise be grown, Géant des Batailles particularly so; and the dwarf miniature Roses are pretty objects for the drawing-room when grown in pots. A portion of the stock of Chrysanthemums should be placed under glass to forward them; thin out the bloom buds, and water the plants with liquid manure. In arranging Pelargoniums for the winter, allow them the lightest and warmest end of the house, unless there is a separate house for them, when the Fancies should have the best end. Keep them close to the glass, and do not allow them to touch each other. Those cut back late may yet be shaken from their old soil and repotted, placing them, however, in a slight bottom heat afterwards to facilitate their quick rooting; cuttings struck should be potted at once, if not done previously. Let the greatest cleanliness be carried out in every house; the pots should be frequently washed on the outside, and moss prevented from growing on the surface soil. Make it a rule to clean out each house after the morning's watering, that it may get dry early in the forenoon. Specimen plants should be frequently turned round to prevent their becoming one-sided. Any plants which have become crowded in the branches should be liberally thinned; no good can be expected from spray enclosed like a besom. Wherever insects appear, let the plants be thoroughly cleansed before going to their permanent stations, rubbing them well with the brush, and using a weak solution of soft soap in water in which a liberal sprinkling of sulphur has been blended. Any of the Chinese or Indian Azaleas which have not yet perfected their flower buds should be kept on a warm light shelf for awhile. The same may be said of Camellias which flowered late in the spring. Those required to blossom shortly should be kept in a warm situation, and receive liquid manure occasionally.

FLOWER FORCING.

Those who intend to provide a rich display very early in the spring should now be in the market and select plants proper for the purpose, and of a superior character as to the amount of flower buds and the form of the plant. These things, of course, involve some little expense, but such is amply repaid where a proper forcing structure is provided. It cannot be expected that gardeners as they are ordinarily situated can provide all the plants necessary for this purpose so well as the nurseryman. As one division of good forcers, I would recommend the ordinary American shrubs, many of which, although too large for the drawing-room stand, are admirably adapted for the vestibule or balcony, or for setting in conspicuous places in the conservatory or mixed greenhouse. Of such are the various Rhododendrons, Azaleas of the nudiflora class, with various hybrids, the Rhodora canadensis, Ledum latifolium and thymifolium, Kalmia latifolia, angustifolia, and glauca, Andromeda pulverulenta, the Daphne, especially Cneorum and even the old Polygala Chamæbuxus. These, with more of the same tribe, although not of very recent introduction, will be found to add greatly to the spring display, as also to the diffusion of a most gratifying fragrance. Such should be obtained forthwith, potted in smallish pots, and plunged in the warmest corner of the garden, from whence they may be successively introduced to the forcing house from the middle of November until February. Such, if gradually cooled down when out of blossom, may be turned out into a reserve garden of bog earth in April, and will frequently force very well the next season.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

When time could be given, trenching up Pea and Onion ground, in order to put in good breadths of Lettuces and Cabbages, was the principal work of routine. Part of the ground most likely to be devoted to Carrots, and similar crops, will be enriched with a quantity of good stuff from the rubbish-heap, mellow and rather fresh, turned down to the bottom of the trench. A little lime will make such soil all sweet, and even if we use it all the winter as ridges for crops that will come off early in spring, it will still serve with deep digging for Carrots in April. We would rather leave such ground open all the winter with sprinklings of lime and a little salt, even adding a sprinkling of gas tar from a rough brush—one of the best things in moderation, and in winter, for setting many intruders on Carrots, &c., on their travels, but when we cannot do the very best, we must often do the next best in our power.

FRUIT DEPARTMENT.

See previous notices as to collecting soils and composts, where fresh planting, and especially station-planting, is contemplated.

Strawberry plants in pots at all crowded should be placed

further apart, and water should he given with more care. The sun during the next three weeks will do much to perfect the fruit buds, and on this success will greatly depend. Some of our readers can never have their plants strong enough to suit them, but it is easy to have very strong and yet unmatured growth. We would sooner have plants somewhat weaker, but with the buds well ripened and matured. The same rule will also hold good as respects fruit trees in general; the ripening of the fruit buds ought to be of more importance than any mere growth, and, therefore, all mere growth that can be removed to give more sun and air to buds, will be of importance.

See what was said about clearing plants out of late vineries, and keeping them dry.

ORNAMENTAL DEPARTMENT.

Calceolarias were shaken by the deluge of rain a fortnight back, and are not such dense masses of colour, otherwise the beds, as a whole, never were more brilliant. The dryness began to tell on some rows of Ageratum, and even on beds of Coleus, and we were forced to water them and some rich beds of variegated Geraniums. We had our beds very early and strong this season, an advantage when the family stays in the country for the whole season; but later beds would look fresher and require less picking late in autumn. We were obliged to pick Ageratums closely. The dense lines showed the ripened seed-heads, but when removed there was plenty of the light blue left. To have the beds fine early and late, much picking must be resorted to.

Cuttings.—We have put in a good proportion of our cuttings for next season all right, and for economical purposes the bulk of them are inserted at once in shallow boxes. We went over our beds several times, so that no opening or break should be made in the beds. We know some of our friends who manage very cleverly in this respect, and take their cuttings, when they have no resident family, a month or six weeks before they are likely to be present; and in that case cuttings can be taken more freely without the contour of the beds suffering at all when the family become resident. Much care must be exercised when you have nothing but the beds to depend on for cuttings, and a family resident that looks on them every day. In such a case we would never be satisfied until we had what we have not had yet—a reserve garden whence cut flowers and cuttings should be taken. Of course there are men who can take cuttings even from beds, so as to leave little or no trace of the knife behind them; and there are, too, many others who, if they get hold of a cutting, throw all considerations of taste and the appearance of the bed to the winds. When a gardener in a large place must chiefly depend on local labourers, in such cases a reserve garden will he seen to be more a matter of importance. To secure bedding plants in the highest style of floral art, nothing should be taken from the beds, until the period of natural decay, but faded blooms and leaves.

We must refer to back numbers for what is needed for pot plants, &c., just to reiterate two ideas that have been mentioned, but not sufficiently ventilated. First, in saving the contour and outline of flower beds by taking short, stubby cuttings from the base of the plants, you will get nice healthy plants, hut they will bloom freely later than those plants raised from cuttings more exposed to sun and air.

Secondly, In looking at the brilliancy of flower beds in the open air now, in comparison of which the finest greenhouses and conservatories look poor in comparison, who is there that will give us from half an acre to an acre of ground covered with glass, and heated so that such striking masses of bloom should be continuous, instead of a few months' duration?—R. F.

TO CORRESPONDENTS.

Books (*Pomologist*).—The "Fruit Mannal;" a new edition is in preparation. The second edition of the "Rose Garden," price 6s. 6*d*. The price of the "Rose Annual" for 1858-59, 1859-60, is 5*s*.; for 1860-61, and 1861-62, 4*s*. You may obtain both from the author, Waltham Cross. In a like manner you may obtain Mr. Cranston's book from King's Acre Nurseries, Hereford. The Rev. S. Reynolds Hole's book is published by Blackwoods. (*A. H. A.*) Henfrey's Introductory Course of Botany by Dr. Masters, is the best book yon can next atndy.

Verbenas (*O. Orpet*).—Their colours are good, especially the purple, but the form is defective. It is impossible to give an opinion on the value of Verbenas for bedding without seeing the plants.

Phloxes (*A Constant Subscriber*).—We cannot recommend tradesmen. Any of the principal florists who advertise in our columns could supply nperior varieties.

Photograph (*Novus Homo*).—Write to Mr. Barron, Roya Horticultural Society, Chiswick, W.

Auriculas (*J. Martin*).—They will not do in a greenhouse; better have a common garden frame, and place the pots on coal ashes.

Grapes Shrivelling (*W. D.*).—We do not think that yon have overcropped your Vines, and unless the Grapes are what gardeners call "shanked"—that is, the stalks of the berries decayed before the Grapes are ripe, which of course cuts off the supply of nourishment to the berries and causes them to shrivel—the cause must be an insufficient supply of water at the roots. *A Reader* has a house of mixed Vines, and the berries of Madresfield Court are shrivelling when the others are all right. We would in this instance look for the evil at the roots. The Vine when growing requires a large quantity of water, and until the Grapes are ripe should not be allowed to become dry at the roots.

Cutting down Black Prince Vine (*T. H.*).—The best Grape Vine to grow in an early house for market purposes is Black Hamburgh. Train up a shoot from each of your Black Prince Vines, and when yon start your vinery introduce in pots two plants of Black Hamburgh which have been cut over some time previously. You should allow two shoots to grow from each Vine, and when the young rods are about 5 feet long inarch them, making the connection about 2 feet from the surface of the ground. The second shoot on the Hamburgh Vine will do to obtain some fruit from in the pot the following season. Inarching Vines is a more certain method than grafting them. The edible kinds of Gourds are useful for making pies when Apples are scarce; slice them up, and use Apples and Gourd in equal portions.

Grapes Mildewed (*R. B.*).—The Vines in both your houses have been attacked by mildew; it attacks both the leaves and fruit, causing the berries to crack, and prevents them from swelling to the usual size. Sulphur is the only preventive or remedy. On the first appearance of this pest throw flowers of sulphur over the leaves and berries, where affected, with a sulphur-distributor.

Royal Ascot Vine (*Reader*).—Royal Ascot is a good Grape. It is well adapted for pot culture and for planting in the vinery. It is inperior to Black Prince and Trentham Black. It will not supersede the Black Hamburgh for general cultivation, nor is it as a Grape equal to Black Alicante, bnt it ripens earlier and does not require so much heat as that variety.

Fungus on Celery Leaves (*W. H; Dota*).—The fungus is Trichobasis heraclei, the brand state of Puccinia; Darluca filum is also present. At this stage we know of no remedy.

Liliums (*J. Stuart*).—All Lilium lancifolium.

Grapes Shanking (*J. H.*).—Your signature was not clear, so your query was answered August 10th, page 109 to "T. H."

Planting a Vase with Bulbs (*A. W. B.*).—For such a vase, the planting would depend on the time you want it to be gay. To have it a perfect blaze at one time, what would or could be better than so many bands of Crocus 9 inches apart, each band of a distinct colour, and contrasting with its neighbour, as white, purple, orange, blue, &c.?

Cost of Trenching Ground (*Rogator*).—For No. 1, or trenching two spits deep (20 inches) in good loamy soil, we have paid £10 per acre, or one halfpenny per square yard, and for No. 2, twice No. 1, or 1*d*. per sqnare yard, which, of course, includes the removal of the roots and levelling; but much depends on the ground and the value of labour in the locality where the work is to be done. The price we name is where good labourers have 3s. per day.

Watering Melons when Ripening (*A Foreman*).—It is not a good plan to water Melons when they are "just ripe," for it tends to gorge the fruit with sap, cracking often results, and the flavour is deteriorated. Nor would it be well to allow the fruit to remain on the plants after being quite ripe, even if it were practicable, as the fruit will part from the footstalk if allowed to remain until dead ripe. They should be cut before that time.

Coprosma Baueriana variegata Propagation (*J. T.*).—Take cuttings of the current year's shoots when half ripe, insert them in sandy loam, peat, and silver sand, place them in a good bottom heat of 75°, and keep them close and moist. The soil should be kept moist but not very wet. They will root well in from three to six weeks, and should be potted off singly, and returned to a hotbed for a few days. When established they should be well hardened off. The best time to put in the cuttings is early in August.

Tulips for Simultaneous Flowering (*A. A.*).—Imperator rubrorum and Yellow Rose will not suit, as the latter is a late-blooming kind, but yon may have Yellow Tourneaol in place of Yellow Rose. Duke of York would not suit Yellow Rose, as the former flowers much earlier than the latter, but for Bleu Celeste Yellow Rose would suit. In the single varieties yon would be better suited, as more of them flower together than is the case with the double varieties. You might have Proserpine, dark rose, dwarf; Belle Alliance, scarlet, dwarf; Chrysolora, yellow, dwarf; Artus, scarlet; Keizer Kroon, crimson scarlet, margined with yellow; Monument, rosy cerise, flaked white; Couronne Pourpre, dark crimson; Bride of Haarlem, white, striped with crimson; Molière, purple, yellow base; Cramoisie superbe, rosy cerise; Royal Standard, white, feathered with rosy crimson; Yellow Prince, yellow; and Thomas Moore, orange, tall. Ne Plus Ultra and Sir Walter Scott Crocus are both lilac; there would be no contrast, though Ne Plus Ultra is a lilac purple. Lord Macaulay is a large dark purple, and would suit Sir Walter Scott. A dozen good and not expensive kinds of Gladiolus are Berenice, Endymion, Florian, Mars, Lælia, Le Titien, Janire, Jeanne d'Arc, Napoleon III., Raphael, Rembrandt, and Ninon de l'Enclos. Lachenalias will do well in a greenhouse, from which frost is excluded, on a shelf near the glass.

Echeveria secunda glauca and Sempervivum californicum Hardiness (*F. J.*).—The Echeveria is not hardy, and should be taken up, potted, and kept safe from frost. The Sempervivum is hardy in well-drained soils, and not very rich. If the soil is rich, and not dry, take up the plants, pot them, and winter them in a cold frame, keeping them dry.

Lapageria rosea Shoots going off (*J. R. W.*).—We should attribute the canse of the strong shoots from the base dying off when about 16 inches long to want of a good root action, in which case it will be necessary to look to the drainage, and give some fresh rough peat, removing as much of the old soil as practicable without interfering with the roots. Are you sure the shoots are not eaten off by slugs? We have a plant which has had all its shoots cut off in this way several times at the height you name. Snails, slugs, and woodlice are very fond of the young shoots of this plant. Examine the plant after dark with a lantern.

Soil for Pampas Grass (*A. B.*).—Take out the soil where yon intend to plant to a depth of 2 feet over a circle of twice that diameter. If there

is turf, place it at the bottom, and mix it with an equal quantity of leaf soil or old decayed manure, and then fill up the hole with two parts good loam (turfy if it is at command), one part leaf soil or old manure, and half a part of sand, raising it in the centre 1 foot above the surrounding level. Plant in March, water well in dry weather, and mulch with short manure in June and again in autumn, but at the latter season with more littery manure; let the dead grass remain throughout the winter, and remove it at the end of March or early in April.

Temperature of Stove (*J. L.*).—From this time and during winter the temperature should range from 60° to 65° at night, and from 70° to 75° by day, with a rise from sun heat to 80° or 85° up to November, afterwards to the middle of February let the temperature be from 55° to 60° at night and 65° to 70° by day, with a rise of from 10° to 15° from sun heat.

Removing Fruit Trees (*F. R.*).—You may safely remove at the close of this month the trees planted a twelvemonth last November, only take them up carefully, preserving all the fibres possible, and keep the roots from sun and air by covering them carefully with mats. Water after planting, shade from very bright sun, and sprinkle with water overhead morning and evening, but not if the weather be moist.

Araucaria not Thriving (*H. P.*).—We do not think the Araucaria will be of any more good. It has evidently been too deeply planted in the first instance, and the tree sought to recover itself by putting out roots near the surface—another evidence, if one were needed, that Conifers, of all trees, should never be deeply planted. Though we think your tree hopeless, we would, nevertheless, cut away the "ball root," and plant so that roots newly formed on the stem will not be covered with more than 6 inches of soil, and this we should do at once. Secure the tree well against winds.

Black Grapes not Colouring (*H. Temple*).—We think you may have too many Vines, but the chief mistake is too many bunches. We have in the case of two Hamburghs made the same mistake, and the berries are scarcely all through red, whilst those of Lady Downe's beside them are like ripe Sloes for colour.

Hedge for a Flower Garden (*A Lady*).—Holly, as you propose, would answer very well, and you may move them quite safely at from 3 to 4 feet high if they have been transplanted within two years. Their removal will, however, be costly, and if you purchase smaller plants, so long a time must elapse before they will answer for shelter, that we should plant some other evergreen. Common Yew answers perfectly, and can be safely removed when of considerable size, so that you may form a hedge at once. We prefer Yew to all other kinds of screens in trimmed grounds. Berberis Darwinii makes a first-rate evergreen screen, and grows much more rapidly than either Holly or Yew, and is a mass of golden flowers in spring. The quickest-formed fence we ever had was of American Arbor-Vitæ; it was made in a day by planting trees 6 feet high at about 18 inches apart. Any of the plants named would answer your purpose well, all being suitable for the boundary of a flower garden.

Solanum ciliatum Casting its Berries (*A. S. A.*).—We think it arises for want of a proper supply of water, or, in other words, the soil is too dry. Give water more copiously, and we think the berries will swell off.

Dwarf Standard Dessert Apples (*Elston*).—Six good kinds for dwarf standards are Early Red Margaret, Dutch Mignonne, King of the Pippins, Sykehouse Russet, Cox's Orange Pippin, and Pitmaston Nonpareil. Apricots and Nectarines would not succeed as dwarf standards in Northumberland, unless against a south wall. Plums would do, and of them we advise Golden Gage, Orleans, Kirke's, July Green Gage, Victoria, Belgian Purple, Prince Englebert, Jefferson, and Dismond.

House for Roses—Propagation House, &c. (*J. Ducker*).—We cannot undertake to give plans of proposed houses, but are always glad to give all the information we can, and criticise any submitted to us. Of the Rose house we may say that for so small a house we should not think of planting out the Roses, but would have them principally in pots; indeed all, except a climbing kind at every 4 feet. Instead of a span-roofed house we should have a half-span on one side facing the north, and the longer half of the span facing the south. The front, 7 feet high, should be formed of 3 feet of brickwork and 4 feet of glass, &c., and the whole of the front glass should open, and that at the back the whole length of the house. Along the front we would have a stage of laths 3 feet wide, level with the top of the brickwork, and, allowing 2 feet 6 inches, have a stepped stage to the back wall, but 3 feet flat next the wall. In front, beneath the stage, have a border in which to plant the climbing Roses. For the propagating house the walk would be best in the centre, with beds on each side, which should be chambered, and have two rows of 4-inch pipes beneath each. The bed may be covered with about 3 or 4 inches of plunging material. Two rows of 4-inch pipes would be required all round for top heat. Ventilation at the top would be sufficient. One fire would do for both houses if you employ a boiler and hot-water pipes; but if you have flues, which we do not consider suitable, you will need a fire for each house. The loam with a clay subsoil is the more suitable of the two kinds for Roses.

Caterpillars Infesting Cabbageworts (*Myton*).—There are plenty of things that will kill the caterpillars, but we cannot advise their application so near the season of use. We advise their being picked off by hand, also to dust with quicklime early in the morning or late at night.

Scarlet Runners not Podding (*A Constant Reader*).—We think the cause of the Scarlet Runners not podding is the dryness of the soil, the plants being against walls. Had good supplies of water been given two or three times a-week, with liquid manure occasionally, we think your crop would have been excellent.

Cutting Down Periwinkle (*J. L. P.*).—It will not do to cut down the Periwinkle at this season, especially as you wish to have the slope on which it is planted green all the winter. The best time to cut it down is in March, removing any irregular growth in August.

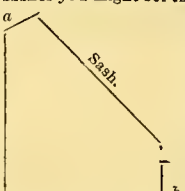
Green Gage Plum Tree Dying Suddenly (*A Beginner*).—The tree, with its inner bark reduced to a reddish powder, is attacked by Scolytus Pruni, and contains burrows of the larvæ and imagos. Though apparently in a healthy condition, it is to be suspected that the tree was not so in reality, later researches into the history of the Scolyti indicating that they locate themselves chiefly in trees which are either under some morbid influence, or have been partially destroyed by other insects. We recommend the removal of that particular tree. At this season of the year there is no reason to apprehend the evil would spread, since the beetles appear in June and July only to deposit eggs, and the larvæ have no power to migrate from tree to tree.

Spring Flower Gardening (*W. Hinds*).—We could not do better for you than recommend "Spring and Winter Flower Gardening," by Mr. Fleming, which you can have by post from our office for 2*s.* 7*½d.* Were we to enter fully into the affair it would require a treatise, and then we should break through one of our special rules, which prudence demands we should adhere to, and that is, to criticise proposed planting, but not to give the planting for a flower garden. It would be impossible to do this, as the applications would be endless. But, just as a hint, suppose you filled No. 1 with a centre and two bands of Hyacinths, say white, blue, and red, with an edging of Viola cornuta; then edge all the other beds next to it with Cerastium, and plant, according to your proposal, each bed with two colours of Tulips—the Van Thol would be pretty and cheap—but keeping the lighter colours to the centre, and the scarlet and crimson to the outside. Then the eight circles we would do in pairs of Crocus, edging yellow with purple, white with blue, and so on. The four large outside beds we would edge, two with Viola and two with Golden Feverfew, and these we would mix or cross, so as to make a difference. If you had Anemones they could come in well in two colours in these beds.

Joints of Hot-water Piping (*Jas. Luck*).—We have just done some thousands of feet of hot-water piping, and we have used rope yarn, or rather lint yarn, and red lead, and not one has failed. We like it best. Other plans have their advocates.

Hot-water Piping for Wintering-house (*An Old Subscriber*).—The house containing about 9500 cubic feet of air, 360 feet of 4-inch pipe, all flow *à la* Cannell, will keep the house quite safe. Say 45° to 50° in winter.

Protecting Peach Trees on a Wall (*J. P. F.*).—To make the most of a covering of glass for your wall you should enclose enough of space to enable you to walk inside and attend to the trees. If you had spare sashes you might set them against the trees, a foot or 18 inches distant.



We once used some old sashes, 6 feet long, for a wall of 8 feet like yours. We put posts 5 feet from the wall, and 8 inches above the ground On these we fixed a rail to support the ends of the sashes; a short rafter of 9 inches in length from beneath the coping supported the sloping rafter at the back. The sashes were fixed, and air given back and front by moveable boards, *a* and *b*, ventilators. If you have no sashes, the cheapest way would be to have such top and front ventilation, and make a roof fixed in the orchard-house style. We would have the width enclosed from 4 to 7 feet, as the space would be useful for many things. If of the latter width, you could take your glass right to the wall, and have about eight moveable lights at the apex, say 24 by 12 inches.

Double-spanned Greenhouse (*J. Hargate*).—The double span-roofed houses we have recommended for economy of space and construction, and we gave examples of them as existing at Messrs. Lane's, at Berkhampstead. The mode of top ventilation of a span-roofed house by means of a double ridge-board, with a swinging ventilator between, and a cap to cover all to keep out wet, we have also recommended, and we have given examples of successful practice. Your proposed plan of heating will answer, but if you want a high temperature in the one house you will want double your top-heat piping in winter. The return will answer for both top and bottom heat, and for returns we never trouble ourselves with stop-valves. Your main flow and return may be extended as you like, but they must be low enough, so that in all branching off from them the pipes shall rise, and these mains must be above the level of the boiler. Now, though your questions are too numerous for one time, we reply that we prefer the main flow and return to be 4 inches in diameter rather than 6; that the connections are generally in such cases 4 inches. We often have them 2 or even less. There will be no difficulty as to the return, but you may require to regulate or stop for a time the flow in the higher level until the water is going freely in the lower level. We have answered your fourth question already; there would not be enough piping for early work. There can be no question as to the return. The dipping we could not be sure about without observation or a sectional plan. No objection to the houses in pairs. We think the ventilation will be ample. The damping must be guarded against by professional care, air-giving, and judgment in watering. The glasses will be useful. You may then have bottom heat and a coolish atmosphere overhead. The boilers you speak of are first-rate; in fact, there are few bad boilers if well set and well managed. We have preferred the saddle-back because it is simple. Your mode of obtaining a moist bottom heat will do if you keep the rough material moist. Trough pipes are objectionable in chambers, unless you have some simple mode of filling them.

Stove in a Greenhouse (*F. T., Exon*).—We prefer a flat-headed iron stove to a round-headed one, and we would have a vessel made to stand on this top to hold water in preference to having the vessel cast with or joined to the stove. There will be plenty of vapour in the one case, and not so much heat as to boil the water. The vapour thrown off would not be injurious, but as the Grapes ripened you could easily put a slate or a piece of wood over the evaporating vessel. If the vessel is merely set on you may put some flowers of sulphur in the water, but not if the vessel is joined to the stove.

Names of Plants (*Nettley*).—We decidedly object to naming plants from imperfect material. Here you send mere tips of shoots. Happily all but one are recognisable at a glance. No. 2 is Lignstrum japonicum; 4, Chorozema varium; 5, Correa cardinalis; 6, Lantana Selloi (or Sellowii); 7, Poinsettia pulcherrima. You may have the "Cottage Gardeners' Dictionary" free by post from our office for 7*s.* 2*d.* (*F. J.*).—Clerodendron fœtidum of Bunge, from Northern China. (*R. B. L.*).—We have done our best to determine the fruit of the Cucurbit sent to us, and after having subjected it to the inspection of some of our most competent authorities, the conclusion deduced is that in all probability it is an example of Cucumis Anguria, a plant which was figured in the "Botanical Magazine" of last year (see tab. 5817), and known as that which yields a gherkin much used in West Indian pickles. It is the only Cucumis occurring in America, and it has been suggested that even there it may not be truly indigenous, but introduced by the Negroes from Tropical Africa. It is one of a difficult series, running from C. sativus on the one extreme, through C. metuliferus, C. pustulatus, C. arabicus, C. Figarei,

to the bitter and deleterious C. prophetarum, all charactorised by strong rugosities or prickles on the surface of their fruits. Should it be really the C. Anguria, then our warning as to the suspicious nature of the sap of these fruits will not apply in this instance. We should have been able to have spoken with far greater certainty had we been favoured with a leaf as well, which in C. Anguria is very deeply lobed. (*Lady Emily Turnour*).—Your plant is Eugenia Ugni, a kind of Myrtle, a native of Chili. The fruits are not only eatable, but are much esteemed by some. Two or three years ago a very fine specimen is said to have yielded "six quarts of delicious fruit." It grew in South Devon. (*Tamar Cottage*).—The climber is Lophospermum scandens, a native of Mexico, whilst the weed is the poisonous Enchanter's Nightshade, Circæa lutetiana. (*W. Nock*).—The common Agrimony, Agrimonia Eupatoria, and the Birdsfoot Trefoil, Lotus corniculatus, both common wildlings. (*C. J. Bromhead*).—Adiantum deltoideum of Swartz, a genuine West Indian species. (*Julia*).—Arabis albida, native of the Caucasus and Crimea, commonly used for spring bedding. (*Nemo*).—Cystopteris fragilis, the Brittle Fern, a British species, having a very wide geographical distribution. (*D.*).—1, Nephrodium decompositum, and 2, N. Thelypteris, both commonly known as Lastreas. The latter is also sometimes known as Aspidium Thelypteris, its English name being the Marsh Fern. (*A. E. F. C.*).—The name of your shrub is Leycesteria formosa, native of the Himalayas. Remove it at once, or within the next month. The dessert Pear we should recommend would be Louise Bonne of Jersey or Marie Louise. As to the pyramid, let it be lifted and root-pruned—that is to say, let all the very strong thick roots be shortened, so as to check the undue vigour you speak of. (*R. J. Gargrave*).—The Fungi sent are specimens of Sclerodermа vulgare, not edible. As you have the "Edible Funguses of Great Britain," the best book you can get, including the poisonous species, is "Mushrooms and Toadstools," with fifty-three coloured figures. Price 6s. Hardwicke, 192, Piccadilly, W.C.

POULTRY, BEE, AND PIGEON CHRONICLE.

BANTAMS versus GARDENS.

Like some of your correspondents, I, too, got an attack of "Bantam fever" on reading "Wiltshire Rector's" article in the Journal of June 1st. I "worked it out" by purchasing a cock and three hens, Black-breasted Reds. I have a small garden, my chief source of recreation. Confiding in the Rector's recommendations, I gave my Bantams the run of this. Now, either "Wiltshire Rector" or I have a new race of Bantams. His delight in slugs; mine refuse these, even when gathered for them. His do no harm; mine show a remarkable liking for young plants of cauliflowers and Brussels sprouts, and find evident pleasure in "burrowing," so to speak, among the roots of my miniature pear trees. To-day I expected a good harvest of seed from some fine French pansies, as I had remarked the seed vessels grow daily larger. To my surprise not a seed vessel was left. I concluded they had been eaten by the slugs that should have been devoured by the Bantams. While still searching, lest they might have fallen to the ground, one of the hens came in amid the pansies, and began to eat the young seed vessels. These I examined, and found the seed yet quite soft and almost transparent.

Now let me not be misunderstood. I do not write this to find fault with the good-natured Rector, for, fortunately, I can keep my Bantams elsewhere than in the garden; but I wish to warn those who may have no other place to keep them that they consider well before they risk spoiling their gardens. If my birds should be exceptions to the rule laid down by our Rector, and the beginning of a new race of Bantams (!), I intend to call them Come-outers!—H. C., *Galway*.

LIGHT BRAHMAS.

It appears to me that Light Brahmas are never to take a respectable position in poultry exhibitions. Here we are verging on the winter season of 1871, and with the exception of special prizes offered by the supporters of the variety, there is literally no chance for us, who admire the Lights, to carry off a single cup, or in many cases the first prize. The fact that the vast majority of committees give but one class for Brahmas is lamentable, and to hope to be first under such circumstances is to hope in vain; for upon reference to back numbers of the Journal I find that I am compelled to give up the voyage of discovery as a bad job. Still, however, the fact is thereby rendered apparent that out of the past thirteen exhibitions laying claim to some degree of importance, only two gave Light Brahmas separate classes, the whole of the remaining eleven first prizes and cups being carried off by the Dark variety. In the face of such a fact it is easily understood why there are so few exhibitors of Lights. For my own part I have been content to exhibit "few and far between." It is quite refreshing to examine such prize lists as Southampton and the Crystal Palace, and there is every reason to believe that such exhibitions of Light Brahmas as have never been seen will be displayed at these shows. Chepstow appears to have been the opening of their season; the thirty-three pens of chickens brought together were of the highest merit, the whole of the eighteen pens of pullets being highly commended. Ipswich, too, evidently believes in the preference exhibited by our judges, and for the cups has pitched Dark Brahmas against Cochins, and Light Brahmas against Dorkings. What will our fanciers say to this? Doubtless the awards will be anticipated. *En passant* I must say that the schedule of the Crystal Palace Committee is beyond all praise, but as much might have been expected from the high character of the committee and secretaries.

Now, I ask, why do our judges persist in discouraging Light Brahmas? The fact of their inferiority in size to their Dark brethren stands alone; but it is not "size" that wins, for I have invariably noticed Dark specimens winning which were both bad in shape and colour, whereas their Light opponents possessed these qualifications, although inferior in bulk. So far the chickens of the present season of both colours are pretty equal, but competition will doubtless make disparities. It has been noticed in a contemporary that not only have Darks won throughout the summer, but that the majority of first prizes have been won by one exhibitor. This redounds to his credit (if he bred the birds), but it is nevertheless discouraging. In conclusion I would beg of one of those gentlemen in whose hands are placed for award "the cups that cheer but not inebriate" to tell us what our favourites fall short in, and how we can match them upon even terms with Darks. If the answer is, "Increase the size," the matter is at an end, for it cannot be done, and any judge imposing this as a winning necessity must feel that he is acting partially, and I may almost say unjustly.—James Long.

CRYSTAL PALACE POULTRY SHOW.

"No more Crystal Palace for me. No, my pets, you sha'n't go there starving in the cold in the middle of November. Our losses last year were a White Fantail, a Golden Pheasant, and a pair of Jacobins." Such were my thoughts on going the rounds of my fowl houses, the postman having just given me the catalogue of the coming Show. There is something very curious about this Show. On referring to 1869 I find eight of those having the management took thirty-four prizes; and in 1870 I find seven of the managing parties took fifty prizes amongst them. Now the thought suggests itself to my mind, Would it not be more satisfactory if these parties refrained from showing at all, particularly as some amongst them are, I am informed, dealers in poultry, Pigeons, &c.? As I said before, it is very curious that a party being on the Committee should be so very fortunate as to show fourteen pens of birds, and except for two, get prizes for them all. My own case was very different. Feeling most anxious to give the Crystal Palace Show a lift, I sent sixteen lots, but never took a prize. I had the honour of seeing my name in print as taking first prize for a pair of Jacobins; this I was told was a mistake. It might have been, but one thing is quite certain, the birds never came into my possession again; they were stolen and another pair substituted for them, so this year I mean to keep my birds at home.—James Elgar, *Ormanthorpe Hall, Newark*.

CHEPSTOW POULTRY SHOW.

This was held on the 13th inst., in connection with a horticultural show, and the success was such that it is proposed to continue the Show annually. Light *Brahmas* were remarkably fine, and were exhibited by several well-known prizewinners. The *Pigeons* were very good.

Brahma Pootra (Light).—*Cockerels*.—Cup, Rev. J. D. Hoysted, Bradenstoke, Chippenham. 2, L. H. Ricketts, Banwell, Somerset. 3 and *hc*, J. Pares, Postford, Guildford. 4, T. A. Dean, Marden, Hereford. *vhc*, H. M. Maynard, Ryde, Isle of Wight. *Pullets*.—1, H. M. Maynard. 2, Rev. C. H. P. Abbott, Withington, Hereford. 3, J. Bloodworth, Cheltenham. Extra, H. M. Maynard; T. A. Dean. (Whole class highly commended.)

Brahma Pootra (Dark).—1, Lieut.-Col. Tickell, Cheltenham. 2, T. A. Dean. *Chickens*.—1, G. F. Parrott, Henbury, Bristol. 2, W. Sims, Stroud. *c*, D. Lane, Gloucester.

Cochin-China (Any variety).—1, T. A. Dean. 2, C. Bloodworth. *Chickens*.—1, C. Bloodworth. 2, J. Bloodworth. *hc*, J. Long, Plymouth; T. A. Dean.

Dorkings (Any variety).—*Chickens*.—1 and 2, J. McConnell, Ewens Harold, Hereford.

Game (Any variety).—*Chickens*.—1, T. Jones, Swansea. 2 and *hc*, H. T. Jarvis, Chepstow.

Hamburghs.—*Golden-pencilled and Spangled*.—1, C. Plimley, Wolverhampton. 2, F. Perrin, Ashley Vale, Bristol. *Silver-pencilled and Spangled*.—1, J. Carr, Hafod, Swansea (Spangled). 2, J. McConnell (Pencilled).

Spanish (Any variety).—1, C. Taylor, Gloucester. 2, J. McConnell. *c*, R. Barrett, Stroud.

Bantams.—1, G. Ashford, Newport. 2, T. Moore, Cardiff. 3, Lieut.-Col. Tickell. *hc*, F. A. C. Cooper, Ampney Crucis.

Any other Variety.—1, J. Hinton, Warminster (Silver Poland). 2, Rev. N. J. Ridley, Newbury (La Flèche). *hc*, L. Dean, St. Arvans, Chepstow (Light Brahma). *c*, A. G. Lawrence, Chepstow (Houdans).

Selling Class.—*Cock or Cockerel.*—1, T. Rogers, Walsall (Black Spanish). 2, R. Barrett, Strond (Black Spanish). *hc*, Lieut.-Col. Tickell (Houdans); T. A. Dean (Brahma Pootra); C. Bloodworth (Buff Cochin). *Hens or Pullets.*—1, J. S. Phillips, Newport, Mon (Game Duckwing). 2, L. Dean (Light Brahma). *hc*, C. Lynne, Chepstow (Dark Brahma); J. McConnell (Black Spanish); T. Rogers. *Miscellaneous.*—1, C. Price, Penterry, Chepstow (Ducks). 2, W. R. Holman, Bayahill, Cheltenham (Ducks).

PIGEONS.

Barbs.—1 and 2, H. Yardley, Birmingham. *c*, W. Cook, Swansea (2).
Carriers.—1 and 2, H. Yardley.
Fantails.—1 and 2, J. Walker, Newark. *vhc*, J. F. Loversidge, Newark. *c*, W. Crook; T. A. Dean.
Jacobins.—1, E. T. Dew, Weston-super-Mare. 2, H. Yardley. *c*, F. Waitt, King's Heath, Birmingham.
Nuns.—1, H. Yardley. 2, E. T. Dew. *c*, E. T. Dew; L. Dean.
Pouters.—1, W. Crook. 2, E. T. Dew. *c*, W. Crook; H. Yardley; E. T. Dew.
Tumblers (Any variety).—1 and 2, H. Yardley.
Any other Variety.—1, W. Crook (Yellow Magpies). 2, E. T. Dew. 3, H. Yardley. *c*, W. Crook (Ice Birds); J. H. Watkins.

Extra Stock.—*Poultry or Birds* (Any description).—1, L. Dean (Light Brahma). 2, C. Lynne (Dark Brahma). *hc*, T. A. Dean (5). *c*, L. Dean (Light Brahma) (2); J. Bloodworth (Black Bantam); L. H. Ricketa (Light Brahma) (2).
Prize for the greatest number of points in all classes, T. A. Dean.

Judges.—Mr. R. H. Nicholas, Newport; Mr. T. L. Brewer, Danny Craig, near Newport; Mr. T. Davies, Wellington Park, Redlands, Bristol. Dr. Cottle, of Cheltenham, judged the Pigeons.

MIDDLETON POULTRY AND PIGEON SHOW.

Middleton Show has long been noted for the general excellence of its poultry exhibitions, and this year's Show fully maintained the high character of previous meetings. It will, probably, be in the recollection of most of our readers that both the poultry and Pigeons are exhibited at Middleton in the open field, and in past years exceedingly wet weather has proved no common drawback to success. The Committee have, however, wisely resolved to provide for so serious a contingency on future occasions. A few new pens of novel construction were erected to test their sufficiency this year, and if they prove equal to the anticipated requirements the same plan will be adopted throughout the collection. The whole of the fronts of these new pens are of thin iron rods, exhibiting the birds to considerable advantage as compared to those show pens in ordinary use. The sides and backs are of plain woodwork; the roof slopes off to the back, and being covered with a waterproof sheeting, sudden rains are amply provided against; and, we must add, when not in use these pens are so constructed as to fold up into a space few would believe possible. Again, a shutter closing on hinges forms ample protection after nightfall. It hangs down below the pens during the show time, hiding entirely from view the travelling baskets, which, being placed beneath the pens, are quite preserved from heavy rains. No breakage of tails can occur in these pens, but there are two little improvements which at once suggest themselves to the mind of any practical observer, even at first sight. One is that the ironwork at the fronts should be somewhat closer for the 3 inches on each side of the pen to prevent the cocks from fighting; the other is of equal, if not greater importance, as the present construction of the doors rather aids than defeats the attempts at theft that unfortunately have of late been by far too general. The doors, as at present constructed, simply open sideways, the full height of the front, being fastened by an iron "nut" fixed inside on the bottom bar, the hinge being accomplished by the door turning on one of the bars that run from top to bottom. To this arrangement there are at least two evident objections: first, that the door opening entirely from top to bottom gives Game fowls, Hamburghs, and some of the most active poultry, abundant opportunity of escape whilst being penned, repacked, or inspected by the Judges, whilst theft would be more easily accomplished, if attempted, during the time of the Show being open to visitors. We suggest that if the doors slid up, with part of the top bar affixed, not only would the birds prove more difficult of access to the dishonestly disposed, but also the sudden rising of the top above the heads of bystanders would certainly be apt to attract attention, and thus, to a certain extent, obviate robbery.

About five hundred pens of really first-class chickens competed, and a more worthy display was never exhibited in this district. Although the *Game* fowls were quite equal to expectation, Brown Reds and Piles showed in best condition, the last-named variety taking the Game cup. The *Spanish* were uniformly good, but the *Brahmas* comprised show birds of the best individual excellence that have been seen for some years past at this season of the year. The cock shown by Lady Gwydyr was a very grand specimen, but looking in not quite so good show trim as when last exhibited, as continued exhibition inevitably tells hardly even on the best-constituntioned poultry. Mrs. Arkwright's Brahma pullets were also worthy of particular remark. *Cochins* were unusually good, and the *Hamburghs* equally so. Silver-pencilled (a rare occurrence) took the Hamburgh cup. The *Crève-Cœurs* were far the best of the French fowls, and the *Waterfowls* never mustered at Middleton more perfect as to general quality.

In *Pigeons*, Almonds were first-class, and though some of the Carriers sadly lacked condition, they were excellent birds, moulting time being the only cause of their shortcoming. Turbits and Fantails were really good, and the class for Dragoons was one equally good as to numbers and also quality. In Nuns, Mr. Yardley's pen, so much noticed of late in the discussion as to trimming, stood again first, whilst a pen of another exhibitor was disqualified for trimming by scissors. The Variety class was not so good as that of last year.

The weather on the whole was favourable, and we are told the Show was as usual a financial success.

The *Rabbits* were not so good as we are accustomed to see at this large Show; they were not so carefully penned. Half-bred short-eared specimens should not be mixed with Lops, and Lops with Angoras. Surely it cannot be that Middleton is losing its high character for Rabbits. I hope this friendly hint will be sufficient, and that a better arrangement will be made for the Rabbits, which now form at all shows no inconsiderable portion of the entries.

There were at Middleton forty-six entries—of Lops, eight; Angoras, eight; Himalayan, eight; Silver-Greys, four; Any other variety, seven; and in the Selling class, eleven. In some of the classes were good specimens. The Lop buck which carried off the first prize was well entitled to it; ears 21¾ by 5 inches; and the second prize was awarded to a Yellow and White under seven months old, which gives promise of a good Rabbit, and worthy of exhibition; ears 21¾ by 4¾ inches.

The Angoras, as a class, were not quite equal to others we have seen recently, either in size or fineness of wool, yet all seemed to have had that care bestowed upon them so essential to their showy appearance. The doe taking the first prize was justly placed on the list of honours. The second-prize buck was a well-formed young Rabbit, seven months old, and will, I doubt not, be found in an enviable position at future shows.

The Himalayans were rather small, yet one that stood at the top of the class was well marked, and had no very near approach in point of excellence. In this class some well-marked, but small, Rabbits were found, and the Judge was probably influenced in his opinion by size rather than other points fanciers like in this variety.

The first-prize Silver-Greys were fine specimens of what this variety should be, being large and well silvered; and the second prizetakers were by no means imperfect. I much prefer the general silvering of this variety to the darker and at times irregular patches of shade one used to see.

The Any other variety class contained the opposites in size. Mr. S. G. Hudson's Belgian Hare was a fine specimen, contrasting with this gentleman's Black and White Dutch as second prize. May I not ask if the latter variety should not have four white feet instead of two to be worthy of any honourable position?

The Selling class contained the usual miscellaneous collection, and the Yellow and White Lop doe of Mr. J. Boyle, and an Angora, were both worthy their position.

I regret to have to conclude my remarks respecting this Show by saying that some specimens had to be disqualified by reason of sundry tamperings, and I trust this is the last occasion I shall have to record such practices. I hope in future to have to record more numerous entries, and certainly would suggest that at this late season of the year the Rabbits should be under canvas, and that will not be more than requisite for their safety from cold, especially when coming from such a temperature as that of their hutches.—Charles Rayson.

Game (Black-breasted and other Reds).—*Chickens.*—1, C. Chaloner, Whitwell, Chesterfield. 2, T. Statter, jun., Whitefield. 3, E. Brough, Ballhaye Park, Leek. *Cockerel.*—Cup, A. Milnes, Rochdale. 2, E. Mann, Wallfield, Stand, Pilkington. *hc*, J. Fletcher, Stoneclough, Manchester; J. Spencer, Clayton, Bradford; E. Mann; E. Aykroyd, Eccleshill, Leeds. *c*, C. Chaloner.
Game (Any other variety).—*Chickens.*—1 and Cup, T. P. Lyon, Knotty Ash. 2, Barker & Charnock, Illingworth. 3, C. Chaloner. *hc*, S. Matthew. *c*, J. Fletcher. *Cockerel.*—1, J. Pickles, Banks, Mytholmroyd. 2, T. P. Lyon. 3, C. Chaloner. *Pullets.*—1 and Cup, W. H. L. Clare, Twycross, Atherstone. 2, C. Chaloner. 3, J. Fletcher. 4, T. P. Lyon.
Spanish.—*Chickens.*—1, J. Walker, Standiford, Wolverhampton. 2, Mrs. Allsopp, Hindlip Hall, Worcester. 3, Mrs. Hyde, Bedminster. *hc*, Clews and Adkins, Walsall. *c*, W. & F. Pickard, Thorner. *Cockerel.*—1 and Cup, Mrs. Allsopp. 2, C. W. Brierley, Middleton. *c*, H. Dale, Northallerton. *Pullets.*—1, J. Walker, Standiford, Wolverhampton. 2, H. Dale.
Dorkings.—*Chickens.*—1 and Cup, Mrs. Arkwright, Sutton Scarsdale, Chesterfield. 2, J. Martin, Claines, Worceater. 3, J. J. Waller, Kendal. *hc*, T. E. Kell, Wetherby; J. White, Warlaby, Northallerton; R. W. Richardson, Beverley. *Cockerel.*—1, J. Martin. 2, Mrs. Arkwright. *hc*, W. H. King, Rochdale. *Pullets.*—1, T. E. Kell. 2, Mrs. Arkwright. *c*, T. Statter, jun.; E. Leech, Rochdale; J. H. Wilson, St. Bees.
Brahma Pootra.—*Chickens.*—1, W. Hargreaves, Hullock Top, Bacup. 2, W. A. Taylor, Mancheater. 3, Horace Lingwood, Creeting, Needham Market. *hc*, T. F. Ansdell, Cowley Mount, St. Helens; Dr. Holmes, Whitecotes, Chesterfield; J. Ashworth, Rochdale; J. Long, Plymouth. *Cockerel.*—1 and Cup, Lady Gwydyr, Stoke Park, Ipswich. 2, J. Ashworth, Rochdale. *hc*, Hon. Mrs. A. B. Hamilton, Woburn; T. F. Ansdell; J. Ashworth. *Pullets.*—1, Mrs. Arkwright. 2, Horace Lingwood. *hc*, Hon. Mrs. A. B. Hamilton (2); M. Leno, Markyate Street, Dunstable; Lady Gwydyr. *c*, W. Hargreavea; R. Hargreaves, Ridding Water, Delph; T. A. Dean, Moreton-on-Lugg; J. Ashworth; W. H. Butler.
Cochin-China (Buff and Cinnamon).—*Chickens.*—1, Cup, and 3, A. Taylor. 2, C. Sidgwick, Ryddlesden Hall, Keighley. *hc*, E. Leech. *Cockerel.*—1, Lady Gwydyr. 2, W. A. Taylor. *hc*, T. M. Derry, Gedney, Wisbeach. *Pullets.*—1, C. Sidgwick. 2, Mrs. Allsopp. *hc*, W. A. Taylor; J. Sichel, Timperley; J. Hey, Honley, Huddersfield.
Cochin-China (Any other variety).—*Chickens.*—1 and 2, C. Sidgwick. 3, Horace Lingwood. *c*, W. A. Taylor. *Cockerel.*—1, Horace Lingwood. 2, J. K. Fowler, Aylesbury. *c*, C. Sidgwick; E. Leech. *Pullets.*—1, C. Sidgwick. 2, W. A. Taylor.
Hamburghs (Gold-pencilled).—*Chickens.*—1, J. Wrigley, Tonge Hall, Middleton. 2, H. Beldon, Goitstock, Bingley. 3, Miss M. E. Wrigley, Tonge Hall, Middleton. *hc*, H. Pickles, jun., Earby, Skipton. *Cockerel.*—1, H. Pickles, jun. 2, J. Wrigley. *hc*, W. E. Walker, Heaton Park, Middleton; Miss Wrigley, Tonge Hall, Middleton; S. Smith, Northowram, Halifax. *Pullets.*—1, W. H. Tickner, Ipswich. 2, H. Pickles, jun. *hc*, J. Wrigley; J. Webster, Whitby.
Hamburghs (Silver-pencilled).—*Chickens.*—1 and Cup, H. M. Mann, Kendal. 2, H. Beldon. *Cockerel.*—1, H. Pickles, jun. 2, H. Beldon. *Pullets.*—1, H. Beldon. 2, W. M. Mann.
Hamburghs (Gold-spangled).—*Chickens.*—1, T. Scholes, Hollinwood, Manchester. 2, N. Marlor, Denton. 3, T. Boulton, Hanford, Stoke-on-Trent. *hc*, T. Scholes; J. Statter, New Brighton, Cheshire. *Cockerel.*—1, H. Pickles, jun. 2, J. Ogden, Chadderton, Manchester. *hc*, E. Brierley, Heywood; J. Buckley, Ashton-under-Lyne. *Pullets.*—1 and 2, J. Chadderton, Hollinwood, Manchester. *hc*, T. May, Wolverhampton.

HAMBURGHS (Silver-spangled).—*Chickens.*—1, H. Beldon. 2, H. Pickles, jun. 3, J. Fielding, Newchurch, Manchester. *hc*, Ashton & Booth, Broadbottom, Mottram. *Cockerel.*—1, H. Pickles, jun. 2, H. Beldon. *hc*, G. & J. Duckworth, Canal Mill, Church, Accrington; J. Fielding; Ashton & Booth. *Pullets.*—1, H. Pickles, jun. 2, Ashton & Booth. *hc*, Mrs. Allsopp; H. Beldon.

HAMBURGHS (Black).—*Chickens.*—1 and 2, C. Sidgwick. 3, J. Garside, Longlands, Slaithwaite. *hc*, T. Walker, jun., Denton. *Cockerel.*—1, W. A. Taylor. 2, C. Sidgwick. *hc*, E. Brierley. *Pullets.*—1, J. Holt, Middleton. 2, J. Garside. *hc*, D. Lord, Stacksteads, Mancheater; Stott & Booth, Huntley Brook, Bury.

FRENCH FOWLS.—*Chickens.*—1 and Cup, J. J. Malden, Biggleswade (Crève-Cœur). 2, J. K. Fowler. 3, W. Dring, Faversham. *hc*, R. B. Wood, Uttoxeter. *Cockerel.*—1, J. J. Malden (Crève-Cœur). 2, R. B. Wood. *hc*, Rev. C. B. Rowland, Lighthorne, Warwick; W. Dring; J. Sichel. *Pullets.*—1, J. J. Malden. 2, C. H. Smith, Radcliffe-on-Trent (Crève-Cœur). *hc*, G. W. Hibbert, Godley, Manchester; R. B. Wood; Rev. C. C. Ewbank, Langford Vicarage, Biggleswade (Crève-Cœur) (2); F. Bennett, Shiffnal.

ANY OTHER VARIETY.—1, H. Beldon. 2 and 3, P. Unsworth, Lowton, Newton-le-Willows. *hc*, R. Loft, Woodmansey, Beverley (Sultans). *Cockerel.*—1, H. Beldon. 2, W. Fearnley, Lowton, Newton-le-Willows. *Pullets.*—1, H. Beldon. 2, P. Unsworth.

GAME BANTAMS.—1 and Cup, T. Sharples, Forcat Bank, Rawtenstall. 2, J. Eaton, Farnsfield, Notts. 3, J. Oldfield, Shibden, Halifax. *hc*, G. Maples, jun., Wavertree, Liverpool; T. Sharples. *c*, C. Moore, Poulton-le-Fylde, Preston; G. Hall, Kendal; W. F. Entwisle, Westfield, Cleckheaton. *Cock or Cockerel.*—1, G. Maples, jun. 2, Bellingham & Gill, Burnley. 3, Ellis & Buckley, Accrington. *hc*, Ellis & Buckley; W. F. Eotwisle; T. Sharplea. *c*, J. Crosland, Sheffield; W. F. Entwisle; T. Sharplea; J. Oldfield; E. & J. T. Hudson, Ulverston; S. Stephens, jun., Ebley, Stroud.

BANTAMS (Any other variety).—1 and 3, M. Leno. 2, H. Beldon. *hc*, J. W. Morris, Rochdale; J. Walker, Halifax; S. & R. Aahton, Mottram, Manchester. *c*, J. Sichel (Pekin Bantams).

SELLING CLASS.—1, S. Lord, Healey Hall Bottoms, Rochdale. 2, Withheld. 3, J. Mills, Mount Ending, Healey, Rochdale (Brahma). *Cock or Cockerel.*—1, C. W. Brierley. 2, E. Leech. *c*, J. T. Travis, Rochdale. *Pullets.*—1, C. W. Brierley. 2, E. Ryder, Hyde. *c*, J. Horrocks, Tonge, Middleton; A. Bumford.

DUCKLINGS.—*Aylesbury.*—1, E. Leech. 2, J. K. Fowler. 3, J. Tinsley, Warrington. *Rouen.*—1, Cup, and 3, J. Scotson, Little Byrom, Lowton. 2, T. Wakefield, Golborne, Newton-le-Willows. *hc*, T. Wakefield; J. K. Fowler; E. Leech, Rochdale. *Any other variety.*—1, C. W. Brierley. 2, M. Leno (Mandarin). 3, H. B. Smith, Brooklands, Broughton (Fancy). *hc*, H. B. Smith (Fancy) (2); S. H. Stott, Fishergate, Preston.

GOSLINGS.—1, J. K. Fowler. 2, J. White, Whitby, Natherton, Wakefield. *hc*, E. Leech; J. H. Stott (Toulouse) (2).

TURKEYS.—1, E. Leech. 2, T. Statter, jun., Whitefield, Manchester.

PIGEONS.

TUMBLERS.—*Almond.*—2, J. M. Braid, Cambridge. 3, F. Moore, Barnley. *hc*, R. Fulton, Deptford (2). *Any other variety.*—1, B. Consterdine. 2 and 3, R. Fulton.

BALDS OR BEARDS.—1 and 2, W. Woodhouse, Lynn (Bearda). 3, B. Coneterdine. *c*, R. Fulton.

CARRIER.—*Cock.*—1 and *hc*, R. Fulton. 2, J. Stanley, Blackburn. 3, H. Yardley, Birmingham. *Hen.*—1 and 2, R. Fulton. 3, H. Yardley. *c*, T. Waddington, Feniscowles, Blackburn; J. Stanley, Blackburn.

POUTER.—*Cock.*—1 and 2, R. Fulton. *Hen.*—1 and 2, R. Fulton.

BARBS.—1 and 3, R. Fulton. 2, S. Holroyd, Leeds. *hc*, T. Waddiogton.

TUBBITS.—1, R. Fulton. 2, E. C. Stretch, Ormskirk. 3, B. Conaterdine. *c*, T. Waddington.

JACOBINS.—1, R. Fulton. 2, T. Waddington. 3, G. South, jun., London. *c*, T. Waddington; R. Fulton.

FANTAILS.—1, J. F. Loversidge, Newark-on-Trent. 2, R. Fulton. 3, J. Walker, Newark. *hc*, T. Waddington; A. M. Yette; J. F. Loveridge; J. Walker.

OWLS.—1, B. Consterdine. 2, R. Fulton. 3, H. Yardley. *hc*, A. Ashton, Middleton (2). *c*, J. Stanley; B. Consterdine.

NUNS.—1, H. Yardley. 2, F. Graham, Birkenhead. 3, Withheld.

DRAGOONS.—1, J. Holland, Manchester. 2, G. South, jun. 3, F. Graham. *hc*, J. Holland; F. Graham; W. H. Mitchell, Moseley, Birmingham. (Whole class commended).

TRUMPETERS.—1, O. Percival, Manchester. 2, R. Fulton. 3, H. B. Smith, Brooklands, Broughton, Preston.

ANY OTHER VARIETY.—1, R. Fulton. 2, H. Yardley. 3 and *c*, T. Waddington.

SELLING CLASS.—1, W. Nottage, Northampton. 2, O. Percival (Blue Owls).

RABBITS.

SPANISH.—1, J. Holt, Heywood. 2, T. C. Lord, Huddersfield. *hc*, J. Irving, Blackburn (2); J. Boyle, jun., Blackburn.

ANGORA.—1, A. H. Easten, Beverley Road, Hull. 2, W. Dixon. *hc*, J. Boyle, jun. *c*, S. Greenwood, Hebden Bridge; S. G. Hudson, Hull.

HIMALAYAN.—1, J. Boyle, jun. 2, C. W. H. Tomlinson, Newark-on-Trent. *hc*, J. Irving.

SILVER-GREY.—1 and 2, S. G. Hudson. *hc* and *c*, S. Greenwood.

ANY OTHER VARIETY.—1 and 2, S. G. Hudson (Belgian Hare). *hc* and *c*, J. Boyle, jun.

SELLING CLASS.—1, 2, and *hc*, J. Boyle, jun. *c*, A. H. Easten; J. Renshaw, jun., Gale, Littleborough, Manchester; S. G. Hudson (Angora); J. Baron, Castlemere, Rochdale; J. Kemp, Haslingden.

Messrs. Hewitt, Dixon, and Fielding judged the *Poultry*, and Mr. Tegetmeier the *Pigeons*.

I FORWARDED two pens of birds in good time, but have learned that at the judging my pens were empty, and on the Committee making inquiries through the kindness of a friend who knew that the birds had arrived, it was found that they had not been removed from the box, and, in fact, were very carefully placed amongst the empty packages. My cause of complaint is, that the Committee have taken my entry money and have prevented my birds, which have taken prizes wherever shown, from competing, and this without in any way offering to return the entry fees, or apologising for the neglect. My best Jacobin has returned home to-day unwell, and in the event of its death I shall most certainly hold the Committee responsible for the loss, and shall also expect them to return the entry money and carriage of the birds. —GEORGE ROPER, *Croydon*.

[If the Committee cannot satisfactorily account for your Pigeons not being exhibited, they ought at once to return the entrance money. —EDS.]

PARASITES ON CANARIES.

[THIS is in answer to a correspondent, "C. L."]

UNQUESTIONABLY parasites are a great nuisance, but I think we who breed largely and have a greater or less visitation according to circumstances, think less of them than those to whom they are a comparative novelty. I can understand how their appearance in a small aviary can be traced to the introduction of a bird infested with them; but their simultaneous appearance in all the cages in a large room containing, say, accommodation for fifty pairs, must be attributed to some other cause. That they are parasites and originally proceed from the bird there can be no doubt, but that the birds are infested with them at any time, night or day, to the extent many suppose I very much doubt. Indeed, it is impossible that a tithe of the pests found in any single compartment could find a resting place on the body of any one bird. If a cage in which they have taken-up their quarters be examined by candlelight, they will be seen taking their walks abroad on the top, back, sides, inside, outside, everywhere; and they will be seen running over the feathers of the bird with an extraordinary activity which they exhibit at no other time. But I think that few or none will be observed during the day, either on the cage or on the bird; while immediately under it in the lining of its nest, or at the back of it, there may be a colony—a living mass of the pests, all huddled together and waiting for nightfall before they issue from their place of concealment. This has always suggested to me a mode of attack which I find quite adequate to the occasion. I search for their head quarters in a crack, under a loose flake of whitewash, in a corner in any retired place, and with a pretty strong solution of glue or paste, made thin enough to work easily with a brush, I concrete the whole fraternity, grind them, crush them up, work them up into a paste with the thick whitewash on the cage. After a visit of investigation paid to each cage, a careful examination of the ends of the perches and the places where these rest on the front cross-bar, or where they are connected with the wires, a scrape of a knife in every crack, and a general war of extermination, I find only a few stragglers the next night. Those I do find I just bruise against the cage. Some will be again seen on the bird, and according to the number so must the next day's search be. Those left will be looking about for a hiding-place all next day, avoiding the spots visited by the paste-brush, and falling easy victims to a quick eye. If the outside cracks are tenanted—and that can soon be ascertained by the white dusty appearance at the edges—nothing is better than simply applying the catch-'em-alive principle, by giving the place a touch of varnish. Like slugs in a garden they are easily trapped. A piece of paper an inch square, attached by three edges to the ceiling of each cage will trap thousands. Any such place they will at once take possession of, and then a judicious squeeze settles the business. I have heard persons say they will stand anything, delight in boiling water, and are very salamanders. But it is all stuff. If your cages are small immerse them in the kitchen copper.

I do not know what to say about their getting into the woodwork of a room. You know that it is an awful question to ask, and enough to frighten half the intending breeders for next season. My experience on that head is just this—When I was foraging for furniture for my bird-room, and laying violent hands on whatever stray articles I could seize, I confiscated, among other things, an old chair with a broken back, albeit a comfortable chair in which I spent many a happy hour among my birds, till I found that some string with which I had reduced a compound fracture of the back was swarming with the parasites. How they got there I do not know, unless by the ordinary mode of locomotion, for the chair stood in a corner remote from any cage. Sometimes I used it to stand on when doing anything to the top of my stack of cages, and it may be that some of the little nuisances dropped on it, and at once established themselves, and set about fulfilling one of the laws of Nature in right earnest. But I do not think there is much danger of their getting into the woodwork of a room. I never heard of its occurring. I have found one on my shirt-sleeve, but that has only been after a brush with them, and only last week the white *piqué* told my wife she had got them! But it turned out to be only an active little nuisance of another kind.

I do not know much of the qualifications of the Chaffinch as a song bird. His capabilities are much vaunted in some works, but of his song, pure and simple, or cultivated, I have no knowledge.—W. A. BLAKSTON.

WHITBY CANARY SHOW.

[THE following were omitted in our last.]

OF Messrs. Smith & Preen's Golden-spangled Lizards, and Mr. Ritchie's (Darlington) Silvers, the Golden-spangled birds were remarkably fine specimens, well moulted, in very forward condition, and were such as anyone might be justly proud of, showing great

quality with excellent caps and spangles. Mr. Ritchie's Silver hen was one of those birds the like of which is not seen every day. She might have been better capped, and she would be none the worse if the larger spangles were more defined; but taking her all-in-all she is a bird to make one's mouth water. The mottle on the neck behind the cap is such as is not seen in one bird in a hundred. Smith & Preen were also very highly commended in the Silver class; and on again referring to my notes, I cannot say positively whether it was their bird or Mr. Ritchie's pen which was rather cloudy. If I have been putting the saddle on the wrong horse I must be excused.

In Greens, Mr. Lawson, Saltburn, won by condition. The second bird (J. Stevens), was backward.

The "Any other variety" was a splendid class. Mr. Bulmer's first was a high-class Variegated Yellow Belgian. Messrs. Burniston were second with a good Evenly-marked Yellow Yorkshire; Moore and Wynn third with a Variegated-crested Cinnamon; and Mr. Hawman extra third with an Evenly-marked Cross-bred.

Variegated Mules were few, and with the exception of the first Jonque (Stevens), poor. Dark Mules were backward. The district entries showed a marked improvement on last year.—W. A. Blakston.

NATIONAL PERISTERONIC SOCIETY.

The first Show for the season of this well-known Society took place on the 19th inst., at the Freemasons' Hall. It consisted entirely of young birds bred this season, and, if we mistake not, we saw several future prizewinners. Here they do not compete for prizes, but after being well scanned by the members from 8 to 11 P.M., return to the same or another cote, none the worse in beauty of plumage and condition. For these the birds of the members of this Society are justly celebrated. Amongst the gems we noticed some grand Black and Dun Carriers from Messrs. Hedley and Ord; good pens of Blues and Silver Carriers from Mr. B. Ford, of Weymouth; a pen of very good Yellow Dragoons and Jacobins from Mr. Betty; a pen of the best Barbs we have seen for some time; also various other breeds from different members.

THE SATINETTE.

We now turn our attention to this most beautiful variety of Pigeon, although in so doing we depart somewhat from our proposed course; but having received numerous inquiries for a description of the breed, we deem it advisable to give the information we have and publicity to our opinions.

Satinette is the name by which the breed is distinguished in England, that name being given to them on their first appearance at our public exhibitions, and by that name they will be best known, therefore we adopt the name, which seems to us not an inappropriate one; but they are not known by that name in the East, whence they came. The Satinette is of foreign origin, and has not only been cultivated and perfected abroad, but, being so highly prized and so much admired, has been kept almost exclusively by those fanciers whose diligence, care, and skill have been the means of raising such charming little pets; for their own special amusement it may have been, but it will, doubtless, result in eliciting the high praise of all true lovers of the beautiful. To the Mahommedan Pigeon-keepers the credit of producing this variety is due. They seem to have pursued their study of Pigeons at least with a refined taste for the beautiful, such as it would be well for us to endeavour to emulate. The Satinette may be said now to be a native of Smyrna, a seaport town of Natolia, in Asiatic Turkey, but we believe the breed was originally propagated further east by an aged follower of Mahomet, who, alone and unaided, with untiring zeal in his efforts to establish these beautiful spangled Pigeons, prosecuted his study of the "sacred Dove" until perfect specimens of the kind were abundant in his flock, some of which were, as an especial favour, presented (about twenty years ago) to our excellent member and fellow-fancier, H. P. Caridia, Esq. They were taken by him to Smyrna, where he raised, distributed, and left many of the breed, bringing with him to England (sixteen years ago) the first (about twelve pairs) of the kind that were introduced into this country.

Of the exploits of this breed of Pigeons as prizetakers many fanciers are aware, for to exhibit them was to win. Indeed, no judge with a proper appreciation of either form or feather could pass them by without awarding the badge of merit, for, as will be seen by the accompanying illustration, the Satinette is a paragon of beauty.

This exquisite little Pigeon will compare favourably with any known breed in form and feather, and what the Sebright Bantam is among poultry such is the Satinette among Pigeons. The Satinette is a great acquisition to our English stock, and appears to have been appreciated by English fanciers. Large sums of money have been expended in their purchase, and the highest premiums have been awarded to them at our exhibitions, though the competition in the "Any variety" class is generally strong. We know of one pair that have been competitors at most of our public shows, and have won upwards of £60 in prizes. The scarcity of these birds, their delicacy of colour and constitution, and high value, are the primary causes of their not appearing more frequently at our exhibitions. By the importations that have been received recently by us the breed may become more generally known ere long.

The points of the Satinette are as follows:—The head is round; the beak short, strong, and flesh-coloured; the eye is large and dark; the neck is gently tapered, and well arched; the breast prominent, and a large frill must be well defined from the neck to the breast; the body small and compact; the legs and feet well feathered, and entirely covered to the nails; the carriage of the bird must be erect, and in most points of form bearing resemblance to the Owl. The head, neck, breast, belly, thighs, and lower part of back pure white; on the sides of wings, primary coverts, and saddle of back is a ground tint of a light and delicate pinkish brown, deepening in tone towards the edges of each feather, and terminating in a fine black fringe upon all the smaller feathers on the sides and shoulders of wing; the coverts, however, are not fringed with black at the edges, but they, in company with all the feathers upon which the brownish colour is visible, are distinctively marked with black spear points. Thus there is a variety of graduated shades of rich brown upon every coloured feather, bordered by a fringe of black, such as may be seen in the Hamburgh fowls. The tail of the bird is of a slatey blue colour, with a broad band of black at its extremity; in the centre of this band, and upon each of the twelve feathers of which the tail is comprised, should be a distinct and well-defined white spot (see accompanying sketch of feather, drawn half real size).

This peculiar feather is dissimilar to any other variety, and forms one of the chief characteristics of the breed. Fanciers can easily imagine the extremely beautiful and novel appearance of a flight of these birds. Unfortunately, we Birmingham fanciers may possess the birds in all their native beauty, yet must admire them within their loft or through the wires of the aviary within which they are imprisoned, for were we to give them liberty the sight would assuredly astonish the "flying fraternity" of our Pigeon-keeping town, and might lead either to the Pigeons or the flying fraternity "going astray."

The Satinette is very active on the wing, and in its native clime is said to fly long and well, and in compact bodies; but, as we have said, it has not been our lot to see many on the wing, still we have seen them at large, a few of which have entire liberty always with us, and undoubtedly thrive better for it. Satinettes are a delicate variety; they are good breeders, but bad feeders. The use of foster-parents of stronger constitution for the rearing of their young is advantageous, as they are too apt to desert their young, or only half feed them. Some will rear and raise their young well, but, as a rule, they are not to be trusted.

Satinettes are very changeable in their plumage. When young, and before their first moult, they are of a sort of mahogany colour pencilled with black, and certainly not very attractive at that period of their existence, but on the appearance of the first new feathers we acquire an idea of what we may expect when the entire body has suffered a similar change; the contrast in the colours becomes much stronger and the markings more distinct, and what might be supposed to be an inferior bird before the moult often developes into a grand specimen.

It may here be observed that Satinettes, like all other Pigeons, do not breed all perfect and true; some are foul-feathered, some are clean-legged, some have poor frills, others have flat heads, but in all of them there is clearly traceable the one distinct and highly meritorious breed of Pigeon.

There is of the Satinette family a very beautiful sub-variety which they occasionally breed, and by some fanciers these offshoots may be preferred to the Satinettes themselves; they are called Brunettes. They have a light pinkish brown plumage,

with similar markings to the Satinette, but of a much lighter and more delicate colour, there being no black or bluish cast, such as is seen in the Satinette, but in general appearance they present a regularly dappled marble aspect. These birds show all the excellencies in form, carriage, &c., but the markings are not so strong and conspicuous. The Satinette proper has a plain head, but there are some of the variety that have crested heads, and they, too, are very attractive, and by many would be chosen in preference to the Satinette. Those peaked or crested are now all the fashion in Smyrna. They have, no doubt, been raised by judicious crosses between the Satinette and the Pencilled Turbit of the same country, which is scarcely less beautiful.

We could say much more in praise of the Satinette, but with a few words as to food we will now conclude. The climate of Turkey is excessively hot; in consequence the birds there feed on hemp seed alone, but fanciers of the breed in this country must not follow out that as a staple food. Occasionally hemp seed is useful and necessary, but to feed on that alone in this country will result inevitably in death. Vetches, small Indian corn, buckwheat, and old English wheat, with an occasional sprinkling of hemp seed, will be found to suit the constitution

of the Satinette very well. Care must, of course, be taken to prevent an over-gorge; never suffer food to remain unconsumed from one meal to another; keep your birds with a keen appetite, or the sudden change from greasy hemp to the more substantial grain may prove too much for their digestive powers; feed moderately; give clean water daily, and keep the birds warm and dry always. If these precautions are adopted we see no reason why the Satinette may not be in profusion amongst us.—Birmingham Columbarian Society.—*J. W. Ludlow, Secretary.*

LIGURIANS IN JERSEY—THE HONEY HARVEST.

I no not purpose now to give any account of what my stocks have done this season, but I wish to bring before the notice of your readers a somewhat curious circumstance in connection with my bees.

Out of four stocks of bees I have two pure Ligurians, and these are, as far as I know, the only stocks in the island. What was my astonishment, then, on going to drive a hive about a mile distant, to discover a number of Ligurians living peaceably with the blacks. I looked to see if any of the adjoining stocks were Ligurians, thinking I might possibly have lost a swarm without knowing it, for I was absent from home when my bees swarmed; but a close scrutiny proved that this was not the case.

A few days afterwards I went to drive another hive, distant just two miles in a bee line; again I was surprised to find a considerable number of Ligurians living in it in company with the black inhabitants. In this case also I looked to see if any of the adjoining stocks were Ligurians, but they evidently were not. Since this an apiarian friend went to drive a hive somewhere else, and found Ligurians in that also. It would seem as though all the black stocks within two miles of mine have Ligurian bees in them, all of which must evidently have deserted from my hives. All these hives were either in the midst of or near to the heather, but I am distant about a mile from it.

The honey harvest here has been decidedly good, better than for several years past, though up to the end of June the bees had made little or no honey. Yesterday I weighed a hive tenanted by a swarm of this year; it contained at least 45 lbs. of honey, and this is a fair sample of what strong stocks have done here this year. This is strange, as the honey harvest has been so bad elsewhere; but in the summer of 1868, so favourable in many places, stocks here grew lighter after the middle of June instead of getting heavier. The honey, however, owing perhaps to the wet season, seems much thinner than it was last year. Can any of your correspondents tell me if the neighbourhood of Bishop Auckland, Durham, is favourable for bee-keeping?—D. N., *Cantab.*

OUR LETTER BOX.

Market Drayton, Northallerton, and Stokesley Shows (*H. P. and others*).—As the Committees concluded they were not worth advertising, we do not consider them worth reporting.

Black Hamburghs at Bingley Show.—Mr. C. Sidgwick took both first and second prizes, we are informed.

Chickens Dying (*Inquirer*).—You do not give us data enough to frame an answer. You begin with a string of questions, so will we. How old are they? Where do they roost? Is the hen at liberty? Have they access to grass? At what hour are they fed in the morning? At what age are they attacked with the disorder? Have they a grass run? If they have not, what are the artificial appliances resorted to? While you await your answer, dose them plentifully with bread and ale, and let them be fed at daybreak.

Wheaten Bantams (*J. F. C.*).—They have lighter, that is, more golden hackles, and breasts the colour of a newly-gathered corn of wheat. The rest of the colour is that of a Black Red. The eyes of Game or Black Bantams being perfect in sight are not important. It is, however, imperative that all should be alike. A Black Bantam should be small in size, have a firm double comb, a purely white deaf ear, and blue legs; the tails should be scanty, and carried rather drooping than otherwise. The sickles cannot be too long.

Breeding Black Hamburghs (*Black Hamburgh*).—We know no breed of black fowls in which the cock is not subject to coloured feathers. They are generally red, and are to be found in Spanish, Polish, and all others. Black Cochins were discarded for this reason. Black Hamburghs are manufactured, and some of their component parts will creep out. We would not breed from a bird that had coloured feathers in his body, but we should not hesitate because of three or four in his hackle. We have no doubt you can select an exhibition pen. You must not be discouraged, but must recollect it takes some time to establish a breed.

Spanish Cock's Face (*M.*).—If your Spanish cock has not naturally a white face you cannot make it white. If a Spanish cock has not a white face at seven or eight months old he never will have one, and as an exhibition bird is worthless.

Black-breasted Red Bantam Cock (*Far West*).—The white down is not desirable, but it is not important. The brown feathers on the breast merely prove he is a Brown and not a Black Red. The drooping of the wings is a grave fault, and if you have other birds to choose from take one free from it, rather than breed from the bird you mention. The red feathers would disqualify in a class where the competition is confined to Black Reds.

Chickens Becoming Blind (*E. H., Reigate*).—Your chickens have the roup. It may have been caught from the mother, or it may arise from insufficient feeding or from a bad locality. Chickens at this time of year want much more attention than those that are hatched earlier. The nights are getting longer than the days, and every day the temperature is lower. Now, to be successful in chickens it is necessary they should be fed at daybreak always, at this time of year soon after half-past five. When there is a very heavy dew or white frost the chickens, after being fed, should be driven back into the rip with the hen—feed her also, that she may rest satisfied—and not allowed to run about till the sun is up and the grass is dry. Reflect for a moment. At 6 P.M. the chickens are at roost. If they are fed at what is called first thing in the morning, which is now about seven, they have been thirteen hours without food: there is neither growth, health, nor strength in that. If you have named all the food you give it is not enough. It would not be enough in May or June. At this time they must be fed as in January and February—chopped cooked meat, bread and ale, boiled egg chopped fine, grits, bread and milk, dough, and they should have beer to drink. As the atmosphere falls in temperature the food must be more generous. We doubt whether you will save any of the brood, but you must put them at once on bread and strong beer. If their house or the place in which the rip is put have a wooden, stone, or brick flooring, either will cause the complaint from which the chickens are suffering. If the hen is allowed to run about with the chickens, that may be the cause. At this season of the year it is better she should be shut up.

Weight of Buff Cochin Cockerel (*Lemon Buff*).—The cockerel, five months old, weighing over 8 lbs., is very heavy. One pound per month is good growth and weighing. Yours has made more than 1½ lb.

China Geese (*A. W.*).—It is a very common thing for people to praise things that are given to them. They would be ungrateful if they did not, and would forget the old adage, "not to look a gift horse in the mouth." If you want to test the value of birds, sell them. That was our experience of them. They made great weight, but not good meat. Our opinion is that the domestic Goose is the best table bird of the tribe, and that of these a real stubble-fed one is again the best. It is many years since we saw any Swan Geese, and we believe the true breed has disappeared. We have them in an old painting. They not only have long taper necks, but they have not the yellow knob. Goose eggs are excellent, but they require to be eaten fresh.

Plumage of Cinnamon Cochin Cockerel—Silver Buff (*A Constant Subscriber*).—There are two colours for Cinnamon Cochin cocks. One is all over the colour of a piece of wetted cinnamon; the other is a French white, with splashes of dark gamboge all over the pinmage, especially the hackle. The term Silver Buff is a mistake, it should be Silver Cinnamon. There is no such bird as a Silver Buff. The hen should have a French white body with light, nearly white, under feathers. The hackle should be a very dark yellow, like the colour of gamboge, before it is rubbed.

White-crested and Spangled Polands (*A. Wylie*).—Mr. Vivian, of Swansea, used to show them, and they were common in France as white "Padoues." We have seen many of them. They should be bearded, and should have neither wattles, horns, nor spikes. The same rules apply to Spangled Polands. All Polands are subject to what one of their great admirers, who objects to the term hump-backed, calls "curvature of the spine."

Consequences of Non-prepayment.—I request you to publish this further information respecting the man Ellison. I applied to the police concerning him, and their answer was that he is well known, and that his real name is Kilshaw, and that I must get a warrant. I have since received a letter addressed to a gentleman in Lancashire, from Eastham, Cheshire, and signed "R. Tomlinson." The letter is exactly the same as mine in writing and style, only in deeper mourning! The publication of my letter in your columns warned this gentleman in time.—Fred. Temple Hillyard, *Southam, Warwickshire*.

Crossing the Wood Pigeon with the Domestic (*Cressy*).—This has often been attempted, but never, so far as we know, with success. It is impossible to make the wild birds return for long to a Pigeon house. Mr. Brent had a hen Wood Pigeon which paired with a cock Dragoon, but they had no young.

Pigeon Trimming at Allerton (*Examiner and others*).—We cannot insert more on the subject.

Canaries Fighting (*J. H. B.*).—Nothing but separating them will put a stop to the planting, but you can try whether two or more of the most peaceably disposed will live together quietly.—W. A. B.

Rabbit with One Eye Blind (*Edith*).—The blindness of a Rabbit is often caused by exposure to cold air. The appearance presented by yours suggests bathing the eye with warm milk and water. Keep the Rabbit warm, the hutch clean and free from the smell of ammonia as much as possible. Should this fail, consult a veterinary surgeon. We do not think it infectious, yet for the sake of quiet it will be advisable to keep it alone for a while. Give carrots, turnips, oats (crushed), a little bran, no beans, but little green food, and that never wet.

Chameleons.—*A Constant Reader* wishes for information upon the feeding and keeping of chameleons in a fernery during winter.

Mr. Henry Lane died on the 16th inst., at the age of 45. He had only been ill a week of gastric fever. He was one of our earliest breeders of Spanish fowls.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Sept.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 20	29.388	65.4	51.0	S.E.	59.4	66.0	47.8	86.2	49.8	—
Th. 21	29.592	58.0	51.8	N.E.	57.3	67.9	43.9	113.2	42.8	—
Fri. 22	29.753	63.7	47.5	W.	57.3	68.0	40.6	111.8	40.2	—
Sat. 23	29.365	51.2	47.7	N.	56.7	54.8	38.1	64.0	37.4	0.970
Sun. 24	29.371	49.8	49.0	N.W.	55.5	66.0	47.0	90.0	48.0	—
Mo. 25	29.746	51.2	48.0	N.E.	55.2	57.2	40.0	85.4	40.8	0.680
Tu. 26	29.523	49.6	48.8	N.W.	54.4	56.9	48.7	77.1	48.4	0.340
Means	29.693	52.6	49.0		56.7	69.4	43.7	89.7	48.3	1.990

REMARKS.

20th.—A dull, cloudy, and cold day, except for a short time in the after noon, but I suspect much finer in the country.

21st.—Fine all day, but rather chilly at night.

22nd.—A very fine day, but with quite an autumnal temperature.

23rd.—Fine morning, but getting gradually more and more cloudy till 3 30, when slight rain began to fall, and continued getting rather heavier till midnight, about which time it rained very heavily, nearly an inch having fallen between 9 P.M. on Saturday and 9 A.M. on Sunday, the greater portion having fallen between 12 and 2.

24th.—Rather dull morning, but quite bright and fine in the afternoon.

25th.—Fine in early morning, but began to rain soon after 3 P.M., and continued till midnight.

26th.—Fine in morning, but cloudy and cold after, and during the middle of the day very dark, but brighter towards evening; fine night, lunar halo at 10 P.M.—G. J. Symons.

COVENT GARDEN MARKET.—September 27.

Supplies have been moderate throughout the week, with a steady demand. Spanish and Jersey Grapes are coming to hand in considerable bulk, prices ranging from 9*d.* to 1*s.* 6*d.* per lb., but none have keeping qualities. Good hothouse Grapes, both Hamburghs and Muscats, are sufficient for the trade. The Potato trade is heavy at former prices, supplies being large both by rail and water.

FRUIT.

	s. d.	s. d.		s. d.	s. d.
Apples ½ sieve	2 0	to 4 0	Mulberries lb.	0 6	to 1 0
Apricots doz.	0 0	0 0	Nectarines doz.	5 0	8 0
Cherries lb.	0 0	0 0	Oranges ₱100	20 0	0 0
Chestnuts bushel	0 0	0 0	Peaches doz.	4 0	8 0
Currants ½ sieve	0 0	0 0	Pears, kitchen doz.	2 0	0 0
Black do.	0 0	0 0	dessert doz.	2 0	3 0
Figs doz.	1 0	3 0	Pine Apples lb.	3 0	5 0
Filberts lb.	0 6	0 9	Plums ½ sieve	3 0	6 0
Cobs lb.	0 6	1 0	Quinces doz.	0 0	0 0
Gooseberries quart	0 0	0 0	Raspberries lb.	0 0	0 0
Grapes, Hothouse lb.	1 0	6 0	Strawberries lb.	0 0	0 0
Lemons ₱100	8 0	12 0	Walnuts bushel	10 0	16 0
Melons each	2 0	5 0	ditto ₱100	1 0	2 0

VEGETABLES.

	s. d.	s. d.		s. d.	s. d.
Artichokes doz.	0 4	to 0 6	Leeks bunch	0 3	to 0 6
Asparagus ₱100.	0 0	0 0	Lettuce doz.	0 8	1 0
Beans, Kidney ½ sieve	0 0	3 0	Mushrooms pottle	1 0	2 0
Broad bushel	0 0	0 0	Mustard & Cress punnet	0 2	0 0
Beet, Red doz.	2 0	3 0	Onions per doz. bunches	2 0	4 0
Broccoli bundle	0 6	1 0	pickling quart	0 0	0 0
Brussels Sprouts ½ sieve	2 0	3 0	Parsley sieve	3 0	4 0
Cabbage doz.	1 0	2 0	Parsnips doz.	0 9	1 0
Capsicums ₱100	1 6	2 0	Peas quart	0 6	1 0
Carrots bunch	0 6	0 0	Potatoes bushel	1 6	3 0
Cauliflower doz.	3 0	6 0	Kidneys do.	3 0	6 0
Celery bundle	1 6	2 0	Radishes doz. bunches	0 6	1 0
Coleworts doz. bunches	2 0	4 0	Rhubarb bundle	0 4	0 0
Cucumbers each	0 6	1 0	Savoys doz.	0 0	0 0
pickling doz.	2 0	3 0	Sea-kale basket	0 0	0 0
Endive doz.	2 0	0 0	Shallots lb.	0 6	0 9
Fennel bunch	0 3	0 0	Spinach bushel	3 0	4 0
Garlic lb.	0 8	0 0	Tomatoes doz.	2 0	0 0
Herbs bunch	0 3	0 0	Turnips bunch	0 3	0 0
Horseradish bundle	3 0	4 0	Vegetable Marrows doz.	1 0	2 6

WEEKLY CALENDAR.

Day of Month	Day of Week	OCTOBER 5—11, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
5	Th		70.4	47.1	58.8	18	9 af 6	30 af 5	3 af 9	13 af 1	21	11 29	278
6	F		70.2	46.8	58 5	21	10 6	27 5	50 9	8 2	☾	11 47	279
7	S	Day breaks 4h. 19m.	70.3	47 5	58.9	19	12 6	25 5	48 10	52 2	23	12 4	280
8	Sun	18 Sunday after Trinity.	69.4	48.0	58.7	19	14 6	22 5	54 11	28 3	24	12 21	281
9	M		69.1	48.1	58.6	19	16 6	20 5	morn.	59 3	25	12 38	282
10	Tu	Oxford Michaelmas Term begins.	69.7	45.5	57.6	21	17 6	18 5	4 1	22 4	26	12 54	283
11	W	Meeting of Royal Microscopical Society.	68.7	47.0	57.8	11	19 6	15 5	20 2	45 4	27	13 9	284

From observations taken near London during forty-three years, the average day temperature of the week is 69.7°, and its night temperature 47.1°. The greatest heat was 80°, on the 5th, 1834; and the lowest cold 25°, on the 11th, 1860. The greatest fall of rain was 1.08 inch.

THE ROSE SEASON—ROSES.

THE first bloom of Roses this year and last was the finest floral sight that I ever saw. A few Roses at first bloomed abnormally. A line of twelve Duchesse de Caylus, for instance, had all green centres or hard blooms that did not expand. I have had only one tree, Céline Forestier, a lofty tree on the south frontage of my house, slightly affected with mildew; but many of the trees have suffered sadly from orange fungus; all, however, are now freshly foliaged, and many are blooming well. It broke out as soon as the foliage appeared in spring. It was so general that I did not, as I usually do, remove the affected foliage with a pair of scissors in order to burn it. To have done so would have injured the health of the trees more than the fungus did. Injured lungs are better than no lungs at all. As many spores must have dropped round the plants, and perhaps taken hold of the bark, I mean, after the season is over, to lime the ground, cut back the plants a little, remove useless shoots, and sponge the remainder of the plant with vitriol and water, about 2 ozs. of vitriol to 3 gallons of water, which is strong enough to burn the fungus without injuring the bark. It is troublesome work, but a rosarian will not mind that. A rosarian and a mere possessor of Roses are very different persons.

I sowed a great portion of my Rose ground in August with Early Stone Turnips, which I shall in due time chop up and dig in. I shall manure the trees with nitrophosphate, instead of with horse and pig dung. No manure is so favourable to fungoid diseases as raw horse dung. If applied it should lie on the surface of the ground all winter, or be scalded before application.

As the catalogues are long and would bewilder novices, I must ask the Editors to kindly publish the following selection from the autumnal families. I must omit some beautiful Roses as being bad growers, though they are marked in the catalogues "Vig."

Hybrid Perpetuals.—Abel Grand, Achille Gonod, Alfred Colomb, Anna Alexieff for poles or walls, Antoine Ducher, Baron Adolphe de Rothschild, *Baron Chaurand, Baronne Prévost, Black Prince, Caroline de Sansal, Charles Lefebvre, Comte de Nanteuil, Comtesse de Chabrillant, *Comtesse d'Oxford, Dr. Andry, Duc de Cazes, Duchesse de Caylus, Duchesse d'Orléans, Duke of Edinburgh, *Edward Morren, *Elie Morel, *Elisa Boëlle, *Empereur de Maroc, Felix Genero, Fisher Holmes, François Lacharme, Général Jacqueminot, Gloire de Ducher, a grand Rose; Gloire de Vitry, John Hopper, Jules Margottin, John Keynes, Lady Suffield, a beautiful Rose; La France for a conservatory (it soils in foul weather out of doors), La Ville de St. Denis, not yet beaten in its colour; Leopold Premier, Lord Clyde, Lord Macaulay. The following all have the prefix of Madame, I shall only put Madame to the first. Madame Alice Dureau, Boll, Boutin, C. Crapelet, Charles Verdier, *Chirard, Clémence Joigneaux, Emile Boyau, Fillion, Jacquier, Julie Daran, Knorr, La Baronne de Rothschild, Rivers, Victor Verdier, Vidot. Mdlle. Annie Wood and Mdlle. Marie Rady, *Marquise de Castellane, Maréchal Vaillant, Maurice Bernardin, Marguerite de St. Amand, *Perfection de Lyon, Pierre Nottiug, Prince Camille de Rohan, Prince de Portia, Princess Mary of Cambridge, Sénateur Vaisse, Sœur des Anges, Souvenir de Poiteau, Souvenir de Dr. Jamin, Souvenir de la Reine d'Angleterre, a splendid autumn Rose; Souvenir de W. Wood, Triomphe de Caen, a fine dark bedder; Triomphe de Paris, Victor Verdier, W. Griffiths, and Monsieur de Montigny, blooming finely now, and the healthiest of all the Hybrid Perpetuals. I have seventeen plants of it. It never suffers from white or orange fungus. Cranston only keeps it. It is one of the finest of all the large Roses.

Those marked with an asterisk (*) are splendid Roses of late introduction. They are of fine growth and foliage.

Bourbon Perpetuals.—Baron Gonella, Baronne de Maynard, Marguerite Bonnet.

Bourbons.—Acidalie, Souvenir de Malmaison; Sir J. Paxton for poles, it is a fine corymb Rose.

China.—Mrs. Bosanquet.

Macartney.—Maria Leonida. It is distinct and most beautiful. Its colour is fleshy white, with vermilion stamens. It is not a show Rose.

Noisettes.—Céline Forestier, *Rêve d'Or, new, distinct, and choice; Solfaterre, a wall; Triomphe de Rennes, Maréchal Niel.

Tea.—I do not recommend Tea Roses to beginners, except the two first-named; they are both very hardy. Gloire de Dijon, Sombreuil, Adam, Devoniensis A1, Madame Margottin, *Madame Trifle, Madame Willermoz, Souvenir d'Elise Vardon (first-rate), Souvenir d'un Ami. For conservatories: Elise Sauvage, Vicomtesse de Cazes, and Madame Bravy.

I conclude with a few observations. The reader cannot burn his fingers with any of the above Roses. I have put in none but hardy, free-growing, and free-blooming Roses. I regret to leave out three beauties as bad growers here—namely, Marie Baumann, Marquise de Mortemart, and Lacharme's Louis Van Houtte. Mr. Turner kindly gave me Granger's Louis Van Houtte; it is here still, and a good grower, and quite distinct; but as a flower it is not so good as the novelty. I saw a whole line of Lacharme's Rose at the Dorset Nurseries, Blandford. The rate of growth of the whole line was miserable. It had better be tried on its own roots; for I have known Roses grow well on their own roots that would not grow at all on alien stocks. Louis XIV. is an instance of it—a Rose that has never been approached in its colour. Charles Wood is like it, but it is not always a free-bloomer. I saw these in long lines at the Dorset Nurseries; the plants were very fine, the foliage and flowers excellent: Marquise de Castellane, Comtesse d'Oxford, Rêve d'Or, and Baron Chaurand. The first is a grand Rose, and the last is a great beauty—deep scarlet crimson, shaded with blackish maroon. The place to judge of new Roses is the nurseryman's garden. Till Roses are put on strong and suitable stocks we cannot judge of them. Roses also that will do wonders under glass are often worthless out of doors. I never pay any

attention to "certificates" till I know this point. Bacchus was a misery out of doors, but grown under glass it was of good size, full, round, and radiant with fine growth and broad healthy foliage.—W. F. Radclyffe.

SEDUM FABARIA AS A BEDDING PLANT.

It is a long time since I have had the opportunity of recommending a more useful plant for general purposes than Sedum Fabaria, known also to some as S. spectabile. It has a highly decorative effect in any place, but as a bedding plant it is singularly beautiful. My first idea of using it as a bedding plant was prompted by my seeing it last year employed by Mr. Robson, of Linton, as a vase plant, and as such it was very attractive. I forget whether or no he has used it as a bedding plant; if he has done so he will, perhaps, be able to state more accurately its qualities than I can do. This Sedum has never failed to attract the attention of the many visitors to these gardens, and when its good qualities become better known I venture to predict for it a bright future.

For those who may wish to try this plant for next season, and yet do not know how to obtain a stock of it (I allude to amateurs), I will just state that I purchased six plants last autumn, which I think is the best time to buy, and it being a hardy herbaceous plant, I kept them in a cold frame all the winter in pots. At the beginning of February numerous small shoots made their appearance; I then took the plants into the greenhouse, where they grew fast, and when the shoots were long enough to furnish cuttings with two joints, I propagated all I could get. These soon rooted in the house although only under a hand-light, and when long enough, each afforded a cutting. Thus I soon had as large a stock of plants as I required. All were potted off singly in 4-inch pots, as they became established they were turned into a cold frame, and before the end of March the most forward were standing out of doors without the slightest protection.

Any common soil does for this plant, and, being hardy, it may be planted in the beds as early as these can be prepared. The first year the plants may not exceed 1 foot in height, nor at any time does the plant, to my knowledge, greatly exceed 18 inches in height; but in the second year, through the stools increasing in size very much, I have seen two-year-old plants 2 feet or more in diameter, but no higher than I have stated, and every shoot produces a large and broad rosette of pink flowers.

No supports are needed for the shoots of Sedum Fabaria, and it has fine foliage; it has also a very compact form of growth, and is altogether a desirable plant for everyone who grows and loves flowers. If it has a fault for bedding purposes it is that of flowering late, September being its usual month—a very desirable time with most people; but even without its bloom its appearance is so distinct as to be as attractive in that way as many sorts of plants are even when in bloom, so that no disappointment can arise as regards the plant's growth.

When the plants die down in autumn they may be left in the bed, or taken up and stored away in dry soil in the same way as Dahlias. Like most of the genus it is an admirable rockwork plant. It is so employed at Battersea Park and other places, but I have not yet seen it bedded out. It is also a capital decorative plant for the greenhouse and conservatory. I have this season met with it used as such, and have heard it spoken highly of by everyone. Like most of the genus it thrives admirably in dry weather. I advise everyone who has room for a flower of any sort to grow this plant.—Thomas Record.

PREVENTING THE ONION GRUB.

When I entered upon my present charge, more than thirteen years ago, I was told that Onions could not be obtained by spring-sowing, as the Onion grub carried all off, and I very soon found this to be too true. I tried many things which I thought preventives, but did not succeed. At last I adopted the following system:—Early in the autumn I point-in good rotten turf; as soon as the ground is frozen sufficiently to carry the barrow, I stretch a line down each side of the bed and cover the whole of the bed with dung to the depth of 1½ inch. The dung used is from the old hotbeds. I prefer decayed cow dung, but this I cannot get, as it is all carted to the farm. The ground lies thus till the second week of March, when I usually sow, weather permitting. The rake is taken to break all lumps that may not have crumbled-down with the frost. I then tread the ground quite firm, sow upon the dung, and give a slight covering.

This method I have practised for the last eight years with the greatest success, as we are never without Onions all the year round. The varieties which I employ for spring sowing are—White Portugal, Brown Globe, James's Keeping, Bedfordshire Champion, and Nuneham Park. The last-named does not keep well, but produces fine bulbs. For the autumn sowing I use the above-named, also the Madeira and Giant Rocca. By sowing the White Portugal in August and plantint it out in March, it keeps longer than any other, the bulbs being ripened under a more powerful sun.

To those who are not troubled with the Onion grub this paper will be of no interest, but to some of your readers it may prove useful. To those who have not grown Veitch's Giant Autumn Cauliflower, I say, Try it, and you will find it everything that can be desired. It more resembles the Broccoli than the Cauliflower, in the grandeur and colour of the leaves, producing giant heads, close and firm as a board. I have exhibited it at three shows this autumn, and each time have carried off the palm.—A. S. O. H. C.

HYDROCHLORIC ACID NOT A SOLVENT OF SILICA.

Mr. James A. Whitney makes the assertion that hydrochloric acid is a solvent of silica. He states that hydrochloric acid is produced in the soil by the decomposition of salt, and that the acid so formed, "acting on the sand grains, dissolves the silica and insures the greater per-centage of this element, which analysis of the ash has shown to exist in the straw of the grain grown on salted, sandy land." Salt in the presence of iron is decomposed, chloride of iron formed, and the sodium liberated becomes caustic soda, which is a solvent of silica. It is the soda, not the salt, which does the work. Hydrochloric acid has no action on silica, but it has on silicates. The East India cane is not covered with silica, but with a silicate, and the action of hydrochloric acid, like all acids, is on the base.

"There is no acid, except fluoric, which can directly dissolve dry or calcined silica."—(*Ure.*)

"Native silica, whether crystalline or amorphous, is insoluble in all acids, except hydrofluoric."—(*Watt's Chemistry.*)

He states that, when salt is decomposed in the soil, the chlorine combines with hydrogen, forming muristic acid. When water is combined with chlorine in the dark, as under the surface of the soil, it will remain as chlorine and water; but in the presence of strong light, or at a very high heat—red heat—hydrochloric acid is formed. When hydrochloric acid comes in contact with a silicate of iron, the acid is itself decomposed, a chloride of iron is formed and the silica is set free. Hydrochloric acid, potash, and silica are easily made to combine; but pure hydrochloric acid and pure silica never. He states that hydrochloric acid is one of the most powerful solvents of silica known in chemistry. This is a gross mistake. Hydrofluoric acid and the alkali are the great solvents of silica.—Thomas Taylor, *Washington, D.C.*

RENDLE'S PATENT PORTABLE PLANT PROTECTORS.

I have noticed a letter in your publication of the 28th of September, signed "Au revoir," telling how unsuccessful he has been with the plant protectors introduced by me. I have been quite prepared to hear of some failures, because although the protectors are so simple, yet, like everything else, they require management and attention.

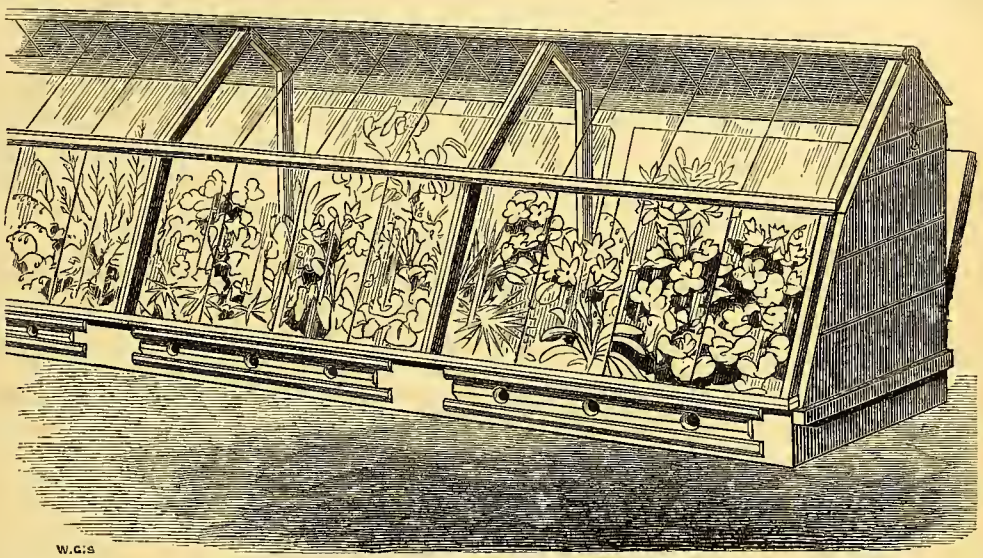
"Au revoir" will, I have no doubt, be surprised to hear that a most excellent gardener who worked them thoroughly all through the last severe winter, obtained three crops of Lettuces and Endive out of them. The first crop was ready by the middle of December, and as the plants were cleared away, they were replaced by others taken from store pans, and so a constant succession was kept up. Your readers will remember that we had a very severe winter, more than 25° of frost. In fact, the protectors have done more than I ever expected them to do. I never dreamt that they would be used for winter culture. I merely intended them in the first instance to protect the plants from the cold and frosty nights of spring. At the time these Endives were being supplied to the table they were worth 9*d.* each in London. Taking the Endive, therefore, at its market value, the protectors were paid for the first season.

I can show a letter from one of our most eminent horticulturists, who is at the head of a ducal establishment, in which he states that he had shown my little glass houses to one of our princes; and I can also show a letter ordering a large quantity of protectors to be sent to His Royal Highness after seeing their value.

In the spring of last year I had the honour of sending to Enville, the residence of the Earl of Stamford and Warrington, more than 500 feet of the protectors. They were used with great success all through the spring of 1870, and they answered so well that on the 28th of May I received a letter from Mr. Edward Bennett, the well-known gardener at Enville, who states that his lordship was so much pleased with the protectors that he wished to have 500 feet more. Mr. Bennett thoroughly worked them all through last winter, and had his Peas three weeks earlier than usual, and on the 23rd of August last he wrote to me, saying—"The more I see and have to do with your protectors the more I am convinced of their utility, and I strongly recommend them to everyone." Mr. D. T. Fish only last week wrote to me and said, that he had the protectors now in full swing for Lettuces, &c., and that they had proved most successful.

I could give dozens of similar examples of complete success.

"Au revoir" says "The protectors are liable to be blown down by the wind." This is from mismanagement and carelessness. The examples exhibited by me at the International Exhibition have been there since the 1st of May, and I do not think a brick has been displaced or a pane of glass broken. In the spring I saw several hundred feet at work at Belvoir Castle, and although they have been at work all through the winter, I did not see a single brick out of place. "Au revoir" refers to his wife; perhaps he has some children also, who have been "playing at houses," and other tricks, whilst he has been hard at work in the city.



W.G.S

Again, "Au revoir" says that the plants are liable to draw. Wrong again; mismanagement again. If the plants draw he does not give sufficient ventilation. He can open the bricks at pleasure, and leave large or small pigeon-holes as he likes. Both complaints are absurd and frivolous; but there are some people in the world who will find fault and grumble if they do not exactly understand what they are about.

I have never despised or found fault with the dear old wooden ground vinery; indeed, in some things I think it is most useful. There is quite room enough for all. My protectors will, I am sure, introduce a new system of gardening, and you will see that some of our foremost men are already finding it out. They are intended for large establishments for protecting our early and valuable vegetables from the cold and frost of winter and spring, and are not, perhaps, so useful in small suburban flower gardens such as that belonging to "Au revoir." If your correspondent wishes to make a choice present to his wife, let me recommend him to have one of the Rev. H. Bréhaut's "lawn conservatories," of which the accompanying is a representation. She will be able to lift it from one part of the garden to the other with ease.—W. Endcumbe Rendle, 3, *Westminster Chambers, S.W.*

THE FIRST CHIPPENHAM FLOWER SHOW.

I have often wondered, during my fifteen-years residence near Chippenham, that the town had no flower show, or, as those "high fallutin" writing gentlemen, the reporters of county papers, prefer to call it—"a floral fête." Trowbridge, by no means an inviting-looking town, with its blue-dyed filthy river, obnoxious to eye and nose, has long had its flourishing show, to which Chippenham people go by hundreds every year. Then, out-of-the-way Malmesbury (all towns are necessarily out of the way that are ten miles from a railway station—a great pity this in regard to Malmesbury, with its beautiful abbey ruins and market cross), yes, even out-of-the-way Malmesbury has also its prosperous show, and on its show-day this year lines of carriages made my village lane gay, almost noisy; while Chippenham, easy of access on all sides, with railways to London, Bath, Salisbury, Devizes, and Calne, with these lines branching out into others, is the very place for a flower show, to say nothing of a cluster of parks all round, where there must be gardens and gardeners. Then the place—"though I say it, who, perhaps, hadn't ought"—is very attractive in appearance, is it not? Let Charles Kingsley answer this question. In his "Madame How and Lady Why," in the chapter entitled "Homeward Bound," he says, "Now we shall run downhill for many a mile, down the back of the oolites, past pretty Chippenham, and Wootton Bassett, towards Swindon spire."

But, in spite of all these advantages, "pretty Chippenham" remained without a flower show, although it sends hosts of young people especially, generally in pairs (curious circumstance that!), to the Bath shows. It is, however, said that once in older days there was a flower show held at Chippenham; at least, when a couple of old inhabitants get together they are given to talk of the show in old Squire Neeld's time. But it was held—oh, the horrors!—in the Town Hall, and the ladies' skirts, although it was long before crinoline days, knocked over the flower-pots and damaged the flowers, and exhibitors said "they'd never send their plants any more." Then the hall was so hot that the stout perspired, and the fat were fagged out, and the thin fainted; and so it came to pass that a flower show at Chippenham became a memory—an unpleasant memory, and nothing more.

Thus it remained until late last June, when, asked by a few residents, the Mayor convened a meeting to establish a Horticultural and Cottage Garden Improvement Society. This meeting was very thinly attended; almost everybody had, it

seemed, something else to do that evening. There was, indeed, the Mayor—a mayor and a half of most mayors, a fine, tall, broad, rosy-cheeked, and kindly-minded west-countryman; but he complained of the fewness of those present, and said he was surprised that no more people came when the object of the meeting was so undeniably excellent. The tidings of the thinness of the meeting spread to a waggish friend of mine, who wrote, "Your flower show does not seem to flourish." But beginnings are seldom to be trusted. Thus, what a small beginning has many a wide rolling river; and what a bad beginning many people have who have a good ending, notably doctors. There are no men who more worthily, more quietly, and more thoroughly respectably discharge their professional duties, and fill their place in the world, than medical men—if anything, too quietly and too unostentatiously, letting those talking lawyers take a place above them. By the way, I am glad to read of another doctor made a baronet, for it is a profession not sufficiently honoured. But to return; how very badly the medical profession begins. Think of that queer, noisy, loudly-dressed genus—medical students. I have known them all my life, and a short time since saw a group inside the court of old Bartholemew's, tossing up their hats and cheering at their sucess at a recent examination. They were just what they always were, for the most part funnily dressed, funny fellows, some fops, some the reverse, all, or nearly all, decidedly queer dogs; and yet these will presently become quiet, orderly, do-their-duty, hard-working medical practitioners. I might notice other beginnings, but enough.

To go on with our Chippenham flower show. That very small beginning, that very sparsely-attended meeting, did a great deal. (N.B.—If you want work done, don't have many to do it; a small committee does most, and you know the proverb, "Many cooks," &c.) It was decided that there should be, come what might, a Chippenham Flower Show and Cottage Garden Improvement Society. Then it was also decided that it should include all the parishes in the Chippenham Union—that is, about thirty parishes. This was a wide decision, for if you want a horticultural society to prosper, and a cottagers' improvement society to do good extensively, let it embrace a district surrounding a town. Then there was a very excellent device hit upon. All the clergymen of the thirty parishes were elected Vice-Presidents; that secured the support, influence, and co-operation in each parish of its incumbent, and—— secured also thirty subscribers. Then this little meeting revealed to us an excellent Hon. Secretary, a stranger almost, but one who knew what to do and did it. Besides the clergy, all other men of position, lords, squires, and professional men were asked to become Vice-Presidents, and the member for the borough to become the President, and so by next meeting a nice £100 or more was subscribed. A good working Committee was appointed, business men being lovers of a garden, and the leading nurserymen. You want in such cases business heads to manage, as well as hearts that warm towards a garden.

I have entered somewhat minutely into details, and shall enter thus into further details, because I can well fancy that some who read this paper will be wishing in their neighbourhood to do next year as we have done, so I want this article to be such as can be referred and be a guide to such persons.

To return. One thing, we all at that little meeting promised to do—try to do all we could in every way to forward the object in view, to procure copies of rules for our guidance, &c. So "Wiltshire Rector" wrote to one of his "old Gooseberries." The Editors of this Journal gave themselves that name, and frequently refer to it, so evidently they like it. Well, one of the "old Gooseberries" answered, "We have first-rate rules for flower shows, and we lend them to ignorant parsons." "W. R." had a great wish to squeeze that "old Gooseberry" very hard for his sauciness, only he could not put out his arm quite a hundred miles; in fact, he wished to play "old Gooseberry" with him. However, some people's deeds are a great deal better than their words. So it was in this case; or, perhaps, it was the other old Gooseberry who caused those excellent rules to be published in the next week's Journal—viz., that for July 20th. This is a great boon, for there are those capital rules to be referred to at any time, and used by all needing their assistance. Armed with these rules I went to the next meeting, where, aided by them, we drew up rules locally suitable, for circumstances and localities differ somewhat. The "old Gooseberries" promised and sent a number of their useful manuals as additions to the cottagers' prizes. Specially did I plead for children's prizes—*e.g.*, for the best nosegay of wild flowers, for British field Ferns, &c.

I pleaded for children's prizes for this reason. There are just a few years in human life when a taste is created, or a bent is given—from about ten to fifteen. Before, children are too young, and then after fifteen life's duties and life's work lay their stern claim upon us all, when a taste can scarcely be given, but may be cultivated at spare hours and give great delight, a pleasure none can prize sufficiently highly. Thus a lad learns in those years to handle a cricket-bat, and gets to understand the game and plays a match or two, and the taste is set. But the boy grows, and that great youth-swallowing London receives him. He yearns at times for the country, specially on bright spring or summer mornings. He longs as a Swiss does for his mountains. He thinks of the downs or hedgerows where he shot rabbits, or it may be swampy places where he brought down a snipe or two. He cannot do as General Oglethorp, Dr. Johnson's friend did, shoot snipes in the Strand, but he can play cricket in Battersea Park. So eager-eyed and glad he rushes off on Saturday afternoons to his cricket match. But for that learning cricket between the ages of ten and fifteen he would have been, as so many are, a listless pipe-sucker, with no healthy hobby to cheer him. So of other tastes. A love of pets allowed in the boy hangs by the man, and he in many a happy hour blesses that taste early given and permitted. But chiefest of all, flowers. The boy or girl who at twelve years of age gets a prize will most likely be a lover and cultivator of flowers during life. So I was very anxious for children's prizes, and also that the children in all schools of the humbler class should be admitted to the show in the afternoon at a penny a-head.

Many committee meetings followed where real work was done. All arrangements having been made, not forgetting the eatables and drinkables (mark well this recommendation—have in addition a tea tent, it always tends to sobriety), then comes the great anxiety about the weather, for upon a fine day all depends. If Jupiter Pluvius (I wish that fellow were drowned and done for), should reign, then comes utter ruin to show and to pocket.

I must further remark that it is of the highest importance to choose a fit place for a show. A peer residing four miles off most kindly offered his park, but that was too far distant from the town. All committees of shows should regard the well-being of the tradesmen of a town, not only that of innkeepers, but of shopkeepers. I have a strong feeling that every class should live and let live. Tradesmen date from the time of Chaucer at least. No co-operative stores for me. I support the regular tradesmen and feel it a duty so to do. Thus, I think, not only should a flower show be held close to a town, but the tradesmen should not be asked to close their shops as early as the show opens, but at least two hours after. John wants a brooch for Mary, so the jeweller will have a turn. Jane will want new gloves, and the girls will before the day, or on the day, want, I know not what, for just let women get into a draper's shop and see how long they will stay! The bill may usually be measured by the length of the husband's or father's face when he looks over it. This last is but a joke, but seriously I say, help the tradesmen.

Fortunately, Chippenham has a park almost in the town; Chippenham lies on one side of the Avon, and Monkton Park on the other, the entrance being from the town. Added to its other advantages is this great one, that the resident always readily permits all meetings conducive to the welfare of the inhabitants of the town to be held in Monkton Park.

All ready, and all waiting for the weather. Monday, September 4th, was a wet day. Barometers were tapped very often in many houses, for Tuesday is to be the day of the Show. The wholly unweather-wise man who has no barometer anticipated rain, having very likely a meagrim about the moon; the half-wise man who has a barometer and does not understand it, going by the words and not the proportionate rise or fall, also prophesied rain; while the wholly weather-wise-man, who both had and understood his barometer, declared it would be fine on the morrow, and it was fine. A heavy, heavy mist hung over us in the early morning of Tuesday, as sleepy eyes saw, and then came a bright, bright forenoon; just a glorious sunshiny-day between two wet ones. The grass green as an emerald with late rain, and on the roads all dust laid thoroughly, and yet no dirt. I drove early into the town and saw that the inhabitants of the ancient borough (its charter dates from King John's day), were determined to do their utmost. Arches were being erected, flags large and small and tiny were drooping, flying, and fluttering according to their size. As usual, too many "Welcomes," and not enough variety. Still the good

people had evidently risen to the occasion. I purposely avoided going near the show until all was ready, so that I might not see any part until I saw all. A show rapidly got up, only thought of late in the season, takes everyone by surprise and unprepared. This, however, is no bad thing for once, as it reveals what is a neighbourhood's natural turn for horticulture when no inducement for cultivation by prizes exists.

Viewed in this light the Chippenham Show was excellent, as the gardeners' and cottagers' long tents showed. Much ingenuity was manifested in the class for floral devices. One of the best represented a lawn gay with beds, the colours well selected, and a miniature fountain playing in the centre. Another represented the borough arms. These things display ingenuity as well as a taste for flowers. Truth to say, it was a pleasant scene. Flowers, fruit, music, sunshine, the grass so vividly green, dappled here and there with shadows thrown on it by the fine Elms, while a silver thread of water glistened in the distance, for the Avon, the Bristol Avon, the very water there seen, soon to rush between the mighty rocks of St. Vincent, and beneath the great suspension bridge, runs along the edge of the park; while the old church tower sent forth its jocund peal of sounds to add to the charm. "But the people! Oh! the people!" how they poured in—and the money too. After six no more visitors were to be admitted, as at eight all was to be over, but they were not to be denied; and where will you find a committee that has the heart to refuse money? There were five thousand people all enjoying themselves rationally and purely. I liked much to see the school children troop in, especially the poor workhouse children—what a treat it was for them! Among the cottage prizetakers were two very noticeable. An old man of eighty got a prize for his Asters; he never exhibited before, nor at his age will probably again, but had, as I well know, kept a gay garden all his life. The other, a bright-eyed little boy, was first for the best nosegay of wild flowers. One going out of the world, the other coming in, yet each happy in his success—I scarce know which was the happier. I might notice other incidents did room permit. Suffice it to say the Show was a success florally and financially.

I noticed where a few improvements might be made, and I hope will be made next year. Thus—4*s*., 3*s*., and 2*s*. as prizes for cottagers, should be 5*s*., 4*s*., and 3*s*. A cottage exhibitor takes much trouble, and loses a day's work in bringing his property for exhibition, and in attending the show, to which, of course, he is admitted free. Now a day's wages are too valuable for him to lose, and he should have a chance of being more than reimbursed. Then, also, the neighbouring gentry should be asked to send in large plants in pots as ornaments to fill up the centre of the large stands. Then, too, some Rose-growers, notably one in Bath, will, if their expenses be paid, send in many stands of Roses, not for competition, but which, being grand specimens, will add much to the beauty of the exhibition.

The Show over, the band playing the crowd out just as daylight faded, I walked through the whole town from end to end. Great was the display of flags, arches, garlands, archways of evergreens, some in front of shops extended across the pavement, festoons, illuminated stars, Prince-of-Wales plumes, and the universal and very-varied-in-form Chinese lanterns. All these "house decorations" extended from end to end of the town, over a mile in length. I walked slowly through the crowd of five thousand people (they waiting for the fireworks to be let off after dark), I kept on the sharp look-out for everything to be approved or disapproved, and having watched all before the Show, in the Show, and afterwards in the town for twelve hours, I give the verdict—"A well-managed horticultural show, such as this was at Chippenham, gives a maximum of pleasure with a minimum of evil."—Wiltshire Rector.

Messrs. Sutton & Sons, of Reading have erected at the Crystal Palace a harvest trophy in the centre transept, affording one of the most complete displays of the produce of the earth ever exhibited. Neither trouble nor expense has been spared to make the collection worthy of the occasion. The trophy consists of two hundred varieties of Grasses, Mangold Wurzel of 20 lbs. each, Swedes of 16 lbs. each, Turnips, and other varieties of agricultural roots. Of Potatoes there are seventy-five varieties, as well as many other horticultural products. Of Apples and Pears Messrs. Sutton have seventy-five dishes of each, in addition to other fruits. The trophy is 50 feet in length, with a tower at each end 25 feet high, the whole surmounted with a magnificent Pampas Grass and sheaves of Wheat, Barley, Oats, &c.

POTATOES.

"K." is quite right about there being more than one kind of Potato sent out as the Early Rose. I imported last year from one of the best seedsmen in New York a few of the Bresee's King of the Earlies, and of the Early Rose. The latter sample was a round light red Potato, a heavy cropper, but fulfilling the description given of them by Mr. Rivers; so also was Bresee's King of the Earlies, though a heavy cropper, and very early. I tasted at a friend's house early last month a long, mealy, well-flavoured Kidney Potato, which he called Early Rose, and of which I saw some roots turned up in the garden, very productive, with fine tubers. Here clearly are two kinds of Early Rose, and there may be more. I should be much obliged if "K." would send me a few—say a score, of his Early Rose and Harrison's, and if he can add a few sets of Mona's Pride he will still further oblige.—Alex. Wallace, *Colchester*.

N.B.—I may add that I saw at the Horticultural Gardens a red Kidney Potato, called the Early Rose.

THE PLANTING-OUT AT THE CRYSTAL PALACE.

I am inclined to think that the Crystal Palace gardens do more to encourage a taste for gardening and a love of flowers among the lower classes than even the London parks, although the latter are so much more accessible. It is true that one can now see in every park in London flower beds laid out in the best of taste, and kept in the most perfect trim, but when all has been done that art can devise, it is clear that it is impossible to counteract the effects of the atmosphere. For a few days after the beds have been planted all look most bright and beautiful, but very soon London air and London smoke make the flowers fade, the bright-foliaged plants grow dirty, and the dark ones dingy, after which it is only a struggle to keep up appearances, and frequenters of the parks, who have no other standard to judge by, see but a faint reflection of the glories of a bright garden in a clear atmosphere. At Norwood, however, there are none of these drawbacks, and the tens of thousands who visit the Crystal Palace every summer and revel in the gardens, are able to see and appreciate what can be done by a combination of the greatest taste and skill, backed up by large resources.

Here, as everywhere else, the beds were planted very late in consequence of the very late, cold, wet season, and July was far advanced before all were filled. It was wonderful, however, to see how very speedily some of the beds put on a gay appearance. It was almost magical. I have always considered it most creditable to the Crystal Palace Company that it expends so much money in keeping the gardens in a high state of perfection. It was, I think, the first place of public amusement that aimed so high and accomplished so much in that way. It struck me, however, that in one most important respect there was a decided falling-off this year, and that is in the condition in which the turf is kept on the upper terrace. It has certainly required more watering and cutting, and in this one respect these gardens are decidedly inferior to the parks, where the grass round the beds is most beautifully kept, and presents a sight most grateful to the eye weary of bricks and mortar.

It would seem to have been the aim of the master mind who planned the planting-out to make as many different combinations as possible. This has its advantages, as it enables those who come to the gardens for hints which shall assist them in their plans for next year, to see not only what to adopt, but also what to avoid. There are in these gardens some of the most agreeable, and certainly some of the most repulsive combinations I ever saw, but the latter are very few in number.

The most successful bed in the whole garden is in one of the sharp corners near the rosery, and is filled with Duchess of Sutherland Geranium, edged with two rows of Iresine Lindeni and two rows of Golden Feverfew. This is a really splendid arrangement. Not far from it there is another really fine bed of Waltham Seedling Geranium edged with Christine. Another most successful bed is made up of Centaurea candidissima edged with Coleus and Golden Feverfew. On the opposite side of the rosery is a very effective bed of Amaranthus melancholicus ruber edged with Centaurea and Lobelia. The effect of the sunshine through the Amaranthus was particularly fine.

In the companion bed, which was intended to match it, the Amaranthus had entirely failed. It is apparently as precarious as it is beautiful.

The sloping bank round the rosery, always one of the great features of these gardens, is very effectively planted with Scarlet Geranium Christine, Golden Gem Geranium, Coleus, and Bijou. The design, which is very pretty, is, I am afraid, beyond my powers of description. The effect is somewhat marred by the Geraniums, which are introduced for their foliage only, being allowed to blossom. There are similar instances of neglect in other parts of the garden. I must not pass over the beds inside the rosery. Two of them, filled with Lucius Geranium, Beetroot, and Golden Feverfew, will bear comparison with any in the gardens. The dark polished leaves of the Beetroot have a splendid effect.

The line of beds running nearly the whole length of the upper terrace present the most startling appearance of any in the grounds. The oblong beds are filled with Waltham Seedling Geranium, Bijou, Coleus, and Golden Feverfew. The round beds are planted with Calceolarias, Christine and Madame Vaucher Geraniums, and Lobelias. I have never seen anything more rich and beautiful than these beds, looking at them from one end. The effect of the Coleus between Bijou Geranium and Golden Feverfew is very grand, but it is marred by Bijou being allowed to blossom.

The chain border, generally such a success, is this year a comparative failure—a result caused in some measure by the rather ragged and neglected condition of the turf, which requires a more liberal use of both watering-pot and mowing-machine. It is planted with Christine and Scarlet Geraniums, Marigold, and Alyssum. The beds are joined with links of Golden Feverfew. This is a very great mistake, for it is the very essence of a chain border that the outer edging should be carried unbroken round the whole design.

There are some very successful beds of Verbenas and Petunias—as good, indeed, as any I have seen, the former being unusually good. One bed of John Wilson, cerise, edged with White Perfection, is very handsome. The Lobelia does not appear to have been at all successful; it has grown but not flowered well. The blossom of Christine seems to have been very short-lived. The Coleus I have never seen richer in colour or more transparent, in spite of the early summer having been so very ungenial. The Geraniums Waltham Seedling, Duchess of Sutherland, and Lucius have made a great show, and are very extensively used in the gardens. The last-named looks best beside a dark-foliaged plant. How we ever got on without the Golden Feverfew I cannot think! It goes so well with everything, especially all dark-foliaged plants, and is so compact in its habit, and so true in its colour.

I have only mentioned a few of the arrangements which seemed to me most worthy of remark. There are many others which are very pretty, and some which could only be mentioned in order that they may be avoided. Of these latter I may point out the only two beds out of the four inside the rosery, which I have not alluded to. Taken altogether the Crystal Palace gardens quite come up to their usual standard, and some of the arrangements cannot, I think, be surpassed. The garden superintendent would confer a benefit on thousands of amateur gardeners if he would place in each bed tallies with the names of the plants. It may not have been the aim of the Crystal Palace Company, but it is none the less the case, that these gardens give their character not only to others in the neighbourhood, but also to many in distant parts of the country. I know one garden nearly two hundred miles from London where year after year the most effective arrangements of the previous year at the Crystal Palace have been adopted. It is very easy to make a mistake if one trusts too implicitly to the gardeners, for their pronunciation of names and their orthography are at times somewhat eccentric, to say the least.—W. H. B.

Crystallised Flowers.—Construct some baskets of fancy form with pliable copper wire, and wrap them with gauze. Into these tie to the bottom Violets, Ferns, Geranium leaves—in fact, any flowers except full-blown Roses—and sink them in a solution of alum of 1 lb. to a gallon of water, after the solution has cooled. The colours will then be preserved in their original beauty, and the crystallised alum will hold faster than when from a hot solution. When you have a light covering of crystals that completely covers the articles, remove the basket carefully, and allow it to drip for twelve hours. These baskets make a beautiful parlour ornament, and for a long time preserve the freshness of the flowers.—(*English Mechanic and World of Science.*)

ROYAL HORTICULTURAL SOCIETY.

October 4th.

On one of the finest of autumnal days was held the combined Fruit Show of the Royal Horticultural Society and the International Exhibition of 1871. The two were from their very nature combined, and the two were also to a very considerable extent intermixed. "It was a heavy day," said the Judges, and it was not till late in the day that they had completed their task. We cannot, therefore, give, as is our wont, a detailed list of the honours that were gained, as we make our report; we must refer for that to another column, for the exigencies of the press required all notes to be completed before even in other, and the most competent quarters, the decision had been arrived at. And who that had seen, as we saw, the long array of fruits from divers parts—who that had seen the multitudinous fruits (and these, too, of the finest quality) sent by Messrs. Baltet, of Troyes, could say that the Judges were slow in their work? They had work to do, they kept at it till late in the day, but they did it, and we only wish we could do ours as well. On all hands it was admitted, and we know it, that this Fruit Show, got up in so little time, has been the most successful ever held since the memorable one of 1862, and to that it would hardly yield, though not so extensive, and, owing to the season, not taking, as regards out-door fruit, such a high position in the size, and perhaps quality of the productions shown.

In Class 1, for the most complete collection of Apples, three fruits of each variety, there were numerous fine collections. Messrs. Lucombe, Pince, & Co., of Exeter, sent upwards of a hundred varieties. Among them were excellent specimens of the Gooseberry Apple, Kerry Pippin, King of the Pippins, Waterford Nonpareil, Hoary Morning, Dutch Mignonne. Harrow Pippin is a clean-looking handsome variety. Mr. Ford, gardener to W. E. Hubbard, Esq., Leonardslee, Horsham, had a collection of 130 sorts, many of them, as usual with his exhibitions, highly coloured, but not nearly so large-sized as his fruit generally is—a circumstance, no doubt, due in his case, as in many others, to the season. Blenheim Pippin, Warner's King, Manks Codlin, Adams' Pearmain, Alexander were a few of the best represented. There were, besides, several seedling varieties. Messrs. Baltet frères, of Troyes, contributed a splendid collection of 150 kinds, including large and fine specimens of Rymer, Mère de Ménage, Reinette du Canada, Calville Saint-Sanveur, President Dufays Dumoncean, Golden Winter Pearmain, Rhode Island Greening, Wadhurst Pippin, Belle Dubois, &c. Of sorts remarkable for the beauty or depth of their colour, we noticed Fenouillet Gris, Archiduc Antoine, Belleflenr, Ramsdell's Sweet, Calville rouge d'hiver, Borsdorffer, Alexander, Apis petit, and Api noir. R. Webb, Esq., Culham House, Reading, had a fine collection of highly-coloured fruit.

Mr. W. Paul contributed a collection of 171 of the best varieties for kitchen and dessert. Of the former there were excellent examples of Tower of Glammis, Lord Derby, Calville Maliogre, Blenheim Pippin, Cellini, Dredge's Fame, Rhode Island Greening; of the latter the beautiful little Lady Apple, Fearns' Pippin, Fairy Pippin, Cornish Gilliflower, one of the ugliest and best of Apples, Margil, and many more.

From Mr. A. Moffat, gardener to H. Allsopp, Esq., Hindlip Hall, Worcester, came a very fine collection of fifty sorts, some grown on bush trees, others on horizontal cordons, and others again on pyramids and standards. From bush trees Lord Suffield, Winter Hawthornden, King of the Pippins, Blenheim Pippin, Bess Pool, Warner's King, and Ribston Pippin were very fine, so were Belle Josephine, Alexander, Dumelow's Seedling, Reinette du Canada, and Beauty of Kent from cordons. Mr. Chaff, gardener to A. Smee, Esq., sent a collection of 155 kinds. Nelson's Codlin, Lord Derby, Pott's Seedling, Lord Suffield, Striped Beefing, and Blenheim Pippin were represented by large and fine specimens, and among dessert kinds King of the Pippins, Ribston Pippin, Cox's Orange Pippin, &c., were very good. Mr. E. Spivey, Hallingbury Place, Bishop's Stortford, sent seventy-five varieties, and Mr. Carmichael, gardener to H.R.H. the Prince of Wales, Sandringham, contributed a fine collection of sixty-two kinds.

Class 2 was for the best collection of Dessert Apples. Mr. W. G. Pragnell, gardener to D. W. Digby, Esq., Castle Gardens, Sherborne, Dorset, sent fifty kinds, Mr. A. Moffat a small but good collection, and Mr. Chaff fifty varieties. In these were very good specimens of Pearson's Plate, Ribston Pippin, King of the Pippins, and Blenheim Pippin. Mr. Ford, Leonardslee, had forty-eight kinds, among which was First-class, a showy high-coloured sort; Wax Apple, a pretty little yellow kind, several seedlings, and good specimens of well-known varieties. Mr. Spivey sent a small collection; R. Webb, Esq., one of fifty; and Mr. Scott, Merriott Nurseries, 290 sorts.

In Class 3, for the best collection of Culinary Apples, Mr. Ford exhibited eighty kinds, of which Beauty of Kent, Blenheim Pippin, and Shepherd's Seedling were very good. Mr. Stephenson, gardener to T. C. Barker, Esq., Leigh Hill, Essex, had fine specimens of Alexander, Cox's Pomona, &c. Mr. Spivey, Mr. Chaff, Mr. Lydiard, Batheaston, Mr. Mitchell, and Mr. W. Thompson, Clements, Ilford, also sent good collections.

In Class 4, for the most complete collection of Pears, Mr. Gardiner, gardener to E. P. Shirley, Esq., Lower Eatington Park, Stratford-on-

Avon, had in his forty very fine fruit of Louise Bonne of Jersey, Beurré Magnifique, Easter Beurré, Gansel's Bergamot, Duchesse d'Angoulême, and Huyshe's Prince Consort, besides many others. From Mr. Carmichael came fifty varieties, including Beurré de Rance, Beurré Clairgeau, Duchesse d'Augoulême, Seckle, Beurré Diel, Knight's Monarch, the beautiful Forelle speckled like a trout, hence another name for it, the Trout Pear. Messrs. Lucombe, Pince, & Co., Exeter, sent sixty kinds, of which the most noticeable for size were Prince Albert, Huyshe's Bergamot, Huyshe's Victoria, Beurré Clairgeau, Délices d'Aremberg, and Beurré Diel. Messrs. Baltet frères, of Troyes, had a collection of upwards of three hundred kinds, and many of the specimens magnificent. Certainly this was the most complete collection we have ever seen. To enter into details would be almost a hopeless task. We can merely signalise a very few, as Duchesse d'Angoulême, British Queen, Beurré Clairgeau, Triomphe de Jodoigne, Lieutenant Poiteven, Colmar Van Mons, Beurré Bachelier, and Beurré Hardy. Mr. Spivey; Mr. Pragnell; R. Webb, Esq, Culham House, Reading; Mr. Wildsmith, gardener to Viscount Eversley, Heckfield; Mr. Stephenson, gardener to T. C. Barker, Esq.; and Mr. Lydiard, Bathealton, also sent collections.

The next Class, 5, was for collections of Dessert Pears. Here Messrs. Baltet, of Troyes, made a grand display, sending very fine specimens of Conseiller de la Cour, Doyenné du Comice, Duchesse d'Angoulême, Beurré Diel, Prince Impérial, Beurré Baltet père, and a multitude of other sorts. Mr. Moffat sent some very fine specimens of Glou Morçeau, Duchesse d'Angoulême, Beurré Hardy, in all forty-eight kinds; and among the other exhibitors were Mr. Stephenson, Mr. Chaff, Mr. W. Thompson, and G. F. Wilson, Esq. The last-named had magnificent fruits from trees which had been grown fifteen years in pots. The Chaumontel, Louise Bonne of Jersey, Triomphe de Jodoigne, Easter Beurré, Marie Louise, and Maréchal de la Cour were the finest specimens from pot culture, indeed from any culture, we have seen.

Class 6 was for Kitchen Pears, and here again Messrs. Baltet took the lead, although several others had good collections.

Of Grapes, such as those shown both for the International and Royal Horticultural Society's prizes, it is difficult to speak too highly. Mr. Meredith exhibited—that is a simple statement; we are accustomed to find Mr. Meredith first, and yet he was not so in this case—that is a good guarantee that the Show was of no mean order. Messrs. Lane, of Great Berkhampstead, sent one of the largest and most beautifully-ripened bunches of Muscat of Alexandria we have ever seen; it only wanted a fortnight longer to have been perfection. In addition to this they had a collection in which were magnificent bunches of Black Hamburgh, Golden Champion, Muscat of Alexandria, Alicante, and Black Muscat of Alexandria. Mr. Meredith sent very fine bunches of Black Hamburgh, Madresfield Court—this compact in bunch and great in berry—Child of Hale, Lady Downe's, Trebbiano, and Alicante, all of first-rate size and quality. In other exhibits we noticed from Mr. Clarke, gardener to J. C. Browne, Esq., Holmbush, Horsham, good specimens of Kempsey Alicante; from Mr. Bannerman, gardener to Lord Bagot, Blithefield, a splendid 6-lb. bunch of Gros Guillaume; from the same exhibitor Lady Downe's and Alicante; from Mr. Clarke, Lady Downe's; from Mr. Morris, gardener to H. T. Salmon, Esq., Gayton House, Northampton, splendid bunches of Mrs. Pince, rubbed in carriage; Black Hamburgh, and Black Prince.

Mr. Meredith, of Garston, sent a very good collection of White Grapes; Mr. Morris, another; and the latter and Mr. Meredith had fine single bunches of Trebbiano, by far surpassed by Messrs. Lane's splendid bunch of Muscat of Alexandria. Messrs. Lane had also a magnificent collection, including Black Hamburgh and Golden Champion, with grand berries. In their collection of Black Grapes Gros Guillaume, the Muscats, and Trebbiano were also exceedingly fine. From the Chiswick Gardens of the Royal Horticultural Society came a collection in which were some truly remarkable bunches of Gros Guillaume, Madresfield Court, Black Monukka, which is a seedless Grape, and others.

Messrs. Rivers & Son, Sawbridgeworth, sent a very large and interesting collection of Apples not for competition, likewise Messrs. Lee, of Hammersmith, Mr. Cadger, of Luton Hoo, and Messrs. Paul.

Mr. Miles, gardener to Lord Carrington, Wycombe Abbey, exhibited a fine Smooth-leaved Cayenne Pine Apple of 9¾ lbs. from a plant nineteen months old, also two Queens, one of 4½, another of 4¼ lbs., from plants thirteen months old. Mr. Barnett, gardener to W. Terry, Esq., Peterborough House, Fulham, sent three fine Queens, weighing respectively 4 lbs. 6 ozs., 4 lbs. 11 ozs., and 5 lbs.; while Mr. Jones, gardener to Earl Vane, Wynyard Park, Stockton, had a splendid Queen, but over-ripe, of 5 lbs. 13 ozs. Mr. Tillery, gardener to the Duke of Portland, Welbeck Abbey, brought a collection of fruits, consisting of Peaches, Plums, Melons, &c.; Mr. Pragnell also had an excellent collection. Mr. Moffat exhibited three fine specimens of Golden Gem Melon, large and most tempting in appearance. Mr. Spivey also sent a collection. Some very fine fruit of Lord Palmerston and Walburton Admirable Peaches came from Mr. J. Saltford, Islington Gardens, Ruddington; from Mr. Golbourne, gardener to J. Blyth, Esq., Woolhampton, twelve very fine Salway Peaches; and from Mr. Turner, of Slough, Belle de Fontenay Raspberry, the fruit very large and fine, and freely produced, which this variety has not the reputation of doing.

Messrs. Carter & Co. offered prizes for collections of six varieties of American Potatoes. Mr. Frisby, gardener to H. Chaplin, Esq., Blankney Hall, Slenford, was first with King of the Earlies, Climax, Bresee's Prolific, Peach Blow, Early Rose, and Early Goodrich, Second came Mr. Garland, of Killerton, with Climax, King of Earlies, Early Rose, Early Goodrich, Bresee's Prolific, and Bresee's Peerless. All these were large, but had an air of coarseness. Mr. D. Lumsden, gardener to the Right Hon. R. C. Nisbet Hamilton, Bloxholm Hall, also exhibited large tubers of several of these varieties. Messrs. Lee, of Hammersmith, sent a very good collection. Messrs. Criscuolo, Kay, & Co., 57, Gracechurch Street, had fine specimens of Tripoli Onions.

Messrs. Wheeler, of Gloucester, sent splendid fruit of Brockworth Park Pear, which is large in size and excellent in flavour. Mr. Glover, Epping, had very good samples of Williams's Bon Chrêtien Pears, and excellent Apples.

Of Edible and Poisonous Fungi, which were one of the leading features of the Show, Messrs. Hoyle & Austin, Mr. English, of Epping, and Worthington G. Smith, Esq., sent collections. To these we may probably revert hereafter.

Fruit Committee.—George F. Wilson, Esq., in the chair. Mr. Turner, Royal Nurseries, Slough, sent examples of a Cucumber named Wizard, a handsome variety with a few black spines. Mr. Hepper, gardener, The Elms, Acton, sent very fine examples of Hepper's Giant Tomato. Mr. Wildsmith, gardener to Viscount Eversley, Heckfield Park, Winchfield, Hants, sent some very fine examples of Veitch's Autumn Giant Cauliflower. Mr. Evershed, Minsted Gardens, Godalming, sent a good collection of vegetables, consisting of Cauliflowers, Peas, Vegetable Marrows, &c. Mr. Gardiner, Eatington Park, Stratford-on-Avon, sent a collection of twenty-five varieties of Potatoes. Messrs. Carter & Co., High Holborn, sent a fine lot of Onions. The Committee considered the Naseby Mammoth and Nuneham Park to be very closely allied, and both to be good selections of the White Spanish; and the new White Intermediate and the Bedfordshire Champion to be identical, and much resembling the old Globe. Mr. Bland, gardener to Earl Kilmorey, Gordon House, Isleworth, sent a fine basket of Mushrooms. Messrs. Veitch & Sons sent a large and interesting collection of Beets, with examples baked and boiled, and growing—viz., Nutting's Dwarf Red, Dewar's Dwarf Red, Whyte's Black, Cattell's Crimson, Dell's Crimson, Pine Apple, Egyptian Turnip-rooted, also the Improved Silver or Sea-kale, and the Red Brazilian for decorative purposes. Messrs. Veitch also sent some very fine Endives—viz., Fraser's Improved Broadleaf, White Batavian, Digswell Prize, White Curled very fine, Green Curled, and Moss Curled. Mr. W. Taylor, 9, Southbrook Road, Lee, Kent, sent examples, accompanied with a long communication, of Chenopodium Quinox, which is good used as a Spinach.

Mr. Wells, Southend, sent some examples of Grapes grown in Wells's ground vinery. The varieties were Golden Champion, Black Hamburgh, Muscat of Alexandria, Muscat Hamburgh. They were not so good as in former years. Mr. Wildsmith, gardener to Lord Eversley, sent a large bunch of Black Hamburgh Grapes grown on an old Vine transplanted last season. Mr. Bannerman, gardener to Lord Bagot, Blithefield, Rugeley, sent a Grape stated to be a seedling, but which was considered to be the Mill Hill Hamburgh. Mr. Parsons, Ranelagh Nursery, Leamington, sent examples of the Ahercairney Grape, which is the true Alicante. Messrs. Lucombe, Pince, & Co., sent examples of a white seedling Grape, having large bunches and fair-sized oval berries with a nice sweet flavour. Mr. A. Ingram, Alnwick Castle Gardens, sent examples of a seedling Grape bearing strong resemblance to Mrs. Pince's Black Muscat, but which the Committee considered superior to that variety in flavour. Mr. Gardiner, gardener to Lady C. B. Percy, Guy's Cliffe, Warwick, sent examples of a seedling Grape which produces the bunches sometimes white, sometimes black, and sometimes variegated. It was considered the same as the Aleppo or Variegated Chasselas. Mr. Pearson, nurseryman, Chilwell, Nottingham, sent several seedling Grapes of great promise. One named Abram Bass, a large oval black berry like Alicante, with a strong Muscat flavour, was considered highly promising. Several others in the style of the Alicante were good. From the Society's Garden, Chiswick, came examples of Madresfield Court Black Muscat and Frankenthal grown in a cold house. The Madresfield Court was fine in appearance and superior in every respect to the Frankenthal, thus stamping its value and its capabilities for cultivation in cold houses.

Mr. G. Carnford, gardener to H. D. Streatfield, Esq., Cheddington, Edenbridge, Kent, sent some examples of Late Admirable Peaches. Mr. Poulton, gardener to C. S. Dickins, Esq., Coolhurst Park, Horsham, sent some fine examples of Walburton Admirable Peaches. Mr. J. Groom, gardener to Earl Stradbroke, Henham Hall, Wangford, Suffolk, sent some good Walburton and Late Admirable Peaches. Mr. W. Cox, the Gardens, Madresfield Court, Great Malvern, sent some fine examples of Rivers's Victoria Nectarine, a very fine variety, to which a special certificate was awarded.

Mr. Carr, gardener to P. L. Hinds, Esq., Byfleet, Surrey, sent very large and fine examples of the Avocado Pear, or Persea gratissima. Mr. W. Paul, Waltham Cross, sent a Pear named Souvenir du Congrés, which was approved of by the Committee, but had past its best. G. F. Wilson, Esq., Heatherbank, Weybridge Heath, sent well-grown examples of Doyenné du Comice Pears.

Mr. Davie, Bridge Street, Peterborough, sent a very fine Apple, named Lord Huntley. Bass, Esq., Moat Bank, Burton-on-Trent, sent White Calville and Cox's Orange Pippin Apples, the latter being large and good specimens. Mr. Sage, Ashridge Court, Berkhampstead, sent a dish of Apples which proved to be the Early Julien. Mr. F. Dancer, Little Sutton, Chiswick, sent dishes of Belle de Septembre and Sandall's Plum, both very valuable late varieties for cooking purposes.

Mr. Beach, gardener to the Marquis of Northampton, sent some specimens of a species of Fungus, to which a special certificate was awarded.

Floral Committee.—W. Marshall, Esq., in the chair. The subjects for examination on this occasion were very few. Mr. Williams, of Holloway, had a first-class certificate for Macrozamia spiralis, an extremely graceful Palm. A first-class certificate was also awarded to Mr. Bull, of Chelsea, for Desmodium pendnliflorum, with drooping rose-purple flowers, a pretty climber. Urania amazonica, a plant with Banana-like foliage, also came from the same exhibitor. Mr. Green, gardener to W. Wilson Saunders, Esq., had a special certificate for a collection of Neottias and other terrestrial Orchids. Mr. Green had also a fine specimen of Miltonia Morelliana. Mr. Croucher, gardener to J. T. Peacock, Esq., Sudbury House, Hammersmith, sent Agave Gibsii, a striking kind. From Mr. Turner, Slough, came several of the Dahlias which he has before exhibited. Mr. Russell, Mayfield, Falkirk, had also a special certificate for a fine spike of Vanda cærnlea. Messrs. Veitch likewise had a special certificate for a collection chiefly consisting of fine specimen Orchids. Mr. Bull, Mr. Standish, and Messrs. E. G. Henderson contributed miscellaneous collections, the last-named showing a fine group of the Guernsey Lily.

CELERY CULTURE.

The dryness of the weather, notwithstanding a falling barometer, induced us to give before the late rains a soaking of sewage to the bed which we shall earth-up next, followed with a watering overhead with clear water from the rose of a pot. Since we last alluded to the subject, contrary to the orders of our conductors, but somewhat excusable under the circumstances, a number of inquiries have been privately made as to the economy of the Incomparable White Celery, and what might be the average girth and height of our plants. Well, with the exception of the necessity of bringing the plants a little forward, as putting out small plants late seems to be the chief cause why so many cannot get on with this kind, there can, as respects the ground occupied and the small earthing-up required, be no question as to the economy involved. Further than the wish that those with little ground to spare should obtain the greatest quantity and of good quality from little space, we have no object whatever in recommending this dwarf Celery, or any dwarf Celery, as the Sandringham or other sorts, only we have found out that a good many variously named Celeries turn out vastly alike when treated alike. Now, at the risk of being a little egotistical, which we would rather avoid at all times, we may mention that this Celery bed, watered as described, will be our third in rotation, and that as yet it is not so strong, because not quite so early planted, as the second bed earthed-up and now being used. These beds were 4 feet wide, with 4-feet ridges between. These ridges bore heavy crops of Peas in the centre, with Radishes, Spinach, and Lettuces along the sides. The beds each held three rows of the dwarf Celery, the rows a foot apart from centre to centre. Along the row the plants were about 9 inches from centre to centre—that is to say, the plants in the bed when planted would stand 12 by 9 inches, or a little closer in general. The plants in this bed had been all cleaned and tied some time ago, the tying done loosely; but now it is so firm that the heart is blanching, and putting your hand firmly round the head below the leaves, you cannot squeeze it more closely together. Round that firm head, below the leaves, a tape line drawn tightly averaged 14 inches in circumference, some plants more, some less. The height from the ground to the extremities of the leaves averaged about 16 or 17 inches. Now, such a circumference is nothing to the huge Celery we have grown; but from every one of these compact little plants it is most likely we shall be able to send a nice head fit to appear at any table, and from 12 to 15 inches in length, though we think a foot is generally as long as goes there after receiving its various trimmings. We have fair red Celery in beds close by, as we must study and provide for all tastes; but that red Celery, averaging double the height of this Incomparable White, would not measure so much in circumference as this dwarf white.

One more remark. Let those who delight in huge heads of Celery have them by all means; but we know there are many more concerned about the bulk of a first-rate material, that can be sent in for the table from a small space, than having a few wonderfully large heads. In many a farmer's garden we have seen more room taken up with a single row of inferior Celery, than would have sufficed for a bed of three or four rows of a first-rate dwarf sort.—R. F.

PRESTON HALL, NEAR MAIDSTONE.

The traveller by the North Kent Railway from London to Maidstone may notice, three or four miles before he reaches the latter town, an edifice on the left-hand side of the line. The glimpses thus obtained will enable him to perceive that it is a mansion of the highest class. It is Preston Hall, the seat of H. A. Brassey, Esq., M.P., and is beautifully placed in a park of considerable dimensions, well diversified by noble timber trees and an undulating surface. Finer specimens of many of our native trees it would be difficult to find; as examples, two Sweet Chestnuts near the mansion have each a circumference of 21 feet at about 5 feet from the ground, and their tops indicate the most luxuriant health. A group of Elms was pointed out to me as being still larger. Other species are equally well represented, and the position they occupy showed that good taste prevailed even in a long-bygone age. There were groups here and there on an elevated knoll, then again concealing the boundary or some other object not required to be seen, while the distant scenery was let in by ample glades judiciously left open, the view from the mansion being rich and varied. The view from the north front commands the greatest extent of park, and is especially well diversified. Adjoining the mansion is the terrace garden with its fountain and sculptured figures, as well as embroidered beds, the whole separated from the park by an ornamental stone balustrading. The ground here descends gently from the mansion to the lower part of the park, while at the bottom, at the distance of nearly a mile, runs the river Medway. The ground rising on the opposite side terminates in that ridge of chalk so often called "the Backbone of Kent." Seen from the same spot is the parish church of Aylesford, for its plain square tower peeps through between the trees, together with some parts of the village, the quaint and antique gables of many of the dwellings giving evidence of their origin at a period when there was no lack of timber. A little to the north of the village runs "the Pilgrims' Road," along which devotees to the cathedral city of Canterbury pursued their journeyings. More remarkable still, and I believe also within the same parish, is "Kits Coty House," a monument of an antiquity of great but unfixed date. Some antiquaries believe it was erected to denote the spot where Catigern, a British prince, fell in battle with the first inroad of Saxon invaders.

Turning to Preston Hall and entering the dressed grounds, one of the first objects we meet with is "the old garden," as it is called, for it must be observed the present mansion, erected some twenty-five years ago, is some little distance from where an old one stood, the latter being entirely removed, its walled garden alone being retained. Against one of the principal walls of this glass cases have been erected, not temporary, flimsy, but substantial things, which, I have every reason to believe, were more costly than a range of lean-to houses 15 feet wide would have been. Peach and other trees were bearing excellent crops in these glass cases, which are about 6 or 7 feet wide, the front lights being as high as the wall and all moveable; the top also is of glass and span-roofed, the whole presenting as much glass as is generally met with in lean-to houses 20 feet wide. A few Plum and Cherry trees are planted against the front glass, and in some of the cases there was a shelf for Strawberries—the whole in excellent condition, and at the time of my visit (the end of May) full of fruit, the latest batch of Strawberries, British Queen, being then in, and finer fruit could not well be, notwithstanding the long period of dull cold weather previous to that time.

The other portions of the garden were under crops of the usual kind, a border of fine Lily of the Valley being not the least interesting of its contents; but as there is a new kitchen garden and an extensive breadth of fruit plantation as well to look over, we will first take a peep into the latter, and a door from the old garden at once introduces us into what in Kent is called "a fruit plantation," but is often elsewhere named an orchard. In many respects it resembles hundreds of others in the neighbourhood, so I will add a few details of its character and management. First, then, I may say the site to the west of the mansion (having both the old and new kitchen garden

between it and the pleasure ground), slopes gently to the north, the soil slightly inclined to be gravelly, and in very dry seasons the adjoining husbandry crops suffer much from the lack of water. I believe, however, the subsoil was well broken up when it was planted upwards of twenty years since, but it is deficient of shelter on the west side, a wall of only moderate height on that side separating it from the high road; and I believe that now and then the high south-westers occasionally do here serious damage to the fruit. The trees in general are very healthy. This orchard is about five acres in extent, and the greater portion of it is planted with Apple, Plum, and Pear trees, 6-feet standards with heads which have been trained, or rather helped, to assume the ordiuary rounded form such trees usually take when unassisted; no serious cuttings, I believe, at any time having taken place. These trees are about 24 feet apart each way, and underneath them are either Filbert and Cob-nut trees, or Gooseberries and Currants, the latter 6 feet apart, and the Nuts double that distance.

The cultivation, under the care of Mr. Bradley, differs considerably from that adopted in most fruit plantations of a like kind. Excepting the hoe no other tool is used, and that but sparingly; for, as Mr. Fish has somewhere written a notice on a Vine border, "Sacred to the roots of the Grape Vine," so Mr. Bradley makes the whole of the ground occupied by his fruit trees sacred to their use, not infringing on their domain with the spade, fork, or other implement further than is necessary to destroy such weeds as find their way there. He is, nevertheless, alive to their wants in other matters, and gives them all kinds of aids in the way of manure. In fact, he makes this orchard a receptacle for all kinds of refuse that will decay within a period of two years; this is his rule, and it will be seen it includes a vast multitude of objects—whole barrow-loads of rubbish from the kitchen garden, short grass and other matters from the pleasure ground, and even the cuttings and trimmings of shrubs and other things, avoiding all thick and unruly branches that might be in the way. Now and then many pieces as thick as one's thumb, I see, find their way in amongst them, but in a cut-up condition, while occasionally as a treat a little rough dung is given to some tree overloaded with fruit, or which from some other cause is looking badly, and Mr. Bradley says it is wonderful the good it does.

Some will say the miscellaneous character of the covering on the ground may look badly, but such is not the case. The atmosphere quickly blanches all into one hue, and the appearance is on the whole as agreeable as if the ground were naked, while the condition of the trees proves that they relished the food thus provided for them. I believe other fruit-growers are falling into Mr. Bradley's views on the matter. I mentioned relative to some orchards at Brenchley in this county that Mr. Mainwairing, a gentleman there, who cultivates a great many acres of fruit for market purposes, pointed out one acre that he had only manured with cut-up Hop bines for several years, and it was looking well; and the example at Preston Hall in a season like this, when fruit crops are far from abundant, shows that the treatment their roots receive promotes their welfare. At the same time it is not saying too much to affirm that, if a more liberal allowance of manure could be given, the result would be still greater fruitfulness. Mr. Bradley has been obliged to limit the application of animal manure to weakly specimens.

I will now glance at the mode of pruning adopted here, which in the main differs not much from that usually followed in the orchards of the neighbourhood. The Apple, Pear, and Plum trees require but little knife work at the present stage of their growth beyond now and then shortening-in an unruly branch or shoot. The trees being mostly twenty years old, and being fruitful, are not prone to make more wood than is wanted to gradually increase their size, nevertheless they are all looked over every year, and the branches thinned, where required, in winter; but it is in the management of the Filbert and Cob-nut trees that Mr. Bradley's practice differs from that generally adopted in the neighbourhood.

He adopts the summer-pruning system, and follows it out throughout the season, commencing to pinch off the tips of every shoot early in summer as soon as it can be ascertained which are bearing fruit and which not. The latter have their tips nipped off with the finger and thumb, leaving from 6 inches to a foot to be cut off in winter. But this nipping-in process has to be several times repeated during the season, especially as regards the central shoots, which under ordinary circumstances run up into long tapering rods of from 4 to 6 feet or more in length, but are confined to the condition of a somewhat lengthened spur. Mr. Bradley also disapproves of the custom of laying bare the collar of the plant every autumn by scraping the soil from it in a basin form, as he thinks it encourages rather than prevents the formation of suckers.

The severe pruning the Cob and Filbert will endure is certainly greater than that inflicted on any other kind of fruit-bearing tree, unless it be the Grape Vine and Currant, but even these are not subjected to such incessant severe pinching as Mr. Bradley gives to his Filberts; yet the result in fruit-bearing is all that could be wished for, Mr. Bradley rarely failing to have a good crop, and this season he has one unusually good.

Before passing from the fruit-culture I must note that some trees of Ribston Pippin seemed as healthy-looking as those of the other varieties of Apple. Mr. Bradley explained this by saying that only a few years ago that kind was grafted upon a robust grower of less note. I forget which it was, but the result proves that, for a time at least, the tendency which the Ribston has to fall into an unhealthy state has been arrested.

I now come to the kitchen garden proper. The new garden was made at the time the mansion was built, and notwithstanding many good properties, it is on the whole the least important part in point of size, of this domain; indeed, the space available for vegetables is very small. In shape it is a parallelogram, with its longest sides running east and west, a fine range of lean-to houses occupies the whole of the north wall; while the south one, separated from the pleasure grounds by a neat Yew hedge enclosing the usual slip, is covered with glass walls also, but in this instance forming a similar glass case to that described in the old garden—viz., an upright glass front as high as the wall, with a span-roofed top, Peach and other trees being trained against the wall, while Cherries, Plums, and now and then Vines, are trained thinly against the front glass. A row of hot-water pipes also runs along this structure, sufficient to protect its contents from frost in winter and spring, the whole having a showy appearance; but I question much whether the same length of lean-to houses would not have been cheaper, and much more useful, the glass cases alluded to being not more than 6 or 7 feet wide, and requiring as much glass in their construction as would do for houses of nearly three times their width. The houses, however, occupying the north wall are all of ample width, and are mostly Grape and Peach houses; one of the latter, just ripening its fruit in the latter part of June, was all that could be wished for in regard to health and abundance of fruit. Another coming on was equally promising; while in the other vineries there were excellent Muscat Grapes, faultless in regard to setting, and although not ripe when I saw them, their healthy appearance indicated they would finish off their crop without that stumblingblock in the way of Grape-growing—shanking.

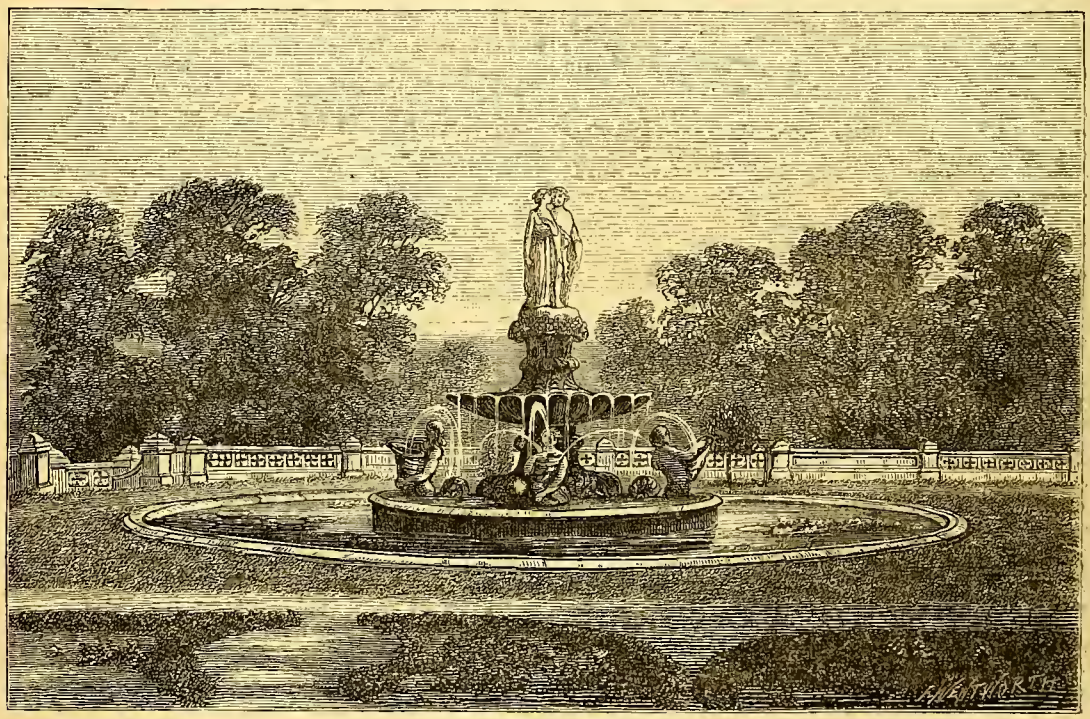
Mr. Bradley also pointed out one or two Vines of Golden Champion that looked remarkably well, but he had his doubts about the bunches finishing so, as he says they are so liable to cracking, and consequently decaying, in ripening. The Vine seemed to bear well, and the bunch and size of berry were remarkably good.

Most of the Vines were pruned on the spur-system, they were not at all crowded, and the house being 18 or 20 feet wide, afforded ample space for a good length of rod. The Black Hamburghs that were ripening off were remarkably fine, and the late kinds were also in a promising condition; that esteemed kind prevailing amongst the latter as well. These houses occupied the whole of the back wall, excepting a small space at each corner, and as each vinery was furnished with a large bed in the centre for such plants as now and then are necessarily placed there, as Capsicums, flowering plants, &c., the whole had a well-furnished appearance. A central opening into this fine range from the south is made available for introducing some Tea and Banksian Roses into the unheated porch forming the division which, I was told, were of great service in early spring.

This range did not constitute the only glass structure, for at the back of the wall against which the houses were placed, there were two houses having a north aspect, which were of great service in summer in retaining plants in bloom, when a more sunny exposure would have hastened them on. Fine specimen Azaleas and Cape Heaths were here; the former kept remarkably late, while the easy access to them and their convenient arrangement made them an agreeable appendage to the range. These north aspects, however, I ought to observe, maintain the same line as that of the sheds and other back buildings which occupy the north side of the wall; but the

space in front of these sheds is not by any means to be regarded as background and rubbish corners, for there are other glass structures equally attractive to company, consisting of lines of glazed pits heated and unheated, and a forcing pit in which Cucumbers are to be had almost every day in the year. This pit is span-roofed, and partly sunk in the ground—the entrance at one end—and consists of four compartments, both Melons and Cucumbers being grown. The pathway is down the centre, and there is a raised bed on each side suitably heated with hot water, and affording a good place for the plants, for it was about 3 feet or more wide. Other pipes by the sides of the pathway gave the necessary top heat, and excellent crops were the result. Both Melons and Cucumbers were trained against the glass, with the fruit hanging down, that of the former being supported in the usual way by small pieces of netting, and both exhibiting the most robust health. Behind this pit were two large span-roofed plant houses with glass all round; one of them was appropriated as a plant stove, the other as an intermediate house. The former was fitted with a tank and ample heating apparatus, and contained excellent specimens of the most popular plants usually met with in such places, some for flowering, others for their foliage. One plant which particularly attracted my attention might be said to combine the useful as well, for it had a very fine bunch or cluster of the fruit of Musa Cavendishii; the plant occupied a corner of the pit, and was by no means remarkable for size; on the contrary, I have seen many much larger, but the fruit-bunch was certainly a fine one for such a plant. The length of stalk having fruit upon it was 20 inches, the diameter of the cluster 18 inches, the length of the largest individual fruit 8 inches, the girth 6 inches, and the total number 162. When gathered in mid-June forty of them weighed 16 lbs. 5 ozs., or a trifle over 6½ ozs. each, and a few days afterwards fourteen more fruits were cut averaging over 6½ ozs. each; so that it is fair to expect the cluster altogether would exceed 60 lbs.

The fruit-room here is not the mere lean-to shed met with in many places, but a structure erected for the purpose, and, with the exception of one at Knowsley, about the best I ever met with. I forget the construction of the roof, but the house is placed under the shade of some large trees, and is partly sunk in the ground, two or three steps leading down to the door at one end, and as the ground is very dry this is not attended with any inconvenience. It is a span-roofed building, is ceiled part of the way up the rafter, there are ventilators in the centre, and windows at the north side and at each end, the door being at the west end. Tiers of shelves run along each side, and one tier in the centre, with ample pathways, and a fixed table at one end for displaying special fruits. Mr. Bradley would, I believe, like to have more ventilation in the room. He says the openings at top are hardly sufficient to carry off



Terrace Garden and Fountain.

all the vapour given off by such a mass of fruit when it is first put in, and no doubt he is right.

Retracing our steps to the north front of the mansion we have immediately beneath us the terrace flower garden as designed by Mr. Nesfield, with its ample fountains, displaying considerable artistic talent, and surrounded by a series of scroll beds of good size, and mostly edged with Box and gravel walks, to which access is gained by a flight of steps down the correctly-formed slopes and landings from the terrace. An open balustrading on the retaining wall separates this symmetrical garden from the park, and the same kind of fence returns round the east side also, where there is also another set of flower beds on the lower level of a different design; but I venture to think the space enclosed here, in proximity to the mansion, seems much too small and confined, while to the south or carriage front there is ample space.

The conservatory at the east side of the mansion is a polygon, not very large, and united to it by a corridor from the drawing-room. In the centre of this conservatory there is usually a group of large ornamental plants on a permanent bed, while a few also stand around, leaving ample pathway, edged with stone kerbing.

The broad terrace on the north side of the mansion extends westward in a direct line for some distance, after first descending a few steps to a lower level, terminated at its western extremity by a summer-house of artistic design. This fine walk is 14 feet wide, and at regular intervals standard Roses of uniform height and size are introduced on the broad turf margins, as are likewise Irish Yews carefully trained to one stem each, and a few flower beds.

The entrance to the garden is through ornamental iron gates partially gilded, while statuary adorns the sides of the wide steps leading to it, and it is here the fine Yew hedges enclosing the slip also terminate, a neat arch through the hedge giving access to the slip. Continuing my walk westward along this fine terrace path I found that it communicates with other walks of a subordinate character right and left. One to the right, a little beyond the western end of the kitchen garden, and at right angles to the main walk, is covered with an archwork of trailing Roses, Honeysuckles, Clematises, &c., but mostly

Roses, and, being of good length, forms an admirable retreat in hot weather.

The pleasure ground to the south side of this terrace walk rises gently, and is diversified by specimen Conifers and other trees, amongst which are very fine Taxodium sempervirens; also masses of shrubs. Walks of convenient width give access to it in suitable places, the area being large, and eventually the dressed ground merges into a wood at its south-western side, through which walks also ramify; but just at the extremity of the dressed ground in this direction, and where it is well enclosed with large trees, a fernery is formed. Amongst the other things which give it interest, the judicious laying-on of water is not omitted, and a grotto, on which the water trickles down, is supported by marble columns carved with Moorish characters, brought home by Mr. Betts from the north of Africa.

Following the walks leading through the wood from this spot I found in suitable places Rhododendrons and other shrubs had been extensively planted, with large patches of a much-neglected plant, St. John's Wort, and suddenly I reached an imposing building concealed amongst the green verdure, the racquet court, and then the entrance-lodge, having made a somewhat more than semicircular sweep to the south side of the mansion. Here is obtained one of the best views of the mansion. It is built of Kentish ragstone, with Bath stone dressings, and architecturally is highly enriched. The carriage road approaches it in a straight line and at right angles, and is broad and margined by a very spacious width of turf on each side, backed by rows of Cedrus Deodara, destined, I hope, to make a fine avenue, for already in size and healthiness they are equal to any of their age (twenty years I believe), and there are two rows on each side, the inner lines at least 100 if not 120 feet apart.

Arriving at the end of this drive, which terminates on a gentle eminence, I perceived that two more such straight lines also enter there at different angles. One of them I was told was nearly three miles long. The other, about three-fourths of a mile, pointed to an eminence having a conspicuous summer-house, and other attractions about it. This drive lay mostly through a piece of coppice of Chestnut and Oak, but ornamental Conifers had been planted at intervals along the line to give it a clothed appearance in winter, and Rhododendrons were more extensively planted in front, while the ground, descending first, afterwards rose more rapidly, giving the terminus an elevated appearance. The soil is different soil from that which I had been traversing, being in fact a dark-coloured sand. On this elevation, or mount, a commodious two-storied summer-house has been erected, with a thatched roof overhanging a gallery, from which a most charming view of the surrounding country is obtained.

Young Rhododendron plants are coming up in thousands from self-sown seeds, and some years ago I remember seeing some patches as thick as ever Groundsel is when in condition. Some Larch trees, planted many years since, were in a less satisfactory state, showing that the Scotch Fir is the most suitable for this site, but Ghent Azaleas could not have been better, neither could Kalmias, but Andromeda floribunda and others seemed not quite so robust, although good. All other plants of a similar kind are here well exemplified, excepting Heaths, which the presence of rabbits renders difficult to keep; but the sight of the gorgeous masses of bloom presented by the Rhododendron and Azalea can have but few parallels, and although I have described the space they occupy round here as pleasure ground, it is not so in the usual sense in which that phrase is used, for with the exception of the grass being mown on the paths intersecting it a few times a year, and the Thistles and Nettles removed, all other herbage is allowed to find a home, and after the blaze of bloom presented by the American plants is over, one scarcely less effective is offered by the Foxglove occupying every spare corner, and pushing its way up through the evergreens as well, while its lower extremities are hid from view by the less pretentious Brake, which, if unable to vie with it in colour, is immensely its superior in gracefulness, and continues its services to the end of the season.

By a shorter route I gained the highway, and with a hearty shake of the hand with my worthy friend, Mr. Bradley, of whose kindness I have had many proofs, and of whose abilities this fine place exhibits so many examples, I departed. My description falls short of the beauties of Preston Hall, therefore I say to others who have the opportunity, Go and see.—J. Robson.

Preston Hall.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Strict attention to the order and general propriety of the garden at this season will have its obvious advantages. *Cabbage* planting can be proceeded with. *Celery* will still want earthing-up as it advances, and *Endive* must be tied up to blanch. There should be two separate receptacle for garden

rubbish attached to every kitchen garden—I allude to this matter because the accumulation of weeds and decayed vegetable matter is considerable at this season—one to receive the matter convertible by gradual decomposition into manure, the other to contain every substance that can conveniently be burnt. A good reserve of burnt earth and wood ashes should belong to every garden; the latter may be very advantageously substituted for manure of a stronger character in rich soils which it is desirable to relieve. Vegetable gourmands pretend to discriminate between the Broccolis and Cabbages grown on poor soil and those cultivated in highly manured gardens around London. It is highly probable that the flavour of the Cabbage tribe may be heightened and not improved by rank soil, and no doubt manure is sometimes excessively and injudiciously employed in the cultivation of vegetables, as in most cases it is not the mere production of the object, but its attainment with every interest and peculiar advantage that is coveted; therefore, the judgment should be exercised in every case that involves a distribution of manure, and another attempt made towards a most desirable improvement in vegetable culture. Thin out young crops of *Spinach*, *Turnips*, &c., before they become weakly and drawn through standing too closely together. Stir the surface of the soil deeply among growing crops to admit air to the roots, and to keep down weeds. Let spare ground be manured and dug or trenched for another crop whenever time can be spared for that kind of work.

FRUIT GARDEN.

Look daily to the housing of tender kinds of Pears, gathering a few at a time, and preserving carefully names and dates. Let preparations be made for planting fruit trees at an early opportunity, avoiding deep and highly-manured borders, draining thoroughly for stagnant water, and planting high in proportion to the humidity of the situation.

FLOWER GARDEN.

Tender plants in borders must be covered when there is the slightest appearance of frost. As has been often recommended, give careful attention to young stock, and recollect that sturdy, well-rooted plants are much easier to winter than large plants with long-jointed soft wood. With good convenience late-rooted cuttings may still be potted-off, but unless they are very thick in the cutting-pots we would prefer wintering them in these to shifting at this season, for they occupy much less space in the cutting-pots, and having more space for their roots they are frequently more healthy, and require less attention in winter than those potted singly. Square pans 12 inches wide and 5 inches deep are very suitable for wintering Verbenas, Lobelias, and other plants which can be kept in a small state. One of these will hold some twenty good plants, and with care, to prevent their being injured by damp, they will winter quite as well treated in this way as if potted singly in 4-inch pots, and a vast quantity may be stored in a small space. Where subjects of this kind have to be wintered in cold frames or pits the plants should be potted singly, as they would be very liable to damp off, despite every care, if placed thickly together in pans and put where it may be impossible to give air for weeks together. I must, however, protest against the system of wintering bedding stock in such unsuitable places. This practice is generally adopted from some mistaken notion of economy; but if a fair calculation of the time required to attend to plants wintered in this way could be made, and all the losses taken into account, it would be found to greatly outbalance the trifling cost of putting up a proper heating apparatus, and furnishing a few bushels of coke or coal annually. Where alterations are projected or in hand these should be proceeded with, and where plantations are to form part of the demesne, and in conspicuous situations, trenching should always be resorted to. Gilpin had a very good plan of forming groups in parks; he first determined on the positions where two, three, or more, would be effective, and not far from each other, he planted these with trees of the desired kind, and of a permanent character, and then enclosed a rectangular figure around them, filling up all the intervals with trees of very rapid growth, with Gorse, Broom, &c., as nurses. Alterations carried out during the autumn are doubly important, both on account of the season for planting, turfing, and such operations, and also on account of the busy character of the spring months, which always bring sufficient claims on the most diligent, without the pressure of extras of any kind. The remodelling of parterres or the making of new ones may be carried on after the middle of the month, and where old ones are to be broken up the herbaceous tribes already existing should be numbered or named in due time in order to be able to ascertain the heights, colours, &c. Ornamental shrubs, whether evergreen or deciduous, may be removed with every chance of success after the second week; no hesitation need take place as to the kinds, provided the ground is properly prepared by trenching or otherwise, and thoroughly drained.

GREENHOUSE AND CONSERVATORY.

The Camellias which had been forced into growth in February and March will shortly be ready to open their buds. Let them be liberally supplied with clear and weak liquid manure; soot water and guano in a liquid state is advised; the latter in very small quantities. The application of liquid manure is frequently wrongly conducted. There is no such wholesale manuring in Nature as we see practised in an artificial way. The ammonia of the atmosphere is presented in very weak doses, but in a continuous way. May we not take Nature as a model? Some of the earliest Epacrises may be placed in a close part of the greenhouse, where they will soon open their blossoms, also Daphnes, and many other plants, provided their flower-buds are prominent. Aim at keeping the atmosphere of this house rather dry, using just enough of fire heat on damp, cold nights to allow of giving sufficient air to keep the atmosphere in motion, so as to prevent damp being injurious. In arranging the stock in its winter quarters in these structures beware of overcrowding, drawn stock is not endured in these days; it is far better to throw a portion entirely away than to spoil superior specimens. Much of second-rate character, which requires another season's growth, may be preserved in good dry pits, at least till the middle of December, when, if very hard weather occurs, they may have a chance of removal, perhaps, to some of the other structures until the end of January. It ought ever to be a maxim in regular plant houses that no two plants touch, still we must confess that many who would admit the propriety of the principle are frequently compelled to practise otherwise through want of sufficient accommodation. The ephemeral things introduced for decorative purposes must be removed as they exhibit signs of decay. Mildew is often engendered by such plants. With ordinary resources a good successional supply of Heliotropes, Fuchsias, Scarlet Geraniums, &c., may be managed. The Chinese Chrysanthemums will shortly give a feature to the general display; large plants may be taken up, potted, and kept in a close frame for a week or two, when they will flower equally well with others. Salvia azurea should also be taken up from the ground and potted, it will bloom until late in November if kept in the conservatory. Salvia splendens is also useful for the same purpose.

STOVE.

Twiners on the roofs of stoves should now be more than ever kept within bounds, cutting back all shoots that have done flowering, and tying the others so as to obstruct light as little as possible. Place specimens ripening their wood in the coolest part of the house, and water sparingly at the roots. Achimenes, Gloxinias, and Gesneras, that are properly ripened off may be stowed away in any dry place, where they will be secure from frost, but take care to place them where they will be free from damp, and they should not be exposed to a lower temperature than about 45° or 50°.—W. Keane.

DOINGS OF THE LAST WEEK.

"It never rains but it pours" has been well exemplified during the past week. For eight days we have scarcely had a dry hour until this Saturday afternoon, the 30th of September, when we saw the sun once more. On Friday night and Saturday morning we had downpours that turned most of our walks into miniature canals. Having previously picked over our flower beds, they stood four days and nights of almost constant rain with impunity, looking if anything more bright from the moisture. The rain of Thursday, and especially of Friday night and Saturday morning, accompanied as it was with a wind approaching to a gale, has given the masses of bloom a drowned appearance, from which, unless we have bright, dry weather in October, they will not recover. If, however, we have some dry, bright weather, there are sufficient fresh opening buds to continue the brightness a few weeks longer where there is strength and vigour in the plants. To-day we looked along lines of Madame Vaucher Geranium, from which, two or three days ago, we could have cut hundreds, if not even thousands, of fine pure heads of bloom almost without their being missed, and yet to-day, when we wanted them, we could not,

among the thousands of large corymbs of bloom, have gathered half a dozen that were perfect and would appear ornamental in glasses and vases.

This reminds us how useful for merely looking at, and for cutting purposes, it would be to have a garden on the grouping system under glass, however much smaller it should be. Protected from the heaviest of these rains and the keen winds, these beds of ours would have been as bright as they were eight or ten days ago. Had we to carry out such a design we would have all the sashes in the roof pivot-hung, so that the rain should be permitted to enter or be shut out at pleasure. We may here remark that to our knowledge gardeners are very often blamed most wrongfully for not having this and that done, when they are powerless, from want of means, to do what their own judgment shows them the importance of doing. After all, even now it is only in comparatively few places that gardeners have the opportunity to carry out their ideas of what they know to be right. In the majority of cases they must do what they can, and get as much as possible from the smallest possible outlay. The great standing grievance, and one that helps, too, to damp enthusiasm, is simply this—that people who generously spend a pound expect as great things as their neighbours have who spend from twenty to a hundred pounds on the same objects. In a glass-covered flower garden the masses of perfect bloom, being protected from the rain, would have been splendid for weeks, and if the plants were protected from frost by hot-water pipes they would be splendid throughout the winter months.

If masses of bloom are to be great objects we here foreshadow what may be effected in the future. With light hollow iron columns and fixed roofs, unless where necessarily moveable, there is a grand opening for genius and enthusiasm in this direction; and the effects would be far more startling, and at the same time more gratifying, than in wandering through mixed conservatories arranged upon the present system. There are few who have witnessed the glare of bedding plants, toned down by the subtropical fine foliage that Mr. Gibson has done so much to make fashionable, that did not regret that the interest and beauty were so short-lived. Who that has influence to bear will help to give a people's low-roofed conservatory in Hyde Park, and thus enable Mr. Gibson to show the thousands and millions what may be done with fine colours and fine foliage in the winter and spring, as well as in the summer and autumn months? We ourselves tried this subtropical attraction years before it came out so strongly at Battersea, and we would have continued, only the winds here tore our fine foliage to pieces. Few things would delight us more than to have the opportunity of seeing large conservatories in our public gardens and parks, where our fellow workers might see at all seasons the brightest of flowers and the most beautiful of foliage.

KITCHEN GARDEN.

The rains that for the present have made such wrecks in the flower garden saved all watering in this department, have done good to pastures and Turnips, and have only been a drawback where valuable corn still remains in the fields. With the exception of looking after fresh-planted Cabbages, Lettuces, &c., all work here has been at a standstill, chiefly on the principle that, owing to the ground and pathways being so wet, it was difficult to do work without making work. Slugs and snails were the chief enemies to be guarded against in the case of young plants, and dusting round, not on, them with powdered lime and soot, putting fresh Lettuce and Cabbage leaves on the ground, and examining them frequently, were the chief preventives employed, and hitherto with success, as few plants have been interfered with.

Even *Cabbages* after a heavy crop of Onions, say if planted in September, and intended to produce heavily in the season of 1872, and to April and May, 1873, are all the better of having some rather rank rough material turned into the bottom of the trench. Ground that has been fairly treated for Onions ought to be in the best possible condition for Cabbages when well dug, pulverised, rolled, and planted, and for early produce the plants do as well as in the trenched-up ground; but for long continuous bearing on the old stools, we have always found the trenched-up part, with rough manure at the bottom, produced the longest.

Generally we treat a piece on each plan. The Cabbage thus left long on the ground is generally such a robber, that Celery, for which a good quantity of manure has been added, is one of its best successors. On removing such long-standing plantations of Cabbages in May, we have not only found the whole ground interlaced with roots, but they were found in great fleshy bundles at the bottom of the trenches, where the rather rough dressing had long become decayed and sweet before the roots of the Cabbages had gone deep enough to reach it.

We have as yet only planted out part of our Cabbages, and we shall follow in a week or two with the whole, as we did not sow so early this season, for the disaster of last winter in killing the most of our fine strong plants has impressed us with the importance of its being better to be a week or two later than to have a promising crop destroyed. We surmounted the disaster pretty well, and had Cabbages not so much later than usual, but at the additional trouble and labour of sowing in heat, pricking out under glass, and getting nice stubby plants, that lifted with balls, to grow with great rapidity in the prepared soil. We would, however, rather avoid all such additional labour, and one means of doing so is to sow a fortnight later, and plant out younger though stubby plants.

When the ground cannot at once be prepared, it is well to prick out the plants 3 or 4 inches apart, that they may be more stubby before being planted. This will be an improvement, whether the plants be put in with a dibber or a trowel. Many cottagers would save themselves much trouble and anxiety by resorting to this pricking-out process. When they plant out poor, puny, drawn-up plants from a thick seed-bed, the plants are at once subjected to many casualties from which they would be comparatively free if they had been more sturdy from exposure, though not higher when planted out.

Another means of securing sturdy growth in the autumn, and the first part of the winter, is to plant in ground comparatively poor and firm on the surface. The latter can be secured by rolling when dry before planting, as anything like caking can be prevented by a scuffle with the Dutch hoe afterwards. Sometimes when the Onion ground has been rather too rich we have drawn drills, and placed some light soil mixed with lime rubbish along the rows, which encouraged abundant and free rooting of the Cabbage plants, but which kept the plant on the whole stubby and healthy in winter, and more able to encounter frost and sunshine, and all variations of weather. When the warm days of spring had come, the descending roots getting into richer soil, gave succulence and richness to the leaves and the tender hearts. We have always been rather shy of planting early, except a small piece to come in first. Last winter ought to act as a warning. Few Cabbages at all forward escaped in this locality, and the loss to the cottage gardener who could not force on young plants was truly great, as fine, crisp, solid Cabbages are regular fill-dishes for a family.

Caterpillars on Vegetables.—With the exception of a bed of Savoys that were pricked out for future transplanting, which had little left on them but the main stems and midriba of the leaves, we have suffered little or nothing from caterpillars, though they have been very destructive in the neighbourhood, and especially in the case of Savoys and Brussels Sprouts. We believe that our freedom from these pests is partly owing to the comparatively limited number of white butterflies that made their appearance, and to the zest with which they were hunted down by a young lady and gentleman some seven and five years of age, using neat branches of spruce and small hooped bags of Nottingham netting fastened to a stick. We have endless inquiries on this subject.

The first is, How best to keep away or destroy the caterpillars before they do the damage. The catching the butterfly before it deposits its myriads of eggs is the best preventive. When we had little boys in the garden we used to give them some hours of this work in the brightest hours when the butterflies appeared. When the caterpillars are established on the under sides of the leaves, dusting the plants on the under side with powdered quicklime by itself or mixed with a little soot, soon settles them. A more cleanly mode, and economical as respects the lime, is to put a shovelful of such quicklime in a barrel of water, stir it well, and when settled and clear syringe repeatedly the under sides of the leaves. The acridity of the lime water soon settles all that it touches. Cottagers, who could not get lime readily, might use soot in fine powder or mixed up with water like the lime, but in four or five times the quantity, applying it, like the lime water, when comparatively clear. It is difficult to get such water as clear as brandy unless you can add a little quicklime to it. Then the liquid is better for the purpose than when only one of the materials is used.

The second question is, What to do with such riddled plants, even after they are strong and have taken firm hold. Some, even at this late season, have cleared out the plants, and put in

fresh, however small. We would not advise this in the case of strong plants of Savoys and Brussels Sprouts, though they may not have a sound leaf left on them. We would wash them with the syringe as stated above, and with the help at the roots of such rains as we have had, we feel very confident we should obtain many gatherings of nice small heads or shoots from the stems, ten times more in quantity than we could expect from young plants turned out at the end of September. In all such cases we should, then, advise the leaving of the strong stems, though the leaves are mostly eaten and gone, but to make doubly sure the ground might be forked over, and young plants dibbled in between. The old stems, if sound and fresh, will, however, be the plants to depend on for large heads.

Cauliflowers.—As soon as the ground shall have become a little drier we shall plant out what we intend for hand-lights, will most likely pot some, and prick-out where a little protection can be given, as with all our after-care the earliest Cauliflower is generally the best. For late-heading Cauliflower the rains have been very favourable. Young Cauliflowers intended for the first crop next year can hardly be too young now. They are less liable to button than older plants.

Celery.—Fortunately we have plenty earthed-up to go on with, as we should not like to earth-up in such weather. Most likely after so much rain we shall use sifted furnace ashes round the plants to keep worms and slugs from the stems. We have had sent us some leaves of Celery much infested with the Celery grub, which, secure between the two skins, eats up the juicier substance between them. There is no remedy now but taking off all such leaves, and burning or otherwise destroying them before the grubs eat their way out to go to the earth, and pass through their chrysalis state. The most simple and effective preventive we have found is very slightly dusting the plants several times with dry snot after the end of June. The scent seems to deter the fly from depositing its eggs, and where there are no eggs there will be no grubs. At any rate we have not been troubled since we used that simple precaution.

FRUIT GARDEN.

The winds have blown down some of the best fruit, and the most forward will need gathering as soon as dryness sets in. Our crops of Apples and Pears are very fair, but in general a small crop, especially of Apples, is the rule in this neighbourhood. As an evidence, a gentleman, who has a large garden which he cultivates for profit, told us he had a wonderful crop of Apples last year, and could make but very little of them. This season he did not think he had a tenth part of the crop of last year, and yet he received from a dealer just five times as much money for them. In some places, as at Luton Hoo, Pears are far beyond an average crop. The difference as to the yield of fruit at two places is in some seasons astonishing, though there may be no great distance between the places, and the treatment given very much alike.

Filberts and Nuts which are ripe should be gathered so as to be safe from their many admirers, four-footed and two-footed. When dried pretty well we never found them keep better than when packed pretty tightly in 10-inch pots, the pots set closely in a place of an equal rather low temperature, with a sod of turf reversed placed over the pot, and merely a double layer of paper beneath it. Of course, mice and rats must be looked after, or they would soon empty the pots as effectually as squirrels would do. This idea was first suggested to us by finding nuts with the outside covering even fresh in the underground storehouse of a squirrel in the month of March.

We thought that after such deluges of rain our fruit would be free from wasps and insects, but we found some hard Seckle Pears to-day pretty well filled with wasps; but we must say, in all honesty, that they seemed to have taken possession after mice and rats had nibbled a way for them. The wet, too, we find has cracked a number of fine Plums before they are ripe.

For general details we must refer to previous numbers, merely stating that late Peaches in the orchard house are now very useful, that late vineries wanted more air and more heat in these wet days, and that to neutralise the deluges of rain we put some 6 inches of dry litter over the outside borders. We would have used sashes or other modes of throwing-off water if we could.

ORNAMENTAL DEPARTMENT.

We have alluded to the effects of the rain; one simple fact is worth noting. If flower beds are kept picked—that is, all dead and decaying blooms removed, a moderate rain does them little injury. If faded flowers are washed over fresh ones, the appearance is greatly marred. We expected rain, and turned all available labour to pick the beds on a dry afternoon. As stated, the beds, say of Geraniums, so thick with fine masses of bloom that you could scarcely find room for a finger between them, stood the rain of four days and four nights with impunity; so that if no rain and winds had succeeded, the beds and borders would have suffered but little. This favourable result so far was to a great extent owing, in our opinion, to the previous removal of all faded blooms.

We need say nothing of lawns. Nothing could be better for them; and as to walks, we shall pass a roller over them as soon as the weather is dry enough. The chief work has been repotting Pelargoniums that had broken after being pruned, potting Lycopods and Ferns, taking Salvias, Heliotropes, &c., under shelter, putting-in cuttings under glass, cleaning, surface-stirring, and giving abundance of air to the cuttings struck and striking. As we must keep our cuttings in little room without potting, this last matter of air-giving is of importance for keeping them stubby and healthy in winter. We also took under glass Scarlet Geraniums that had been repotted—at least part of them—for late autumn and winter blooming. Most of our cuttings have been protected from the rain, but the sashes have been raised back and front to allow the air freely to pass. We would house Azaleas and Camellias now if we could, but we must look after them and wait a little longer. If we had intended doing much in the way of forcing Lilacs, Rhododendrons, and hardy Azaleas, we would have had them potted by the middle of October, and if the pots had a little bottom heat all the better. We have thus forced Roses well in winter that were taken out of the ground and potted in October. The great point is to be obtain fresh roots before you start the buds.—R. F.

TRADE CATALOGUES RECEIVED.

William Paul, Waltham Cross, London, N.—*Rose Catalogue*, 1871-72.

E. G. Henderson & Son, Wellington Road, St. John's Wood, London, N.W.—*Catalogue of Bulbs and Flower Roots, Stove and Greenhouse Plants, &c.*

Richard Daan, 8, Denmark Villas, Ealing.—*Catalogue of Hyacinths and other Bulbs, Hardy Bedding Plants, &c.*

Butler & McCulloch, Covent Garden Market, London, W.C.—*Catalogue of Dutch and Cape Bulbs, &c.*

William Thomson, Tweed Vineyard, Clovenfords by Galashiels.—*Catalogue of Vines and Pines.*

Barnard, Bishop, & Barnards, Norwich.—*Catalogue of Garden Requisites.*

Child & Co., 49, Darley Street, Bradford, and Bradford Nurseries, Shipley.—*Catalogue of Dutch Bulbs, &c.*

Georgs Yates, Underbank, and Royal Oak Mills, Stockport.—*Catalogue of Flower Roots.*

D. Danvessa, Avenue Dauphine, Orléans.—*Catalogue of Fruit and Ornamental Trees and Shrubs, &c.*

Haupt-Catalog der Königlich Prinzlich Niederländischen Baumschulen, Muskau (Park-Inspector, E. Petzold).—Catalogue of Fruit and Ornamental Trees and Shrubs.

David G. McKay, Market Hill, Sudbury, Suffolk.—*Descriptive Catalogue of Dutch Flower Roots, Roses, Fruit Trees, Ornamental Trees and Shrubs, &c.*

TO CORRESPONDENTS.

Books (*Delta, Scarborough*).—For exotic Ferns, Hooker's "Icones Filicum;" for English Ferns, Moore's "Nature-printed Ferns." They have coloured plates.

Offensively-smelling Fungus (*W. Simons*).—It is Phallus impudicus, long known and common.

Botanic Garden (*J. Smith*).—Many gardens are termed "Botanic," which have no just pretension to the name. If it is really intended to make the garden illustrative of the science of botany, a portion of the garden should have plants in it arranged according to the Natural System, and all have labels with the names written upon these. Even in all other parts of the garden each plant or group of the same plant should be similarly labelled. As to the ornamental parts, that must be left to the judgment of the managers.

Who is a Practical Gardener? (*Rose*).—A man who understands gardening, and can cultivate the plants grown in a garden, and perform the operations there required is a practical gardener, though he never was apprenticed to one of the trade.

Outgoing and Incoming Tenant (*Inquirer*).—The incoming tenant need not pay you for the trees you have planted, and if you injure or remove them the landlord could recover their value from you.

Beurré Bollwiller Pear (*G. A. T.*).—This is stated to be one of the last late Pears, succeeding the Easter Beurré, carrying on the succession several weeks later, and being of as good quality at the beginning of May as it was in March. It requires to be grown on the Pear stock. We cannot say whether it is to be depended upon in the midland counties. Bergamotte Esperen forms a more healthy and fruitful pyramid.

Peat (*S. E. C.*).—Any of the dealers who advertise in our columns would readily supply you, at your railway station. If you want but a small quantity you might obtain it from a neighbouring nurseryman.

Bicolor Geranium (*Bicolor*; *J. E. S. S.*).—It is utterly impossible to judge from the leaves sent. Send a plant to the Floral Committee, Royal Horticultural Society. Habit is of much importance in judging the value of a Bicolor, so that it would be misleading to give an opinion on a leaf.

Rooted Cuttings (*E. M., Dublin*).—Probably Mr. Poulton, Fountain Nursery, Angel Road, Edmonton, Middlesex.

Ringed Spots on Strawberry Leaves (*J. P.*).—A species of Septoria does appear sometimes on these bleached spots, but most commonly, as in this instance, there is no fungus. It is an open question whether these bleached spots are caused by fungi; we rather doubt it. They do little damage to the plants, as the season of growth is nearly closed.

Stove for Greenhouse (*H. B.*).—If one of Shrewsbury's gas-heated apparatus is not enough, why not have two, one at each end of the greenhouse? If you tell Mr. Shrawsbury the size of your house he will inform you what you need. (*A Reader*).—We do not know what reply you refer to. Tell us the volume and page.

List of Fruit Trees (*Five-years Subscriber*).—*Apricots:* Shipley's, Royal, Moorpark, and Peach. *Nectarines:* Hunt's Tawny, Downton, Elruge, Violette Hâtive, Pine Apple, and Victoria. *Peaches:* Early York, Early Grosse Mignonne, Royal George, Alexandra Noblesse, Bellegarde, Grosse Mignonne, Violette Hâtive, Princess of Wales, Walburton Admirable, Lord Palmerston, Lady Palmerston, and Salway. A north wall is a very unfavourable position for Pear and Plum trees, unless you are in a dry and early part of the country; it would be better to plant the north wall with Morello Cherries and Red Currants. You might try of *Pears*, Doyenné d'Eté, Jargonelle, Williams's Bon Chrêtien, Louise Bonne of Jersey, and Maria Louise; of *Plums*, Rivers's Early Prolific, Victoria, Kirke's, and Jefferson.

Wellingtonia gigantea (*A. Kerr*).—It has produced cones in many places. The intention at page 221 was to inquire whether it has produced pollen and fertile seeds in England. We have heard that home-grown seeds have been known to show symptoms of germination, but that they never produced seedling plants.

Various (*An Amateur*).—*Asparagus seed* is fit to gather when the berries are red. We simply strip them from the stalks and store them in shallow boxes, using dry sand for packing, and keeping them in a dry cool place until spring. We sow early in April. The remains of a turf stack will answer for *packing Geraniums* to be wintered in a spare room. We should add one-third of loam and sharp sand. In packing Geraniums in boxes, to be wintered in a cellar, use dry soil or sand, and remove all the leaves. They should not be watered, but ought to be looked over occasionally, and any parts which have damped-off or decayed should be cut away. Frost must be excluded. It depends in a great measure on the condition of the manure, and the time of year at which it is applied; but some of the fertilising properties will be washed down to the roots with the first rains or waterings.

Seedling Passiflora cærulea Treatment (*Beginner*).—Winter them in a greenhouse or other structure where protection can be given from frost, and in March shift those you intend for the greenhouse into 9-inch pots, draining well and using a compost of two parts turfy loam, one part leaf soil, and one part sandy peat. When they have filled the pots with roots plant them out in a border if you already have or can form one in the greenhouse, and they will grow more in one season than in three years in a pot. If inconvenient to plant out, shift them into 15-inch pots when the 9-inch pots are full of roots. The plants you purpose planting out may be turned out in April against a south wall, where they will succeed in all but cold northerly exposures. For the first winter or two afford protection from severe frost by a covering of mats, which should be removed whenever the weather is mild.

Seedling Cyclamen Treatment (*D. M.*).—Continue in the warm house plants from seed sown in March, having corms the size of peas, and two or three leaves, until the seedlings are coming into flower. We have some plants from seed sown in April that have been in frames all the summer and are now showing flower. Could you not give them bottom heat?

Storing Seed Potatoes (*A. E. F. C.*).—"Pieing" is not so good as placing the Potatoes on the floor of a granary thinly, and allowing all the air and light you can. In frosty weather it will be necessary to cover them with straw to keep them from frost, or if you cannot keep frost from them in the granary, they may be "pied" after they have been some time on the granary floor. The kinds you name are good—viz., Skerry Blues and Sutton's Red-skinned Flourball, fine for winter use, and not nearly so liable to disease as many other kinds. This season with us three-fourths of the tubers of Early Oxford and Early Perfection are diseased; one-half of those of the Early Rose, one-fourth of Lapstone and Early Red Kidney; but Ashleaf, Myatt's Prolific, Mona's Pride, Victoria, Red-skinned Flourball, and some seedling varieties are sound.

Exposing Protected Apple Trees (*An Amateur*).—When the fruit is gathered the glass protector would be best removed, as there is nothing equal to winter exposure for destroying insect pests, and inducing a complete state of rest. In planting cordon Apple trees to grow under glass, it will be well if each group be of one kind, as then the uniformity of growth and ripening will not be interfered with, as it might be were several kinds planted in a group. It is not, however, imperative. The principle that regulates glass is simply that thin glass is more liable to breakage and does not keep heat in nearly so well as thick glass. Plate glass—that is, polished plate, is not suitable to horticultural purposes, being too bright, so that plants have their foliage scorched in bright weather. Rough plate, however, is good, probably the best of all. 26-oz. and 32-oz. glass is not superior to 21-oz., only glass of these weights retains heat better, and is not so liable to breakage. We use 26-oz. for fruit houses.

Lilium eximium not Flowering (*A Constant Subscriber*).—We presume your plants are in pots, in which we find they do little good, making little beyond offsets. We should plant them out at once in rich light soil, adding freely leaf soil and sandy peat, and sand if the soil is at all heavy. Cover the bulbs about 1½ inch deep, and with a like thickness of partially decayed hotbed dung. They should have an open sunny exposure. They ought to flower in August.

Transplanting Large Birch Trees (*W.*).—You may remove the trees, 12 to 20 feet in height, if they have not been grown very closely together and can be moved with good fibrous roots, which are essential to success. Move them this autumn as soon as the leaves have fallen, and when planted secure them against winds

Potting Skimmia japonica (*H. A.*).—You may now take up the plant, of which the berries are changing colour, taking care not to cut off too many of the roots, otherwise the berries will fall. It is one of a few plants which are very ornamental for window decoration in winter.

Climbers, Ferns, &c., for a Small Conservatory (*Flora*).—Of climbing plants for the roof, Passiflora Comte Nesselrode, P. Countess Guiglini, Mandevilla suaveolens, and Tacsonia Van-Volxemi. These are free-growers and should be planted in a border. Other climbers are—Sollya linearis, Rhynchospermum-jasminoides, Lapageria rosea, Kennedya inophylla floribunda, K. Marryattæ, K. bimaculata variegata, Jasminum gracile, Hoya carnosa, Habrothamnus fasciculatus, and Hibbertia volubilis. Flowering plants are—Acaciae armata, platyptera, oleifolia elegans, pulchella, and longiflora magnifica; Acrophyllum venosum, Aphelexis macrantha purpurea, A. Woodsii; Beaufortia splendens, Blandfordia Cunninghami, Boronia Drummondi, Cassia corymbosa, Chorozema cordatum splendens, Coronilla glauca, Correa Brilliant, Crowea saligna major, Cypripedium insigne, Cytisus racemosus, Daphne indica rubra, Dracophyllum gracile, Eriostemon intermedium, Eutaxia floribunda, Genetyllis fuchsioides, Indigofera decora, Kalosanthes Lonie Napoleon Buonaparte, K. miniata grandiflora, Imantophyllum miniatum, Libonia floribunda, Lasiandra macrantha floribunda, Monochætum ensiferum, Narium rubrum plenum, Phœnocoma prolifera Barnesii, Pimelea spectablis rosea, Plumbago capensis, Polygala Dalmaisiana, P. acuminata, Rhododendron jasminiflorum, R. javanicum, R. Princess Royal, Sedum Sieboldi variegatum, Statice brassicæfolia, S. profusa, Vallota purpurea, and Witsenia corymbosa. Besides these you will, of course, have Camellias, Azaleas, Primulas, tree Carnations, Cinerarias, Calceolarias, Pelargoniums, Fuchsias, Cyclamens, bulbs, &c. For the back wall to plant along with Camellias, Citrus nobilis will suit. After the bud of a Rose has taken, the shoot on which it is budded should not be cut off close to the bud until the following February or March.

Various (*R. F.*).—In frosty weather you can command a temperature of from 50° to 55°; but to do that in very severe weather the water will require to be heated to upwards of 200°, or nearly boiling. Good Scarlet Geraniums for bedding are Bayard, Blackband, Blazer, Cramoisie Supérieure, Crimson Perfection, Little Excellent, Queen of Nosegays, Sunlight, and Waltham Seedling. The best plan to secure a stock is to grow the plants in pots, take off the cuttings as you can secure them, strike them in heat, potting and growing them on. In this way you will have cuttings from both old and young plants. Good pink or rose kinds are Christine Noseggay, Arthur Pearson, Amy Hogg, Pink Stella, and Queen of Roses. Whites are—The Bride and White Perfection; Alexandra is a good Geranium, also Waltham Bride. Silver-edged are—Prince Silverwings, Picturata, Snowflake, Bright Star, and Bijou. There is much similarity between many of the Tricolor Pelargoniums, but Sophia Dumaresque and Lady Cullum are, as you say the journals describe, "very distinct," and we add "good." It is when they are of specimen size that their markings are most fully developed. In a young state they are much alike. For bedding purposes we have no experience of the Geranium you name. It is well to propagate Carnations, Pinks, and Hollyhocks every year, but it is not necessary to prevent degeneration, which does not occur. Hollyhocks are propagated by cuttings, the short stubby shoots at the base of the plant being taken off closely, potted in sandy soil, and placed in a gentle hotbed. A young Carnation plant with one stem will put out side shoots in due time, but if it grows very tall take out the centre at 6 inches.

Vines and Gooseberry Bushes.—(*J. L.*).—A strong one-year-old cane will be better than an old unfruitful rod. The young cane will be sure to show for fruit, and larger bunches will be obtained from it. The old rod will also bear fruit next year, if the lateral shoots are strong and well-ripened. Is there not room in your house for both? An ordinary vinery attached to a house like yours should have space for more than one rod. If you have no plants underneath the Vines in summer, the rods may be trained to the roof at 2 feet 9 inches apart; if there are plants in the house they should not be closer than 6 feet. Gooseberry bushes may be trained as standards. It is not necessary to strike the cuttings in pots. Now is the best time to put them in; take off the strongest young shoots with a heel attached, and pick out all the buds except three or four at the point of the shoot. Plant the cuttings firmly in ordinary garden mould. When the cuttings begin to shoot in spring, place a stick to each plant, and train only one shoot up to the required height, pinching out all side shoots.

Red Spider on Vines (*West Cumberland*).—Now that the Grapes are ripe shut up the house closely, and having made the hot-water pipes as hot as you can, coat them with sulphur brought to the consistency of thin paint with a solution of 3 ozs. of soft soap to the gallon, going over the pipes two or three times. In addition to this you may go over the leaves and brush off the insects, destroying their webs with a dust brush. Beyond this we do not know what you can do, for to introduce water would be fatal to the keeping of the Grapes.

Vines not Thriving (*Henri*).—Unless the wireworm has eaten the roots we cannot conceive how the Vines did not grow, if you did not starve them for want of water. Some time ago we stated how we were called upon to see some Vines that would not grow, planted inside too; the top soil seemed all right, but the roots were as dry as if planted over an oven. We would prune back the 6-feet Vine to 3 feet or so, and nip out the buds not wanted. We would leave the other weak ones as long as you could, provided you had a fair bud at the point. Whenever the buds swelled we would rub off, not cut, all except the best and most promising ones. We would examine the soil as to moisture. Trap by every means the wireworm, and sprinkle a little tar where there is no chance of the roots penetrating. Place a half-barrowload of horse droppings over the roots of each Vine, then some dry litter, and adopt some mode for throwing off snow and cold rains, and next spring we hope the Vines will push strongly. Until then we would not think of destroying and replanting.

Forcing Lifted Vines (*H. L. Cuzner*).—You will not succeed with forcing Vines in November that you intend to lift and replant now. As you have cropped the borders and mean to force, your best plan would be to remove as much of the effete soil from the surface as you could do without much injury to the roots, not minding if you exposed a few fibres; then cover with a couple of inches of fibrous loam mixed with lime rubbish, then with from 2 or 4 inches of similar material enriched with superphosphate, and a good sprinkling of bones. Cover with some litter manure for a foot in depth at once, so as to keep the heat in the ground, and about the middle of November add as much more as would

give a temperature of from 60° to 65°, and 70° on the surface of the border, which will encourage fresh rooting upwards. If taking-up is resolved upon, we have frequently described the process.

Vines Planting (*Gas-meter Maker*).—As the Vine has been planted two years, instead of taking it up we would fork carefully round it, and, if the roots are now spreading, leave well alone and top-dress with dissolved bones and horse droppings. If you resolve to relift, you cannot do it too soon. Be careful of every fibre, replant in fresh soil, water at about 70°, cover the soil over with litter to keep out cold, and if with anything to keep out cold rains all the better, so that the roots may be excited into activity before the top breaks. Use the fresh loam by all means, but do not raise it 8 inches above the present soil and roots. You may get new roots in the fresh soil, but you will injure the old roots. We lately saw a fine Oak tree killed because the stem and old soil were covered with a foot of refuse earth. Your Vines ought to do in the north of London in the open air, but of course a glass covering, temporary, or orchard-house fashion, would be in favour of the Vines and fruit.

Strawberry Plants for Forcing (*A. B.*).—We presume the Strawberry plants are now in pots, and the sooner you can place them in the conservatory, or anywhere else to save them from this drenching as well as frost, the better. They will be quite safe if the temperature be a little above freezing, and will want little attention, except seeing that they do not become over-dried until you wish to start them for forcing. It would be of no advantage keeping them at all warm in winter until you wished to start them fairly, and then they must be brought on gradually and have no checks. Perhaps we do not quite see the drift of your question. For early forcing, say commencing in November or December, the plants ought to be well established in their fruiting pots, the outsides and insides of the balls being a complete mass and network of fine roots.

Beds on Grass (*Sunny*).—Provided you have enough of room on each side of the walk and to spare for a croquet ground, we would put a series of small beds along the sides of the wide walk, and also of that in front of the windows. Nothing, on the whole, would look better or be more simple than parallelograms and circles; the first with the ends curved to suit the circles; the parallelogram 8 feet by 4, and the circles 4 feet in diameter; 4 feet from the walk, if so much can be spared, and 4 feet between the beds, to be filled with bulbs and spring flowers, and Geraniums in summer.

Manure for Meadow on Clayey Soil (*X. Y. Z.*).—If you can manage to collect a quantity of parings from the hedgesides or ditches, mix it with about one-sixth of its bulk of quicklime, let the heap lie a month or two, and then turn it; you will have a better manure than any of the artificial kinds, as the most of them seem better adapted to crops under tillage than to permanent grass; we have, nevertheless, seen excellent hay crops after a dressing of nitrate of soda, or of bone dust, both on heavy soil, but we prefer the action of lime, and have a partiality to bulk, which cannot be had in the artificial manures. If you cannot obtain parings of ditches, perhaps roadside scrapings can be had; these will be better still if at all sandy, and may be applied without the lime; but if you use the latter, take care the earthy materials are not too wet, otherwise the mass will become like mortar instead of the useful friable compost so much needed, and which you may apply at the rate of thirty one-horse loads to the acre if you have plenty of it, or twenty loads if it is scarce.

Rose Leaves Injured (*Edgeworth, W. F.*).—The leaves you enclose seem to be injured by smoke from chemical works; it is, however, difficult to say without knowing the position in which they were grown, and if there is no chimney near to hurt the leaves, they may suffer from the roots being too dry. We have seen leaves injured just in the same way in the neighbourhood of Birmingham and other smoky towns.

Rue Leaf (*J. E.*).—The following is "the full botanical description" which you ask for:—Leaves glaucous, pulpy, dotted, divided like the umbellate plants, doubly pinnate, or more properly what Linnæus calls superdecompound. Leaflets obovate, sessile, the lower ones smallest, the end one commonly trifid, with the middle lobe much larger than the rest.

Supply of Vegetables (*Bush*).—No one could value the supply unless he knew the amount and quality. In "The Estable Fuoguses," published at our office, there are coloured engravings and full descriptions of them. We could not epitomise them.

Iresine Lindeni from Seed (*An Amateur*).—It can no doubt be raised from seed, but we are not aware that the seeds are in commerce. It strikes so freely from cuttings that no one need be long in raising up a stock. By "Lobelia" we presume you mean Verbena venosa, plants of which raised from seed sown at the end of February in a hotbed of 75°, and forwarded in heat, will make good stocks by the end of May, and will bloom finely the first season, in fact better than older plants. The Geraniums which you hope to winter in a spare room we would continue in the Melon frame until November, keeping them rather dry, and admitting air abundantly. It may be necessary, if frosty nights occur, to throw mats over the lights.

Storing Filberts—Tritoma Flowering Late (*A Subscriber*).—They keep best in jars between layers of sand, and placed in a cellar. The cause of the Tritoma flowering late is no doubt the cold summer The plants being healthy we would not lift them, but would mulch round them with partially decayed leaves. They would probably flower earlier if lifted, and the best time to do that is as soon as the flowering is over. The plants will, however, be weakened by the lifting.

Trees for Exposed Mound (*J. B.*).—For the soil you name and an exposed situation we should confine ourselves to evergreens, and should plant them at 4 feet apart, using equal proportions of Austrian Pine, Corsican Pine, and Scotch Fir. The first-named is the hardiest of all, and makes the best shelter, and unless the mound be extensive we should plant it alone. If you wish for deciduous trees you may plant at 20 feet apart Sycamore and Norway Maple, filling up at 4 feet apart with the evergreen trees named.

Cucumber House Construction (*A Beginner*).—We should contrive for a walk at the back, raising the present wall to 7 feet, and making a front wall of about 3 feet 6 inches high. You will not need front lights, but we would have the front part of the roof of lights 7 feet long, and a short roof to the back of 3 or 4 feet, which will need to be regulated according as you cover the wall or not. If the wall be covered it should be "splayed" at top to the width of the wall plate. The back part should be fixed, and the top 18 inches of the 7-feet roof should have framed and glazed sashes, so as to open the entire length of the house from half an inch to a foot or more. The front part of the roof should be at an angle of 45°. The flue we should run along the front of the house, returning it along the centre of the bed which we should form for the soil, and back along the side of the walk. You will in that way have two pipes for top heat and one for bottom heat. It would be well if the covers of the flue were hollow, so as to retain water. The flues need not be raised more than half a brick from the floor, and may be about 12 inches deep and 9 inches wide inside, but they may be less. The bed we should have 4 feet wide, and enclosed with 4½-inch walls, but from 6 to 9 inches higher than the flue, which we would cover over; or we would form a bottom to the border of flags or slates, and thus have a chamber beneath the bed. You will need to carry the 4½-inch walls 18 inches above the flags, and on these you must place about 6 inches of stones for drainage, and then you will have left about a foot space for soil. You may have the furnace in front, and it should be so sunk that its top may be level with the bottom of the flue; you may then carry the flue through the house on the level, or with a very slight rise to the chimney.

Small Forcing House (*A Young Gardener*).—We have no objection to the depth of the chamber, 18 inches; we should like it better than if deeper. We do not quite understand the mode of heating; for bottom heat you have a pipe through each tank, which raises the temperature of the water to 130°; that would make two pipes, and yet you say you have four pipes for bottom heat. So we presume that one pipe on each side is in the tank, and the other in the chamber. By either or both modes, for such a narrow border, you will have enough of bottom heat, but for a house 9 feet wide we do not think that two pipes for top heat will be enough for Cucumbers in winter. We would rather have four. If you allow the holes in the slate to remain you should have 6 inches of open rubble over them, covered with washed fine gravel and sand below the turf and soil for Cucumbers, Vines, &c. If you stop up the holes the rubble will be equally required, and the vents you propose for letting up vapour would also do for pouring water down among the rubble. The vapour that rises from water in a tank at 130° will not injure if it rises at a distance of 15 inches or so from the foliage. It will also be modified by passing through the rubble. We would not like the roots of any plants to reach the heated slate. Cucumbers should not be overwatered in winter, or have too much hot vapour. The plants in pots will do best plunged if the bottom heat is not above 80°. From 60° to 65° is a good winter top temperature, with a gradual rise from sunshine. The Sooly-Qua Cucumber appears to be a Luffa; we should not like to eat it, though it is used in China.

Heating by Gas (*South Norwood*).—No injury occurs to plants in a house heated by gas if there be a tube to carry off the fumes into the open air. "In-door Gardening" will suit you; it can be had free by post from our office if twenty postage stamps are sent with your address.

Heating Greenhouse and Vinery (*J. H. Jones*).—We are sorry that your gas stove did not give you sufficient heat last winter. The great advantage of such stoves is the ease with which they are managed. But for this, heating a stove with gas we consider in general more costly, and far from being so effective as an iron stove with firebrick in the fireplace, and burning good coke. You would no doubt get more heat from the gas stove if you had a small boiler over it in the concave or saddle-back shape, as described in page 38 of the manual of "Greenhouses for the Many," to which you refer. We, too, would prefer 2-inch to 3-inch pipes. A small cistern set higher than the flow pipe, and communicating with it by a 1-inch pipe, the return pipe being near the bottom of the boiler, will supply the deficiency of getting the water in to which you refer, or a raised open pipe on the highest point of the flow pipe would answer as well. You will also succeed by placing in the furnace of the shed behind a piece or coil of pipe as you propose, taking the extreme end out into the open air. You will succeed still better by having a coil or band in the furnace as a boiler, and the pipes filled with water, with an opening at the highest point in the house for supplying with water. But to avoid all these complications we would sink the furnace in the potting shed some 15 or 18 inches, and then take a flow and return flue beneath your present pathway and up your present chimney. As you have the furnace there you will succeed better and with less trouble than with all these complications of gas, hot air, and hot water. Of course the three quarts of water in the boiler in "Greenhouses for the Many" refer to the boiler alone, and not to what is in the pipes. A case is shown round the boiler, so that the gas heats on all sides, otherwise we prefer that the gas heat should go right up the middle and round the sides, as in the conical system, or underneath and round as in the saddle-back system.

Heating a House 20 Feet by 10 Feet (*Grosmont*).—Would not the chimney stack that passes through the greenhouse give you enough of heat to keep out frost? In some such cases, where the fireplace is near the chimney, a metal plate, say 20 by 30 inches, let in securely, instead of brick, has given out enough of heat, along with the more moderate heat from the chimney above, to keep the enclosed space temperate in winter. There are two objections to heating the house with hot water from the dining-room fireplace; the first arising from the floor of the greenhouse being 15 inches below the level of the fireplace in the dining-room, instead of above it. With an open boiler at the back of the fireplace the flow pipe might go on a level, say 2 or 3 inches from the top of the boiler, and return to the bottom, but the flow pipe must not fall from the boiler, and therefore the pipes would require to be high in the house. With a fixed-top boiler, and the pipes still higher, the circulation would be more rapid. One-inch strong gas pipes would connect the boiler with the pipes in the house, and some 60 feet of 3-inch piping would be necessary. The second objection is that in severe weather in winter you would have to keep a fire close to the boiler at night, so as to prevent the water getting cool. All things considered, an iron stove about 14 inches square, the furnace part lined with firebrick, and set beside the chimney stack inside, with the smoke funnel into the chimney well up, and a vessel for water on the top, would be the simplest mode for obtaining security.

Wire-trellising Wire in Front of Fruit-tree Walls (*I. Y.*).—There can be no question that such wire-trellising, or rather straight wire line, as manufactured by Messrs. Barnard & Bishop, has a great advantage in every way over the old and too general practice of fastening the shoots of the trees with shreds and nails. The driving-in and pulling-out of nails soon disfigure the finest new wall. Every hole made and left open becomes a harbour for insects, every piece of shred left is the

very best breeding place for insect eggs, and it is chiefly because the proprietors of gardens cannot see how cheaply a nice new wall can be covered with strained wire from 6 to 9 inches apart that the old system is persevered in. Had we our way, on building a new wall, we would wet the surface well, that it might take a thin layer of Portland cement, which would leave the surface smooth and of a light colour, and on that we would have wires strained for tying the shoots and making them secure. For this purpose galvanised wire is the best, when looked at economically, as lasting longest and needing no painting, except at the ends, which should be daubed up, and any bits where the stretching causes the galvanising to crack. For want of this precaution we have known baskets, &c., made of galvanised wire very soon rust and decay. All such things should first be made and then dipped in the galvanising-tank. It is of importance, therefore, to secure every exposed end of galvanised wire on a trellis, so that the rust or oxidation shall not travel inwards from the exposed points. For trellises for espaliers, cordons, supporting Raspberries in rows, nothing will be found so economical in the end as iron supports and strained wires. When placed against walls the matter of distance is important. For most things, 1½ inch from the wall may be considered a good medium. If much closer the tying cannot be so easily done, and if farther from the wall the draught of air behind does much to do away with the advantages of the wall as a protection. When we have had some very old decayed walls, and could not obtain wire, we have used a rough concrete to fill up the holes and the worst inequalities, and then studded the wall with metal nails 9 inches apart, and tied to these nails. The nails were previously heated, steeped then in oil, and dried before being used. This mode of treatment greatly assisted in keeping them from rusting.

NAMES OF FRUITS.—(*G. C.*).—It is Hoary Morning, but the specimens are small. Perhaps you have too large a crop on the trees. (*F. M.*).—The Pear is Beurré de Capiaumont. The Apples must be local varieties. (*J. E. Ross*).—The Pears are, 1, Belle de Noël; 2, Nouveau Poiteau. The Plum is Lawson's Golden Gage. (*C. R. Limpfield*).—*Apples:* 1, Wormsley Pippin. *Pears:* 1, Ne Plus Meurie; 2, Williams's Boo Chrêtien; 3, Marie Louise; 4, Colmar; 5, Van Mons Léon le Clerc; 6, Autumn Colmar. *Plums:* 2, Late Orleans; 3, Jefferson; 4, a wilding, common in gardens in Surrey and Sussex.

POULTRY, BEE, AND PIGEON CHRONICLE.

TAILS.

THE transition seems easy from heads to tails. We always associate the latter with the memory of Lord Monboddo, and cannot help thinking of a Wiltshire shepherd, whom we once fraternised with for some hours on the downs, when the day was hot and we were lazy. We asked him why shepherds' dogs had such stumps of tails. He said he could not tell. "He knew it was so; but whether they were cut off, or 'drew in,' he did not know, he thought the latter."

Many will recollect the sensation created by the first Cochins "Have you seen these new fowls?" "Yes." "Well, describe them." "They have no tails." "They must be very ugly." Long discussions ensued. The first theory was that the tails had been pulled out, but time showed they did not grow, and it was accepted that the birds had no tails. Some said it was an improvement, others that they were the ugliest creatures ever seen. The public attention was, however, called to them, and the correspondence was large on "caudal appendages," as they were termed. It was not without its difficulties. It was found then, as it is now, that the older the birds get the more tail they have, and that it also becomes white with age. Nevertheless, the tail is entirely unlike the tail of any of our European poultry. It is more like a bunch of feathers, like those of the Ostrich. As soon as the style of it was settled, then the debate arose as to its colour. Black and white feathers were tabooed in the Buff breed, and were admissible only in the Grouse and Partridge. This led to malpractices; the feathers that offended were ruthlessly removed, whether they sinned in colour or size. Judges were expected to examine every tail and count the feathers. It seems also a sort of red-letter day for judges when they can disqualify a pen, and post a placard stating the grounds for doing so. At this time the ordeal a Cochin cock had to undergo was terrible, and all about its tail. At length it was nearly settled that the tail should be as small as possible; that there should be nothing approaching to sickle feathers; that such feathers as were permitted should be as nearly as might be the colour of the plumage. We believe that remains to this day.

Next came a feud second only to the Montagues and Capulets, Guelphs and Ghibellines. Fortunately the war was only a wordy one. Should Spangled Hamburghs have cock or hen tails? Several of the best breeders and judges we had declared for hen tails, but the majority went against them, and they have now disappeared. There is little doubt they were very numerous formerly in parts of Yorkshire. The writer of this article once procured a very small Golden-spangled Hamburgh cock perfectly hen-tailed, and it was of much service to Sir John Sebright in breeding his Bantams. The opponents of the hen tails called them "half-bred-looking creatures." Their advocates had long lists of mains that had been fought and won by the "henny-tailed" against the sickles. Then one day it was put forth as an imperative rule and undoubted truth, that no true Dorking could have any white in his tail. That was an evident mistake and was short-lived. Nevertheless, it did its work, the sickle feathers of Dorking cocks were constantly, accidentally, broken off. Sometimes they were coloured, at others they were mended. This has disappeared. The Game cock had too much tail, he frequently carried it over his back, hence the term "squirrel-tailed." The tails of Silver-spangled Hamburghs were cloudy, and the fiat went forth that they must be purely white, with a black moon at the end. The Sebright Bantam must not have even the suspicion of a sickle, and the feathers must be clear save lacing, and a spot at the extremity of each. The Spangled Poland must also have clear sickles, mooned. In the Golden and Silver Hamburghs (Pencilled), the cocks' tails must be bronzed or silvered on each edge of the principal feathers, the hens' tails must be pencilled to the tip.

Spanish and the French breeds are exempt from the requirements of judges and exhibitors so far as their tails are concerned. We shall have to do with them when we come to colour. Arrived at the tail of our argument, we are almost afraid in these Darwinian days of throwing down the apple of discord when we say, All the requirements we have named have been met, the objections have disappeared, and as soon as the laws of the judges were laid down there was no difficulty and little delay in producing birds that came up to the quality, and answered the requirements. Degeneracy in a tail-less breed shows itself by the faulty specimens increasing that ornament in every brood. In all manufactured breeds the chickens constantly go back to the component parts, and in cases where they are bred without fresh blood they return to it entirely. Thus a degenerate Sebright Bantam loses the hen tail, and has a full complement of long sickle feathers.

THE CRYSTAL PALACE POULTRY SHOW.

WE hardly know if the proper course would not be to place Mr. Elgar's letter in our solicitor's hands in lieu of offering a reply, as little doubt of its object can exist in the mind of anyone—viz., to prejudice the ensuing Show at the Crystal Palace, or why would Mr. Elgar have allowed ten months to have elapsed without bringing his charges before the public? But as possibly, if unanswered, his letter might influence some few who are unacquainted with the Committee, the Judges, and the management of our previous shows, we beg you will insert the following contradiction, the truth of which can be ascertained from our catalogues.

Mr. Elgar states, "It is very curious that a party being on the Committee should be so very fortunate as to show fourteen pens of birds and, except for two, get prizes for them all." This is more than curious, it is untrue. The most approximate case that can be found with the most fortunate Committeeman, is but four prizes with fourteen entries. Mr. Elgar's other statement with regard to the total prizes will be found upon the same authority to be equally untrue. With reference to Mr. Elgar's general statements about sending birds to the Palace in the middle of November in the cold, can Mr. Elgar point out a more suitable place than the nave of the Crystal Palace, with its regulated temperature? or can his fertile imagination conceive one? With regard to the White Fantail and the pair of Jacobins which are so ostentatiously paraded, "will you be surprised to find" that Mr. Elgar was not an exhibitor in either class, but that all his "pets" were consigned to the Selling class, the value of each pen being restricted to £2? and your readers may, perhaps, come to a better conclusion of their true value from the fact that the Judges never so much as commended them, and even at this price not one of them found a purchaser. It is, therefore, highly improbable that anyone would seek to make the exchange Mr. Elgar implies. Referring to the Pheasant, this Mr. Elgar informed us had died in transit under exceptional circumstances; he might further have had the fairness to have admitted that we paid him what he himself demanded and called the "marketable value."

Lastly, no mistake was made by us, and no authority exists for Mr. Elgar's assertion that he won a prize, for which we refer him to the Judges; and as Mr. Elgar's further remarks are chiefly an impeachment of those gentlemen, while stating our own belief in their integrity, an opinion which every exhibitor will endorse, we leave it to them to vindicate their own

cause should they see fit to notice an attack so manifestly libellous.—Chas. Howard and William J. Nichols, *Secs.*, 2, *Exeter Hall, Strand.*

[We have other letters in reply to Mr. Elgar, but those from the Committee alone can be inserted.—Eds.]

ENCOURAGEMENT TO MALAYS.

I believe that most poultry fanciers, although they may not perhaps admire, would nevertheless regret, the departure of Malays from the grand exhibitions, especially as there seemed last year some prospect of their looking up in the world. For many years Birmingham had offered them prizes, assisted, it is true, by subscriptions from breeders. Last year I collected some portion of this amount, and at the same time I pressed on the Committee the desirability of dividing the prizes more evenly—viz., into three prizes, £2, £1, and 10*s.*, instead of £3 and 10*s.* I may state that this more impartial division was in favour with the wishes of many of the contributors, and, therefore, I think, should have been complied with. The Committee, however, declined, considering it would be an insult to the breed to offer less than £3 for the first prize. I therefore reclined this year to collect any extra money, and I see by the prize list that nobody else has taken the matter in hand. The Committee, however, have decided to equalise the two prizes, and they have done this by making the first prize £2, and the second 10*s.*!! This is an encouragement with a vengeance, and apparently a change of idea as to what should be the value of a first prize for such a breed as the Malay.

Now, let us turn for a moment to the catalogues of 1869 and 1870. From those catalogues I obtain the following table:—

1869.

Breed.	No. of Entries.	Amount produced at 7*s.* 6*d.*	Prizes offered.
White-crested Black Polands	15	£5 12 6	£8
La Flèche	9	3 7 6	£8
Malay	18	6 15 0	£14

A glance at these figures will prove that the Malay was not the worst payer to the Association; and if we reflect that probably £3 10*s.* or more was collected by Malay breeders, the Malay not only distances the La Flèche, but treads closely on the Polands. Accordingly, in 1870 the Committee reduced the prizes to the La Flèche, and again the Malay breeders assisted the Committee by a collection. The last year then tabulated gives the following results:—

Breed.	No. of Entries.	Amount produced at 8*s.*	Prizes offered.
White-crested Black Polands	15	£6 0 0	£8
La Flèche	8	3 4 0	£6
Malay	27	10 16 0	£14

Now, in this table, the La Flèche have still further gone back, the Polands remain just where they were, but the Malays have half as many again on the list, and are by far the best payers; indeed, I believe they more than paid the Committee, if we deduct the added money. This, an outside observer would have supposed a reason for encouragement, and the encouragement takes the peculiar form of lessening the prizes to the Malay, whilst they are retained at the very same amount for the other two breeds. There are other breeds that are still offered the same prizes in 1871, though last year they were worse payers than the Malay—adult White Geese, for instance, and the Silver-laced Bantams. These, however, are not reduced at all, probably because it is not "sauce for the Goose;" but I should be very glad to understand the reasons that have guided the Committee. I know not what other breeders may decide, but unless this be altered my indignation, if not cooled down before, will decide me to keep my birds at home.—Joseph Hinton, *Warminster.*

GRIEVANCE OF DORKING PULLETS AT THE BIRMINGHAM SHOW.

I and my sister have been striving the whole of this somewhat changeable summer to put on our very best looks, and we were highly elated a short time ago, to hear you say that the Committee of the Birmingham Show had increased the value of some of the silver cups to ten guineas, and we jumped (in the dark) to the conclusion that this certainly must be an age of progress. I must, however, confess that I feel considerably hurt on looking over the prize list, to find that we have not been treated with the same amount of consideration or courtesy by the Committee as in former years. We are deprived of our five-guinea cup, and the most we can hope to win is £3 for first prize. Our big brother yonder has the chance of winning a ten-guinea cup, which, if he should win, would make him more domineering and unbearable than ever. Perhaps it may not be decorous for me to express an opinion in such matters, but it certainly appears more difficult and more deserving of honour to be able to show two good birds of my sex, and comply with that awful fourth regulation, which reads so formidable in italics, than to show one bird only.

Now, can you kindly inform us what we have done to deserve this treatment? Is it because we have not appeared in sufficient numbers to satisfy the Committee? I should have been glad to have had the opportunity of winning a cup at Birmingham, but we must now, I presume, "rest and be thankful," and obtain as much consolation as possible from the assurance of our elders, that "disappointments are good for young people."—Dorking Pullet.

POUTERS IN 1871.

One of the best indications of the increasing popularity of Pouters may be found in the more worthy position assigned to them in recent schedules. Continued advancement, however, depends more and more upon that trenchant comparison of specimens only possible in exhibitions of metropolitan, or rather of national character. Attention, therefore, may fairly be directed to the competitions organised by London and Edinburgh, for both of these shows are very available for the critical purpose in view, regard being had to the convenience of *locale*, the quality of the birds, the style and tastefulness of exhibition, and the general carefulness of management.

Following a noble lead, Edinburgh has put forth for its second exhibition a schedule of great strength, its classification continuing the liberal policy of the Glasgow fanciers, and beginning indeed where they left off; while in the matters of lower fees and increased prize money a determination is shown to outbid former Scotch successes, great though they have been.

London, with the Crystal Palace for head-quarters, and with all the eagerness of a recent convert, seeks to repeat and even to amplify its late experiment with the Pouter varieties. Its unfortunate selection of date last year told greatly to the disadvantage of the classes in question, and prevented many an excellent Scotch specimen from appearing. Bot, notwithstanding, a quite unexpected display resulted, contributed to mainly by English breeders, with just enough birds from Scottish and Irish friends to make every true fancier hope for more representative gatherings on future occasions. Such occasions now present themselves, for this year there is nothing to prevent the Pouters of Scotland coming to London, or those of England returning the compliment at Edinburgh. Thus, by marshalling under one roof all the strains from every locality, may be secured such opportunities for critical comparison and interchange as have never occurred before, and which remain as the best means of improvement to the breed if duly utilised.

The schedule of London lacks no inducement; it is compact, yet ample, providing for every bird of whatever age, colour, or marking; and of the prizes it may fairly be said that Pouters have never before been so worthily furnished. To the sum of £40, contributed by the Committee, have been added the following donations:—The National Peristeronic Society, a five-guinea cup; the North British Columbarian Society, ditto; Mr. Volckman, a three-guinea cup, for classes in which he will not compete; Messrs. Ure, Wallace, Huie, Gresham, Heaton, and Fulton, each two guineas; Messrs. Percivall, Esden, and Taylor, each half a guinea, and Mr. Rose one guinea, swelling the total to nearly £70, and providing five silver cups as special prizes, for which all the classes but two have chances in competition. Surely the appearance of Scotland in force at the Crystal Palace next November is foreshadowed by the interest already taken in the London Show. At any rate, London so accepts the graceful courtesies of the North British Columbarian Society and the northern fanciers named, and no time has been lost in announcing that a Scotch Pouter Judge will be appointed to co-operate with the English Judges should the number of Scotch entries warrant the arrangement. Under all the circumstances, therefore, the absence of Scotch birds would give rise to no little of wonder and disappointment. But, of course, they will be present, and equally, of course, English friends will help to garnish the Edinburgh Show, not only with their Pouters, but with such other varieties as may be scheduled.

It would be ungracious to omit Ireland from these remarks. It is known that the Pouter fancy steadily progresses there, and although Mr. Montgomery, one of its chief representatives,

has announced that his Pouters will this year be kept at home, it is hoped that the "sister isle" will none the less contribute many a specimen for comparison with the English and Scotch birds.—W. V.

HUNTINGDONSHIRE POULTRY SHOW.

This was held at St. Ives, on September 27th. The following is the prize list:—

Dorkings.—1 and 2, — Wood, Clapton. *Hens.*—Prize, E. Southwood, Fakenham. *Chickens.*—1 and 2, — Wood. *Pullets.*—Prize, — Wood. *Cock.*—Prize, — Wood. *Cockerel.*—Prize, — Wood.

Spanish.—1, S. Deacon, Polebrook Hall. 2, H. Yardley, Birmingham. *Hens.*—Prize, G. S. Hall, Ely. *Chickens.*—Prize, H. Yardley. *Cock.*—Prize, H. Yardley.

Game.—1, S. Deacon. 2, S. Matthew, Stowmarket. *Cock.*—Prize, S. Deacon.

Game Bantams (Black-breasted or other Reds).—1, H. Yardley. 2, J. Goodliffe, Conington.

Mixen Breed.—1, — Longland, Grendon. 2, W. Cutlack, jun., Littleport.

Cochin-China.—1, H. H. Bletsoe, Barnwell, Oundle. 2, J. Taylor, Sutton, Isle of Ely. *Chickens.*—Prize, H. H. Bletsoe.

Hamburghs (Any variety).—1, H. Yardley. 2, J. Goodliffa (Silver-pencilled).

Polish.—1, Rev. W. Thornhill, Offord D'Arcay. 2, H. Yardley.

Any other Distinct Breed.—Prize, W. Catlack, jun.

Ducks.—*Aylesbury.*—1, H. H. Bletsoe. 2, S. Deacon. *Ducklings.*—1, S. Deacon. 2, Rev. W. Thornhill. *Rouen.*—1, T. F. Upsher, jun., Sutton, Isle of Ely. 2, J. Goodliffe. *Ducklings.*—1 and 2, — Wood. *Any other Variety.*—1, J. Malden, Biggleswade (Black East Indian). 2, S. Deacon (East Indian). *Ducklings.*—1 and 2, J. Goodliffe (White Call).

Geese (Any variety).—1, F. H. E. Bridgham, Thetford. 2, J. Goodliffe (Toulouse). *Goslings.*—1, J. Goodliffe (Toulouse). 2, S. Deacon (Toulouse).

Turkeys.—1, G. S. Hall, Ely. 2, Rev. N. J. Ridley, Newbury. *Poults.*—1, G. R. Pearson, Witham Common. 2, Mrs. W. Willson, Feustanton.

Pigeons (Collection of not less than three varieties).—1 and 2, H. Yardley.

Prize.—Cup for the greatest number of Prizes, R. Wood, Clapton.

Judges.—Mr. F. Rooper, Huntingdon, Mr. John Linton, Buckden Wood, and Mr. R. Margetts, Huntingdon.

WEST HARTLEPOOL CANARY SHOW.

I may as well deliver myself of it at once and be done with it. The bird *is* ticked. My first duty when judging at Hartlepool was to disqualify No. 21 (J. W. Frankland), in the Clear Yellow class. It was *the* bird and *is* ticked, most unmistakeably ticked in front and round the top of the left eye. But no blame to Mr. Frankland. He claimed the bird at Whitby upon my *ipse dixit* that it was not ticked. I make no excuse and I offer no comment. *Humanum est errare.*

I have pleasure in reporting the first Canary Show held at West Hartlepool, both because it was the first, and because it was in all respects such a signal success, reflecting much credit on the ability and indomitable energy of the Secretary, Mr. Thos. W. Abbott, who, without even having time to advertise, managed, by dint of much tact and prompt action, to present West Hartlepool with a Show of unusual excellence. The Exhibition was supplemented by the attraction of a brass band contest, but I was told that the Canary Show was the attraction, and certainly I never saw so many people at a show before. Calculating the number in a crowd is some people's forte, I cannot do it, but I am within bounds when I say that the visitors might have been numbered by the thousand, and the contents of the Chinese bowls at the money-taker's box seemed to promise a balance which will next year make West Hartlepool Show second to none in the amount of its prizes.

I need give no special review of the birds, as the greater part of them were noticed by me in my Whitby notes; besides, I am afraid of breaking out in a fresh place about the ticked Jonque! But I must just refer to another gem of a Silver Lizard, which Mr. Ritchie, of Darlington, brought out. The Whitby hen was there too, but it had to stand below this new beauty, also a hen.

As will be seen by the note at the foot of the award of prizes, there was a stoat to nail up, a most flagrant case of tailoring. Mr. John Robson, of Bedlington Iron Works, exhibited two Goldfinch Mules, really magnificent birds if they had been what they were represented to be. But they were not, and that makes all the difference, and it becomes absurd to compare them at all with other well-known Mules of proved integrity. I had seen both these delinquents before more than once, and am not sure that on one occasion the Jonque did not slip me, though I exposed them both at last Newcastle Show, where the manipulation was not quite so cleverly performed as on this occasion, and it was to these same birds that my remarks in the report of that Show referred. The Committee in that instance took no action in the matter, but Mr. Abbott requested me to make a note of the tailoring at Hartlepool.

A great feature of the Show was the collection of stuffed birds. The idea originated with the Honorary Secretary, who is himself learned in ornithology, and a clever taxidermist. The display made in this department was something striking, and the specimens exhibited were for the most part rare and well preserved. The first-prize "collection of stuffed birds," shown by Capt. Farrar, was very superior as regards rarity of specimens and excellency of mounting, points insisted on in the schedule, the latter condition especially being of primary importance, for no amount of red sealing-wax can atone for want of easy, life-like posing, though in this respect all the specimens were highly meritorious, and selection became almost an invidious task. Capt. Farrar's collection contained the very rare Purple Heron, splendidly mounted; Spoonbill, Honey Buzzard, Kite, Osprey, Merlin, Goshawk, Peregrine, Sparrow Hawk, and others of the family Accipitres. The second-prize collection of Mr. C. Smyth was elaborate, and contained some rare specimens, but, unfortunately, the mounting was inferior, excepting a large Bustard, a grand fellow, and a good specimen of the Sand Grouse. A case of Owls, many of them rare, were lost for want of being naturally set. Mr. Brown's collection of British birds contained some remarkably well-mounted examples, notably a case of Waxwings, which were shot at Darlington. A "single case" of magnificent Himalayan Pheasants, exhibited by Capt. Farrar, was great. Mr. John Gent was first in the "collection of foreign stuffed birds," with large and fine groups, but, unfortunately, I have not the names. Last, but not the least feature of the Exhibition, was the first-prize "single case" of Mr. Wm. Farrar's, which contained a pair of the almost extinct bird the Ruff. This case was, without exception, the gem of the Show, and such a pair is seldom seen. One bird was a clean White, and the other a pure Cinnamon.

This department in a bird show must of necessity be somewhat local in its character, as it would be unsafe to trust the large cases with their glass fronts to the tender mercies of the railway. But, where such specimens are known to abound, there can be no doubt the owners would be happy to enter into friendly rivalry, and as little doubt that the exhibition of rare or curious specimens of the taxidermist's skill is as instructive as interesting. And why not give prizes for collections of birds' eggs and nests? I know I am treading on some people's corns. But I am not advocating wholesale robbery, or anything which would lead to it. Confined within proper limits birds'-nesting is a healthy study, mentally, morally, and physically, and destroys the jacket and trowsers also to a great extent.—W. A. Blakston.

Belgians.—*Clear or Ticked Yellow.*—1 and 3, W. Bulmer, Stockton-on-Tees. *Clear or Ticked Buff.*—1 and 2, W. Bulmer. 3 and *hc*, R. Robinson, Middlesborough.

Norwich.—*Yellow.*—1 and 2, Adams & Athersuch, Spon End, Coventry. 3, J. Clemmison, Darlington. *vhc*, J. N. Harrison, Beeper. *hc*, J. Cooper, Middlesborough; R. Hawman, Middlesborough (2). *Clear Buff.*—1 and 2, Adams & Athersuch. 3, J. W. Frankland, Whitby. *vhc*, J. N. Harrison. *Evenly Marked.*—1 and 2, Adams & Athersuch. 3, S. Tomes, Northampton. *vhc*, W. R. Grievson, Bulwell, Nottingham. *hc*, R. Hawman; E. & J. T. Nicholson, West Hartlepool.

Cinnamon.—*Yellow.*—1, S. Tomes. 2, W. Bulmer. 3, J. Taylor, Middlesborough. *Buff.*—1, S. Tomes. 2, J. N. Harrison. 3, W. Bulmer. *Variegated.*—1, J. Stevens, Middlesborough. 2, S. Tomes. 3, R. Hawman. *vhc*, W. W. Johnson, Carlton, Northallerton. *hc*, J. Taylor.

Lizard.—*Golden-spangled.*—1, R. Ritchie, Darlington. 2, J. N. Harrison. 3, W. R. Grievson. *vhc*, J. Taylor; J. Stevens. *c*, C. Clemmison. *Silver-spangled.*—1, 2, and 3, R. Ritchie. *hc*, J. N. Harrison *c*, J. Clemmison; J. Taylor.

Green.—*Clear.*—1, G. Atkinson, Gateshead. 2 and 3, J. Stephens. *vhc*, R. Robinson.

Yorkshire.—*Any Colour.*—1, J. Cooper, Middlesborough. 2, J. Robson, Bedlington Iron Works. 3, J. Stevens. *vhc*, J. Stevens; J. Taylor; W. & C. Burniston. *hc*, W. W. Johnson.

Goldfinch Mule.—*Evenly Marked.*—1, J. Stevens. 2 and 3, J. Taylor. *Evenly Marked.*—1 and 3, J. Taylor. 2, P. Raynor.

Goldfinch.—1, W. & C. Burniston. 2, J. Taylor.

Parrot or Parakeet.—1, G. Rymer, West Hartlepool. 2, R. Ridesdale.

RABBITS.

Lop-eared.—1 and 2, W. B. Boden, West Hartlepool. *vhc*, G. Atkinson, Gateshead (2). *Half-lopped.*—1 and 2, R. Atkinson *French.*—2, R. Alderson. *Common*, 1, W. F. Hall, West Hartlepool. 2, J. T. Furness, West Hartlepool. *Himalayan* 1, B. Story, West Hartlepool. 2, J. Corey, West Hartlepool.

Judge.—Mr. W. A. Blakston, Sunderland.

SUPPORT FOR FRAMES DURING OPERATIONS.

I have found the following apparatus invented by an apiarian here exceedingly useful.

Take two pieces of half-inch wood 4 inches wide and about 1 inch longer than a Woodbury hive measured outside. In the centre of the two boards there is a pivot to enable them to work freely one on the other. To prevent their being wood-bound pennies are half sunk in both boards through which the pivot passes. Two uprights of half-inch wood, 3 inches wide, about 8½ inches high, and 14 inches apart, are fastened to the uppermost of the two boards, with groove to form a rest for the ends of a frame; each has a brass plate about one-tenth of an inch in thickness screwed to the top.

The use of the apparatus is to receive a frame when extracted from a Woodbury hive. If it is desired to find the queen, the frames have simply to be lifted out one after the other and placed in the apparatus; and when one side of a frame has been thus inspected it is turned round by means of the revolving pivot, and the reverse side brought into view. I will not dilate upon its advantages, especially to those apiarians who have no one to assist them in manipulations. By using it anyone can operate much more easily, as the use of both hands is obtained—an obvious assistance when the object is to look for royal cells, or anything else requiring careful inspection. Two bars and frames can be placed side by side on the rest if necessary, and the shape of the piece of brass at the top will prevent either being pushed off. The apparatus when in use is rested across one end of the hive after the top has been removed, a small block underneath the two ends of the lower board preventing its shifting while in use.—D. D. B.

[We can well imagine that the contrivance as described may be of use to some operators, but to ourselves and many others

it would be greatly in the way. We should strongly object to the position it is intended to occupy when in use. Over the open hive under inspection is the last place we should choose. A moveable stand which could be put up close to, or at any distance from, the stock under manipulation, such as a tripod, would be preferable. To any apiarian accustomed to manipulation with frames, the two hands of the operator are all that he requires; and to insure gentleness of treatment, with accuracy and dispatch, he cannot too soon endeavour to acquire such knack and facility of handling to enable him to do everything not only without other assistance, but with as few extraneous appendages as possible.—Eds.]

LIGURIANS IN JERSEY.

In reply to your correspondent "D. N., *Cantab*," I may say that there is nothing strange in his finding Ligurian-marked bees in common stocks kept within a distance of one or two miles from an apiary having one or more pure Ligurian colonies. The circumstance is not, however, due, as he supposes, to the desertion of his own bees, but to the fact that the young queens of these outlying hives have met with drones from his Italian stocks.

The late Mr. Woodbury, not very long after his introduction of Ligurian bees into Exeter, was surprised to find, on driving a cottager's hive located at least two miles and a half from his apiary, that the majority of the bees were well striped. The queen, however, was a common black one. Being desirous of seeing what might come of it, he asked me to put her at the head of one of my colonies. I did so, and had the queen for some yeare. The majority of her brood came out more or less well-coloured and ringed, but many were quite undistinguishable from the common brown bees. The drones, however, were perfectly unaltered in colour or markings from those of any other black queen. This last was one of the facts Mr. Woodbury was desirous of establishing, and he justly thought that this was a good opportunity for doing so.—S. B. Fox.

OUR LETTER BOX.

Houdan Hen Sitting Persistently (*M. M.*).—We are always glad to hear of such amiable deviations from certain natural rules. We have known them to take place with Spanish and Hamburghs; we will now add Houdan to the list of those that sometimes enjoy a luxury denied, as a rule, to their fellows in breed.

Poland Fowl's Crop, Water in (*W. C. D.*).—Hold the fowl up by his legs till the crop is entirely emptied. Feed him frequently and very little at a time. Ground oats slaked with strong beer, and in almost liquid state. If he will not eat, pour down a tablespoonful every three hours. He must never have enough at a time to make the crop hang down. He may have some water twice per day, but only be allowed to sip at it twice each time.

Plumage of Grey Dorking (*A. C.*).—There is no rule for the colour of a Grey Dorking. Any is admissible save black or white. We believe the breeding of Grey Dorkings is more satisfactory than the Silver-Greys. There were many birds in the Silver-Grey classes last year that were disqualified for defects of feather, that would have been successful in general competition. You may show them with confidence, the principal point being weight, and of course freedom from defects of shape.

Turkeys not Thriving (*W. L.*).—We believe the brick floor has something to do with your losses. Nothing can be worse. It is worse for Turkeys than fowls. Cover the floor of your house with road grit or gravel, or dry earth at least 6 inches deep. Feed the sickly birds freely on bread and strong ale. We cannot help attributing part of your failure to feeding on bad wheat. We have to write every week that the best food is the cheapest. Verily, those who christened bad and damaged corn "chicken's meat," have a great deal to answer for. If we understand you aright, the Turkeys play an important part at Christmas. In order to leave no stone unturned to ensure their value, you feed them on worthless food, and you arrive at this result, that birds large enough now to weigh 15 lbs., weigh nothing, being but skin and bone. In most counties Turkeys make 10*d.* per lb. Say in your locality they make 8*d.* You have sighty Turkeys should weigh 1200 lbs., value £41 6*s.* 8*d.* You have economised £5 by buying bad instead of good food, and you have eighty Turkeys, 700 lbs., value "nil." Your economy will have cost you at present, at least £30. It is probably not too late to mend it. Have some ground oats with a small quantity, say a tenth, of pea and beanmeal mixed with milk three or four times per day, and feed them with it. As soon as they begin to rally let a trough of the same food be put in their house, and leave the door open that they may go to it when they like, but there must not be enough to turn sour, and the trough should be well washed out every day. We believe in camphor, but you may try strong beer, and put wormwood in their water. If they have a grass run, well and good; but if they have not, they should have large sods of growing grass cut every day with plenty of mould on them, and thrown into them. They will eat it all. Lettuces are good for them, and all green food.

Pigeon Portraits (*A. M.*).—In addition to those you name, Nos. 548, 464, 471, 473, 483, and 500.

Feeding Bees to Obtain Honey (*E. M. L.*).—It would be absurd and valueless to feed your stock for the purpose of taking off honey. If the hive with empty combs has a strong population, it would be advisable to supply it with sufficient food to bring up its weight, exclusive of hive, to at least 15 lbs. before the end of October. If you require honey, and are prepared to sacrifice a strong and prosperous colony, you can drive out the bees of the old stock, and unite them to the swarm, feeding liberally, as in the first case. We should, however, recommend you to keep both your stocks if sufficiently populous, and if you are willing to afford the necessary outlay for sugar. We should also advise you to get "Bee-keeping for the Many," which can be obtained from our office for five stamps, and which will give you the information you require on driving bees, as well as on various other matters.

Removing Bees (*Alpha*).—Do not attempt to remove your hive or hives 30 yards, or 300 yards, unless you are prepared to sacrifice many hundreds of valuable lives. You must either take them to a distance of about two miles, where they must remain a sufficient length of time to cause them to forget the bearings of their old locality, and then bring them back to their permanent stand, or you may move them gradually, at the rate of about 1 foot at a time after every fine day in the direction of the place you wish them to occupy. The autumn and the spring of the year are the worst periods for shifting stocks short distances, as the bees are more liable to become chilled while puzzling to discover their entrances.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Sept.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 27	29.367	52.3	52.5	S.E.	54.0	61.4	42 8	87.6	38.3	0.750
Th. 28	29.260	67 5	55.6	N.W.	55.2	58.3	52.3	68.0	51.8	0.040
Fri. 29	29.793	50.3	48.7	N.E.	54.8	56 5	45 8	65.6	43.5	1.220
Sat. 30	29.716	46.7	44.2	N.W.	54.6	66.6	44 6	93.1	45.2	0 440
Sun. 1	29.232	66 0	53.0	N.W.	58.9	63.0	45.2	104.1	42.0	0.340
Mo. 2	29.259	52.6	49.6	N.W.	53.7	61.0	46.4	102.0	43.9	0.050
Tu. 3	29.346	49.7	47.7	W.	53.6	61.5	40.8	106.4	39.9	—
Means	29.410	52.2	50.2		54.3	60.3	45.4	83.1	43.5	2.840

REMARKS.

27th.—Dull day, warmer but frequent showers, wet evening and night. Great depression of barometer, which fell during the night to 28.88 (reduced).

28th.—Barometer rising rapidly; fine morning, but showers in the middle of the day, fine evening.

29th.—Dull morning, cold and very rainy all day, but fine at night.

30th.—Heavy rain during the past night, fine day, but wet again in evening.

Oct. 1st.—Fine morning, but rain soon after noon, followed by still heavier, with thunder, lightning, and hail between 1 and 2 P.M.; showery afternoon and evening, but fine night. [evening.

2nd.—A fine day though occasionally cloudy, only one shower till the

3rd.—In early part a bracing October day, partially overcast after 3 P.M.

The rainfall of the past week has reached the unusual total of 2.84 ins., which following a week with 1.99 in., makes 4.83 inches in a fortnight, a quantity in this part of England extremely rare.—G. J. Symons.

COVENT GARDEN MARKET.—October 4.

The supply of wall fruit is beginning to fall off, and prices have improved.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples.....½ sieve	2	0	to 4	0	Mulberries.....lb.	0	6	to 1	0
Apricots.....doz.	0	0	0	0	Nectarines.....doz.	5	0	8	0
Cherries.....lb.	0	0	0	0	Oranges.....℔100	20	0	0	0
Chestnuts.....bushel	0	0	0	0	Peaches.....doz.	4	0	12	0
Currants.....½ sieve	0	0	0	0	Pears, kitchen.....doz.	2	0	0	0
Black.....do.	0	0	0	0	dessert.....doz.	2	0	3	0
Figs.....doz.	1	0	3	0	Pine Apples.....lb.	3	0	6	0
Filberts.....lb.	0	6	0	9	Plums.....½ sieve	3	0	6	0
Cobs.....lb.	0	6	1	0	Quinces.....doz.	0	0	0	0
Gooseberries.....quart	0	0	0	0	Raspberries.....lb.	0	0	0	0
Grapes, Hothouse....lb.	1	0	6	0	Strawberries.....lb.	0	0	0	0
Lemons.....℔100	8	0	12	0	Walnuts.....bushel	10	0	16	0
Melons.....each	2	0	5	0	ditto.....℔100	1	0	2	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes.....doz.	0	4	to 0	6	Leeks.....bunch	0	3	to 0	6
Asparagus.....℔100.	0	0	0	0	Lettuce.....doz.	0	8	1	0
Beans, Kidney....½ sieve	0	0	3	0	Mushrooms.....pottle	1	0	2	0
Bread.....bushel	0	0	0	0	Mustard & Cress..punnet	0	2	0	0
Beet, Red.....doz.	2	0	3	0	Onions per doz. bunches	2	0	4	0
Broccoli.....bundle	0	6	1	0	pickling.....quart	0	0	0	0
Brussels Sprouts..½ sieve	2	0	3	0	Parsley.....sieve	3	0	4	0
Cabbage.....doz.	1	0	2	0	Parsnips.....doz.	0	9	1	0
Capsicums.....℔100	1	6	2	0	Peas.....quart	0	0	0	0
Carrots.....bunch	0	6	0	0	Potatoes.....bushel	1	5	3	0
Cauliflower.....doz.	3	0	6	0	Kidney.....do.	3	0	5	0
Celery.....bundle	1	5	2	0	Radishes..doz. bunches	0	6	1	0
Coleworts..doz. bunches	2	0	4	0	Rhubarb.....bundle	0	0	0	0
Cucumbers.....each	0	6	1	0	Savoys.....doz.	0	0	0	0
pickling.....doz.	2	0	3	0	Sea-kale.....basket	0	0	0	0
Endive.....doz.	2	0	0	0	Shallots.....lb.	0	5	0	9
Fennel.....bunch	0	3	0	0	Spinach.....bushel	3	0	4	0
Garlic.....lb.	0	2	0	0	Tomatoes.....doz.	2	0	0	0
Herbs.....bunch	0	3	0	0	Turnips.....bunch	0	3	0	6
Horseradish.....bundle	3	0	4	0	Vegetable Marrows..doz.	1	0	2	6

POULTRY MARKET.—October 4.

Another Michaelmas has passed away, Queen Bess's day is less observed every year, and fewer Geese come to market. Those that were good this year sold well, but many that were thin and badly fed and killed will make a poor return. The real market for Geese now is at Christmas.

WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 12—18, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
12	Th	West Carberry Horticultural Show.	59.2	41.4	50.3	26	20 af 6	13 af 5	35 af 3	4 af 5	28	13 24	285
13	F	Length of night 13h. 11m.	60.7	41.8	51.2	22	22 6	11 5	52 4	22 5	29	13 30	286
14	S		59.9	40.5	50.2	20	24 6	8 5	15 6	42 5	0	13 53	287
15	Sun	19 Sunday after Trinity.	59.0	40.5	49.8	21	25 6	6 5	37 7	1 6	1	14 8	288
16	M	Twilight ends 6.59 P M.	59.0	40.1	49.5	18	27 6	4 5	3 9	27 6	2	14 19	289
17	Tu		58.8	40.7	49.8	19	28 6	2 5	27 10	58 6	3	14 31	290
18	W	Royal Jersey Horticultural Show.	60.4	40.7	50.6	21	30 6	0 5	49 11	40 7	4	14 43	291

From observations taken near London during forty-three years, the average day temperature of the week is 59 6°, and its night temperature 40.8°. The greatest heat was 80°, on the 14th, 1861; and the lowest cold 24°, on the 15th, 1860. The greatest fall of rain was 1.04 inch.

BEDDING PLANTS IN 1871.—No. 1.

HAVING been asked by several of my gardening friends to send a record of my experience with bedding plants this season, and especially with Geraniums, I send a few notes which I think may be of general interest to your readers.

I have had on trial this year about a hundred varieties of the flowering section of bedding Geraniums, and, including Bronzes, Tricolors, and Variegated varieties, nearly 150 kinds. This includes the older and well-established sorts, about which it is not necessary to make many observations.

I preface the remarks by what many, I am afraid, will think an oft-told tale—the method of treatment I adopt during the winter and spring months, as I attribute my success in a great measure, especially with many of the more dwarf and tender sorts, to the treatment they receive preparatory to planting-out. The great bulk of my plants were taken off as cuttings at the time of lifting the plants from the garden at the end of October. A few of those kinds I was short of were struck previously, so as to be able to take a second batch of cuttings after potting-off, but nine out of ten were not taken off till after the middle of October; they were then put, six into a 4-inch pot, on stages in a span-roofed house, with a row of hot-water pipes immediately under them. The pipes kept up a circulation of warm dry air among the pots. The cuttings were carefully watered, never allowing the cutting pot to be too dry nor too wet, and by the 1st of January they were all struck, and ready to be potted-off, the tops having all been previously pinched while growing in the cutting pots.

We began potting-off in the last week of December, and had all the young plants put into 4-inch pots; we finished potting by the end of the first week of January. They were all kept on shelves and stages as near the lights as possible in double-span houses, kept by means of hot water at an average temperature of from 45° to 50°, with a fall at night to about 38°—occasionally, in one of the houses, on very cold nights, to a lower temperature; but my object is to keep them constantly growing, never to allow them to be checked by want of water, nor too much cold and damp. With plenty of light the growth is never long and spindly, and as they are all on stages and shelves where they are easily reached, any strong shoot is pinched so as to make it branch.

By the middle of April nearly all the plants are in bloom, and are not stopped any more, but are then put out under low frames with moveable panes of glass, the frames being supported on bricks with ventilation left between them. The frames are those I have previously described in the pages of this Journal, and are about 3 feet wide and 10 feet long, double-span, 12 inches high in the centre and 3½ at the sides, and made to hold loose pieces of 21-oz. glass 20 by 16 inches, the lower part of the pane being fastened by a moveable wire pin. These panes can be moved about by two men with all the glass in them, and can be put up on loose bricks or on fixed brick walls in less than an hour. Such frames do not give the trouble or entail the breakages of glass which your correspondent "Au revoir" complains of in your last week's number.

I began to bed-out on the 15th of May, and though we three times had the thermometer below freezing point in the last week in May and the first week of June, I could not see that any of the plants suffered from it. My experience leads me to conclude that plants suffer more from hot sun and cold winds than from frost, and that the best method of hardening-off plants is to inure them to direct sun and plenty of ventilation, and this I endeavour to do by never allowing any of my Geraniums to be shaded. There is an immense difference in the texture of the leaf between plants grown in light double-span houses close to the glass and those out of ordinary greenhouses, and I remember being much struck when, this spring, at bedding-out time, being short of two or three plants of Dr. Hogg to fill up a bed, we took some out of a greenhouse next to my house. All the leaves flagged, and the plants looked quite different to the others in the bed for more than a fortnight, and yet the greenhouse is a very light one, with glass down to the ground on three sides of it, but as it has a western aspect the plants were not inured to direct sun.

I have been thus particular in describing the treatment I adopt, as it may account for many Geraniums doing well with me which do not succeed elsewhere.

My soil is a good garden loam, but I always manure even for Geraniums, as I much dislike the system of starving plants into bloom, and by selecting sorts that bloom freely under good treatment you can insure your garden looking gay both in dry and wet seasons. Another thing I would mention, I never use broken pots or any hard materials as drainage, but riddled cinders from one-half to three-quarter-inch deep at the bottom of each 4-inch pot, and the plants, consequently, never have their roots disturbed at planting-out time, as the roots completely encircle the drainage, and the balls turn out of the pots whole. These cinders I find nearly as good as charcoal, and a barrowload of them is quickly prepared by riddling the ashes out of the house through a half-inch riddle to get rid of the fine dust, and then riddling again through a three-quarter-inch riddle, which leaves the larger and coarser pieces fit for the heating fires.

A great many of my plants are in good bloom when I put them out, and I do not find these plants in less bloom at the end of September than those turned out of cutting pots and store-boxes, and which do not begin to make a respectable show till the end of July. One good plant well treated is, in my opinion, worth six badly treated, and I will guarantee to make a better display with a thousand good plants in sufficient variety that have been properly prepared than six thousand wintered close together in boxes, and turned out in spring about the same size as when taken off the plants in autumn. I have seen a great many mistakes made by the use of quantity instead of quality. I do not, of course, mean to say that all gardeners

have the convenience for wintering Geraniums in the way I recommend, but I do strongly object to the cold and damp treatment of Geraniums being still advocated as the best, and it is altogether a fallacy to suppose that a plant is made tender by being kept warm and in a growing condition during winter, or that it is hardened and its constitution made stronger by being kept cold; on the contrary, I think that the reverse is generally the case. Plenty of light and air, with a sufficiency of water at the roots in accordance with the amount of evaporation, is the great secret, if it can be called a secret, of success. Nothing, of course, can be more enfeebling than forcing plants in winter in close, shaded houses where all the growth is necessarily lank and succulent; but this is a far different thing to what I am speaking of, and the cost of double-span houses with fixed rafters about 10 feet wide each is comparatively small; and if the Editors would like it, I will send drawings and details of a house only 30 feet by 10, which will hold about three thousand bedding plants in 4-inch pots, the glass put in without putty or laps, and plenty of ventilation secured without any hinged windows. [By all means do.—Eds.] All gardeners who have seen it have taken a great fancy to it.

I have allowed these prefatory notes to be too long to say anything with regard to the Geraniums themselves this time, but will do so in my next, and must apologise to many of your readers if I have only repeated what they have often heard before.—C. P. Peach.

THE BEST ROSE IN THE ROOM.

In two Rose Associations, to which I have the honour of belonging, a somewhat new form of competition has lately been started, by offering a prize for the best Rose in the show. It may be interesting to some of your readers to hear the result, and to know the names of the successful Roses. At first it was considered to be hardly fair that Tea Roses should be pitted against Hybrid Perpetuals, and perhaps scarcely possible to compare the two; however, that is now done, and in one instance at least a Tea Rose was the winner. The extra work given to the Judges is very considerable, and necessitates most exact knowledge of a Rose's "points" and special excellencies: perhaps such a prize is only possible among a small number of competitors; with us, at any rate, the thing has been a great success. The adjudging was entered upon as a labour of love, while the interest excited was very considerable. It is a prize that has the advantage of being, not unfrequently, taken by a Rose out of a box which had previously been unsuccessful, thus helping to spread the awards over a somewhat wider area. This is especially desirable where the rule prevails, as among us, that no competitor shall take more than three prizes at the same show. It is evident that a correctly-kept list of such prize Roses would furnish the names of a series, which, as they say, "no gentleman's family should be without."

All Rose growers must have remarked how, in certain seasons, some Roses seem to do so much better than in others. "Every dog has its day," perhaps every Dog Rose; certainly it is the case in the upper ten thousand. This is strikingly brought out in awarding the prize to "the best Rose in the Show." Sometimes a new Rose will carry all before it, as Maréchal Niel, and La France, which I have known take two prizes, one as "the best single bloom," and another as incomparably the finest flower exhibited; at other times old friends most securely hold their own, and Charles Lefebvre defies all comers.

To begin with, there is, this year, the Rose that challenged all England, which it would have been unpardonable if florists had not thus recorded in their catalogues.

"R. H. S. Great Show at Nottingham.
June 27.—Premier Rose Duke of Edinburgh."

Looking back over the annals of our county Association, I find, and very naturally, Charles Lefebvre standing at the head of the catalogue. On that occasion, in 1869, Madame Margottin was his companion as queen of the Tea Roses. At another show in the same year Alfred Colomb came to the front. In 1870, a Rose that is somewhat uncertain, Pierre Notting, was conqueror in the contest; in the present year, most unexpectedly, Prince Camille de Rohan; and the prize bloom, it may be remarked, had been grown on a Rose on its own roots beneath a south-west-aspect wall. Marie Baumann at a larger show, and much more naturally, was quite unapproachable. At a show in the autumn of the present year a comparatively unknown Rose gained all our suffrages—Monsieur Woolfield, who, both for shape and colour pre-eminent, appeared on this occasion, to have surprised even himself. He would probably, by that appearance, have won his way into more than one garden.

Thus my catalogue ends, but if this kind of prize or inquiry has been known in other counties besides that in which I write, and which some of your readers will probably recognise, now that I have set the ball rolling, let others state their experience and the champion Roses.—A. C.

POTATOES.

The soil of your correspondent "K." (see page 235) must be unearthly, and I should think lunar volcanic, or it would not play such pranks with Potatoes. The bare idea of his rejecting the Ashleafs is enough to make one think this, for after many, many years of experiment, I can safely say that for spring, summer, and early autumn eating there is no sort to approach the four or five sorts of Ashleafs, including the Gloucester Kidney. Their flavour is beyond approach, and after them, not the deluge, but the old true Lapstone—not purple, mind—and any gentleman of good taste would be satisfied. As to the Early Rose, and, indeed, all the Yankee sorts, they are, as compared with the above, nasty; I can say nothing with less meaning. They have been introduced by advertisers, and should be avoided.

My soil is not from the moon, and is not at all unearthly, but is a dry, sandy, calcareous loam, which never fails in giving us good Potatoes of English sorts. I received my seed of Early Rose and Goodrich from Mr. Barron of the Royal Horticultural Society's gardens, at Chiswick, and also from Boston, U.S. "K." has most likely been cultivating some English sort instead of that horrible misnamed Early Rose, a "*lucus a non lucendo*," and has thus been deceived, for, depend upon it, no American sort equals or approaches to equality our favourite English kinds, which it seems the French, with their peculiar horticultural conceit, have recently found out, and which the Americans, if their perverse climate will allow them to grow Ashleafs, will also find. As to the exhibition of fifty kinds of Potatoes, why not make it one hundred? I could select ten sorts from one bin. Out of the fifty let the exhibitors select five for the table of a gentleman, and two or three more productive sorts for cottagers, and say two for cattle, such a sort as the Mormons seem to eat, and which is now imported by some Mormon-lover. Surely the exhibiting of large numbers of Potatoes is a vanity.—Solanum.

A GARDENER'S HOLIDAY.—No. 1.

There is much of historical interest in the neighbourhood of Kelso, and the town is beautifully situated at the meeting of the Teviot and Tweed. Standing on the well-built bridge which crosses the Tweed, at one end we see the old Abbey built by King David I. (whom one of his successors designated "A sair saunt for a crown"), one of the most striking ruins of its kind in Scotland. Looking up the river on the left-hand side one sees the ruin of old Roxburghe Castle, the scene of many a fierce contest between the English and Scotch. James II. (of Scotland) was killed by the bursting of one of his own cannon when directing the siege of this Castle; the spot is still pointed out. There is much more to be seen here of great interest to the antiquary.

There is also at Kelso one of the best-arranged nurseries in the south of Scotland, that of Messrs. Stuart & Mein. The old nursery on the Coldstream road had to be given up to the authorities, and has now been converted into a cemetery. New grounds have, however, been taken at Croft House; these are in two divisions. One part has been planted with trees and shrubs, which were removed from the old grounds, and are now in sturdy and luxuriant health; the other division contains an extensive range of new hothouses, and is also devoted to growing annuals, bedding plants, Gladioli, &c. The houses are all of the span-roofed description. The propagating house and show house are each 60 feet long by 15 feet wide; in the centre of the propagating house is a glass-covered pit, and stages are fixed all round the sides and near the glass to receive the plants. The show house has a centre stage and staging round the sides, and is well adapted for growing plants as well as for showing them off to the best advantage. The whole range of glass houses is heated by one of Shanks's combined tubular and saddle boilers, and this Mr. Manson, the manager, assured me did its work in the most satisfactory manner. It may be as well to notice, in passing, that where a large extent of glass surface is heated on the one-boiler system, it is a mistake to

depend only on one boiler: there ought always to be two fixed, so that if one should fail the other may do the work while a new one is being put in or the other repaired.

There is a very interesting trial border plantsd with bedding and other plants. I noted the following—Ageratum Chater's Imperial Dwarf is a very fine variety either for beds or lines in ribbon borders; it grows only from 9 inches to a foot in height and flowers profusely. It is rather more difficult to preserve through the winter than the old variety. Viola Yellow Perfection.—This is also dwarf and free-flowering, and is well adapted for small beds and edgings. I also noticed a well-filled bed of Calceolaria Sultan, a sub-shrubby variety with large flowers of a rich crimson maroon colour; it is exceedingly effective as a bedding plant in the north, but I find it will not succeed in the neighbourhood of London. There were also in this border two beautiful beds of a fine strain of Phlox Drummondi, the different colours blending together; pink-striped and rose-coloured flowers shading to deep purple made a bed not easily matched in chaste beauty.

It is in this part of the nursery that the Gladioli are grown for exhibition. They are planted on a narrow border sheltered on the north side by a low wall; the tallest spikes would grow as high as this wall. The border was sloping to the south, so that the sun would act upon it as much as possible. Then as to soil: this is a very light loam resting on gravel. It is naturally poor, but no doubt trenching and manuring are resorted to in order to improve it. A large number of roots is not grown, but I noticed very few failures, notwithstanding the unprecedentedly unfavourable season. I believe it is intended to grow Gladioli to a much larger extent, in order to compete with the more extensive growers in the south. I have nowhere else seen such a healthy robust growth as in the plants here; and Mr. Manson, Messrs. Stuart & Mein's manager, makes no secret of his success, nor does he use any patent manure to attain such splendid results. Nearly the same varieties as we cultivate in the south are grown here. I saw some of the present year's new varieties which I had not seen previously, and I must say that 75 per cent. of M. Souchet's new ones were not worth sending out. Some of the high-priced ones, such as Phèdre, have no constitution, and many of the others have badly formed flowers as well as indifferent spikes. It would be wrong, however, to condemn them too hastily, as this has been a very bad season for them, and some of them are first-class flowers. The best, I think, is Horace Vernet, a very brilliant purplish red flower, stained white. Phidias is a fine flower of a new shade of colour, violet purple lined with white. Talisman has well-shaped flowers, violet, stained white; the spike is rather short. Sir J. Franklin, very long spike, the flowers rather thinly placed; the upper petals rose, lower petals largely marked with white. Edith Dombrain I have seen very fine. With me the spikes were short; the flowers are well shaped, ground white, feathered with carmine purple. Nestor is the best yellow; its growth is robust, and it has a very long spike of deep yellow flowers of large size, the lower petals slightly stained with red. These are the best of this season's flowers as far as I have seen, but we are all anxiously awaiting the report of "D., *Deal*," not only on this season's flowers, but also of those for next year. No one has better opportunities or is better qualified to judge than he is. In the stand of thirty spikes of fifteen varieties which Mr. Manson was arranging for Edinburgh, and which was awarded the first prize, I noted as the best—Shakspeare, Orphée, Rosa Bonheur, Princess Mary of Cambridge, Newton, Horace Vernet, Adolphe Brongniart, Michel Ange, Adanson, Thomas Methven, and Diomède.

In the private garden attached to Mr. Mein's residence was a long row of Parsons's New White Mignonette. The growth was more robust, perhaps, but in other respects it is not different from the ordinary variety. I also noticed another row of a new bedding Dahlia. It had, I was informed, been raised in the neighbourhood of Kelso. It grows from a foot to 18 inches in height, and does not require sticks to support the shoots. It is a most profuse bloomer; the flowers are bright scarlet, and as well-shaped as some of the show flowers. It is a decided acquisition as a ribbon-border plant. It has been named Sunrise.

From Kelso a pleasant walk down the banks of the Tweed for the distance of a mile brings you to Hendersyde Park. The mansion is beautifully situated, and commands a fine view of the river. This place now belongs to G. W. Griffiths, Esq. The gardener, Mr. Smail, I have long known as one of the most successful exhibitors in this neighbourhood. He is now an ardent cultivator of the Gladiolus, but the number of losses in his beds was very considerable. The soil is much the same as that at Kelso, so that in this case something else was the cause of failure. I would attribute it to the garden being very much surrounded by trees, so that the beds were shaded by them; the plants, although strong and healthy, were drawn. The Hollyhock has also been taken in hand by Mr. Smail. Two seedlings raised by him were in flower at the time of my visit. They have been sent out, I believe, by Messrs. Stuart & Mein. One named Mrs. Atkinson is a buff-coloured flower, and the finest of its colour I have yet seen. The other, William Mein, rosy crimson, is a well-shaped flower of great merit. There is some good gardening to be seen at Hendersyde Park; there is much of general interest in its extensive woods, and Mr. Smail, like all true gardeners, makes no secret about the culture of his favourite flowers.—J. Douglas.

THE BLACK PRINCE STRAWBERRY.

We gathered the first dish of this variety on the 24th of May, and a very heavy crop in the first week of June. After gathering the crop, not wanting the runners, we kept them and any old withered leaves cut off, and the beds well cleared of weeds. On the 9th of September we gathered a dish of perfectly ripe fruit off the same plants, and we picked several dishes since that date. There are at the present time (October 2nd), a good many ripe fruit remaining. The plants have been in their present position for three or four years. I attribute the second bearing and ripening to the earliness of the first crop, and to our immunity from spring frosts, which are so destructive to the Strawberry crop in many places more inland. In a direct line we are only three or four miles from the sea. It would be interesting to know if there are many cases of this kind in the dull sunless season that we have just passed.—E. H. Cooke, *The Gardens, Peniarth, South Wales.*

SELECT ROSES.

Your correspondent "P.," gives a list what he considers to be the best twelve Hybrid Perpetual Roses, with a view of eliciting from other growers their opinion, and if my experience is worth anything to growers in the northern counties of England, I give it with pleasure.

Taking "P.'s" list of twelve I quite agree with him that Marie Baumann, Baroness Rothschild, La France, Charles Lefebvre, Marquise de Castellane, Monsieur Noman, and Edward Morren are among twelve of the best Roses grown. I very much question if Louis Van Houtte will prove a superior Rose to Xavier Olibo, much in the same line of colour. Marie Baumann, described by "P." as a good grower, is only moderate here, and it is difficult to get good blooms from cut-back plants, but from maiden plants it is magnificent, and on going through a plantation of about thirty thousand plants, comprising all the best varieties grown, I thought it the finest of all. In place of the others mentioned—viz., Comtesse d'Oxford, Mdlle. Eugénie Verdier, Madame Vidot, and Comtesse de Chabrillant, I should prefer Alfred Colomb, one of the very grandest Roses raised; Madame Victor Verdier, which has been magnificent this year; Pierre Notting, the finest of the very dark varieties; and Marquise de Mortemart, the best of the very light varieties; but like Marie Baumann and some others of weak growth, it ought to be budded annually to have it in perfection. Closely following these are John Hopper, Dr. Andry, Comtesse de Chabrillant, Abel Grand, and Emilie Hausburg. The following are also first-rate and ought to be in every collection—viz., Duke of Edinburgh, Duc de Wellington, Baron Haussmann, Nardy Frères, Elie Morel, Duc de Rohan, Sénateur Vaisse, Maurice Bernardin, and Leopold Hausburg, the last named of weedy growth, but of excellent form and indispensable to exhibitors. Madame Vidot, which "P." places high in his list, is a beautiful Rose when caught good, which is very rarely the case, and I think Marquise de Mortemart, of similar colour, will be more suitable to the generality of growers.

Of Roses of recent introduction, first, I will take Comtesse d'Oxford and Mdlle. Eugénie Verdier, which are both highly praised by "P." The first is good, but nothing remarkable, whilst Mdlle. Eugénie Verdier is a coarse variety without any refinement whatever, my plant not having produced a single good bloom, and from about two or three dozen I saw growing near here during the past summer, I could not find a single bloom fit to put into a stand. It is, however, a good garden Rose, being very free-blooming, and pretty in colour. Of others not mentioned above, I think Dupuy-Jamain, Ferdinand

de Lesseps, and Perfection de Lyon will prove good, the last named a difficult opener. Paul Neron, of immense size, is coarse, but may prove good. Madame Liabaud is choice in colour but small.

In the lists of Teas given by your correspondents, I do not find Homère. I saw three trusses exhibited in one collection during the past summer most lovely in colour, being beautifully edged with pink like a Picotee, and of good size and shape. Will some one who has grown it kindly say if it succeeds well in the open air, and if it is as hardy as Souvenir d'un Ami, Madame Willermoz, and Madame Bravy, all of which have been beautiful with me during the past summer?

I never saw Roses so free from mildew as they are this season; even at this late period there are scarcely any traces of it, the stronger-growing kinds having sent up fine strong stems from 4 to 6 feet high. In pruning I always cut all the old wood out, and shorten the new well in. Nearly all my plants are grown on the Manetti stock, which I consider to be the best form of Rose-growing, especially in light soils, such as my own.—J. B., *Darlington.*

SUPERIOR MELONS.

Your correspondent, "Owen Thomas" (No. 547, page 215) in his list of superior Melons, may with every confidence add another first-class fruit to his number—namely, Golden Gem, raised by Mr. Cox, of Madresfield Court, and from its superior quality, handsome appearance, and good bearing, he will soon find it to be second to none. I quite agree with him that Golden Queen is a first-rate variety, but I have never been fortunate enough to grow it to anything like the weight which Mr. Thomas mentions—namely, 4 lbs. to 5 lbs. each, nor do I know anyone else who has done so. I received my seed direct from the Messrs. Stuart & Mein, of Kelso, in the spring of 1869. I have never allowed more than from two to four fruit to swell on a plant, but could not exceed 2½ lbs., nor could my friends, but all pronounce it a first-class Melon. I confine my list to three varieties—viz., for first use Malvern Hall; for general crop, Golden Gem and Golden Queen.—S. Taylor, *Sion Hill, Kidderminster.*

POTATOES—EARTHING *versus* NON-EARTHING—ESTIMATE OF VARIETIES.

A short time ago the subject of Earthing *versus* Non-earthing Potatoes was discussed in these pages, and, by what I could gather, the majority were for non-earthing. There was, it cannot be denied, some well-seasoned remarks thrown out, and much I fancy that most of us are well acquainted with. Well, the Editors said, Give us something more than "I think." At the time I read the discussion the men were earthing-up Potatoes. I had four short rows left unearthed, and the four next rows were left earthed-up until this week. We then took them up and found the unearthed wanting, when brought to the test of being weighed, by 11 lbs. in the four rows, say about 12½ square yards. I think that at a rough calculation it makes just 2 tons difference per acre, there being 56 lbs. in the earthed-up portion, and 45 lbs. in the unearthed rows.

I have been a long time convinced that earthing-up Potatoes is the right plan, and that, too, in all classes of soil. The same subject was much discussed four or five years ago. In the following year I left a quarter unearthed; I then considered, when they were taken up, that a third were lost. I can go back sixteen or eighteen years when the good old rough Reds and Blues were grown, and remember distinctly when there were a few rows left unearthed, that few Potatoes could be found in them.

I am for shallow planting with plenty of room between the plants, and plenty of earth placed around them, and that, too, as early as possible, say when about 4 inches high. Undoubtedly the damage in earthing-up is when they are too high. The advanced say, Plant deep in shallow ground. I say, Plant moderately shallow with plenty of room between, and earth-up with a good broad ridge not less than 15 or 16 inches through, and 4 or 5 inches deep.

In wet clayey land plant them on the surface and ridge them up when planted. Much of this will be worked down in cleaning, but must be renewed afterwards. I may here state, that this has been a rather wet summer, but it is no criterion with respect to the comparative merits of earthing and non-earthing; for two years ago, when I had the quarter mentioned above not earthed, it was a very dry summer.

I am sorry to endorse what has been said with regard to the closeness of the Early Rose Potato this season. We find the same remark stands for all sorts—in fact, we have scarcely any really good, still I am glad to bear testimony that the Early Rose has been less affected with the disease than any kind we have had this year. We have taken up a sack of it this week, and not half-a-peck was rotten; and as to the crop, I had a trial of ten sorts, and in the amount of produce the Early Rose far exceeded any of the rest, being triple that of some. I find on distributing some of them and the Red-skinned Flourball amongst the cottagers, that the Early Rose was generally small, so that it is evident it likes rich ground. The Red-skinned Flourball turned out a good cropper and produced very large tubers, so that it carried all before it at our Cottagers' Show—an infant of two-years growth, but doing extremely well. This Potato is an excellent late sort, and will, I hope, take the place of the degenerated White Rock, which is generally grown here. It can hardly be designated a garden variety, as the haulms grow so long. Mine this year grew from 3 to 4 feet long. The sets should be planted in good ground at least 3 feet apart. Of its quality I cannot speak, as it is evident the tubers should be kept until after Christmas before being used. Quality, however, is little thought of here with the mass of people, as they boil all their "Tattoes" in their "coul" (broth), and as you are doubtless aware, Leeks constitute the first and largest part of it. I would certainly prefer the Irish style of having good, rich, mealy Potatoes mashed with butter or new milk.

Has it been generally noticed that coloured Potatoes, especially blue or purple sorts, do much better than white in dark-coloured soil, notably bog soil, while Potatoes generally there grown taste earthy and are more liable to disease, and Kidneys, generally speaking, are oftener found black at the end?—J. T., *Maesgwynne, Whitland, South Wales.*

THE FOREST TREES OF HINDOSTAN.

(*Continued from page* 160.)

Of Magnoliaceæ we have more than twenty fine species in the Indian empire, most of them with flowers diffusing an overpowering perfume to a great distance, and even producing sickness and other severe affections in nervous individuals. Some of the Michelias are grand trees, seen about temples and places of pilgrimage, their golden hue and indescribable fragrance having long ago placed them among the sacred symbols of the Hindoo religion, and gradually led to a wide distribution of this choice class in cultivated groves and reserved lands. Others furnish the famous timber rarely met with in Christendom, there being no outlet from the remote woods and mountain forests where these trees flourish. A backwoods predecessor of mine, however, brought down to civilisation by boat a few planks, which were worked up into a dining table of wondrous beauty. The breadth of each piece was at least 4 feet, the grain was most curiously wavy and striped, the mixed hues of brown, black, red, and yellow, giving the well-polished surface the similitude of a tiger or zebra skin. As a piece of house furniture it was worthy of a palace. Of Anonaceæ, though we have something like one hundred in this tropical order, not one supplies any wood worth cutting, though as an avenue tree and useful to shade the traveller, Guatteria longifolia (or Mast tree, so named from its tapering, lofty growth) is here mentioned. This tree is very roughly handled by hurricanes, while its substance is so soft and corky as to preclude its "wrecks" from furnishing even fuel.

In Dilleniaceæ, another very tropical order, our virgin forests of the north-east are very abundant; more than nine genera exist within Indian limits. The wanderer in the swampy watershed of the Burrampooter valley will pass many days in the shade of Dillenia speciosa, which there attains a gigantic growth its admirers at Kew know not. The flower is truly barbaric and oriental, coarse and beautiful, the bright green, sharply-serrated foliage in full keeping, and lastly the abundant juicy fruits, yield a favourite repast to the pachydermata and larger fauna of the forest, and are not unacceptable to the various tribes of *homo* as an acid adjunct to their fish curry. The timber of some kinds is hard, and of such girth as to furnish canoes, while the leaves yield admirable material for the substratum of thatched roofs, besides being used by primitive artisans in the manner of "Dutch rushes" for polishing wood. Were there not so many finer and handsomer timber-producing trees in the same locality, Dillenia wood might have entered the market, as it is close-grained, and has been tried in gun-stocks with good repute.

Alangiaceæ:—This small order of Indo-Chinese character furnishes hard and handsome woods, not yet introduced into the European catalogue, though the four species are exceedingly plentiful in the remote regions of our north-east frontier.

Rhizophoraceæ, or Mangrove tribe, are tropical trees of the deadly salt swamps or muddy lagoons of the inland forests. A pleasant sight to a naturalist are those vast aquatic forests, casting their dusky shade in the mirror of water, and he must oft enter their leafy labyrinths in a light canoe paddled by some savage ally, should he wish to become familiar with the fish eagle, otter, alligator, and many "uncouth fishes," sole tenants of the fever-haunted waste. Two good kinds of hard durable wood are produced by this order, but hitherto only useful to the shipwrecked sailor from their isolated locale.

Of Myrtaceæ, India can boast one hundred and odd forms, chiefly fruit-bearing trees of lesser growth than could be termed forest timber, and indeed chiefly the denizens of enclosures and groves. However, Psidium or Guava does grow actually wild in the Coffee tract well known as the Wynaad jungle, Southern India (perhaps introduced). The trees in that locality extend for a great distance, and on one occasion of a general famine proved the value of their existence by saving an immense population from starvation, as the fruit contains a large per-centage of sugar and mucilage, and is noted to be in its most perfect condition and abundance during the rainless and blighted periods of the above terrible visitations, and Government long ago rendered punishable any injury to the food-yielding tract above mentioned. Guava wood, though rarely met with in the market, is a most desirable article, close-grained, tough, light, and applicable to all the purposes of British Beech, but it is never of any size. Some I felled in improving a neglected garden was perhaps 18 inches circumference, and rarely straight for more than 2 feet. It is most pleasant to turn in the lathe, makes prime tool handles and agricultural implements, also gunstocks of light and durable quality. I have occasionally purchased billets of the Indian gardeners, who sell them as firewood when clearing old enclosed lands.

Of this large order the Eugenias are handsome orchard trees, the purple mouth-staining Plums so astringently acid as to require salt in qualifying them for the human palate; indeed, the amount of tannic acid in every leaf and pore of these elegant trees renders it of some importance in native estimation, the bark yielding brown red dyes, and the timber imperishable beams and posts for bridges and well foundations, being hard, heavy, and incorruptible by reason of its great store of astringent saps. For shade and ornament unsurpassed, as they attain considerable dimensions, and have mostly showy, Myrtle-like blossoms, conspicuous in the waxy green, closely-set foliage. This wood is not in the market, being too heavy and coarse for export. I have used it for various out-door work, as well-gear for irrigation, gates, posts, &c. Sonneratia (in Myrtaceæ) is remarkable as furnishing a firewood replete with an aromatic resin, or oil, which long rendered it the only effective substitute for coal in the steamers on the river Indus, along the banks of which it grows abundantly.

Ternstromiaceæ, or Theads, another of the Indo-Chinese form of most interesting properties, but only one, a very rare and local tree, Thea assamica of the uninhabited tracts (about 27—28° north latitude on the Little Burrampooter and its tributaries), can be said to supply wood for constructive uses. The ultra savages on whose lone hunting grounds there exists a belt of these quaint unmatched Tea trees, some six miles long by a few hundred yards wide, jealously watch this spot, and explorers for the ruins of classic Sisopulnugger, hunters of ivory, retributive expeditions against those wild men and Tea-seed collectors, can all give a lively account of the "skedaddle" produced by a shower of swift and silent arrows, all heavily envenomed with aconite, shot from the leafy ambuscades of the "cropped hair" Mishmees, as those uncivil nomads style themselves, in distinction from their "unshorn" neighbours. This wood is known to the native backwoods man of that ilk as Boga Kat, or white wood, and is applied when obtainable to the ignoble purposes of walking staffs and sling yokes, being light and flexible.

Aceraceæ, or Sycamores.—There are several species in the Himalayas, but I have never met with any person, native or English, who had used the wood, for the trees generally grow on lofty heights, many days' journey removed from human dwellings, and being surrounded by so many other kinds of useful woods have escaped the axe *in toto*.

Sapindaceæ, or Soap-berry trees.—Only two or three of this very numerous Eastern order supply timber, which is hard, white, close-grained, and useful, but being surpassed by so many other woods within easier access is rarely cut down, and I have never worked it myself.

Æsculaceæ, or Horse Chestnuts.—The remote regions of the Upper Himalayas contain two or three species of Pavia, but I never saw a tree felled. They are valued for their bitter, farinaceous nuts by the mountaineers in famines, though quite as nauseous as our European congener.

Sterculiaceæ.—It is somewhat strange that of the many giants of the forest in the one hundred and odd species composing this very sylvan order, not one should supply any timber of utility in industrial art, being usually spongy and of pulpy consistence, while the bark of many is so tough, wiry, and pliable that cordage is manufactured, and even the lassos used by elephant-catchers are prepared of this substance. Foresters use the bark of Sterculia urens for their drag ropes, Tea planters as cables to ship their loads and fasten their rafts, builders to lift their timber into place, and aboriginal man for snare loops to entangle the wild buffalo, &c. The Tree cotton is the product of Gossampinus, a noble ornament of the woodlands. It is as soft and silky as swan's down, but cannot be used for the loom, only stubbings, &c.—Eos.—(*English Mechanic and World of Science.*

GROUND VINERIES.

And so, Monsieur "Au revoir," you have cut your fingers *à la* Rendle! If you had the original protector and used it for Vines, you would do so and not reap much satisfaction. The truth is that Mr. Rendle has an imagination at tropical heat, as shown by his very pretty book with its plates and impossible troughs, for growing Grapes in, and making our wine from English-grown Grapes. Poor Messrs. Gilbey! how they must have shaken in their shoes to contemplate the bare possibility of not importing any more wine! If the book had this effect it had no other, for no one seemed to patronise the invention, and these semicircular troughs with a groove for glass all went out of mind, and the book too, for I cannot find my copy; still the idea was new and attractive.

There is just a word or two to say about the protectors. Those sent out originally by Mr. Rendle were really interesting, and as protectors for lettuces and other garden crops were most useful, and when slightly improved were all that our clever gardener Mr. Ingram reported them to be. Here permit me to assert that Mr. Rivers never allowed his name to be used; he carefully avoided writing a sentence that could be used by an advertiser, but it seems, according to "Au revoir," to have been so used, just as it is made a handle to the Royal Ashleaf Kidney Potato, which requires no handle. Well, I must say that the grooved bricks, and their lasting qualities, and the facility of moving the ucture, seemed to me most agreeable, and so I tried them with Vines, which grew well and ripened their fruit almost as well as those in common ground vineries; but the sliding of the glass in the grooved bricks was to me intolerable, as the pinching of the Vines required them to be moved so frequently that cut fingers and friar's balsam were in the ascendant. Well, about this time I received from Mr. Rivett one of his improved ground vineries with one side moving on hinges. The wind had knocked over more than once the Rendle protectors, much to my disgust; and so I went over to Rivett, for, like Macedon and Monmouth, they both begin with R.

As far as I can judge Mr. Rendle has improved his protectors, so that cut fingers are not so much in the market, and if so improved they will be most useful for many garden crops, but not equal for Vines, or Peaches, or Pears, as are those of Mr. Rivett, which I pronounce to be the most convenient structures for small or even large gardens ever invented. The hinged side to the ground vinery is a capital idea. Mr. Rivett had it, I think, from Mr. Rivers, but I am not sure. The lifting this up, pinching the Vine, the cordon Peach tree, or gathering Strawberries and Peaches, is a real luxury; and then in winter the salads are always so comeatable, that although I should in large gardens or even in market gardens, employ the brick structures because they are cheap, and if built low will not be affected by the wind, for the amateur Rivett's improved ground vinery is all in all. The uses of this structure are not yet half understood, for, besides winter and spring salads, bedding plants may be kept under them with the usual air in mild weather, and in a sharp frost "sealed"—*i. e.*, covered with a thick coat of straw. If this is of sufficient thickness no frost will or can enter.

There are some new inventions by the Rev. T. Bréhaut and

patented by Mr. Rendle. Now I know that Mr. Rivers wrote to Mr. Bréhaut to express his approbation of all protective inventions, but he has not sanctioned the mention of his name in advertisements. Allow me to advise "Au revoir," and all owners of small gardens to adopt only Rivett's improved ground vinery or others of the same make, for there is no patent for hinges. These, placed on a few bricks, as mentioned in the "Miniature Fruit Garden," pp. 141 to 153, will be found among the most useful and economical of all garden structures. If more luxury is required the protectors of Mr. Bréhaut can be employed; they seem very good and useful, judging from the descriptions.

I do not quite understand "Au revoir" when he says, "If the maker of the wooden frames had called them Cauliflower-protectors," &c., "he would have had orders," &c. Does he mean the improved ground vineries? or does he allude to Rendle's protector supported by a wooden frame to prevent its being blown down, as mine has been till supported with slips of deal, which, if for Vines, those first invented require to be? and if made of sufficient height Vines grow well and ripen their fruit; but I confess to highly preferring Rivett's improved, which grows Vines so well and all other trees requiring protection.

The Vines of Mr. Rivers have hitherto been remarkable for ripening their fruit every season, but this year the fruit is not ripe, nor likely to ripen without a hot sun in October. I have to-day (October 2nd) had the pleasure of looking into the ground vineries of Mr. Rivers, so allow me to report faithfully. The first I looked into was one of Rendle's protectors, the original sort. This is 20 inches high in the back wall, to the N.W., and 14 inches high to the S.E. The front wall has pigeon-holes. In this was a healthy Vine, or the half of a Vine, 14 feet being perfectly healthy and full of fine bunches of fruit unripe of the early variety so much like Buckland Sweetwater—General della Marmora. The remaining 14 feet of this Vine were enclosed in a ground vinery 3 feet in diameter at base, of the usual kind, on bricks. In the 14 feet of Rendle's are sixty bunches fine; in the 14 feet of the same Vine under the common ground vinery—the base of the Vine—are twenty-five bunches. The top end enclosed in Rendle's in 1870 ripened some thirty bunches in spite of cut fingers. This is a triumph.

The next ground vinery on bricks has the Black Hamburgh trained under it full of fruit unripe. The next to this is a marvel, requiring eight 7-feet lengths to cover it; this is the Trentham Black, fruit unripe. This portion of the ground vineries is too narrow—only 30 inches at its base, but the Vines are full of health and the crop large. This long Vine is a charming sight. I learn that Mr. Rivers, observing towards the end of July the backwardness of the fruit, would not have them thinned, so that possibly—barely so—they might if thinned have been riper than they now are.

I hope this plain and truthful statement will satisfy "Au revoir." I have only to tell him and his friends that for their small gardens no protector is equal to the Rivett's improved with a hinge. It should be 3 feet 6 inches in diameter at its base, placed on brick, and then Vines, Peaches, Pears, all trained along the centre to a wire; and bedding plants, and salads, and early Peas, &c., may be grown in them to their heart's content. For larger cultivators the cheaper brick protectors of Rendle may be used.—An Old Lover of Protectors.

ROSES WITH IVY.

One of your correspondents has inquired if Roses and Ivy will do together, and has been answered by "Hortator." I have two high walls, one facing south, the other west; both are completely covered with Ivy and Roses. The way mine are grown is this. The Ivy and Roses were planted together. The Ivy will cling to the wall, and the Roses are trained to a wooden trellis, which should be at least 4 inches from the wall, otherwise the Ivy will choke the Roses. The varieties which I find do the best are Gloire de Dijon, Céline Forestier, and Maréchal Niel grafted on Gloire de Dijon. The contrast when the Roses are in bloom is grand. I have also trained on the same walls a white-corollaed Fuchsia, Madame Cornelissen, and at the present time the walls are the admiration of all who see them. Here the Fuchsias want no protection in winter, and I am in hopes of getting them to the top of the wall in a year or two. The upright pieces of the trellis are half-inch square and 9 inches apart.—J. T. Dawson, *Gardener to W. H. Smithard, Esq., Summerville, Guernsey.*

[The chief difficulty is not in keeping the stems of the Roses and Ivy apart, but in keeping the roots of the latter from robbing the Roses of sufficient nourishment.—Eds.]

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 20.

The Hop is a plant which belongs rather to the farming than to the gardening interest, though not unfrequently cultivated as an ornament in gardens, and used to conceal an unsightly paling by its graceful festoons, or to impart a pleasant greenness to the trelliswork of an alcove or summer-house. I presume that all the readers of this Journal are cognisant of the fact that this year has been a most unfavourable one. It is well known to the growers, and to the purchasers of the product of our Hop plantations, that no one year is exactly alike any other year, a constant succession of changes being occasioned by the seemingly peculiar liability of this plant to be affected by atmospheric phenomena, by the attacks of insect enemies, by parasitic vegetation, and by maladies not easily definable in addition to these. Just as some persons have remarked to me, that when they feel particularly comfortable they are sure that some trouble is approaching, so is it with the cultivator of Hops; in a good year he rejoices with trembling, since he may pay for it in two or three subsequent bad ones. On the other hand, in a very unfavourable year he has this consolation, that the next is nearly certain to be different, and most probably decidedly better.

Now 1870 was a decent average year, but 1871 is exceedingly below the mark, both in England and abroad. In a letter addressed to one of our daily journals, a Kentish Hop-grower makes the following dismal statement:—"The plant has this year, from its earliest shoot in the spring up to the time of picking, suffered from a succession of attacks as numerous and almost as fatal as the ten plagues of Egypt. I may enumerate wireworm and flea by millions, spiders, red and black fly, sometimes three deep, lying on the leaves, followed by innumerable lice, which destroy the vitality of the vine, and turn it black; mould, white and red, which eats away the Hop and destroys the sample; and to complete the calamitous list of foes, we generally have one or two terrific sou'-westers, which rend and shiver the Hops, so that some grounds in exposed positions look as if our gallant cavalry from Aldershot had charged the enemy through the plantations. I ought in fairness to add that we have two friends who occasionally come to our rescue and destroy the vermin, and I therefore mention with grateful respect our nursery friend, the lady-bird, and a sable insect called the "negur.'"

I do not profess to be any authority in Arachnids, but yet I demur to the wholesale condemnation of spiders. The true spiders are, I believe, staunch in their adherence to animal food, and decidedly reject vegetable aliment. Young spiders and small mites are often mistaken for each other, though there is a remarkable structural difference between them, one which, nevertheless, no one but a naturalist could be supposed to be cognisant of. Spiders are furnished with eyes, while mites are unprovided with organs of sight as far as we can tell. One of the mites, which is almost exactly like a small spider at a first glance, is that called Trombidium holosericum, and it also spins a delicate web for the protection of its young, rather than for the capture of prey. This is said sometimes to be sufficiently common on plants to impede their growth; whether or not it occurs on the Hop I cannot say. The harvest bug (Leptura autumnalis), which is abundant in June, does doubtless occasion some injury to the Hop at times, though a more usual visitant to the kitchen garden. This species can only be detected by close watching, from its minute size. Some species of the genus Acarus may also occasionally visit the Hop plantations.

It is no wonder that this writer, not, of course, an entomologist, though a shrewd observer of Nature, failed to trace the connection between the "fly" and the lice, they being, as is evident, aphides in different stages of growth. What he alludes to under the name of the "negur" is not quite clear; the larvæ of the lady-bird or lady-birds, for there is a plurality of species here, are called "niggers" in some places, and the name may also have been, for aught I know, applied to some of the larvæ belonging to the genus Syrphus, truculent individuals, indeed—wolves among the aphid sheep. Some newspaper editors have, it seems, been sending commissioners into the Hop districts to make their investigations and report thereupon, a proceeding a little in the manner of the proverbial individual who doubly secured his stable door when his steed had been

spirited away? As an independent and non-commissioned observer, I venture to give an opinion regarding a few of the prominent insect enemies which have made the Hop their prey this season, though I make no positive assertions with regard to the state of matters in the midland districts, though, presumably, what applies to the south would not be inapplicable to these. It is easy to catalogue a host of insects found on or near Hop plantations, and yet far from easy to apportion to each its due share of blame. I feel convinced that the principal transgressors have been the aphides, *alias* flies, *alias* lice, belonging to more than one species, though the "speciality" of the Hop, Aphis Humuli, ranks first; for certain species of plants have their particular enemies of the aphis genus, though some of these flies appear to be migrate without much discrimination. Indeed, Dr. Plimley, of Maidstone, has propounded a singular theory with regard to the habits of the Hop aphis. The hosts which cover the vines in May have been produced, he asserts, from flies which have been fed up on the Sloe. The autumn generation of this aphis, he thinks, deposit their eggs in this plant, and their progeny, when matured in the spring, take flight and settle in the Hop plantations. If this be really the case, it would, perhaps, be advisable to take measures for the extirpation of the Sloe or Blackthorn where it is growing wild in the hedges in those districts; but, for my own part, I am at present dubious as to this supposed fact.

The fly, we say, from its rapid reproduction, and the difficulty of dealing with it effectively, has always been an object of the special dislike of the Hop-growers, yet many years ago the veteran Kirby ventured to hint that they were somewhat to blame, and might thank themselves for much of the trouble and loss it caused them. He says, "Led by their old prejudices of the fly being produced by cold winds, &c., they do nothing towards its destruction, though, if aware of the way in which it is generated, and that by killing each female as it appears early in the spring, they would prevent the birth, not of thousands, but of millions of aphides. The aphides being soft are killed with the slightest pressure, so that it is merely necessary to rub an infested leaf between the thumb and fingers, with a force quite insufficient to injure its texture, to destroy every aphis upon it; and from experiments which I myself made in the Hop grounds of Worcestershire, when at Malvern in 1838, I am persuaded that every leaf of each plant might be thus cleared of the female aphides first attacking it in spring by women or children mounted on step-ladders for the purpose in ten minutes or less, so that six plants being cleared per hour by one person, sixty might be cleared per day.

I do not enter into any discussion as to this plan, but make the quotation chiefly because there is, after all, something more in the cultivator's idea about the "cold winds," whatever there may be in the "&c.," than Kirby thought, though it need furnish no excuse for slackening exertions. Aphides do not benefit primarily by these winds blowing mostly from north or east; nor, again, do they suffer from them, as numerous other species of insects certainly must. Then how is it that they increase so rapidly at such times? I am persuaded that it is because those species which should prey upon them are diminished in numbers, or rendered very inactive, by the ungenial influences of the season. Of the commoner species of the genus Coccinella (the well-known lady-bird) there were much fewer than usual in many places. Others, also, such as the Syrphi, and the beautiful fly designated Chrysopa perla, which are undoubtedly useful in reducing the number of aphides by means of their ravenous larvæ, did not work with their wonted diligence at this task, being backward in their appearance. There is a dipterous insect that in some years destroys many aphides, depositing eggs which produce a parasitic larva; this was, I suspect, also lacking in vigour. And, moreover, it must be borne in mind that aphides, though callous to many atmospheric influences, are now and then severe sufferers by heavy rains in spring and early summer. I have seen many of them lying drowned about their food-plants at such times, and it so happened that at one or two periods this year, when the aphides were multiplying rapidly, we had a spell of dry weather.

Rennie, many years ago, drew attention to the circumstance that about midsummer, or not very long afterwards, the plants are gradually freed of their tormentors; and a recent author observes that the first indication of the approach of a favourable change is the clustering of the aphides at the extremities of the leaves and twigs, while the lower leaves generally become almost clear of them. At this time, too, they cease to a great extent to suck the juices of the plant. Then do they migrate? No; modern entomologists of eminence think not, and regard as erroneous the assumptions made by White, of Selborne, and others on this point. Occasionally aphides will suddenly appear upon the Hop plants late in the season and invade the flowers themselves. Under these circumstances it sometimes happens that weakly plants are so severely injured as to die off in the autumn.

The small beetle called the "Hop flea," the Haltica concinna of most writers, does much harm in the spring; in fact, it infests the plants every spring in greater or less quantity, and last season it was the pioneer of the insect host, attacking the Hop at a very early stage in its growth. It has been supposed to be most injurious in years when the nights are cold and the days hot and dry, but this seems conjectural only. There is much more probability in the opinion of those who trace a connection between this insect and the manure applied to the hills, and hence they recommend that the soil should be turned up between the rows; and Loudon says that if good stable dung be used, and not littery dung, this insect is less troublesome, and the health of the plants is improved. "Prevention is better than cure," no doubt, but where these beetles have not been prevented from putting in an appearance they must be swept off the plants or picked off. The application of lime, under certain precautions, has been of much service, or the fleas may be brushed through a tin funnel into a wine bottle, out of which they cannot leap; also it is suggested that they may be captured by holding a large inverted bowl coated within with gas tar just above the plant, to which the insects are to be persuaded to leap up—a modification, in fact, of the "ketch 'em alive, oh!" plan, so pleasantly successful with flies. I doubt whether the plan of covering the young plant with fine earth at the time it is exposed to most danger is of marked utility, though some have spoken in its favour.

The wireworm I am not now about to touch upon, as I am not able to throw any new light upon the history of the species attacking the roots of the Hop. No doubt under this name are comprehended the larvæ of several beetles, and centipedes also, creatures of a very different nature. Modern researches into the history of centipedes show that they resort to plants and fruit chiefly for the sake of the insects upon them, yet when young they are vegetable-feeders, taking to stronger aliment as they grow older.

Many lepidopterous larvæ resort to the Hop. Hepialus Humuli feeds upon the roots of the Hop, also upon the Burdock and Nettle. The larva lives through the winter, but makes a nest for itself, remaining then in a state of torpidity. That this species is materially injurious to the Hop has never been proved. I have observed that in various localities I visit about London this moth, popularly called the Ghost, is much scarcer than formerly. Dr. Withering recommended covering the roots with stones as a preventive. Much more frequently observed is the gay caterpillar of the Pale Tussock (Orgyia pudibunda), which, though occurring often on the Hop, is a very promiscuous feeder. A friend reports to me that in some Hop gardens this year he saw quantities of the "Hop dogs," as these caterpillars are familiarly called. The yellow pencils of hair with which it is adorned, and the slashes of deep black across the light-green ground colour, render it conspicuous enough, and it is accused of doing much more harm than is really the case. The worst enemies of the Hop are not such insects as these, which merely devour the leaves, but those which, like the aphis, drain the plant of its vital juices, or strike, like the wireworm, at the seat of life below.—J. R. S. C.

PROPAGATION OF ECHEVERIA METALLICA BY CUTTINGS.

This striking plant is so useful in flower gardening for various purposes, that there are few places now where more or less of it is not seen. Strictly speaking, it belongs to the class of fine or characteristic-leaved plants. Its leaves are more valuable for ornament than its flowers; and to permit it to flower is equivalent to wasting its beauty, for the foliage quickly falls off in vigour and hue as the flower stem elongates, and the whole plant becomes ungainly, and unfit for any ornamental position. Large plants on one stem, with finely-developed leaves, are beautiful objects in vases so placed as to be a little under the eye; and in higher positions they are striking in appearance when contrasted side by side with softer and more

graceful objects. They are like bold castings in bronze, in their rigid symmetry and metallic hue. They are invaluable subjects wherever beds have to be filled that are overrun with roots of trees and shrubs, and probably overhung also by their arms. I know no plant that delights more than this in such circumstances. It picks up materials for luxuriant growth where the soil is almost dust dry to the depth of a foot or more; and its leaves acquire the deepest bronze and the finest form and size where the roots appear to have the least encouragement. This in my opinion constitutes its chief value for open-air gardening. It is hopeless to attempt flowering plants in such circumstances, and yet it frequently happens that beds have to be filled in which flowering plants cannot be expected to succeed.

This and other succulent subjects should be employed in cases of this kind. The ground may be carpeted with the beautiful little annuals, Sedum cæruleum, S. dasyphyllum, and others easy to obtain and easy to keep, of similar dwarf close habit; and the Echeveria, if planted at free distances over the surface which these will form, will have a pleasing and interesting effect, a combination of soft colouring and striking form. I have observed, as doubtless many have, that the plants vary in character considerably from seed. They vary in the size and shape of the leaves, some being narrower, some broader, some crisped or wavy, and others quite smooth on the margin; and the depth of metallic tinge varies as much as anything. Whatever value these qualities may have, it can only be secured and perpetuated by means of cuttings. This mode of propagation is not often resorted to.

It appears to be almost the uniform practice of all to rear what stock is wanted from seed. It is much less troublesome to increase it by means of cuttings—no kind of plant is more easily struck. The treatment is simple, and the necessary appliances are common to the worst-appointed gardens. Leaves make the best cuttings—those formed of flowering shoots are apt to spindle too much, and be leggy. The leaves of flower shoots just begun to push are the best; they are quite large enough, and can generally be got in sufficient quantity without injury to the stock plants. The leaves should be pulled, not cut off, and no trimming of the base will be found either necessary or desirable. If any cut or wound is made on the leaf in any way, it had better be laid aside to dry for some time before being put in the soil—a few hours will do. Any good sandy soil will do for striking them in—they will root in anything. A cold frame to which air is continually admitted is the best place to strike them in, and they may be put in either pots or boxes; they receive less check, however, in being potted on from the former if they are small thumbs or 60's. Whether pots or boxes be used, it will be best to plunge them so as to do away with the necessity of watering till the roots are struck, after which they may be given water sparingly as they require. Much water and a close atmosphere are conditions to be avoided by all means.—W. S.—(*The Gardener.*)

NOTES AND GLEANINGS.

Distribution of Plants.—We are requested to announce that the First Commissioner of Her Majesty's Works and Public Buildings intends to distribute this autumn among the working classes and the poor inhabitants of London, the surplus bedding-out plants in Battersea, Hyde, the Regent's, and Victoria Parks, and in the Royal Gardens, Kew. If the Clergy, School Committees, and others interested will make application to the Superintendents of the parks nearest to their respective parishes, or to the Director of the Royal Gardens, Kew, in the cases of persons residing in that neighbourhood, they will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution.

—— Continuous-blooming Apple Trees.—Late in January I planted several Apple trees in my garden, one of which is quite a horticultural curiosity, for it has on it no less than four distinct crops of Apples. The tree bloomed at the usual time in spring, and it has continued to bloom up to the present date (October 9th), each time setting its fruit. In my neighbourhood there are several Denby's Seedling Plum trees with their second crop of fruit, but I never heard of a continuous-bearing Apple tree. Perhaps some one will kindly oblige me with the reason of this curious phenomenon.—T. J. Harrison, *Farndon, Chester.*

—— Mr. Frederick Waterer.—It is seldom that it happens that a man is admired and esteemed by everyone with whom he comes in contact, yet few persons could be found to deny that such were their feelings towards Frederick Waterer. He was the eldest son of Mr. John Waterer, who laboured with such assiduity and to such good purpose for so many years at the American Nursery at Bagshot. Here are grown those splendid Rhododendrons which excite so much admiration at the annual shows of the Royal Botanic Society, the result, in a great measure, of Frederick Waterer's skill. On the death of his father three years ago, Frederick, together with his brothers Michael and John, were left in possession of the business. Michael, however, withdrew, and thus the subject of our memoir was left co-partner with his younger brother John. He had been warned by his medical adviser that it was necessary for him to exercise great caution, as it was probable that his death might happen suddenly. On Tuesday, October 3rd, he retired to rest in his accustomed health, and in the morning of October 4th he was found dead. He was only forty-nine.

PLANTS SUITABLE FOR TABLE DECORATION.

Those who have never seen a dinner-table adorned with Crotons, Coleuses, and Caladium argyrites, can scarcely form a right idea of their exceeding loveliness, while those who have seen them will look upon them as old friends not to be discarded. Whether all be seen on the table at one time or in company with other plants, or each variety separately, with epergnes and such-like things, they cannot but give satisfaction to the beholder. Moreover, they have this to recommend them—they are easy to grow, and their colour is never better than when they are fairly established in small pots, and they will remain in good condition a long time without shifting into larger pots.

All the Crotons may be made useful for the dinner-table, but those best adapted for that purpose are C. variegatum, C. variegatum longifolium, and C. angustifolium, especially the two last. I always make it a rule to strike a few of each kind every year; November is the month I choose. Having prepared a few pots of peat, loam, and silver sand in equal parts, with bell-glasses to cover with, I take off the cuttings with a stem 4 inches long, and insert them about 2 inches deep. Here they may remain three or four weeks, after which time the glasses may be taken off and the pots allowed to remain as they are until about the middle of February, when they will be in good condition for potting-off singly in clean dry 3-inch pots, using a mixture of two parts loam, one part peat, and one part rotted dung, with a good sprinkling of silver sand. In about six weeks or two months they will require shifting into pots a size larger, using the same soil as before.

I have generally found Crotons to make nice-shaped plants without any pinching whatever. C. variegatum forms a pyramid, but if they should not break and grow into the desired shape, the top must be pinched off when about 9 inches high; they will then send out branches near the bottom. Much better plants, and a much brighter colour, are got by striking in the autumn instead of in spring. When the plants have grown too large for the table, or require larger pots, their beauty in the stove or conservatory will repay for all the care that has been taken of them. It will be found that the Croton delights in a good turfy loam.

Coleus Verschaffelti.—This is a most useful plant for the dinner-table, and has much to recommend it; first, it is very easy to cultivate where a stove or warm frame is at hand; secondly, it may be had at any time of the year by a little forethought in striking; and, thirdly, its beauty is improved by candle-light rather than otherwise. One way of growing this Coleus is to pinch it at every joint (or nearly so), but I have generally found it ready enough to break out into the pyramidal shape without any pinching whatever. This shape I consider looks best on the table, and the leaves are a much larger size than when pinching is resorted to. Where plants are required for the table at all times of the year, it is a good plan to strike a few cuttings very often, say every two months; they will strike standing about in the stove or in a dung-frame. As soon as they are rooted, pot off into small pots; and as soon as the pots are nearly full of roots, shift them to the size pot you use on the table—4-inch pots are large enough; keep them near the glass, and never shade after they are rooted, or they will not be so dark in colour as when fully exposed to the sun. Loam, leaf mould, and dung in equal parts, with a sprinkling of silver sand, is a good mixture for them; and when their work on the table is

done, if shifted to larger pots they will soon make very large plants. I have tried about a dozen of newer varieties with the same result, but like the Verschaffelti best.

Caladium argyrites.—This is a very useful plant for the dinner-table, and one that gives very little trouble where there is a stove. About the beginning of March I generally look over the bulbs, which are then at rest, turn them out of their pots, and repot them in the following soil—turfy loam, leaf mould, and very old cow dung in equal parts, with a sprinkling of silver sand. I have generally found the Caladium to last longer in a growing state, and also to make much larger leaves, if the bulbs are put into small pots first and then shifted to larger ones as soon as they have filled their pots with roots. The size of the pots we use on the table here are 4½-inch—accordingly the bulbs are put first into 3-inch pots, and when full of roots shifted into 4½-inch pots. When potting, it is a good plan to put a large bulb in the centre of a pot, with three or four smaller ones round it; this will bring the tallest and best leaves in the centre of the plant. As the plants are not required here till late in the summer, I only give enough water after potting to settle the soil about the bulbs; they are then put on a shelf in the stove until they start into growth, when water is given whenever it is required, until their beauty is past, when they may be returned to the shelf to gradually dry off.—W. Nokes.—(*The Gardener.*)

SUITORS FOR LEGISLATIVE PROTECTION.

In the last session of Parliament an Act was passed for the protection of sea birds, and efforts are being made, wisely made, for a similar shield being fixed before some of our land birds.

We are true, and ever shall be true, to our motto, "For Gardening and Gardeners," and we, therefore, for we know they trust us, have no hesitation in pleading strenuously for mercy to be shown to the small birds that frequent our gardens. Nay, we will plead even for one large bird too. We were staying with a friend, and whilst at the breakfast-table he exclaimed, "There are the rooks on the lawn again!" He hurried out of the room, fired at them, and killed one. "You are much in the wrong to kill those birds." "Go and see what holes they make in the grass." "Cut open the crop of your victim and see what it contains." It was done, and there were in that crop nothing but the grubs—larvæ—of the cockchafer (Melolontha vulgaris). The lawn was disfigured by brown patches, and those patches were caused by the grubs eating the roots of the grass. Whether our friend is still a corvicide we are not aware; he will read this, and may, perhaps, confess.

We are indebted to the Society for the Suppression of Cruelty to Animals for the engraving we append, and we would ask every gardener to attend to a few facts we now record. No plea do we offer for the bullfinch—he is put in the lowest corner—he is a marauder, and injures fruit tree buds, not for the sake of the caterpillars within them, but because the embryo buds are pleasing to his palate; yet he need not be destroyed, he is beautiful, and so very rare, and so very timid, that he may be scared away; a blank cartridge discharged will drive him away to far-off quiet hedgerows, not to return for weeks.

"Do not shoot the tomtits, Harry, they only pick the buds to get at the grubs in them." "Better leave the grubs alone—one enemy is better than two." "True, but the grub would become a perfect insect, and the parent of hundreds of other grubs to attack the buds next year."

We have watched the labours during their nesting time of every species of bird pourtrayed in the annexed drawing, and we record this as a fact—an unrefutable fact to which there is no exception—each parent bird brought daily to its nestlings hundreds of insects either in their perfect or larva state.

In Macgillivray's "British Birds" is this confirmatory statement:—

"At the distance of 9 feet from a thrush's nest, which was built in an old wall, I erected a hut with some branches of Spruce and Scotch Fir, and took possession of it on the morning of Thursday, the 8th of June, 1837, at a quarter past 1 o'clock, for the purpose of making observations on the habits of these birds. At half-past 2 o'clock they commenced feeding their brood. From that time until 4 o'clock they fed them fourteen times. From 4 to half-past 5 o'clock they fed them twenty-two times. As one of the young birds was dressing its feathers it lost its balance and fell on the ground. No sooner did the old ones perceive it than they set up the most doleful lamentations. I replaced it in the nest. Having seen me return to my retreat they would not feed their young until I came out. I accordingly went home for my boy, who, after I had gone in again, carefully concealed the entrance. His departure attracted their notice, for, after having followed him a considerable distance they returned, and, without suspicion, commenced their labour. From half-past 5 until 7 o'clock they fed them twenty-four times. From 7 to 8 o'clock they fed them sixteen times, and from 8 to 9 o'clock eleven times. From 10 to 11 o'clock they fed them ten times, and from 1 to 2 o'clock eleven times. From 2 to 3 o'clock they fed them eight times, and from 3 to 4 o'clock six times. From 7 to 8 o'clock they fed them thirteen times, and from 8 to half-past 9 o'clock thirteen times. They now ceased from their labours for this day, after having fed their brood 206 times."

"On Saturday morning, the 10th of June, 1837, at half-past 2 o'clock, I went into a house made of the branches of trees to watch the blackbirds while they were feeding their brood. It was within 9 feet of their nest, which was built in the hole of an old wall. At a quarter-past 3 o'clock in the morning they began to feed their young, which were four in number. From that time until 4 o'clock the male fed them only once, and sang almost incessantly, while the female fed them six times. From 4 to 5 o'clock the male fed them six and the female three times; from 5 to 6 o'clock the male fed them four, and the female five times; from 6 to 7 o'clock the male fed them three, and the female five times; and from 7 to 8 o'clock the male fed them three times. For the last four hours he sang most delightfully, except when he was feeding his tender offspring. As he had induced one of them to fly out after him, I was under the necessity of fixing it into its nest, and this caused some interruption to their feeding. From 8 to 9 o'clock the male fed them six, and the female seven times; and from 9 to 10 o'clock the male fed them four, and the female three times. From 10 to 11 o'clock the male fed them three, and the female two times; from 11 to 12 o'clock the male fed them two, and the female three times; from 12 to 1 o'clock the male fed them two, and the female four times; and from 1 to 2 o'clock the male fed them twice, and the female thrice. From 2 to 3 o'clock the female fed them twice; and from 3 to 4 o'clock the male fed them three, and the female four times. From 4 to 5 o'clock the male fed them three, and the female four times; from 5 to 6 o'clock the female fed them only twice; and from 6 to 7 o'clock she fed them three times. In the evening the male was so much engaged in singing that he left the charge of his family almost entirely to his tender-hearted spouse. From 7 to 8 o'clock the male fed them only once, and the female six times; and from 8 to twenty minutes past 9 o'clock, when they ceased from their mutual labours, the male fed them once, and the female seven times. When I left my retreat to my more comfortable abode the male was pouring forth his most charming melody. Thus, in the course of a single day, the male fed the young forty-four, and the female sixty-nine times."

"On Tuesday morning, the 4th of July, 1837, at a quarter past 2 o'clock, I went to observe the titmice feeding their brood. At half-past 3 o'clock in the morning the birds began to feed their young, which were six in number. From that time until 4 o'clock they fed them twelve times, and from 4 to 5 o'clock twenty-five times. From 5 to 6 o'clock they fed them forty times, which was astonishing, as during the whole of this hour they flew to a plantation at the distance of more than 150 yards from their nest. From 6 to 7 o'clock they fed them twenty-nine times; during a part of this hour they flew in every minute. From 7 to 8 o'clock they fed them twenty times; during this hour it rained very heavily. From 8 to 9 o'clock they fed them thirty-six times, and from 9 to 10 o'clock forty-six times; during a part of this last hour they fed them twelve times in five minutes. From 10 to 11 o'clock they fed them thirty-seven times, and from 11 to 12 o'clock thirty-nine times, and from 12 to 1 o'clock twenty-four times. From 1 to 2 o'clock they fed them twenty-three times, and from 2 to 3 o'clock thirty-four times, and from 3 to 4 o'clock eighteen times. From 4 to 5 o'clock they fed them twenty-nine times, and from 5 to 6 o'clock twenty-five times, and from 6 to 7 o'clock twenty times, and from 7 to half-past 8 o'clock twenty-five times. They now stopped, after having been almost incessantly engaged for nearly seventeen hours in their labours of love, and after having fed their young 475 times. They appeared to feed them solely with caterpillars. Sometimes they brought in a single large one, and at other times two or three small ones. It is therefore impossible to say how many had been carried in by them during the day."

Another good authority, the Rev. F. O. Morris, in "The Gamekeeper's Museum," says, "It is only during a portion, and not a large portion, of the year that the birds can find any fruit to

destroy; but they must live all the year round, and therefore of necessity eat fruit at a less rate than grubs. But the strongest evidence in the case is to be drawn from the actual experience of our French neighbours. In France the exterminators have really had their way. Partly for the sake of protecting their crops, and partly for the pleasure of eating their victims, the small farmers on the other side of the Channel have long waged war against small birds, and the minute subdivision of property has probably aided them in doing so with effect. The result is that you may travel for leagues in France without hearing a chirp or seeing the flutter of a feather along the hedge. But that result has been attended with an incident by no means satisfactory. What our naturalists have predicted as a possible contingency in England has actually occurred in France. Relieved from their feathered enemies, the grubs and insects have multiplied to such a degree as to be alarmingly numerous and

destructive. A Commission has been appointed to sit upon the subject, and its report was decidedly against the extermination of birds." A similar report has been made by the Belgian Secretary for the Home Department.

We could dwell upon each of the small birds which frequent our gardens, and show from our own observations and those of published authorities that this testimony of Macgillivray, one of the most careful observers of our native ornithology, is not only true of the Goffinch, but of all the others:—"The young are fed on insects of various kinds, which also form a principal part of the food of the old birds during the summer." We say, then, to all gardeners, Scare the birds, do not kill them. Keeping an old woman daily in a kitchen garden during the seed and fruit season, will cost little and be the most conservative practice. Even cherish the small birds, and then you will not incur the anathema such as is uttered by the yellowhammers when deprived of their eggs or young. "They continue some days about the place, chanting at intervals their dolorous ditty, which,

although unaltered in its notes, must doubtless be meant as an expression of their grief. In some parts of Scotland it is interpreted as signifying "Deil, deil, deil take ye"—that is, the cruel nesters."

WORK FOR THE WEEK.

KITCHEN GARDEN.

CONTINUE to plant out strong plants for *Coleworts*, and successions of the best plants sown in the season for standing as spring *Cabbage*. Prick out a quantity on sloping banks, &c., for a reserve for making up deficiencies which may be caused through the winter, and for planting successions in the spring. Continue to prick out *Cauliflowers* as they become fit to handle, and see that enough of all previously recommended vegetables is provided. Take favourable opportunities at all times of earthing-up *Celery*. See that it is quite dry, and the earth applied in a healthy pulverised state. Should Celery become affected with the fly dredge it with soot and charcoal dust. *Endive* should be blanched in succession, and continue to plant it on banks. Take up *Carrots* and store them in sand. See that the *Onions* already stored are in good condition. Those who have not already potted strong plants of *Parsley* in order to secure a reserve in rough weather, should lose no time now in performing it.

FRUIT GARDEN.

Continue to collect and store away the late varieties of Pears and Apples carefully, and see that those already stored are in good condition. Walnuts which have been collected and have sweated should now be placed in unglazed earthen pans which are quite dry; cover them with a piece of canvas or thick brown paper, and about 1 inch of dry sand over it, then store them in a moderately dry place, and as required for use in succession; they should be placed for eight or ten days previously in a damper place, which will freshen them and cause the inner skin to peel off easily. This is the best and easiest method of keeping Walnuts, Filberts, and other nuts. See that the potted Strawberries are secure from wet. Run a soft broom over the Peach and Nectarine trees with great care, to take off just the very ripest of the leaves. Pruning may be commenced amongst Pears and Apples. Shreds should be prepared on wet days, as well as labels for naming fruit trees. See that the old wall nails are cleaned and prepared in readiness for use. Use every possible means to well ripen the wood of Peach and Nectarine trees, and where the walls are flued a little fire heat should be applied until the leaves begin to fall freely. If the trees are too much crowded with young wood every shoot that will not be wanted at nailing time should be cut out, so as to expose those left to all the light possible. Attend to former directions as regards root-pruning, and where it is required let it be done at once. Root-pruning, however, is not of much service where the roots cannot strike down into the subsoil, and where this is the case it will be better to lift over-luxuriant trees and concrete the bottom of the border, as cutting the horizontal roots, although it may check the gross habit for a season, would not induce a fruitful habit.

FLOWER GARDEN.

Where evergreens are to be removed let it be done as soon as circumstances will admit, for the most favourable season for this sort of work will soon be past. The scarcer varieties of variegated Geraniums should not be risked in beds too long; they had better be taken up and potted immediately the weather becomes at all threatening. After potting it will be a good plan to place them on a gentle bottom heat in a pit or house, where the atmosphere can be kept sufficiently dry to prevent the foliage being injured. So circumstanced they will soon become established, when they may be stored away for the winter in a cool dry house, where they will be out of the reach of frost. Keep grass short and frequently rolled, so as in some measure to prevent the growth of moss, and keep the surface firm and smooth. Also roll gravel walks frequently in damp weather, so as to render them smooth and comfortable to walk on. Lose no time in planting offset Tulips, and any of the main bulbs which do not appear to be in a healthy state. Attend to the proper arrangement of the bulbs, and improve the collection by the introduction of new varieties as much as possible. Some do not like the trouble of growing breeder or self Tulips. Now, this appears a most interesting department of the fancy, for by this means the amateur becomes possessed of the finest strains or breaks possible. The same breeder may become rectified, still it does not follow that it will be good, and yet in the hands of another person a similar one may produce a magnificent and first-rate flower. Give Carnation layers in frames plenty of air, and those which were not rooted sufficiently early in the season should now be removed and treated in a similar manner to the first crop. Pansies, if of too long and straggling habit should have the tops removed, and Pinks should be occasionally examined and fastened.

GREENHOUSE AND CONSERVATORY.

The plants in these structures will as yet require a rather liberal watering, and this should be performed early in the morning, when needful. Winter-flowering plants which have thoroughly ripened their wood may have occasional applications of weak and clear manure water. A free ventilation must be permitted, leaving a little all night. Let Cyclamens, Lachenalias, Oxalis, Centradenias, and such little winter favourites be kept on a warm front or end shelf, totally unshaded. Roses in pots intended for flowering through the next two months should be allowed a very light situation, where there is a constant circulation of air. These are best at present, and, indeed, most of the winter, without fire heat, at least while the weather is mild, shutting up much solar heat early in the afternoon, and raising much moisture in the air by sprinkling all surfaces, &c. This valuable family is not yet sufficiently appreciated for winter purposes; they deserve a span-roofed house to themselves, and I have little doubt the time is not distant when such will be provided for them. What they want is a permanent bottom heat of 65° or 70°, or about 5° in advance of the atmospheric temperature. Thus situated, very little forcing would be required for heating the atmosphere. A night covering on the roof would generally suffice. Early Chrysanthemums will now be in a forward state, and such as show their buds prominently should be placed under glass. If it is desirable to have them in bloom as soon as possible, they may now safely be placed where a little artificial warmth can be afforded them; take care, however, that they are placed near the glass, well supplied with manure water, and air given them freely, as anything in the shape of close confinement would soon ruin them. Indeed, the whole stock of these should now be placed where it can be covered at night in case of frost, for although they will bear more of that than most things, it is not good policy to leave them to the mercy of the weather much after this season, unless in favoured localities. It is better, however, to place them in skeleton frames, or in a sheltered situation where they can be covered in case of need, than to huddle them too thickly together under glass, or to put them, as is sometimes done, under the shade of Vines. See that tree Violets are perfectly free from their enemy the red spider, for if the foliage is allowed to get disfigured at this season, the plants will long remain unsightly afterwards. See that the Epacrises and other winter-blooming plants are placed in a light part of the greenhouse where they will be fully exposed to the sun, so as to get the wood well ripened, and to ensure their blooming freely. Examine Heaths or anything else subject to mildew frequently, and apply sulphur immediately the pest can be perceived. Water must be very carefully applied at this season, especially in the case of large specimens, for there is much more danger in overwatering now than when the weather is warmer and the plants more active; therefore, look over the plants frequently, and never water until it is absolutely necessary.

STOVE.

A temperature of 65° to 70° by day, and 60° by night, will suffice, still using a somewhat moist atmosphere in the afternoon and during the night, with a free circulation of air, keeping also a quiet ventilation all night. As some of the Orchids become ripe, such as the Catasetum family, the Cycnoches, Lycastes, &c., they may be removed to a drier and somewhat cooler atmosphere. Pursue a kindly course of treatment with the Euphorbias, Gesneras, and similar subjects for winter-flowering, these will soon be of great service. The Phajus grandiflorus with the Neottia speciosa will soon begin to blossom, also the Cypripedium insigne and venustum. Let them have plenty of heat and moisture.—W. KEANE.

DOINGS OF THE LAST WEEK.

A FINE open week with sunny days, terminating, however, with heavy rains on the 7th inst. The sun made such a change in the flower beds, that we had them all picked over, taking away barrowloads of washed and spent blooms. Numbers of blooms began to show fresh and well, and but for the rains of to-day we calculated that by Monday we should have had something like a second summer display. However, on the

whole, the season has been far beyond the average for all departments of gardening.

KITCHEN GARDEN.

Glass Protections.—We planted out more Cabbages, and but for the rains rendering the ground clayey we should have had our most forward Cauliflowers planted out under old hand-glasses. Having these we use them, though battered and broken at the sides, and we hardly think them worth mending, except as regards the tops, which we keep whole; but we almost despair of keeping the sides right, there seems to be such an attraction between them and the points of forks and the points of the shoes of the men. We should greatly prefer stout wooden boxes, tarred at bottom or set on narrow slips of slate or tiles—boxes say 7 inches deep and from 18 to 24 inches square, with a moveable glass top. We have little difficulty in keeping the tops whole, but so much do the sides of metal hand-lights suffer with us, that some time ago in bad weather we removed the broken squares at the sides and replaced them with squares of old zinc which had been removed from a building. Among all the new inventions we should be satisfied with the box of wood and the top of glass. That top might be a little span, or it might be a single square of glass of the requisite size in a frame. The little box might be lower on the south side, so as to resemble a miniature garden frame; but where simplicity and economy are to be combined, we should make the box square all round, say 7 inches deep, and then by raising one side, say with a couple of bricks, we could give the fall any way we chose. For such work out of doors, for propagating in-doors, for retaining greater heat among small plants and cuttings in houses, where it might be necessary to have the atmosphere of the house drier and colder, we know of no plan more simple than such wooden boxes from 18 to 24 inches square, with a moveable glass top laid over them. In the case of tender cuttings under glass in a pit or house, if there should be any danger from damp from the condensed moisture on the under side of the glass, one need have no trouble with wiping and drying; all that will be required will be to lift the glass top and put the upper dry side undermost.

Neatness.—It is necessary to keep this in view, more especially at the present season. All decaying vegetables and masses of weeds are peculiarly depressing to the spirits at this season of the year. Amongst cottagers a little slovenliness is excusable during the harvest months, when generally all hands, large and small, are busily engaged. But when they are past the desire to have everything neat and clean, and all decaying matter and weeds placed where they shall contribute to future fertility instead of malaria, should be practically developed. How often have we noticed cottage gardens, and all about and outside the cottage, as neat as neat could be in April, May, and June, and onwards, and yet presenting a most dreary aspect in the months of September and October; rotting Cabbage leaves, weltering Potato tops, and decaying Bean stalks and Pea haulm tainting the air; whilst grass and rank weeds made almost impassable the pathway up to the house door, that was so clean and neat in May. No doubt the waning year has a great effect upon us all, but such results should be guarded against. We had intended long before now to have said something of the specialities of the

Woburn Cottagers' Horticultural Show the finest we ever saw, and the interest may be judged from the fact that there were above 1300 entries for competition, besides what was kindly sent for observation. We may be permitted here just to mention one of the peculiarities of this well-managed Cottagers' Society, and that is not merely the rewards given for the best-cultivated gardens and allotments, and the giving these awards to different districts in rotation; but the most excellent plan adopted by the Judges of going several times during the season, and, we believe, without notice, to examine and note down the peculiarities of culture and management of each competitor. We do not know when the year of competition commences, but as the show is generally held about July, it would be well that the year of competition should begin in the autumn months. We feel confident that such visits then would tend to do away with the autumnal slovenliness observable not only in cottage gardens, but also, we fear, not at all rare in many of our gardens where a regular gardener is kept.

Onions and Rotation of Crops.—Even in the wet week we could not find time to string or house our Onions, but we placed them all under the protection of lights, &c., before the wet weather set in. There is no better mode of keeping them than stringing them according to their sizes, and not making the strings too long. Provided the Onions are kept dry, as against the walls of an open shed, we have never seen them injured by frost. When thus hung up in the dry we would remove nothing from them, not a bit of the loose covering of the bulb; that is easily done before taking them to the kitchen. Many cottagers might keep their Onions much longer and sounder than they do if they could only be convinced that they would be perfectly safe, though very cool, if dry. This is so far important, as a sound Onion is often a great help to the labourer who must partake of his cold dinner in the open field.

Our Onions have been very fair, but not so large as we expected. Owing to the changes of the weather they stood still, and the tops of the flags were discoloured too early. Still we have a fine crop of good-sized bulbs, and in excellent condition. Lately we saw a fine quarter of equal-sized Onions at Luton Hoo. They were not like imported Onions, but throughout the large quarter the bulbs would average from 12 to 13 inches in circumference. We notice this chiefly from the fact that, so far as we recollect, this was the second if not third year for Onions on the same spot; and if we are not mistaken, Mr. Cadger told us that one of his old masters had grown Onions on the same ground for a number of years, and that the last year's crop was always the best—that is, superior to that which preceded it. This of course is contrary to the generally received ideas of the rotation of crops, but we have met with many instances in our own practice where the succession for two or three years of the same crop was attended with an advantage rather than a disadvantage. We think the rotation system is of most importance where there is a scarcity of garden ground, and more especially as it is only in the case of a few crops that we can be satisfied with one crop in the year; still it would be of importance to know well-authenticated cases where the same ground produced similar annual crops year after year without showing the least deterioration in their quality or quantity.

It is a singular fact, but no less a fact, that some of the oldest and most experienced are those who are the least stereotyped in their ideas as to rotation of cropping. We have vividly in our recollection just now a border in a kitchen garden which for from twenty to thirty years, and under the management of some six or seven successive gardeners, has been always planted with Brussels Sprouts, the young crop being soon planted after the other is done with. The present gardener told us he had the border well trenched and manured, and the crop was, if anything, better, though we believe it was always a most serviceable border. He also stated, what we knew to be a fact, that as it had borne Brussels Sprouts so well for so many years, he thought he might as well continue the practice, as the border was so situated that he could hardly use it for anything but such winter and spring vegetables.

FRUIT GARDEN.

We must refer to what has been lately said of gathering fruit, &c., and especially the earlier kinds, before fully ripe, so as to escape many enemies. The drenching weather interfered with the flavour of Peaches, &c., and it was a great annoyance to find a hole picked in a fine Peach or Pear, so that it could not be sent to table, and could only be cooked. Where other protective means cannot be tried much may be done by gathering before the fruit is fully ripe, and giving it a little help artificially. For instance, from one espalier tree well loaded we have still some dozens of the Williams's Bon Chrêtien Pear as hard as fresh-lifted Potatoes; but from that tree we have sent in dishes from the first week in September by selecting the forwardest, time after time, and giving them a little artificial heat. The fruit, so treated will not keep long, and therefore only as many should be made ready at a time as will meet the demand. We often treat Marie Louise and other fine Pears in the same way, and late Peaches in a cold wet season may thus be earlier sent in good condition to table; and while rather hard insects, &c., trouble them less.

ORNAMENTAL DEPARTMENT.

We have already alluded to the flower garden. With a week of fine weather there would still be a fine second summer show. It is well to pick away all dead blooms to keep ourselves from melancholy musings. Notwithstanding the greater exposure to the wind, plants in vases have suffered less from the wet than those on the ground. A late show of flowers will depend entirely on warmth and the coaxing rays of a bright sun. There are myriads of trusses and blooms just waiting for such an enticement to display their colours.

We have rarely had all the Scarlet section of *Geraniums* better than this season, and we have fallen back on a number

of old kinds, as Punch, Tom Thumb, Stella, Cybister, Rubens, Trentham Rose, &c., as suiting our purpose on the whole better than newer kinds. We have tried numerous rose pinks, and in a shady place Helen Lindsay is magnificent, and Forget-me-not and others are good; but for all places and situations we find nothing to equal the old Christine. For a light graceful pink with white and green variegated foliage, we have found nothing to surpass Silver Nosegay. Most of the weaker-growing kinds we were obliged to water in order that they should be kept on, and not suffer so much if a heavy rain came. Watering, however, is a matter of importance to us and to be indulged-in but rarely. Those who come from parks and places where a shower bath can be given to the beds every alternate evening, cannot believe that these massive plants, lately so full of bloom, must pretty well look after themselves. Necessity in the first place brought us to the conclusion that as it is not all gold that glitters, so abundance of water and the using it in abundance are not always an unmixed advantage.

A little matter is here worth noting. It is a very different thing to keep a regular good supply of good things every day for a resident family, and to have a flower garden gay with bedding plants as early as possible, and to satisfy the wishes of another family that is hardly ever at home until August and September. Much smaller plants and much less care will be required in the latter case, and yet the result will, for the time prepared for, be as good if not even better. As respects the flower garden, we have in our mind's eye places that were full and brilliant in July, or even the end of June, and other places very meagre then—plants few and far between; but the latter were quite as good as, and perhaps fresher-looking than the earlier ones, in the month of September, when they were most needed. There could be no comparison in the labour involved in the two different cases, but for the proprietors who did not see their gardens until the first days of September the less-labour system would be quite as telling. That system would not do for a resident establishment, and yet this simple fact is apt to be forgotten when the *£ s. d.* question comes to be taken into consideration. The whole question of a constant display in the flower garden, from nice variegated and evergreen shrubs in winter to early-blooming and nice-foliaged subjects in spring, to masses of bedding plants and subtropical plants in summer, is on the whole now less than hitherto a matter of peculiar skill than that of money, means, and labour. We do not require to tell our readers how it rejoices us to know what an impetus has been given to the love of the beautiful by the ornamental gardening that has been done at the Crystal Palace, at Kensington, at Victoria, Battersea, and Hyde Parks, Kew Gardens, &c.; still, with every desire to honour the talented superintendents and their desire to accomplish the greatest results with the smallest outlay, we are not the less convinced that it would be to the benefit of many a country gentleman, and to the advantage of many a gardener, if the results in these public places were not only commented on, but the expenditure involved were also taken into consideration.

Our general work with cuttings, potting, &c., has been much as detailed in previous weeks, and we must for the present conclude with alluding to two matters.

First, the white-leaved *Centaurea candidissima*. There is no difficulty in keeping the old plants by taking them up and repotting them, but they like plenty of room. Side shoots will strike freely in the spring in heat. Good-sized shoots in summer will do well if taken off in August. We have rooted them successfully by taking them off in September, and as we are doing now in October. For this purpose so late, we like, however, to cut off nice pieces, with stems not less in thickness than a good-sized quill, dress them neatly, leaving the foliage mostly untouched, and insert them in pans close to the sides of a small 60-sized pot, with a bit of slate down the middle and a little twig in the centre to tie the largish leaves to. But for room one cutting at the side of a small pot would be best. We use the slate to keep the roots distinct, as they are so brittle. We place these pots in a cold frame or pit for a fortnight or three weeks, keeping them a little damp, but not wet, until the base of the cutting begins to swell. Then we plunge the pots in a mild bottom heat, and as soon as the roots form we harden-off. If put in heat at once there is a great risk of damping. When cuttings are inserted in July and August the cool process will do all through. The above mode is best now and at the end of September. The other matter has reference to the

Coleus.—Let us here remark that in the case of many who have tried the only Coleus we have found worth room out of doors, the C. Verschaffelti, and without success, it has been greatly owing to two causes—poverty of soil, and dearth of water. Perhaps there are, properly speaking, three points instead of two essential to success:—First, strong plants to be turned out in fine weather in June; second, a fair top-dressing of rotten dung, as that from a decayed Mushroom bed, one of the causes of the success in the fine bed at Woburn; and thirdly, never to allow the beds to become dry. Our beds are very fair, full, and on the whole well coloured, but they would have been better if we had given them, or could have given them, more water in hot weather. Once established, like the Golden Pyrethrum, the Coleus thrives and looks best in a season diversified with sunshine and showers.—R. F.

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

N.B.—Many questions must remain unanswered until next week.

Early Rose Potato.—We have had so many letters wishing to purchase this variety from "K.," that if he has any to sell, and will send us his address for publication, we think that he will soon have disposed of his surplus.

Books (*Thistle*).—The "Fern Manual" gives full directions for the culture of Ferns. The "Cottage Gardeners' Dictionary" is practical. Keane's "In-door Gardening" would aid you in managing your greenhouse.

Supplying this Journal (*Cannazaro*).—Your newsman has his London parcel on Saturday. If you had the Journal direct from our office it would be posted on Thursday morning.

Gathering Pears (*C. J; E. T.*).—All Pears are fit for gathering as soon as, by lifting the fruit upwards, the stalk parts readily from the spray.

Variegated-leaved Violet (*W. Bill*).—It is one of those sports so frequently met with, and probably would return to the normal green colour in another soil and season. For use, if permanent, it would not equal the Golden Pyrethrum.

Bush Pear Trees (*Amateur*).—If your Louise Bonne Pear trees planted in 1869, lifted and planted in 1870, show signs of canker, then the soil must be unsuitable, or perhaps not properly drained. Fruit trees will not succeed in a cold wet subsoil. The Louise Bonne does better trained as a pyramid than as a bush, and the Quince is an excellent stock for it, producing larger fruit than from the Pear stock. In planting Pear trees grafted on the Quince, the stock should be quite covered up to the junction of the graft. The swelling at the junction to which you allude is not uncommon when the Quince is used as a stock. Drain your ground if it requires it, and trench 2 feet deep if the subsoil will admit of it, as in your case the evil seems to lie at the root, although, as the trees do well as pyramids with you, the mode of training may have some effect.

Planting a Peach House (*A Recent Subscriber*).—Three dwarf-trained and two standard trees will be sufficient for the back wall of a house 40 feet long. We do not think a line of espaliers near the front wall, planted with trees trained on the French system, is the best way to utilise your space. It would be much better to fix a wire trellis at the distance of a foot from the front sashes, and also wire the roof by straining wires horizontally at the distance of a foot from the glass; the wires should be strained tightly. The trees should not be trained quite up to the apex of the roof, as they would exclude the light from the trees planted against the back wall. You will require the same number and class of trees for the front as for the back; plant them a foot from the front wall. For the front we would select Peaches, Early York, Noblesse, and Grosse Mignonne; Nectarines, Violette Hâtive and Pine Apple. For the back wall we would have Peaches, Bellegarde, Desse Tardive, and Salway; Nectarinee, Elruge and Victoria.

Vallota purpurea Treatment (*A Constant Subscriber*).—The foliage of the plants would not become long if they were in a light airy position in a greenhouse from which frost is excluded. Place them nearer the glass, and so that they may receive light equally on all sides. The leaves should never be cut down, it being an evergreen, but those turning yellow should be removed. Keep it dry in winter, but not so much so as to cause the leaves to flag, and in spring, and when growing and flowering, water freely. It is one of the finest of greenhouse flowering bulbs, and ought to be in every garden.

Bellis aucubæfolia Losing Variegation (*Idem*).—It is usual for plants of this, in a season like the present, to become green from the cold and continued wet. If the soil had not been so rich, the plants would probably not have become green. Mix sand or grit with the soil as you propose, affording a slightly shaded position in summer. We cannot account for double white and red Daisies becoming single.

Iresine Lindeni and Alternanthera Propagation (*M. W.*)—Both are propagated by cuttings, which may be struck at all seasons, but best in August and September, and in March; place them in a bottom heat of 70° to 75°, keep them close, moist, and shaded, and they will strike as freely as Verbenas. The galvanised iron wire and fittings about which you inquire are good.

Various (*J. W. L.*).—It will not do to cut back the old Vine shoots to within two or three leaves of their base, but you may remove any laterals, indeed clear them all off, so as to admit more light and air to the shoots, and so ensure their better ripening. Prune when the leaves have fallen. For the red spider you cannot do better than syringe the Vines with a

solution of 2 ozs. of soft soap to the gallon, and when you prune them strip off all the loose bark and dress the canes with a solution of 3 ozs. of soft soap in a gallon of tobacco water, brought to the consistency of paint with flowers of sulphur. The Azaleas and Camellias with bad drainage should have this put in order at once, and if necessary you may repot them, but be very careful of the roots. Do not repot the Heaths having good drainage until early in March. We think the Strawberry plantation must be old, and placing road scrapings between the rows we do not think advisable We would cut away a part of the old leaves, and mulch between the rows with manure, and we should make a new plantation, and remove the old after next year's fruiting. Good kinds are President, Dr. Hogg, Rivers's Eliza, and Frogmore Late Pine. In digging the ground we would add nothing to it for Strawberries but manure, and that not very near the surface. For other crops you may add, for loosening the soil, coal ashes, which are preferable to road scrapings unless very gritty.

Propagating Heaths and Epacrises (*Brunswick*).—The cuttings should be taken from the points of the shoots when they become rather firm at the base, but before they are ripe. If they can be handled easily they are sufficiently firm. The time for taking the cuttings depends considerably on the kinds. When the plants have made fresh growth that can be handled easily, that is the proper time. The cutting-pots should be half filled with drainage, on that place the rough portions of sandy peat, filling to within half an inch of the rim with the finer particles, and then half an inch of silver sand, pressing firm and giving water, which should pass through the pots. Let the pots stand at least twelve hours, then press again, and put in the cuttings so that they may just clear each other. Set the pots on a shelf or bed in a cool stove or vinery at work, and cover with a close-fitting frame or bell-glasses. They must be kept close, just moist, and shaded from strong light. They will root surely in about six weeks, and should be gradually hardened off and potted singly, keeping them close for a short time afterwards, then they may be hardened off. Cuttings 1½ to 2 inches long are proper, inserting them about an inch in the soil. Epacrises are propagated in the same way, taking cuttings of the young shoots about 2 inches in length.

Mangold and Swede Turnips for Seed (*W. B. B.*).—Select the best-shaped and heaviest for seed, pulling them up, and storing them in sand in a shed and covering them with straw in severe weather, so as to save them from frost. Plant as soon after February as the ground is in good working order. Remove none of the roots except the tap roots of the Swedes. Plant in rows 3 feet apart, and 18 inches asunder in the rows.

Propagating Evergreens (*W. H. S. D.*).—Common Laurel, Portugal Laurel, and Aucubas should be inserted in the open ground in rows about ½ foot apart, and about 3 inches apart in the row, taking the cuttings with a short heel of about an inch of the last year's wood. Insert two-thirds of their length in the soil, and make it firm about them. The earlier they are put in the better, and it is desirable to cover the Aucubas with a frame and lights, admitting air in mild weather. The Hollies and Conifers should be covered with glass, the former under a wall or fence, and the others are best in a cold house covered with hand-glasses or frames. They ought not to be removed until the following autumn. For covering the trellis on the north side of the house Virginian Creeper (Ampelopsis hederacea) would suit; but if you want an evergreen we know of nothing so good as Ivy, the Irish and Rægner's being good. We have, however the Traveller's Joy (Clematis Vitalba) against a wall with a north aspect and it makes shoots several yards long in a season, and is now in fine flower.

Ivy for a Wall (*F. J.*).—The cuttings you intend putting in at 18 inches apart should be of the young growths, and may be from 18 inches to 2 feet long. Insert them half that length in the soil. It is not a bad plan, but it is preferable to put in the cuttings in a shady border, and transplant a year afterwards, when you can select equal-sized plants. With cuttings put in where they are to remain there is very often great irregularity of growth.

Covering for Frames (*Idem*).—We do not see the objection to straw mats, which, neatly made, are anything but unsightly. Next to straw, bast mats answer, but they are as unsightly as straw, and are not so effective. Frigi domo is also good. The covering to keep out frost will require to be about six thicknesses, and should be as dry as you can have it.

Stove and Greenhouse (*D.*).—To keep up stove heat in the first small division, you will need about 60 feet of 4-inch piping. In the larger division, to maintain a fair greenhouse temperature, you will require 50 feet. We are supposing that the pipes are above ground.

Coleus Seedling (*J. R. J.*).—The leaves are very richly coloured, mottled crimson, neatly edged with green, and stout.

International Fruit Show (*T. J.*).—There were a few omissions in our report of this Show; for instance, the beautifully ripened Coe's Golden Drop Plums, of which Mr. Record, gardener to the Marquis of Salisbury, at Hatfield, sent a basketful; Mr. Webb's collection of Filberts and Cob Nuts; the fine specimens of Cox's Golden Gem Melons from Mr. Moffat; Mr. Jack's Peaches; Messrs. Lucombe, Pince, & Co.'s Guavas; and Mr. W. Paul's beautiful group of Tea Roses. All these were noted at the time, but want of time and space prevented their being noticed. There is a limit even to the powers of the printing machine.

Pyrus Japonica (*E. T.*).—The fruit is of no use as an article of food. Your other question you will find answered in a reply to another correspondent.

Preserving Bedding Plants (*P. P. R.*).—Of Calceolarias we should take cuttings and insert them in a cold frame about 1½ inch apart, putting in the frame about 3 inches of good sandy soil, and about an inch of sand. Give air whenever the weather is mild, and when frosty protect with mats and straw, not removing the protection in severe periods until a general thaw. Gnaphalium lanatum you may winter by taking up the plants, and keeping them rather dry in a greenhouse, and the same of the Heliotrope and Verbenas. Of the latter we presume you have cuttings which were struck in August in a cold close frame. If not, you may still put in cuttings, but they will require to have a hotbed of 70°. Heliotrope cuttings may also still be put in; give them bottom heat. The old plants if wintered safely will give you cuttings which in March will strike freely in a hotbed. Golden Feather Pyrethrum is quite hardy. You may leave it where it is, placing a little leaf soil about the plants, or take it up, pot it, and winter it in the coolest part of the greenhouse, or in a frame. Iresine Herbstii take up, and pot in sandy soil, placing it in the warmest part of the greenhouse, giving no more water than sufficient to keep the plants fresh.

Cuttings of Gloire de Dijon Rose (*Julia*).—Pot them in now on an east or west border, under a wall or fence, and cover them with a hand-glass or frame, employing it only in case of heavy rains or frost. In mild weather give abundance of air The cuttings will be rooted by April, and may then be taken up carefully, potted, and placed in a frame, keeping them close and shaded from bright sun until they are growing freely; then harden them off.

Worms in Pots (*Idem*).—Place in a watering-pot 1 lb. of fresh lime, and pour over it three gallons of water, stir well up, and let the mixture stand forty-eight hours; then, after closing the holes in the pots, deluge the soil with the clear lime water. Let the soil remain so for six hours, afterwards liberate the drainage, and the worms will either come out of the pots or be destroyed. Clay or cork answers for stopping up the holes.

Dielytra and Datura Culture (*A. D.*).—Dielytra spectabilis may be treated as a hardy herbaceous plant, which it is, and it is one of the most beautiful for April or May. A plant from 3 to 4 feet in height, and from 5 to 6 feet in diameter, is very ornamental, but it rarely finds a place in spring flower gardening, though its foliage may render it conspicuous. All it requires is a good, rich, sandy loam, adding leaf soil or well-decayed manure liberally, giving a mulching of leaf soil or manure in autumn. It is also an ornament to the greenhouse or conservatory, and may be had in flower from January to April by gentle forcing. The plants for this purpose should be taken up now, and placed in pots which will hold the roots without cramping whilst they admit of a moderate quantity of soil all round. We use good turfy loam and one part of leaf soil, affording good drainage. Water moderately, and place in a cold pit or frame, drafting the plants into the forcing-house as required; or the plants may be taken to the greenhouse in January and have a light airy position after they begin to grow; and if the shoots have a tendency to draw, turn the plants round occasionally, so as to have them evenly balanced. Do not overwater, but let the soil become dry, then give a good supply before the foliage flags. After flowering place them out of doors in a sheltered position, and water throughout the summer as required, repotting in autumn, and placing in a frame. In case of a frame not being convenient the plants may have a sheltered situation, and the pots plunged to the rim in coal ashes, removing them to the greenhouse in January. *Datura cornigera* requires a compost of fibrous loam two parts, one part leaf soil or well-rotted manure, and good drainage. If the loam is not sandy add sand liberally. The plant ought now to be kept rather dry, lessening the supply of water gradually, and keeping them dry in winter. At the close of February or beginning of March prune them in rather closely, and water them sparingly until the shoots are a few inches long, then repot, removing any old soil that can be taken from the ball readily with a pointed piece of wood, and giving a moderate shift. Keep the plants rather close and moist for a few days, and water them sparingly until the potting is recovered, and then water plentifully, syringing morning and evening so as to ward off red spider. It ought to flower from July. It should have a light and airy position.

Painting Hot-water Pipes (*Idem*).—We have ours painted thinly with lamp black and linseed oil. We heat the pipes as hot as possible, and then paint well. We give an extra amount of air, and keep up the heat of the pipes until the paint is dry. We never experience any smell when the pipes are dry. During many years' practice we have not experienced any prejudicial effects from the painting.

Heating a Greenhouse (*Subscriber*).—An Arnott's stove would be too powerful for so small a house (14 feet by 13 feet). A gas stove, or Shrewsbury's gas-heated water apparatus, would be sufficient and more manageable.

Ammonia for Destroying Mealy Bug (*T. O. X.*).—The carbonate of ammonia sprinkled on sawdust or fibre will answer, but it is so very volatile that except in very small quantity there is great danger of scorching the foliage of the plants. It would be well to place the ammonia in saucers, filling-up with water. An ounce would be a sufficient quantity for a house 30 feet long by 20 feet wide. If it affect the eyes and nose much, give air, or the result will be scorched leaves. You would see what was stated by us at page 199 respecting the ammoniacal liquor of the gasworks placed in saucers.

Cedrus Deodara Pruning (*Idem*).—Now is a good time to prune this beautiful Conifer, and it is advisable to shorten branches that have grown irregularly, retaining, however, a well-disposed shoot for continuation. Victoria and Rivers's Early Prolific Plums succeed either as pyramids or standards. For orchards they are best grown as standards. In gardens pyramids only are suitable.

Greenhouse Vines (*Anxious Inquirer*).—Black Hamburgh and Royal Muscadine. Any of the principal nurserymen who advertise in our columns can supply superior specimens of the flowers you name.

Soda to Sewage (*J. B. G.*).—The quantity of soda you mention will have no injurious effect upon the sewage of the stable, &c.

Compost for Vine Border (*J. G. K.*).—We have to apologise for this being overlooked. Do not by any means use decaying animal matter in the composition of your Vine border; it would kill the roots as they came in contact with it, and the border would in time become a pasty mass; even in small quantities we would not use it. The best material for a Vine border is turfy loam, with a small portion of crushed bones; mortar rubbish and charcoal may be added if they can be obtained. For top-dressing, also, use turfy loam two parts, half-decayed cow and horse manure in equal proportions one part, and add an 8-inch potful of pulverised bones to each barrowload.

Salt as a Manure (*E. F.*).—See No. 547, page 218. You will there find a long article on the subject.

Vines with Begonias (*G. S.*).—According to your statement we would cut away the old stems of the Vines at once, in order to concentrate as much as possible in the shoots intended for next year's fruiting. So long as the leaves on these shoots remain greenish—that is, not yellowish, the heat of 60° to suit the Begonias now will do the Vines no harm, but as soon as the leaves fall, and the Vines take their period of rest, it will be well that the temperature from fire heat should not exceed 45°. When it is desirable that such a house should be kept warm all the winter, it is also desirable that the Vines should be kept cool by being placed along the front, and secluded by any of various modes from the heat of the house. We would water the Vines in the rows inside now

if very dry. If the soil is at all moist we would not water until three weeks or so before we wished to force them, and then we would use water at about 70°, and if moderately rich all the better. In fine, without any alterations you may do all you wish, only for two or three months in winter it will be best that the fire heat should not much exceed 45°. You may have 10° or more rise from sun heat.

Ground Vinery (*R. H.*).—If your ground vinery is a lean-to, let the glass face the south; if span-roofed, let the two sides face east and west, so as to get the morning and the afternoon sun. In the first place we would rather prefer the west end for planting, unless it were convenient to plant on the south side. On the second supposition we would plant in the south end.

Glazing a Vinery (*F. Duke*).—As you must have your glass only 6 inches wide, we would advise you to have each square of that width from 15 to 18 inches in length, according to the number of squares necessary to go from top to bottom without cutting. We would advise good thirds of 21-oz. glass, though fourths turn out well generally, if free from spots. At that length of squares we would give a lap of three-sixteenths of an inch—that is, between one-eighth and one-quarter of an inch, but all alike, and that you must allow for in ordering your glass. If the roof is steep one-eighth of an inch will be ample; if flat a little more will be desirable. Any of those firms that advertise in our pages would supply the glass cut to order, and when the glass is all to be of the same width and length, that is by far the most profitable and economical way of getting the glass of the right size. We are answering on the supposition that you are going to glaze with putty in the old-fashioned way, and if so, you cannot do the work too soon.

Hot Water not Circulating (*Chesham*).—If the water will not circulate in the apparatus heated by gas it is not, as you think, because the supply cistern goes at once into the flow-pipe. We have worked many kinds of apparatus where that was the arrangement. On the whole, if the cistern is higher than the highest pipe to be heated, we prefer the supply to enter the return-pipe, or to go into the bottom of the boiler at once; but still the other mode will not stop the circulation. There must be something else the matter. If the pipes are all right, you may have missed some air-vent, and accumulated air between two bodies of water will render circulation as impossible as if you had tight-fitting blocks of wood.

Butterflies and Moths (*A Young Entomologist*).—Of very popular books on these insects, the shilling volumes by Rev. J. G. Wood on "Common Moths," and Mr. Colman on "British Butterflies," serve as slight introductions in their study. These are published by Routledge. Of comprehensive works the three best are Stainton's "Manual of British Butterflies and Moths," Van Voorst, and Newman's "British Butterflies and British Moths" (Devonshire Street, Bishopsgate). Mr. Newman does not take the Micro-Lepidoptera.

Insects (*G. P. B.*).—Your Scotch Firs are infested by the common beetle, Hylurgus piniperda. All the infested shoots should be picked off and burnt as soon as ever their drooping condition indicates the presence of the insect in the centre of the shoot.—I. O. W.

Names of Fruits (*H. H.*).—1, St. Hurbain d'Hiver; 2, Rousselet de la Cour; 3, Tardif de Mons; 4, Forelle; 5, Fondante d'Automne; 6, Enfant Prodigne; 7, Beurré Bosc; 9, Beurré Luizet. (*R. B. L.*).—1, London Pippin; 2, Morris's Russet Nonpareil; 3, Ord's Apple; 4, Boston Russet.

Names of Plants (*Seybor*).—The berries and spray you enclosed are those of the Cratægus punctata, Dotted-fruited Thorn.

POULTRY, BEE, AND PIGEON CHRONICLE.

LEGS.

Heads, tails, now legs. Yes, fowls have legs. Any leg will do to walk with, and, barring accidents, it will satisfy its owner; but something more is required by those who look for perfection. Even human beings are careful about their legs. The high and mighty among us, the arbiters of fashion, have caused modes to vary, to hide either the want of a charm or the existence of a defect. Knee breeches and silk stockings were sad trials to a man whose leg resembled a mop-handle, or who was bow-legged, or who was more or less knock-kneed: hence trousers.

No such arrangement is, however, possible for fowls; and even as we said about heads, so we say of legs, that the varieties are as numerous and as remarkable among birds as among human beings, and that they are not wanting in affinity to them. As we sit and write we can see an overgrown Cochin cockerel, who seems endeavouring to emulate the ostrich and birds of that tribe in the length of his legs. They are long, ungainly, and so weak as to be almost useless, yet they were made to walk with, and he cannot walk without them. We have made him walk, and will attempt to describe it. His body is large and tolerably heavy, so much so that he is constrained from very weakness to pass most of his time on his knees, and to rest in that position. If food and water were brought to him we believe he would adopt it, that his legs would become stiff in that position, and that his motion would hereafter be partly a flapping like a wild Duck, with body injured, and both legs broken, and partly a jump like the kangaroo. (Query, Would it inaugurate a new breed?) We will, however, describe the walk such as it was. Compelled to rise it would have sighed if it had been possible for fowls to do so. It seemed impossible to lift up one leg while the weight was equally distributed on both; it therefore contrived by a sort of jerk to cast the weight on one, and taking advantage of its momentary freedom, the other was thrown forward, and the foot came with a pat on the ground. This continued with both feet alternately, made up its walking. It lasted as long as it was driven, but relieved from the *force majeure* it returned to its kneeling posture.

The same weakness may sometimes be seen in Dorkings. As in the other we have described, it is the result of overgrowth. The Dorking, however, being intended for the table at an early age, it is not so important. The only result will probably be, that, like the best-tempered and kindliest of the ship's crew wrecked formerly on the coast of New Zealand, he will be eaten first. But this is not the only fault in the Dorking's legs. He must have five toes, and these should be accurately developed; but sometimes the double toe grows into one with two nails; sometimes it seems to be attached to the bone of the leg, and to grow halfway up the leg before it can detach itself, making an appearance of two legs. Sometimes there are six claws instead of five; and sometimes the extra claws project so far and get so out of place, that the claw of one leg scratches the other leg each time the bird moves them. But the cocks of this and other breeds must have spurs, and these, again, are recalcitrant. Instead of growing inside the leg, an ornament and defence, they grow outside, and are an eyesore.

The legs of White Cochins, so beautifully yellow when they are young, become a dingy white as they get older.

Of the Game we will only remark that they sometimes sin, inasmuch as they have a duck instead of a flat foot—*i.e.*, the hinder toe, instead of being on the ground, is so high up that it only touches it with the nail.

The Cochins and Brahmas come deficient in feathering. Dorkings, Crêve-Cœurs, and Houdans have stubs all down the outside of their legs. Hamburghs appear with five claws, Dorkings with four, so that at times the breeder of all these wishes that nether garments, shoes, and stockings were admissible at shows. For ordinary purposes none of these things matter; but where in fowls, as in human beings, perfection is sought for, the search is a difficult one. The legs of Dorkings should be taper for their size, more so in the hen than the cock. The fifth claw should grow upwards; it should be well developed, but not sufficiently so to be a deformity or to interfere with walking. They should be white.

Hamburghs and Polish should have taper blue legs. Brahmas, Cochins, Game, and Malay should have stouter legs, giving the assurance of plenty of bone. Spanish have the longest legs, they must be blue. Houdans should have five claws, and short stout legs of mixed black and white colour. Crêve-Cœurs should have stout blue legs.

The only real disease to which legs are subject is the gout. It is said the Duke of Wellington was once asked whether he ever knew a private soldier gouty; the answer was, "No, but he had known an old fat sergeant suffer from it." So in fowls. The energetic, scratching, hard-living cottager's or small farmer's fowl, that chases the children and jumps at their bread and butter, never has the gout; but the florid and ofttimes overfed Dorking, that once stood first at Birmingham and has been pampered ever since, is often a sufferer from it.

FRENCH FOWLS AT THE CRYSTAL PALACE SHOW.

I am sorry to say it, but I cannot help thinking breeders of French fowls are not fairly used by the Committee of the above-named Show. Why should we be asked to pay an entrance-fee of 7*s.* 6*d.* for a first prize of £2, with the chance of winning a three-guinea cup; whilst most of the other breeds are offered a first prize of £3, and in many classes valuable cups? I would also like to know when the birds will be returned from the Show; as last year, although the Show closed on Saturday, some of my birds did not reach me until the Wednesday following.—Robert B. Wood, *Woodland Hall, Uttoxeter.*

The Southampton Poultry Show.—Allow me to state the result of the subscriptions which have been raised to give two silver cups, value five guineas each, to the best two pens of Light Brahmas at this Exhibition:—Mrs. T. Turner, £1 1*s.*; Mrs. A. Williamson, £1 1*s.*; Rev. N. J. Ridley, 10*s.*; Mr. J. Pares, 10*s.* 6*d.*; Mr. J. Rodbard, 10*s.* 6*d.*; Mr. H. Dowsett, £1 1*s.*; Mr. J. Storer, £1 1*s.*; Mr. J. Long, 10*s.* 6*d.*; Mr. F. Crook, 10*s.* 6*d.*; Mr. H. M. Maynard, £2 2*s.*; the Committee,

£1 1s.—Total, £10 10s. I hope when the breeders of Light Brahmas know that these cups are to be given that we may expect a very good collection of birds.—H. M. Maynard.

HANDICAPPING EXHIBITORS.

I was pleased to see the remarks of Mr. Kell on this subject, which I happen to know has of late been freely talked of as well as written about, and I was especially pleased at his caution against amateurs attempting too many breeds. A further reason against this, which he does not state, is that one breed, in a measure, spoils the eye for others of a different character, so that even a judge will not arbitrate so correctly or with so much ease in certain classes, after just judging other classes, as he can do when he comes to them with eye and mind fresh and unbiassed. But I now desire only to call attention to the fundamental error which lies at the root of all these discussions. I have done so before; but convinced as I am that the very best interests of the fancy are involved, it can hardly be done too often as occasion arises.

The error, of course, is the assumption that an equal *distribution of prizes* is the object to be attained. This being assumed, the analogy between handicapping a horse and doing the same for an exhibitor is obvious; it is done to give the inferior a "fairer chance" of winning, and if winning, only, be the end in view, no doubt the arguments are sound. But it is to this notion, I believe, every vice and fraud in the fancy, without exception, owes its origin. It leads to the disgraceful system of betting, to which Mr. Hewitt drew attention some time ago, and which is still going on; it leads to the most shameful and shameless borrowing of birds, and it leads above all to that system of fraud in plucking and other "preparation," which many of us feel keenly are a disgrace to us all. If encouraged, such a notion always must and will lead to these things.

But I confess I cling yet to the belief that shows are established, and that many honourable amateurs still breed and show their fowls for other objects, and chiefly for these two:—1, The real improvement of poultry in either beauty or value; and 2, the greater diffusion of a love and taste for, and success in, poultry-keeping. I believe the judges also so regard it. I cannot believe that Mr. Hewitt would care to devote the greater part of his time to judging shows if he only considered his awards in the light of paying money and deciding bets. He must believe that his work is of a higher character, and that in doing it he is of some real use to his generation. And if this be granted, it is impossible to resist the conclusion that the objects named can be secured in no other way than that in any given class the best birds win. Suppose that by any system of handicapping, the Judge I have named, or Mr. Teebay, or any other acknowledged as an authority, finds himself compelled to award the first prize to a pen which he knows is only fourth or sixth in order of merit, because its owner is a beginner!—I will not stay to inquire whether any judges worth having would consent to act under such restrictions—but suppose he did, what would be the results? The first would be that, as no one could know exactly how much the winner owed to handicapping, or if he owed anything at all, except from his own knowledge of fowls, every ignorant breeder or visitor to the show would believe those birds to be bad which were really the only perfect specimens, and be led to seek an entirely wrong standard for his own, by which the breed would rapidly become deteriorated. That this is no imaginary danger is proved by the effects which can always be observed by a keen eye to follow even one great error in judging at any important show. The second result would be, that the winner would be contented with his inferior birds, and would go on breeding them; whilst, if a real amateur, he would by the present system be spurred on either to purchase, or, better still, to breed superior stock. And as no real fancier can ever be long satisfied without really good birds, he must as the truth dawns upon him become discouraged. And so in both ways evil is done.

I would say, further, that any such system is needless. The great breeders who have been so complained of, win, not because it is a matter of money to them, for with several of them it is not; not because they have command of money, for some of them are men of small means; but simply because they study their fowls. And I say deliberately, that every one who will do this—who keeps fowls because he loves them, and will care for them, and watch them, and learn to understand them for himself, can attain success; and what is more, will find readily fanciers who will find a real pleasure in and help him to it. How much I owe myself to some two or three who were Brahma breeders before me I could not express in a written paper. But those of us who breed good birds do not produce them on the "any price" system. We do not go to a show to claim the first-prize cock, whatever he is, and then buy the first-prize pullets to mate with him. All three birds may be rightly judged, and be the very best of their sort, and yet will rather more likely than not breed mere trash. We look our birds over with loving care; we observe them day after day, gradually discovering faults even our eyes did not at first observe; and every one of these, and every individual peculiarity, is carefully weighed and allowed for before the partners for them are finally decided on. Often first conclusions are discarded; some hidden point strikes the attention, and demands another mate than that originally intended. Hours and hours are spent on this question of mating, but it is time well employed. And that is how real breeders win, or breed and sell birds which win in other names. That is how anyone may win his share who will take the pains and time to do it.

I confess I would not, if I could, have this altered; and I certainly speak with disinterested motives, for no one shows more rarely than I do, though I often supply birds to those who do. I would not have winning "made easy." There is something to me desirable in having a superiority which money cannot buy; and if I envy anybody, it is the feeling of the poor working man who has beaten in fair and severe competition the rich rival who has bought the best pen his money could procure. I have often seen this done, it is often done even now, and the man has a right to be proud who does it. It is hard work I grant; but it is just the fact that it *is* hard work which makes the satisfaction of it.

I would, however, always seek to avoid extremes, and there is one point that the discussion has, I think, shown to be desirable—that of having in smaller shows really local classes. These would meet all desirable objects without the objections I have mentioned. There would be no false pretences. The beginner would simply learn, if he won, that he had the best in his neighbourhood, and might thereby be encouraged to attempt having the best in the kingdom. But I speak, and the distinction is very important, of local *classes*, not local *cups*. Local cups only, in general classes, are open to all the objections of handicapping; but local classes can deceive no one, and will accomplish all the good desired. If the first-prize pen in the local class, as occasionally happens, really beats that in the open class, there are several easy ways of giving the due distinction.

As to buying, it can never be stopped, nor is it to be wished that it should. There is, however, one comfort—great buyers never learn to breed. I could name at least three prominent winners lately who have never yet bred a good bird for themselves, and while they buy in this reckless style never will. What pleasure there can be in it passes my comprehension; it is mere pride, not in the least real "poultry fancy." But, nevertheless, the high prices these people pay are one great support of those who are fanciers, and I do not see why anyone should complain.—L. Wright.

I was very glad to see that somebody was fighting against "handicapping," and I quite agree with Mr. Kell, and second his suggestions, and I also think with him with regard to the remedies and objections he throws out; but I must confess that I do not like to see a man "walk off" with all the prizes offered in one class, and this is often done. I suggest that exhibitors should only be allowed to show one pen in each class. I think this might be arranged to the advantage both of exhibitors and committees. I fancy that Mr. Kell and others will agree with me here, at least I hope so.—One Variety.

WHEATEN BANTAMS—GAME BANTAMS.

In "Our Letter Box," in your number of September 28th, I observe amongst answers to correspondents that the Wheaten Bantam is not clearly described. Will you allow me to remark that the bird you describe is a cross between a Wheaten and a Partridge Bantam? I have several of the pure Wheaten breed, and also many like your description.

The Wheaten hen should have a clear golden hackle, a light wheat-coloured breast, belly, and thigh, a clear buff body and wing, black tail, with the outer tail-coverts slightly marked or laced with buff. Many of the Wheaten hens have two shades of buff in the wings, the lighter shade edging each feather. The legs should be light willow or yellow, and the eyes clear

bright red. This is the Wheaten which breeds the richest-coloured Black-breasted Red cocks. There are Wheatens having white necks, and in every other respect answering the above description. These are exceedingly rare, but most useful for breeding Duckwing cocks.

The class for Wheaten hens, made by the Crystal Palace Committee at my suggestion, is for genuine Wheatens, and not the half-bred birds.

The answer to "Far West" in the Journal for September 28th is rather apt to mislead. Many of the best-coloured Black Red cockerels, when they moult the second or third time, grow some red feathers in the breast, either black feathers laced with red, or red with black spangles. These could not, however, be shown as Brown Reds, but are only faulty Black Reds, the main differences between the two colours being—

	Black Red Cock.	*Brown Red Cock.*
Head and face	Red	Dark purple.
Eye	Vermilion red	Darkest brown.
Hackle	Clear orange red, free from black	Orange, striped with black underneath.
Back and wing bow	Rich red	Orange.
Wing bar	Steel blue	Dark green.
Greater wing coverts	Clear bay	Black.
Breasts and thighs	Blue-black	Dark brown, with a light brown shaft and margin to each feather.
Legs and feet	Willow	Dark bronze, willow, or black.

The above is the standard of birds for exhibition.—W. F. E.

[We thank "W. F. E." very much for his elaborate description of certain breeds of Game. Our own long experience of Game has taught us there are numerous varieties, many being peculiar to certain localities, and the result of crosses. We never think of or treat of Game without thinking of the chameleon in our school days—

"'Sirs,' cries the umpire, 'cease your pother,
The creature's neither one nor t'other.
You all are right, and all are wrong,
Nor wonder if you find that none
Prefers your eyesight to his own.'"

Certain birds are made for exhibition—"manufac" as we read in Smollett. Provided the actual bird is really fit to take a prize, his origin is not important. Thus, a bird with more or less of red in his breast is either Brown-breasted or is descended from Black Reds that have had a cross of Brown. It is known to many of the most successful Brown Red exhibitors how most of their birds were made. It is also known they are now far superior to the Black Reds, but they have been made so by a judicious mixture of breeds. In the original days of showing there was but one class—"Black-breasted and other Reds," now they are divided. The bird of which we spoke is not a Black Red because he has brown feathers, *ergo* he must show in the Brown Reds. If, as our intelligent correspondent says, the bird does not belong to them, he cannot be shown at all. If, again, at the second or third moult it is common for many of the best Black Reds to throw red feathers in the breast, the birds will be only in the condition of the Silver-Grey Dorkings. Nineteen cocks out of twenty, after their first moult, throw white in the breast or tail. No longer Silver-Greys, they sink or rise, as the opinion may be, into the general class. "W. F. E." describes the Wheaten of a certain tinge as breeding the richest-coloured Black-breasted Red cocks, and others with white necks, as most useful for breeding Duckwings. These very facts argue for considerable latitude in treating of them. We differ positively on one point only. "W. F. E." says the legs must be willow; we believe the colours of the legs in a Game fowl of these breeds are no more important than would be the colour of a man's hair if he were competing with others for height.—Eds.]

COCKS SURELY MIGHT SIT IF WOMEN MIGHT VOTE.

Being an uncommon case, I think it might interest some of your readers to learn that there is here an old cock Turkey which is unfortunately afflicted with a "strong weakness"—if I may use an Hibernian phrase—to sit upon any sitting hens' nests that he may happen to find in the shrubberies or outhouses. It was no longer ago than yesterday that I caught him in the act of ejecting a Dorking hen from her nest at the foot of an elm tree, and forthwith enthroning himself, much to the poor hen's disgust and consternation, as well as danger to the newly-hatched chicks. Although chased away, he shortly returned, and after vainly trying to shift the hen, ceremoniously sat upon her back, where he continued his "peckings" at her head; after which it was deemed expedient to remove her from his importunities.

Apparently this propensity is inherent in him, as about three years ago he sat upon, for about a fortnight, a "set" of Duck's eggs; but finding, I presume, that "nil" resulted from his self-imposed undertaking, he consigned it to the care of the legitimate owner—a Dorking hen—who eventually was rewarded with a fair brood of ducklings.

As a supplement to the above I may state that I have heard of a Cochin cock hatching and rearing a brood of chickens.—William Gardiner, *Lower Eatington Park, Stratford-on-Avon.*

PRODUCTIVE GOLDEN-PENCILLED HAMBURGHS.

Up to the 7th of August I had eleven Golden-pencilled Hamburgh hens and one cock. On that date one hen died, reducing my number to ten. I commenced keeping my list on the 1st of March, and it is as follows:—

March	214
April	201
May	204
June	187
July	169
August	165
Total	1140

These fowls were kept in a run about 9 yards square, and fed on kitchen refuse and barleymeal, with corn in the evening. I should feel obliged if any of your readers would let me know if this is fair laying. — Joseph Napier, *Bradford Peverell, Dorchester.*

PRIZE FOR COCKERELS AND PULLETS AT THE CRYSTAL PALACE SHOW.

Could it not be arranged that those exhibitors who may intend to exhibit cockerels and pullets at this Show and also at Birmingham, should be allowed to pay an extra fee, say 10s., so as to make an extra prize for the best cockerel and pair of pullets? It should be quite optional, and would no doubt cause additional interest in the competition; and the honour of winning such a prize would be duly valued by every exhibitor who might be fortunate enough to possess good birds of both sexes. This would not involve the Committee in any risk in a pecuniary point of view; and if the question could be entertained the Committee might, after the entries had closed, send a post-card to all exhibitors who had made entries in both classes, inquiring whether they were willing to compete for the extra prize, and if so, requesting them to forward the fee by a certain date. I merely offer this as a suggestion, thinking it might be an interesting feature in the Show, and should be glad if it could be found practicable in this or any other way.—W. F.

ELLESMERE POULTRY AND PIGEON SHOW.

The Oswestry Agricultural Society has now for some years been noted for the excellence of that portion of the Show devoted to poultry, and of late years, without exception, the arrangements have been of so perfect a character as to leave no cause for complaint, for there has been a first-rate show-tent, also constant attendance on the wants of both visitors and poultry. Unfortunately, however, for the interests of this year's Show, a sudden gale not only prostrated the tent at the last moment, but tore it to shreds from end to end. After this mishap the Market Hall was immediately called into requisition, as the only place available for the protection of the birds. So far it was a capital makeshift, as the building afforded effective protection from the continuous downpour of rain, but with the exception of the few pens opposite the entrance, almost every pen was veiled in darkness, and not a few so much so that it was difficult for visitors to discriminate whether the pens were occupied or empty. Under these disadvantages the only resource of the Judge was to have almost every bird taken out of its pen whilst judging, and brought forward into the light of the doorway, the cock being first handled, and then the hen—in fact, the Judge's conclusions were made almost entirely by pursuing this plan.

The Exhibition certainly contained an unusually large number of the best specimens. *Game*, particularly the Brown Reds, were remarkably perfect. Grey and also White *Dorkings* were such as can rarely be seen. Some of the most noted prizetakers in the kingdom were to be found among the *Cochins*, but their beauties were marred by a light that even rendered doubtful the variety shown, much more a favourable inspection of their excellence. Some good pens of both Dark and Light *Brahmas* were entered; and the *Hamburghs* were so good that Oswestry could never boast the like of them before at any of its meetings. The French fowls were a superb collection; but the Game *Bantams* were not nearly so good as those shown in bygone

years in this neighbourhood. There was a fine and extensive entry of *Ducks;* and the entries for *Turkeys* and *Geese*, though so much fewer than heretofore, were a leading feature in the Show. The sweepstakes for *Pigeons* were well contested, and brought forward a few very rare varieties.

GAME.—*Black-breasted Red.*—1, P. A. Beck, Gnllafield, Welshpool. 2, H. M Julian, Hull. *hc*, P. O. Gill, Trewarn, Oswestry; Rev. P. G. Bentley, Felton Grange, Shrewsbury; W. C. Phillips, Worcester. *Brown-breasted Red.*—1, T. Burgess, Burleydam, Whitchurch. 2, Rev. P. G. Bentley. *hc*, T. Burgess; G. F. Ward, Wrenbury, Nantwich; T. Dyson, Clay Pits, Halifax: E. Winwood, Worcester; W. Adams, Ipswich. *c*, J. Chester, Nantwich. *Duckwing Greys and Whites or Piles.*—1, W. Dunning, Newport, Salop. 2, Barker & Charnock, Illingworth, Halifax. *hc*, J. Mitchell, Moseley, Birmingham.

DORKINGS.—1, J. Martin, Claines, Worcester. 2, A. Darby, Bridgnorth. *hc*, Miss Davies, Chester; E. Williams, Henllys, Berriew, Montgomeryshire.

COCHIN-CHINA.—*Brown or Partridge.*—1 and 2, C. Sidgwick, Ryddlesden Hall. *Buff or White.*—1, Mrs. Allsopp, Worcester. 2, H. Yardley, Birmingham. *hc*, C. Sidgwick; A. Darby; H. Tomlinson, Birmingham.

SPANISH.—1, Mrs. Allsopp. 2, Boulton & Glidden, Bristol. *hc*, Clewes and Atkins, Walsall; J. F. Sillitoe, Wolverhampton; J. Walker, Wolverhampton.

BRAHMA POOTRA.—*Dark.*—1, R. B. Wood, Uttoxeter. 2 and *c*, Hon. Miss D. Pennant, Penrhyn Castle, Bangor. *Light.*—1 and *c*, T. A. Dean, Marden, Hereford. 2, J. Parez, Postford, Guildford. *hc*, R. B. Wood.

HAMBURGHS.—*Silver or Gold-pencilled.*—1, Ashton & Booth, Broadbottom, Mottram, Mancheater. 2, T. Bolton, Hanford, Stoke-on-Trent. *hc*, W. Speakman, Nantwich; J. Platt, Deane, Bolton, Lancashire. *Silver or Gold-spangled.*—1, Mrs. Allsopp. 2, Ashton & Booth. *hc*, C. Plimley, Wolverhampton; S. and R. Ashton, Mottram, Manchester; T. Bolton, Hanford, Stoke-on-Trent.

CRÈVE-CŒUR.—1, E. Pritchard, Wolverhampton. 2, J. K. Fowler, Aylesbnry. *hc*, J. J. Malden, Biggleswade.

HOUDANS.—1, R. B. Wood. 2, Hill & Co., Roundhill, Brighton. *hc*, E. Williams.

ANY OTHER VARIETY.—1, C. Sidgwick (Black Hamburgha). 2, Rev. A. Brooke, The Rectory, Shrawardine (Silver-spangled Polands). *c*, H. Yardley (Black Cochins).

GAME BANTAMS.—1, C. Ashworth, Halifax. 2, Ashley & Maitland, Red Hill, Worcester. *hc*, W. Griffiths, Nantwich; Ashley & Maitland; Bellingham and Gill, Burnley; A. H. Jnhb, Halifax.

BANTAMS.—1, S. & R. Ashton (White Bantams). 2, T. Bolton, Hanford, Stoke-on-Trent (Light Japanese).

MALAY.—*Cockerel.*—1, J. S. Rnoth, Chesterfield. 2, Rev. A. G. Brooke.

TURKEYS.—*Poults.*—1, E. Shaw, Oswestry. 2, no competition.

GOSLINGS.—1, S. H. Stott, Preston. 2, E. Shaw.

DUCKLINGS.—*Aylesbury.*—1 and 2, J. K. Fowler. *hc*, S. H. Stott. *Rouen.*—1, Miss Davies, Chester. 2, S H. Stott. *hc*, J. K. Fowler. *c*, E. Shaw.

EXTRA STOCK.

SELLING CLASS.—1, J. Crntchloe, Oswestry (Game). 2, H. Yardley, Birmingham (Buff Cochins). *c*, E. Shaw (Black Spanish); H. A. Dean (Silver-spangled Hamburgha).

GAME.—*Black-breasted.*—*Chickens.*—1, G. Cottle, Weatfelton. 2, Rev. P. G. Bentley, Shrewsbury. *hc*, P. A. Beck. *Any Colour.*—*Pullets* (Local).—1, C. Wedge, Oswestry. 2, Rev. P. G. Bentley. *hc*, Rev. P. G. Bentley; G. Cottle. *c*, J. Crntchloe; E. Shaw. *Amateurs' Prize* (Local).—*Cock.*—1, P. O. Gill, Trawern, Oswestry. 2, J. Crntchlne.

DORKINGS (Local).—1 and 2, E. Shaw.

SWEEPSTAKES.—*Pigeons.*—1, A. Hulme, Bettisfield (White Turbits). 2, Rev. A. G. Brooke, Shrawardine (Black Priests). *hc*, T. Jones, Oswestry (Barbs). A. Hulme (Black Magpies); Rev. A. G. Brooke (Creascents). *c*, E. Griffiths, Knockin (Antwerps).

Mr. Edward Hewitt, of Sparkbrook, Birmingham, was the Judge.

TONBRIDGE WELLS POULTRY SHOW.

THIS Show was held on the 6th inst., and was as perfect as any small show could be. The *Spanish* headed the list; the first-prize pullets were very good. *Dorkings*, Grey and Cuckoo, were well represented. In *Brahmas*, Mr. Dring was first with one of the most splendid cockerels ever seen, and in fine condition as regards plumage, carriage, and colour; a prosperous career seems cnt out for him if he remain as he is. The *Hamburghs* were good though few; in the Golden-pencilled variety one exhibitor swept the board. The *French* Fowls were a good class, pen 64 looked very promising. In the Variety Class the first prize went to White Cochins. *Ducks*, *Turkeys*, and *Geese* were all good, and there was a lovely pen of Turbit *Pigeons*, which were highly commended. Mr. Hedley judged.

SPANISH.—*Chickens.*—1, H. Brown, Putney Heath. 2, J. Francia, Hilden borough, Tonbridge. *hc*, E. J. W. Stratford, Addington Park, Maidstone.

DORKING.—*Chickens.*—1, G. W. Greenhill, Ashford. 2, R. Cheeaman, Weatwell, Ashford. 3, A. Arnold, Lamberhnrst. *hc*, E. J. W. Stratford; E. Williams, Henllya. *c*, G. Field, Aahurst; A. Arnold.

BRAHMA.—*Chickens.*—1, W. Dring, Faveraham (Dark). 2, E. J. W. Stratford. *hc*, M. Leno, Markyate Street. Dunstable (Light); Rev. J. G. B. Knight, Wrotham (Dark). *c*, H. Mitchell, Sydenham.

HAMBURGHS.—*Golden-spangled.*—*Chickens.*—1, W. Taylor, Maidatone. *Golden-pencilled.*—*Chickens*—1, *hc*, and *c*, R. S. S. Woodgate, Pembnry, Tonbridge Wells. *Silver-pencilled.*—*Chickens.*—1, B. Shelley, Maresfield Park, Uckfield. *Silver-spangled.*—*Chickens.*—1, A. J. B. Beresford Hope, M.P., Bedgebnry.

GAME DUCKWING.—*Chickens.*—1, W. Foster, Deal. *c*, J. Jeken, Eltham. *Any other Variety.*—1, J. Jeken. *hc*, W. Forster; T. G. Ledger, Folkestone.

FRENCH.—*Chickens.*—1, J. J. Malden, Biggleswade (Crêve-Cœur). 2, E. Williams (Crêve-Cœurs). *hc*, W. Dring (Houdans and Crêve-Cœurs).

ANY OTHER VARIETY.—*Chickens.*—1, R. S. S. Woodgate (White Cochins). 2, E. J. N. Hawker, Wycliffe, Tonbridge Wells (Silkies). *hc*, R. S. S. Woodgate (White Cochins); J. Wilde, Uckfield.

BANTAMS.—1 and *hc*, M. Leno, Dunstable (Silver-laced). 2, S. Samways, Southampton (Black). *c*, F. G. Phillips, Hastinga.

ANY BREED.—1, A. J. B. Beresford Hope, M.P. (White Malay). 2, W. Dring (Crêve-Cœurs). *hc*, R. S. S. Woodgate (Silkies); E. J. N. Hawker.

TURKEYS.—1, Earl of Abergavenny. 2, A. J. B. Beresford Hope, M.P.

GEESE.—1, Mrs. Lee, Penshurst. 2, A. J. B. Beresford Hope, M.P. *hc*, G. Pack, Tndelay; S. Green, Edenbridge; Earl of Abergavenny.

DUCKS.—*Aylesbury.*—1, G. W. Greenhill, Ashford. 2, Mrs. Lee. *Rouen.*—1, W. Jacobs, Shepherdswell. 2 and *hc*, A. Patchett, Hadlow Down. *Any other Breed.*—1, Mrs. Lea. 2, M. Leno. *hc*, G. S. Sainsbury, Devizes.

PIGEONS (Beat collection of not less than three kinds).—1, H. Yardley, Birmingham. 2, G. Ware, Frant. *hc*, G. Ware; O. E. Cresawell, Bagshot (Turbits).

BARE CUPS AT THE CRYSTAL PALACE SHOW.—I shall be greatly obliged by your stating that for the pieces of plate offered by me at the Crystal Palace Pigeon Show, neither my sister nor I have any intention of competing.—MATTHEW HEDLEY, *Claremont, Redhill, Surrey.*

FARNWORTH AGRICULTURAL SOCIETY'S POULTRY SHOW.

THE seventh annual Exhibition of this Society was held at Farnworth, near Warrington, on the 5th inst., and attracted a larger attendance than any of the preceding Shows of the Society, while the entries were in excess of former years. In poultry the *Game* class was not so numerous as usual, and the same remark applies to *Cochins*, but *Hamburghs* surpassed anything yet seen at Farnworth. The competition was very close in Game *Bantams*, which was an excellent class. The Rouen and Aylesbury *Ducks* were really interesting, and there was a rare species of "Whistling" Duck which attracted a good deal of notice. *Geese* were remarkable for size, weight, and feather. Indeed, the poultry show, considering the lateness of the season, was one of the best features of this year's Exhibition.

GAME.—*Black-breasted Red.*—*Chickens.*—1, C. Chaloner, Whitwell. 2, J. Goodwin, Liverpool. *Brown-breasted Red.*—*Chickens.*—1, C. W. Brierley, Middleton. 2, J. Wood, Wigan. *Any other Variety.*—*Chickens.*—1, R. Halsall, Halewood. 2, J. Goodwin. *Any Colour.*—*Cock.*—1, J. Wood. 2, C. Chaloner, DORKING.—*Chickens.*—1, Miss Davies, Chester. 2, T. E. Kell, Wetherby.

SPANISH.—*Chickens.*—1, C. W. Brierley, Middleton. 2, J. Walker, Standeford.

COCHINS.—*Cinnamon or Buff.*—*Chickens.*—1 and 2, A. Darby, Bridgenorth. *Partridge-feather, or Any other Variety.*—*Chickens.*—1, C. Sidgwick, Keighley. 2, G. Gaskell, Southport.

HAMBURGHS.—*Golden-pencilled.*—*Chickens.*—1 and 2, H. Pickles, jun., Earby. *Golden-spangled.*—*Chickens.*—1, T. Walker, jun., Denton. 2, J. Statter, New Brighton. *Silver-pencilled.*—*Chickens.*—1, H. Pickles, jun. 2, W. M. Mann, Kendle. *Silver-spangled.*—1, H. Pickles, jun. 2, Ashton & Booth, Broadbottom.

POLAND (Any variety).—1 and 2, P. Unsworth, Lowton.

BRAHMA POOTRA.—*Chickens.*—1, Dr. Holmes, Chesterfield. 2, L. Mill, Liverpool.

GAME BANTAMS.—*Chickens.*—1, G. Maples, jun., Wavertree. 2, T. Sharples, Forest Bank. *Cock.*—1, T. Sharples. 2, G. Maples, jun.

BANTAMS (Any breed).—*Chickens.*—1, S. & R. Ashton, Mottram. 2, M. Leno, Dunstable.

ANY DISTINCT VARIETY.—*Chickens.*—1, J. Railton, Manchester. 2, T. Walker, jun., Denton.

ANY COLOUR OR BREED.—*Chickens.*—1, P. Unsworth, Lowton. 2, J. Mansell, Longton.

DUCKS.—*Rouen.*—1 and 2, A. Haslam, Hindley. *Aylesbury.*—1, J. K. Fowler, Aylesbury. 2, E. Leech, Rochdale. *Any other Variety.*—1, C. W. Brierley, Middleton. 2, R. Gladstone, jun., Court-Hey, Liverpool.

GEESE.—1, E. Leech, Rochdale. 2, S. H. Stott, Preston.

TURKEYS.—1 and 2, E. Leech.

The Judges were Mr. Richard Taehay, Folwood, Preston; and Mr. Joseph Hindson, Barton House, Everton.

LONG SUTTON POULTRY SHOW.

THIS was held on the 4th and 5th inst., in a field adjoining the railway station, and the poultry were exhibited in comfortable wooden sheds. Although the Farnworth Exhibition interfered to some extent with the number of entries, these were excellent in all the sections.

Dorkings were good in both classes, although some of the birds were in moult. In *Cochin* cocks the first was a good chicken, but the second rather too large in tail. The cup for cocks of the large varieties was won by the Cochin above-named. The cup for hens went to a nice pair of Buff pullets shown by the same exhibitor. Of *Brahma* hens, the first were birds of this year, and the second old birds. *Spanish* were a failure as regards numbers, as were the Golden-spangled *Hamburghs*, but the quality was all that could be desired. In the rest of the Hamburgh classes Mr. Beldon won all the first prizes and several of the second, also the cup for the best pen with Golden-pencilled, which pen contained a pullet of rare excellence. In *French* fowls both prizes went to Crêve-Cœurs, such as left nothing to be desired. In Red *Game* fowl Brown Red chickens won the first and cup, and Black Red the second; and in the next class Mr. Matthew showed an excellent pair of Duckwings, the only fault being the coarseness of tail in the cock bird. *Bantams* mustered well, the cup for Game being won by excellent Black Reds, the pullet in this pen being very true to colour. Of Brown Reds there were many good birds, but no good pairs. In the Variety class capital Piles stood first and Duckwings second. In Black and White, the first-named colour carried off the laurels. The class was unusually good, the first-prize and cup pen winning by earlobe and condition only over the second-prize pen, the cock in which carried the best colour we have yet seen produced. In the Variety class Silver-laced of the most perfect ground colour, combined with perfect lacing and clear tails, were first, and Golden-laced second. The cup would, undoubtedly, have gone to this pen, only the pullet seemed somewhat out of sorts. In the class for Any other variety of poultry Silver Polands won the cup, and Sultans were second. In Ornamental birds a cage of foreign birds stood first, with Golden Pheasants second.

The cup for *Turkeys* or *Aquatic Birds* was given to a large and perfect pen of Aylesbury Ducks; and in other varieties, Carolinas were first and Black East Indian second.

There were two Selling classes for poultry, in the first of which the prizes were awarded to Rouen Ducks, Spanish, and Dark Brahmas respectively, the cup going to the former pen; and in the second Selling class the first were Crêve-Cœurs, the second Black Bantams, and the third Golden-pencilled Hamburghs.

In *Rabbits* the cup was awarded to a young Sooty Fawn Lop buck, which was about perfect in all points, and the second in that class to a Fawn and White, the measurements of the ears of the first being

22½ inches by 4¾, and of the second 20½ and 4½ inches. In does, the first was a handsome Grey, with ears 23 by 4½ inches, and the second (22 by 4½) was a Fawn. For Any other pure breeed of hucks, an excellent young Silver-Grey was first and an older Rabbit second, and both were well silvered and uniform in colour. The first-prize doe was a perfect Himalayan, and the second an equally good Silver-Grey, which proved to be from the same yard as the first-prize buck. In the class for the heaviest Rabbit the first was 16 lbs. 13 ozs., and the second 15 lbs. 2 ozs. in weight.

Unfortunately, some of the pens, both of poultry and Rabbits, were too late, and others were empty, no doubt in consequence of the regulation that the specimens must be in the Show ground by noon on the Tuesday, which rule, we understand, is to be altered next year.

The *Pigeon* section was an excellent show of itself, and for the time of year the birds were in good feather. Carriers were a nice display, the style and quality of some of the adult birds being a great treat to the true fancier of this variety. The cup for this section was carried off by a capital Black hen. Young Carriers were also very good, the prizewinners being Blacks, and we noticed also a Blue cock of most promising qualities. In Antwerps the first were good Blue Chequers, and the second Duns; and in Pouter cocks Blue was first and White second, and in hens Yellow was first and Blue second. In Almond Tumblers the contest was very keen, and the cup for Shortfaces was awarded to them; in the next class Black Mottles were first and Blue Beards second. In Jacobins the first were Reds, which placed all others a long way in the background, but we preferred Mr. Fulton's Reds to the second-prize Yellows. The Fantails did not show well, perhaps owing to the coldness of the weather. The first-prize Turbits were Blacks, and the second Silvers; the class was of moderate quality. There were two classes for Barbs, one for adult and the other for birds of 1871. Miss Hedley carried off both the first prizes and the cup for the section with the old pair, which are doubtless at the summit of the fancy. The first prize for Dragoons went to Yellows and the second to Blues, both pairs being old birds. In the Variety class was a pair of the most perfect Black Trumpeters that we have seen this season; second came Blue Runts.

The point cup for poultry was won by Mr. Beldon, that for Pigeons by Mr. Fulton, that for the local classes by Mr. Clarke.

(*From a Correspondent.*)

The Pigeon department of the Long Sutton Show is looked to by many exhibitors with great interest, as giving a foreshadowing of their prospects of success in the great tournaments at the Crystal Palace (the entries for which, by-the-by, close on Monday next), and Birmingham Shows. At Long Sutton, as in previous seasons, if I mistake not I have this year seen many birds that will come to the front at the above Shows. I must refer your readers to the prize list for the names of the successful exhibitors, who sent, judging from the general quality of the birds, only the cream of their lofts; and those exhibitors who were beaten were not disgraced. The young Carrries were very good; the old ones not in that plumage which I could wish. A hen of excellent quality took the cup. In Pouters Messrs. Horner and Fulton divided the honours. In Almonds and Tumblers of any other variety the cup went to the former, and the first honours in the latter variety to Black Mottles. The remaining cup for the best pair of either Jacobins, Fantails, Owls, Turbits, Dragoons, Barbs, or any other distinct variety, went to Miss Hedley for a pair that well deserved the Judges' choice, she also winning the first prize for the best pair bred in 1871.

A word of praise is due to the management of this Society for the care taken of the birds whilst in their possession, though, I presume, on account of the difficulty of getting to Long Sutton exhibitors must take time by the forelock next year, otherwise they will, as this year, have their pets returned "too late for competition."

Dorkings.—*Cock.*—1, J. White, Warlaby, Northallerton. 2, G. Clarke, Long Sutton. *Hens or Pullets.*—1, E. W. Southwood, Fakenham. 2, W. H. Robson, North Reston, Louth. *hc*, G. Clarke.

Cochin-China.—*Cock.* — Cup, Lady Gwydyr, Stoke Park, Ipswich. 2, R. Dawson, Beverley. *hc*, C. Sidgwick, Ryddlesden Hall, Keighley; T. M. Derry; J. Bloodworth, Cheltenham. *Hens or Pullets.*—Cup, Lady Gwydyr. 2, Henry Lingwood, Barking, Needham Market. *hc*, C. Sidgwick; F. Wilton, Gloucester; A. Darby, Bridgenorth.

Brahma.—*Cock.*—1, H. Beldon, Goitstock, Bingley. 2, Lady Gwydyr. *hc*, J. K. Fowler, Aylesbury. *Hens or Pullets.*—1, Lady Gwydyr. 2, T. F. Ansdell, St. Helen's. *hc*, W. Manafield, Cambridge; E. F. Maples, Spalding. *c*, Rev. N. J. Ridley, Newbury.

Spanish.—*Cock.*—1, H. Brown, Putney Heath. 2, H. Beldon. *Hens or Pullets.*—1, W. Woodhouse, Lynn. 2, H. Brown. *hc*, J. K. Fowler.

Hamburghs.—*Gold-spangled.*—1, H. Beldon. *Silver-spangled.*—1, H. Beldon. 2, J. B. Bly, Lowestoft. *hc*, S. S. Mossop; G. Speedy, Whitby. *Gold-pencilled.*—Cup and 2, H. Beldon. *hc*, A. Cole, Long Sutton. *Silver-pencilled.*—1 and 2, H. Beldon. *hc*, N. H. Scott, Sunderland.

French Fowls (Any variety).—1, Mrs. J. Cross (Crêve-Cœur). 2, J. K. Fowler. *hc*, G. W. Hibbert, Godley, Manchester (Houdan); W. Dring, Faversham (Crêve-Cœur); Rev. A. Brooke.

Game.—*Black-breasted or other Reds.*—Cup, E. Aykroyd, Eccleshill. 2, H. E. Martin. *hc*, S. Matthew, Stowmarket; J. Preston, Allerton, Bradford. *Any other Variety.*—1, S. Matthew (Duckwing).

Game Bantams.—*Black-breasted Reds.*—Cup, Bellingham & Gill, Burnley. 2, W. F. Entwisle, Westfield, Cleckheaton. *hc*, J. Oldfield, Shibden, Halifax; W. F. Entwisle; Bellingham & Gill; W. Adams, St. Clements, Ipswich. *c*, G. Daft, jun., Halloughton, Southwell, Notts (2); T. C. & E. Newbitt, Epworth. *Brown-breasted Reds.*—1, J. Oldfield. 2, T. Barker, Hill End, Burnley. *hc*, G. Hall, Kendal. *Any other Variety.*—1, W. F. Entwisle (Pile). 2, T. C. & E. Newbitt. *hc*, W. F. Entwisle (Duckwing); T. C. & E. Newbitt.

Bantams.—*Black or White.*—Cup, G. Clarke. 2, S. S. Mossop, Long Sutton. *hc*, J. Walker, Newark; R. Fulton; G. Clarke; S. & R. Ashton (2). *Any other Variety.*—1, Mrs. J. M. Procter, Hull. 2, F. Wilton, Gloucester (Gold Sebright). *hc*, J. R. Jessop, Hull (Sebrights); H. Beldon (Pekin); T. J. Miller, Fakenham (White Booted); T. Waddington, Feniscowles, Blackburn.

Any other Variety.—Cup, H. Beldon. 2, W. H. Tomlinson (Sultans). *hc*, C. Sidgwick (Black Hamburghs); W. K. Patrick, West Winch, Lynn (Polands) (2); T. Waddington (Polands) (2).

Ornamental Birds.—1, S. S. Mossop. 2, J. K. Fowler. *hc*, J. K. Fowler; G. Clarke (2).

Turkeys.—1, G. R. Pearson. 2, Mrs. E. Harris. *hc*, M. Kew, Market Overton. *c*, T. M. Derry, Gedney.

Ducks.—*Rouen.*—1, W. H. Robson, North Reston, Louth. 2 and *c*, J. K. Fowler. *hc*, W. H. Robson; S. S. Mossop. *Aylesbury.*—Cup and 2, J. K. Fowler. *hc*, W. Stonehouse. *Any other Variety.*—1, W. Binns (Carolina). 2, S. Burn, Whitby (Black East Indian). *hc*, J. Dring; J. K. Fowler; H. B. Smith (Carolina).

Geese.—1 and 2, J. K. Fowler. *c*, T. M. Derry.

Selling Classes (No. 1).—Cup, S. S. Mossop. 2, Burch & Boulter, Sheffield (Spanish). 3, W. H. Bell, Westfield, Burnley (Dark Brahma). *hc*, E. Redman Northowram, Halifax (Black Red Game); J. K. Fowler. (No 2).—1, Mrs. J. Cross, Appleby Vicarage, Brigg (French). 2, G. Clarke (Black Bantam). 3, A. Cole. *hc*, J. K. Fowler; G. Morling, Lynn (Duckwing Bantams).

PIGEONS.

Carriers.—*Black.—Cock.*—1 and *hc* (2), R. Fulton, Deptford. 2, E. Horner, Harewood. *c*, T. Waddington, Feniscowles, Blackburn. *Hen.*—Cup, R. Fulton. 2 and *hc*, E. Horner. *c*, T. Waddington. *Any other colour.—Cock.*—1, H. Yardley, Birmingham. 2, R. Fulton (Dun). *hc*, R. Fulton; E. Horner. *Hen.*—1 and 2, R. Fulton (Dun). *Any variety, bred in* 1871.—1 and 2, E. Horner. *hc*, A. Cole, Long Sutton (2); J. G. Dunn, Newcastle (Dun and Black); R. Fulton (Black and Blue); W. Campey, Beverley (Dun); E. Horner.

Antwerps.—1, H. Yardley. 2, C. F. Copeman. *c*, J. W. Collinson, Halifax; H. Yardley.

Pouters.—*Cock.*—1, 2, and *c*, R. Fulton. *hc*, E. Horner (2). *Hen.*—1, E. Horner. 2, R. Fulton. *c*, R. Fulton (2); E. Horner (2); G. Sturgess (2).

Tumblers.—*Almond.*—Cup, J. Ford, Monkwell Street, Loodon. 2, E. Horner. *hc*, J. Ford; R. Fulton (2). *c*, T. Waddington. *Any other Colour*,—1, J. Ford. 2, W. Woodhouse. *hc*, R. Fulton.

Jacobins.—1 and 2, E. Horner. *hc*, R. G. Sanders; E. Horner.

Fantails.—1 and 2, J. Walker, Newark. *hc*, J. F. Loversidge; W. H. Tomlinson. *c*, R. Fulton; E. Horner.

Owls.—1, T. Waddington. 2, P. H. Jones, Fulham. *hc*, R. Falton (2).

Turbits.—1, G. Roper, Croydon. 2, R. Fulton. *hc*, R. Fulton; E. Horner. *c*, G. H. Gregory, Taunton.

Barbs.—Cup, Miss Hedley, Claremont, Redhill. 2, R. Fulton. *hc*, E. Horner (2). *Young.*—1, Miss Hedley. 2, P. H. Jones. *hc*, G. H. Gregory; Miss Hedley.

Dragoons.—1, F. Graham, Birkenhead. 2, T. Waddington. *hc*, F. Graham; E. Horner. *c*, A. W. Wren, Lowestoft.

Any other Distinct Variety.—1 and 2, P. H. Jones. *hc*, T. C. Benson (Damascenes); G. H. Gregory (Magpies); E. Horner; T. Waddington (Pigmy Pouters). *c*, R. Fulton.

Selling Class.—1, S. Warrell, Spalding (Dun Carriers). 2, R. G. Sanders (Red Jacobin). *vhc*, E. Horner. *hc*, S. Warrell (Black Barbs). *c*, H. N. Harvey, Spalding (Yellow Turbits).

Rabbits.—*Lop-eared.—Buck.*—Cup, J. G. Quick. 2, Robinson & Lewin. *hc*, C. Lea, Nottingham; J. G. Quick; H. Cawood, Thorne; W. H. Tomlinson. *Doe.*—1, J. Bacon, Nottingham. 2, H. Cawood. *vhc*, Robinson & Lewin. *hc*, J. Bacon; J. F. Farrow; J. Irving, Blackburn. *c*, A. H. Easten, Hull. *Any other Breed.—Buck.*—1, J. R. Jessop, Hull (Silver-Grey). 2, S. G. Hudson (Silver-Grey). *hc*, A. Easten (Angora). *Doe.*—1, W. H. Tomlinson (Himalayan). 2, J. R. Jessop (Silver-Grey). *hc*, S. G. Hudson (Silver-Grey). *Heaviest.*—1, W. Arkwright, Sutton Scarsdale. 2, W. Jibb, Long Sutton. *hc*, J. Bacon; T. Mumby, Long Sutton; A. Langley, Downham Market.

Local Prizes.—1, G. Clarke (Dorking cock). 2, T. M. Derry (Buff Cochin cock). 3, A. Cole (Cochin pullets). 1, S. S. Mossop (Silver-spangled Hamburghs). 2 and 3, A. Cole (Gold-pencilled Hamburghs). 1 and 3, G. Clarke (Black Bantams). 2, S. S. Mossop (Black Bantams). 1, Mrs. E. Harris (Turkeys). 2, S. S. Mossop (Rouen Ducks). 3, T. M. Derry (Cambridge Turkeys). 1, 2, and 3, A. Cole (Black Carriers).

The *poultry* classes from 1 to 18 were judged by Mr. Teebay, and those from 19 to 30, also the *Rabbits*, by Mr. Hutton; the *Pigeons* by Messrs. Esquilant and Massey.

HINGES TO BAR-AND-FRAME HIVES.

As I am neither a bee-hive maker, nor seller, nor able to control the "protean" forms of the bar-and-frame hive, I cannot answer for even the Major Munn's bar-and-frame hive of Mr. Pettitt. Thus much, however, I can state—I have used no other hives from 1838 except my square hive and the triangular bar-and-frame which I patented in Paris in 1843, because I was precluded doing so in England, from its having been made, used, and exhibited from the year 1834 in some form or other. On the well-known principle of a "hive within a hive," each comb is fixed separately in each frame, and they either draw out or lift out, for daily examination, from a strongly-made outer box.

In 1851 I exhibited the so-called triangular bar frames, lifting into a quadrant glass-eided frame, to enable timid persons and ladies to examine each separate comb, and to remove or replace each frame.

In 1859 I presented to the Secretary of the Apiarian Society a cheap bar-and-frame hive, made with a wooden top bar and zinc slides and sides, with a pin through, to slide each frame upon, to remove wet comb, or examine each hourly if necessary, as has been already etated.

By-the-by, I am reminded that I have the fellow hive in use, not altered by Mr. Pettitt or by me one iota, except it has actually a swarm of bees working on the top of these "bar frames," which will remain for this winter and spring, and which I believe Mr. Pettitt has not seen. But who will introduce this principle of the bar and frames, suspended within a box, forming a complete apiary in itself without the bee-houses, bee-sheds, or bee-box covers now used with the modern hives—remains still to be seen. It must be admitted the Americans seem to have the best chance, seeing the energy with which they contend even for the shape of a hive, and the protean

forms of the same principle may be seen in any advertising American paper. I hope, therefore, Mr. H. A. King will be able to establish his right, and for all American bee-keepers, to make the moveable comb hives, as the Americans call the same principles as the bar-and-frame, in any form, shape, or size they may elect.—W. Augustus Munn.

BEES AND MICE.

I heard the other day of a lady who had a fine box of honey devoured by mice (so it was stated), and the question was put to me how such attacks could be prevented. The hives so plundered were of straw. Never having had experience either of this trouble or of any remedy, I could only suggest what I thought would be likely to answer; but if any of your readers have suffered in the same manner, and know of a remedy, they will doubtless do a service to others who may be in the same predicament. I advised the nailing of pieces of zinc or galvanised iron around the legs of the bee-house, or pedestal on which the hives were placed, in such a manner that when the mice crept up they might find a check in the overhanging metal, much in the same way as rats are prevented from getting into corn-ricks. Of course bees in hives of wood are exempt from this injury.—B. & W.

Hampshire Ornithological Society's Show.—This must be well supported by exhibitors, for the prizes are liberal, and, in addition, there are eleven cups, varying in value from ten to three guineas. The South-Western Railway will reconvey without charge all unsold pens. We are pleased to see that it is proposed to present a testimonial to the Secretary, Mr. Philip Warren. His courtesy and indefatigable exertions for the Society entitle him to this.

OUR LETTER BOX.

Crystal Palace Poultry Show (*J. Elgar*).—We cannot insert any more communications. The reply to your letter by the Secretaries we consider satisfactory, and your rejoinder only weakens your first statement.

Middleton Poultry Show.—Mr. A. H. Easten, 19, Wellington Terrace, Beverley Road, Hull, informs us that he was the winner of the first prize at Middleton for Lop-eared Rabbits, and not Mr. J. Holt.

Poultry Feeding (*J. H.*).—We agree with hardly any of your advisers. Fowls do not like oats. They will only eat them when driven to do so by hunger, and oats can only be profitably given when they are ground. We advise you to give barleymeal or ground oats slaked with water in the morning, some whole corn at midday, and meal again in the evening. The feed at midday may be varied, if you have table or kitchen scraps to substitute for the whole corn.

Dorking Cockerel (*J. Clack*).—It is not a common thing for fowls to be troubled as your Dorking cock is. If it should continue, you must shut the bird up for a night to insure his being in a fasting state, and give him two tablespoonsful of port wine. The weights of your birds are very satisfactory, and far above the average. We are disposed to think your feeding better calculated to produce weight than to make strength. With the advantages of perfect liberty, and unlimited grass run, the food given should be of the highest quality. Potatoes are very bad for poultry, they induce liver disease, and make fat *but not flesh*. Two meals per diem should be slaked oatmeal or barleymeal; the midday repast barley, maize, or scraps. The colour you mention in the plumage of the cock is not of the slightest importance in general competition.

Poultry Run (*J. E.*).—The run you mention is quite large enough, and we have no doubt you will find the partition sufficient if you make the wire incline inwards. Fowls will not then attempt to fly over.

Over-stimulated Chickens (*B. T. B.*).—We believe you made the mistake in giving bread and ale only. It is a medicine, and should be given accordingly. We rear many hundreds of chickens, and never give them any drink in winter but ale. The hen should be confined under the rip, but the chickens should be allowed to run in and out between the bars as they like after sunrise. Stimulating food is the safeguard from illness in bad weather, but it must be given with other things of a nourishing nature. It merely gives the system a fillip, and supplies an ephemeral strength to the patient while the disorder is treated.

Chinese Geese (*A. W.*).—The Geese you praise would not be profitable, as in such cases they have to encounter a market, and would not find a ready sale; nor do we believe they would sell at all, till all the common breeds had found purchasers. We know they are hardy, having bred them ourselves. We have hatched and reared them in mid-winter. We did not wish you to understand we thought they were given to you, but we said the praise of those to whom you gave them was not a fair criterion of value.

Mandarin Geese (*T. A. B.*).—We have never heard of Mandarin Geese. There is a White Chinese Goose that answers the description you give. It is too much the fashion to give imaginary names, and many are misled by the practice.

Dubbing Game Cocks (*A. H.*).—The best instrument for dubbing a Game cock is a pair of scissors. Those we employ are very like those used for clipping horses. There is a certain risk in dubbing a bird two years old, but it is very small. If the operation is well performed and the wound heals kindly it will not interfere with his chance of success. It has even one advantage—the comb will not grow after the operation. In dubbing we always cut from back to front, keeping as close to the skull as may be without laying it bare. You speak of the comb, but gills and deaf-ear must be cut equally clean.

Poultry Management (*Devon*).—The experience of half a century has convinced us that good corn, either whole or ground, and slaked with milk or water as may be most convenient, and the scraps and waste of a house, coupled with a sufficient grass run, are all that is required for poultry. All who keep poultry should follow nature as closely as possible, and rear their stock as Pheasants and Partridges feed, and as the hens of these birds rear their broods. This is the most natural, most economical, and most successful plan.

Doe Producing a Single Young One (*A Reader*).—Your doe is probably too fat, or if she is old she may only produce one or two young ones at a litter. At times, if frightened, as by say a mouse running across the hutch, or any other disturbing cause, she may have destroyed some of them. This some does are in the habit of doing. She should always have a clean hutch a few days before littering, with plenty of hay for her nest, and a little water or milk and water; for during the time of littering intense thirst is experienced, and to appease it, if no fluid is provided, the doe resorts to cannabalism in some instances.

Tick Beans for Pigeons (*H. S. S.*).—Any dealer in bird seeds could supply you.

Preserving Quinces (*J. F.*).—Of course you are familiar with their use along with Apples in pies and tarts. They may also be made into a marmalade, jelly, compôte, or syrup, and are used in various other ways. We give two modes of preparation. To make quince marmalade, gather the fruit when fully ripe, and of a fine yellow; pare, quarter, and core it; put the quinces into a saucepan with a little water, and set them on the fire until they are quite soft; then take them out, and lay them on a sieve to drain; rub them through, and weigh the pulp; boil an equal quantity of sugar to *petite casse*, then add the pulp, and stir them together over the fire until it will fall from the spoon like a jelly. The marmalade is then fit to be put into pots, and when cold cover them closely. To make compôte, take six quinces, cut them in halves, and core them; scald and pare them neatly. Put some clear syrup into a preserving-pan, with the juice of a lemon; when hot add the quinces, and give them a boil together; drain the fruit, arrange it in the compotier, leave the syrup to thicken a little, and pour it over the quinces.

Butter Produced Slowly (*A Subscriber*).—Let the cream become sour before putting it into the churn, and the butter will form more readily. Churn in a warmer room.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Oct.	9 A.M. Barometer reduced to 32° and Sea Level.	Hygrometer. Dry.	Hygrometer. Wet.	Direction of Wind.	Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	Shade Temperature. Min.	Radiation Temperature. In sun.	Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg	In.
We. 4	29.704	49.6	48.9	N.W.	53.4	62.7	41.8	105.1	37.8	—
Th. 5	29.772	47.8	47.0	N.W.	52.7	61.6	38.4	104.9	36.1	0.040
Fri. 6	29.852	58.5	54.2	W.	52.8	62.5	47.8	95.0	44.8	0.152
Sat. 7	29.583	57.1	56.8	S.W.	53.8	63.6	53.8	89.4	49.8	0.140
Sun. 8	29.926	43.8	42.3	N.	53.2	58.2	38.8	94.2	37.0	—
Mo. 9	30.205	46.7	44.0	N.	51.9	57.1	34.3	96.2	31.1	—
Tu. 10	30.427	45.3	42.6	E.	50.8	55.6	34.2	84.0	31.8	—
Means	29.924	49.8	47.8		52.7	60.2	41.3	95.5	38.3	0.332

REMARKS.

4th.—Beautiful morning and fine day.

5th.—Very fine till 2.45, then a very heavy shower, and lighter rain after.

6th.—Cloudy morning, shower about noon, then fine.

7th.—Very frequent showers, and very dull the whole day.

8th.—Fine all day, particularly bright in the middle, but misty in the evening.

9th.—Autumn fog in the morning, but very fine in the afterpart of the day.

10th.—Fog in morning, fine day but rather cold, fine starlight night.

A fine autumnal week; the decline of temperature steadily continues, and there have been two slight frosts on grass.—G. J. Symons.

COVENT GARDEN MARKET.—October 11.

A fair amount of business for the season is being done.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples	½ sieve	2	0 to	4	0	Oranges	₱100	20	0 to	0	0
Figs	doz.	1	0	3	0	Peaches	doz.	6	0	12	0
Filberts	lb.	0	6	1	0	Pears, kitchen	doz.	2	0	0	0
Cobs	lb.	0	6	1	0	dessert	doz.	2	0	4	0
Grapes, Hothouse	lb.	1	0	5	0	Pine Apples	lb.	3	0	6	0
Lemons	₱100	8	0	12	0	Plums	½ sieve	3	0	5	0
Melons	each	2	0	5	0	Quinces	doz.	0	0	0	0
Mulberries	lb.	0	0	0	0	Walnuts	bushel	10	0	25	0
Nectarines	doz.	5	0	8	0	ditto	₱100	1	0	3	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	doz.	0	4 to	0	6	Leeks	bunch	0	3 to	0	6
Asparagus	₱100.	0	0	0	0	Lettuce	doz.	0	3	1	0
Beans, Kidney	½ sieve	0	0	3	0	Mushrooms	pottle	1	0	2	0
Broad	bushel	0	0	0	0	Mustard & Cress	punnet	0	2	0	3
Beet, Red	doz.	2	0	3	0	Onions per doz. bunches		2	0	4	0
Broccoli	bundle	0	6	1	0	pickling	quart	0	6	0	8
Brussels Sprouts	½ sieve	2	0	3	0	Parsley	sieve	3	0	4	0
Cabbage	doz.	1	0	3	0	Parsnips	doz.	0	9	1	0
Capsicums	₱100	1	6	2	0	Peas	quart	0	0	0	0
Carrots	bunch	0	6	0	0	Potatoes	bushel	1	8	3	0
Cauliflower	doz.	2	0	6	0	Kidney	do.	3	0	5	0
Celery	bundle	1	3	2	0	Radishes	doz. bunches	0	3	1	0
Coleworts	doz. bunches	2	0	4	0	Rhubarb	bundle	0	0	0	0
Cucumbers	each	0	6	1	0	Savoys	doz.	0	0	0	0
pickling	doz.	2	0	3	0	Sea-kale	basket	0	0	0	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	3	0	0
Fennel	bunch	0	3	0	0	Spinach	bushel	3	0	4	0
Garlic	lb.	0	3	0	0	Tomatoes	doz.	2	0	0	0
Herbs	bunch	0	3	0	0	Turnips	bunch	0	3	0	6
Horseradish	bundle	3	0	4	0	Vegetable Marrows	doz.	1	0	2	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	OCTOBER 19—25, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
19	Th	Twilight ends 6.52 P.M.	59.4	41.7	50.5	22	31 af 6	58 af 4	after.	34 af 8	5	14 54	292
20	F		59.0	39.2	49.1	20	32 6	56 4	0 af 2	41 9	)	15 5	293
21	S		58.4	39.5	49.0	18	34 6	54 4	44 2	56 10	7	15 15	294
22	Sun	20 Sunday after Trinity.	58.9	42.4	50.6	23	36 6	52 4	18 8	morn.	8	15 24	295
23	M		58.2	39.8	49.0	23	38 6	50 4	44 3	15 0	9	15 33	296
24	Tu		56.3	39.6	47.9	20	40 6	47 4	3 4	32 1	10	15 41	297
25	W		55.9	38.5	47.2	21	42 6	45 4	21 4	49 2	11	15 48	298

From observations taken near London during forty-three years, the average day temperature of the week is 58.0°, and its night temperature 40.1°. The greatest heat was 69°, on the 22nd, 1863; and the lowest cold 17°, on the 23rd, 1859. The greatest fall of rain was 0.96 inch.

GOSSIP ABOUT TEA ROSES.

YOU were good enough to allow me to say a few words about the best Hybrid Perpetual Roses a week or two ago, will you now give me space for a word or two respecting the Teas and Noisettes? Possibly I may be able to give my amateur friends "a wrinkle" or two.

I suppose there can be no two opinions about the beauty and value of Tea Roses—I include Noisettes in the Teas—but I doubt whether they are as extensively grown as they might and ought to be. When I first began Rose-growing I had an idea that Teas were exceedingly tender, and wanted a great deal of extra care and attention. Acting under this belief, and on the advice of a very experienced rosarian, I had two very expensive borders made for these Roses. The ground was excavated to a depth of 2 feet or more, and the bottom of the bed being filled with brickbats and other rough material, the bed was made with turf cut up roughly, and mixed with broken bones and stable dung. In these beds I planted my Tea Roses, some being on the Briar and others on the Manetti. The plants did pretty well, but not so well as I expected and had hoped; I therefore determined to bud them on Briars just like the Hybrid Perpetuals. These—I mean the Briars—I may state in parenthesis I always plant in trenches, into which I put a mixture (half and half) of good rich pig dung and stiff yellow clay, well incorporated with the bottom spit of the trench. This I find incomparably better than all dung, and no one who has not seen it would believe how the Briar will root into this mixture. The result of this budding was that the next year I had remarkably fine plants of Tea Roses without any extra trouble—much better, in fact, than those about which I had taken such pains.

I should add that I always protect my Teas a little in the winter, even the dormant buds, by placing a little bracken or common fern round the head, and tying it with a bit of tarred string.

As to the best kinds, I suppose almost everybody will admit that nothing can on the whole touch Maréchal Niel; for size, colour, and free growth, it is certainly unapproached. It is, however, it must be admitted, rather tender, and the first buds are very apt to be spoilt by spring frosts. I had a magnificent display of this Rose in 1870 on a west wall, but this year the buds, from the continued rains and cold weather, for the most part decayed without opening. It is singular that M. E. Verdier who introduced this fine Rose should have done so in such an equivocal way; for it could well have afforded to have been brought forward on its own merits.

I think the next best Tea is Madame Falcot; it is hardy, a capital Rose to flower, a very good grower, and very beautiful in colour. I have lately had the most lovely blooms of it. I think, too, it will make a valuable seed parent, though I fear we shall not often ripen its seeds here. I last year got nearly a pint of heps, and had a corresponding number of good plants, and apparently ripe seeds, but, I am sorry to say, only three came up. The seedlings have all bloomed—one was single, another so double that I do not think it will open when it is propagated, and the third was about as full as the parent. If we could get this colour on Maréchal Niel, it would be a grand addition to the Teas; and why should we not?

I think Devoniensis should come next in the list, for it is good in every way—large, a good grower, constant, and exceedingly beautiful in its delicate shadings of yellow, white, and pinky white. Moreover (although the very "thickness of its petals," as a critic some time since said, forbids the idea of its being raised in England), it is, I believe, unquestionably an English Rose, and, like John Hopper among the Hybrid Perpetuals, can hold its own in any company.

Climbing Devoniensis I do not like. It grows well enough I admit, but I have always found it very tender; all my plants, notwithstanding protection, being invariably so crippled by the winter as to be useless for flowering the following year. This is the only Tea Rose that I grow which has been so much injured by cold and wet.

I hardly know which Tea Roses to name as the next best; possibly Souvenir d'Elise, Madame Margottin, Madame Willermoz, Rubens, Niphetos, Souvenir d'un Ami, and Céline Forestier, and in the order named. There are other good Tea Roses, such as Adam, Triomphe de Rennes, Adrienne Christophle, Jaune de Smith, L'Enfant Trouvé, Moiret, and President, but some of them are inconstant, some shy bloomers, and some difficult to grow.

Triomphe de Rennes, for instance, I never could grow at all until lately. I tried it in every way I could think of, but it invariably, as soon as the foliage had fully expanded, cast it, so that the branches were always bare, except the 5 or 6 inches at the upper end. I at last tried it in large pots (12 and 14-inch) on the Briar, and nothing can do better than these plants.

Adrienne Christophle is a great favourite of mine, it is so striking and novel in colour, but I must acknowledge that it is very uncertain.

Smith's Yellow is another capricious Rose. In situations which it likes nothing can do better, but like *the* yellow Rose, for one place in which it will do, there are a hundred where it will not open at all. The only plant that I know of upon which the flowers almost always open well, and usually do not show a green eye, is one I bought of Mr. Cant some twenty-five years ago, and planted on the north front of a house in Suffolk in a cold clay soil. There is a building running at right angles with the west end of this house which prevents this plant from ever getting a gleam of sunshine, and yet, singular to say, it annually produces and opens fairly the most beautiful blooms. This is one of those anomalies in Rose-growing which no one can understand.

L'Enfant Trouvé by some, I believe, thought to be identical with Madame William, is in the catalogues marked as dwarf, but that is because the proper stock is not used for it. The way to grow this fine Rose—for it is a most beautiful and distinct variety—is to bud it on the common Banksian. On this it grows very freely indeed, and flowers

profusely. I have had wood of one year's growth on this stock as thick as my little finger, and 3 feet long; and further, I have several plants on a west wall which, without any protection whatever, have for years gone through the winter perfectly unscathed!

As to the newer Teas I can say very little, not having grown them. I saw, however, in Mr. William Paul's ground this summer the following varieties, which I marked as very fine, and to be obtained by me this autumn—viz., Belle Lyonnaise, Madame Levet, Marie Sisley, and Victor Pulliat. I forgot, though, that I have flowered here Madame H. Jamain; it is a good new Rose.

I observe that Mr. Radclyffe speaks of Marie Baumann and Louis XIV. as bad growers. This is quite contrary to my experience. The latter I do not grow now because it was so very inconstant, not one bloom in fifty coming in good form, but it grew very strongly indeed with me on Mr. Radclyffe's favourite stock the Manetti. I had plants on this 6 feet high and 3 feet through. As to Marie Baumann, I will send Mr. Radclyffe two or three shoots of this year's growth from Briar plants; they will speak for themselves. By-the-by, Mademoiselle Bonnaire does very well on the Manetti.—P., *Essex*.

GREENHOUSE PLANTS.—No. 7.

BULBOUS AND TUBEROUS-ROOTED PLANTS.

These as a rule require light airy positions, and they should be kept near the glass not only when growing, but when growth is complete. The more nearly the foliage approaches to 16 inches from the glass the more stiff and developed will be the growth, the more complete its maturation, and the greater the prospect of a strong good bloom.

Vallota purpurea, or Scarborough Lily, is, without exception, the most useful of all greenhouse bulbous plants. It succeeds admirably as a window plant, and is not subject to injury when used for house decoration. It is too well known to require any description, but I may say that the foliage is bright deep green, and the flowers brilliant scarlet. It is very free-flowering, and increases readily by offsets.

Single bulbs of Vallota purpurea may be grown in pots 5, 6, or 7 inches in diameter, and such are, perhaps, the most suitable for window or house decoration; or they may be grown in large pots, presenting a mass of foliage and in September a magnificent display of flowers. The common practice is to remove the offsets; but I consider this a mistake, for they contribute to the display of foliage, and in no way interfere with the flowering bulb or bulbs. I invariably allow all the offsets to remain, and they attain a flowering state as soon as, or sooner than if they were taken off and placed separately in small pots. When increase is wanted divide the plant into two or more parts, each with a bulb large enough to flower, placing them in pots that will hold the roots without cramping.

Repotting may be done in March, but it is well not to let it be too frequent nor to give large shifts, for this and all bulbs do best with the roots always touching the sides of the pot, or when under rather than over potted. I have not had them repotted for three years, and they do even better in that way than when potted many times in a year. Bulbs do not like their roots interfered with, more especially this and all that are evergreen. Once a-year is quite often enough to repot, and as long as the drainage remains good they will not sustain any injury if not potted for two or three years. Of course there are exceptions, but the only one that I have found is in the case of plants in a bad state of health, and this is mostly a result of overpotting, when there is a mass of soil and few roots.

In repotting pick out all the soil that you can, remove the drainage carefully, and drain the pots efficiently. Let the pots be large enough to hold the roots and admit of soil being worked in amongst them and all round. This is quite sufficient for all plants, large or small. The bulbs should be potted so that they may be about half covered with soil. I have tried them covered up to the neck, entirely under the soil, and also nearly clear of the soil, and could not see any difference in the growth or flowering. About half an inch should be left below the rim of the pot for watering, and the compost should be moderately dry, so that the soil can be made firm. A compost of two parts good hazel or yellow turfy loam, one part sandy peat, and one part leaf soil or well-rotted manure will grow the Vallota well, adding sand if the soil be deficient of it.

Water moderately after potting, give plenty of water when the plants are growing freely, and continue this up to August; then give no more than enough to keep the foliage fresh until the flower-scapes appear, afterwards water copiously until the flowering is past, then reduce the amount and keep the plants dry over the winter, but do not permit the foliage to become shrivelled. The cause of an enfeebled growth is very often free and needless winter watering.

If large plants are wanted (and for conservatories and large houses they are more effective than smaller plants), all that is required is to give a moderate shift every spring, not removing any of the offsets, but letting all grow together, and in the course of a few years we have a pot full of flowering bulbs.

The plant is all but, if not quite, hardy, but it is one of those few late summer-flowering plants which must ever continue indispensable for greenhouse-furnishing. Those wishing to try it as a hardy plant may do so in a warm border, affording it a moderately rich loamy soil, with a little peat and leaf soil, and planting so that the bulb may be covered over about an inch deep, and in autumn it should have a top-dressing of partially-decayed leaves. It is essential that the border be well drained, and copious waterings given in dry weather, so as to secure a good growth. So much water does the plant require, that it may be set in the basin of a fountain, where it luxuriates in a hot summer. I know of nothing that would give so gorgeous a mass as a bed of this in full flower out of doors in September.

Imantophyllum miniatum.—This yields to no greenhouse plant for effect and beauty early in winter and in spring. The leaves are long, more erect than those of Vallota, and about 2 inches broad. The flower-stem rises from a foot to 15 inches high, supporting an umbel of twelve flowers or more, the blossom having a footstalk about 3 inches long; a separate blossom when fully expanded is from 3 to 4 inches across. The flowers are deep salmon-coloured, with the lower portion of the petals of a yellow tinge.

Imantophyllum cyrthanthiflorum is very similar to the preceding in its general habit and style of growth, the flowers being rather paler in colour, but instead of being erect they are pendulous. It is a hybrid.

The Imantophyllums are closely allied to Clivia, and require nearly the same treatment; I shall, therefore, take them together.

Clivia nobilis has long bright deep leaves, and flowers borne on an erect flower-stem. They are long, tubular, red, with a considerable amount of yellow, and are numerously produced.

Imantophyllums and Clivia nobilis cannot be grown well in a cool greenhouse; they require, in fact, a warm greenhouse, or a winter temperature of 45° from fire heat, and in summer 65° to 80°. They should have the compost named for Vallota, and should not be overpotted, the main points being to secure a pot full of roots, along with good growth, encouraged by preserving a moist atmosphere, and giving an abundant supply of moisture when growing. When growth is complete keep the plants dry, exposing them fully to air and light. The plants will then live and flower in a temperature considerably lower than if the growth were imperfectly ripened. When growing they can hardly have too much water if the drainage is good, and the soil and roots are in a healthy state. Syringings overhead are also beneficial, but when the growth is complete diminish the supply of water, and place the plants where they can have unobstructed light. Throughout the winter they should not have more water than is sufficient to keep the foliage plump. When the flower-scapes appear the supply of water should be more liberal, and continued until the flowering is over, when, if the season be early in winter, the watering may be again diminished, for with so low a temperature as 45° any growth made is poor, and it is well to reserve all the energies of the plant for a vigorous growth with the return of genial weather, or to secure as much as possible a season of uninterrupted growth, and another of rest.

I have seen the Imantophyllum in beautiful flower in an orchard house in April, the plant having been placed in a warm pit in summer to make growth, and I have no doubt that it could be made to flower late in autumn by keeping it dry for a few weeks prior to placing it in a temperature of from 45° to 50°. The Clivia flowers with me sometimes in December, and at other times in April or May. The reason of this difference in time I do not know.

Sprekelia formosissima, or Jacobæa Lily.—This has narrow Amaryllis-like leaves; flowers rich crimson, on stems about a foot high. It is an old favourite, and without forcing, or in the greenhouse, it flowers about June, earlier or later according to temperature. With forcing it may be had in flower from February. It has one great defect—namely, that of flowering

either before the leaves are produced or when there are but few of these. Like many others, the beauty of the specimen is greater when there is a mass of bulbs in a pot, half a dozen or more not being too many for a 6-inch pot. They succeed admirably in a compost of fibrous loam two parts and one part of leaf soil, and should be covered to the neck. Drain the pots well, and place them near the glass. From the end of September to April keep the plants dry on a shelf, in April gradually moisten the soil, having previously examined the drainage and put it in order, also removing the surface soil and giving a top-dressing of fresh. When the flower-scapes appear water copiously, and after fresh foliage is made give very liberal supplies up to September; then place the plants on a shelf near the glass, and lessen the supply of water, but not so as to cause the foliage to become limp, and after September keep them dry.

If the plants are required to flower, say, in April or earlier, they may have the drainage put in order, removing any old soil that comes away freely, and be top-dressed, placed in a bottom heat of from 70° to 75°, and a top heat of from 55° to 60°, and they will start into flower. Just before the blooms expand the pots should be gradually withdrawn from the hotbed before removal to the greenhouse or sitting-room.

Avoid too large pots and potting over-frequently. After the removal of the old soil the pot should just hold the roots without cramping, while allowing of a little soil all round. No harm will result from the bulbs being left in the pots until the latter split; on the contrary, the plants are never so healthy nor so free-flowering as when they are in this state. If they should be enfeebled in growth repot them in a smaller-sized pot.—G. Abbey.

OLLA PODRIDA.

The Spanish dish of this name contains many ingredients, and so this short paper of mine must be a veritable hodge-podge. Into it first we will throw what is a very good thing in itself, but I should say a very bad thing when we get too much of it, and that is the Potato. Might not one write a pretty smart article on the Potato humbug? I am far from disparaging any attempt to give us new and good varieties; but when one enthusiast vows he has grafted the Jerusalem Artichoke on the Potato, or *vice versâ*, and obtained hybrids, and others tell me that the American varieties are beauties, why, then I do say, "Hold, avast!" By-the-by, I see one correspondent doubts whether Mr. Rivers and I had the true Early Rose. I *know* I had, for it came to me from Messrs. Carter and Co., and was sent to me on purpose to try as seed imported direct from the raiser. The first season I thought it tolerable, last season worthless, and this season worse even than that. I have seen, grown, and tasted all these Yankee gentlemen, and there is not one of them fit for any human being; they are good croppers, capital for pigs, but not for me. Here let me say that I received last autumn, from a correspondent in the north of Scotland, half a dozen round Potatoes for trial. I planted them, and they are the very best round Potato I know, evidently a Regent, but an uncommonly good one. If this meet his eye perhaps he will kindly renew the correspondence. I received also the other day from Mr. Whitbourne, of Loxford Hall, some magnificent tubers of Dalmahoy. He questions if the Lapstone is as good. I think it is better; but they were certainly splendid tubers, of fine flavour and mealy.

And now we come to Onions, dear to the Spaniard, dear to the English workmen, and without which even a Soyer or a Francatelli would find himself nonplussed. There were some very fine ones shown the other day at Kensington, notably the Intermediate and Nuneham Park exhibited by Messrs. Carter & Co. I confess these have more interest to me than the Tripoli varieties. Few will care for these large summer Onions. What we want are good keeping varieties; and as I do not much believe in seedling varieties of Onions, the object is to get good selected strains and improve them, and whatever does this is adding to our vegetable wealth.

Rendle's Plant-protectors seem to be very indigestible to some people, and to "Au revoir" especially. May I say to him that indigestion often proceeds from bad cooking? and so, perhaps, they have not agreed with him because he has not used them aright. All I can say is, I have used them this summer for various things, and have found them most useful. I had Strawberries under them a full fortnight before those in the open ground were ripe. I used them for ridge Cucumbers, and am now again using them for winter salading. That there will be breakages sometimes I know, but the idea of having wooden frames to support them is rather too absurd.

I have received several communications on the subject of new Gladiolus, and hope in a week or two to send forward a paper that shall be an answer to these questions, and which will be quite in time for orders. I am glad to see that this beautiful but most disappointing autumn flower is coming more and more into favour. The disease has again bothered me this year, and yet, like the Potato disease, I see no remedy for it.

We must have a perfume for our olla podrida, and what better than the Rose? I am surprised that "P., *Essex*," should have so misunderstood me about recommending Prince Léon. I know it to be a bad grower, and think I said so, but I said it was a Rose one ought not to discard; it was not, certainly, a Rose I would recommend in a select collection. I think it both pretty in colour and nice in shape when "well done." Let me say I dissent from his list. Marie Baumann I certainly never have seen as a good grower; if so with "P." he is fortunate. Then I should be loth to put Countess of Oxford in the best twelve before better known. Edward Morren is fine when good, but it is very apt to come with a bad centre. And what about John Hopper? Louis Van Houtte, too, requires proving as to its growing powers; and Madame Vidot is also a shy grower with me. In fact I should give a different list. Might it not be advantageous if a dozen of the best Rose-growers—I do not mean prizetakers, but well-known growers—were to give us a list in your pages of the best twelve, and then we might see which really the choicest were? Will Messrs. Radclyffe, Peach, Hole, Paul, Turner, &c., kindly do this? I think the result would be interesting and valuable.

And so my hodge-podge is finished. I have given it flavour, colour, and perfume, and hope it may nourish in some little way my gardening brethren.—D., *Deal*.

ONION CROP DESTROYED.

I have lost the whole of two large beds of spring-sown Onions by what I believe to be the Onion grub, and, as I have suffered similarly in both wet and dry seasons for the past five years, I should be extremely obliged for any information that would be likely to enable me to avoid this in future. I notice in last week's Journal a letter on this subject; but as I tried the same plan, or nearly so, this season as there particularised, I really have no confidence in it in my case, even if carried out to the very letter. I have also tried dressings at intervals of lime, soot, wood ashes, guano dry and liquid, sewage water, and soap-suds without the slightest good effect. I have also carted soil from a distance, and tried the plan of sowing one bed with manure on the surface, another having manure dug in, and a third without any manure; but the results have been nearly equal as far as avoiding the grub is concerned.

Can you give me any information respecting this grub, its appearance, &c., as in my case it is more like a maggot, and is generally to be found in the very centre of the decayed Onion?—H. Howard.

[We insert this letter without any reply, because we wish some of our correspondents who either are successful Onion growers, or who have suffered from the grub and found a remedy, to send to us the results of their experience. The following description of the grub and fly is given in the "Cottage Gardeners' Dictionary." "In light soils, especially, the Onion is liable to suffer from the grub or larva of Anthomyia ceparum (Scatophaga ceparum of some writers). The gardener who sees his young Onions, when about the thickness of a straw, turning yellow, and the leaves sunk down upon the ground, may at once know that they are the victims of this insect. Even when of larger growth the Onion is still liable to suffer from its attacks, and even up to the time of the bulb's full growth. If the outer coats of a young Onion thus destroyed are stripped off, the grub is at once detected; but if the Onion is older the grubs are often numerous. In both cases they will be found feeding on the very heart of the Onion. The grub varies from about a quarter to half an inch long, is fleshy, shining, whitish, cylindrical, tapering from the head to the tail, and divided into twelve segments. The pores through which it breathes are yellow, and in the first segment. In about three weeks from the time of being hatched it changes into a chestnut-coloured oval puparium, or case, within which is the real pupa. From this, in about a fortnight, the perfect fly comes forth. The female is entirely of a pale ashy colour, covered with black bristles. The male has a black line down the middle of the abdomen. The antennæ and legs are black; the wings are transparent, almost colourless, but iridescent pink and green. The female inserts her eggs within the leaf-sheaths of the

Onion, close to the ground. She continues to lay her eggs from May to September, producing several broods during that period. The latest brood remains in the pupa state through the winter, so that all old-decaying store Onions should be burnt up as spring advances."]

EARLY ROSE POTATO.

I am surprised that "K." (page 235), intends to discard all the varieties named in his list except Early Rose and Harrison's. Of the latter I know nothing, as I have never seen it. As to the Early Rose I am of the same opinion as Mr. Rivers—that it is worthless. Besides being watery when cooked, it has a dirty pink colour half way through, which in my opinion is a very great objection. I must allow that soil, climate, &c., make a great difference in the same variety of Potato. As "K." says, there may be more than one Potato under the name of the Early Rose; the variety which we have is very prolific, and has roundish medium-sized tubers, and rather short haulm. It is very liable to disease, as this season we had about 30 per cent. bad. I think "K." cannot have the same variety as we have, or he would soon discard it and retain some of the others named in list.

I cannot think how "K." can discard Royal Ashleaf, as I think it one of the best second early Kidney Potatoes grown. We here plant the Early May for the first crop out of doors and for forcing. It was quite as early, both in pits and on the border, as the Early Rose, and far before it in point of flavour, &c.—J. W. Sedgley.

ROSES AND IVY ON TRELLIS.

I have a wire trellis 5 feet high facing north-west and south-east. On the north-west side I purpose planting Irish Ivy, and on the south-west Roses. The soil is sandy. Can you tell me what Roses (Perpetuals) would be best in this situation, at what distance from the trellis and from each other they should be planted, and whether they would require any special treatment? The Roses I am thinking of are Baronne Prevost, Général Jacqueminot, Gloire de Dijon, Jules Margottin, Lord Raglan, Paul Verdier, Sir Joseph Paxton, and Solfaterre.—Y. L.

[We should advise planting the Roses at least 2 feet 6 inches from the wire trellis, as in light soil the roots of the Irish Ivy you propose to plant on the north-west side of the trellis will soon spread to the opposite side and injure the Roses. Irish Ivy forms very dense surface roots and is a gross feeder; and we should advise you every year to cut the roots on the south-west side about a foot from the trellis, and encourage the growth of the roots to the north. Have the Roses on the Manetti stock, and choose Général Jacqueminot, Gloire de Dijon, John Hopper, Charles Lefebvre, Madame Clémence Joigneaux, Boule de Neige, Climbing Devoniensis, and Céline Forestier. You do not say the length of the trellis; plant 3 feet apart, and if you want more than those named choose any others from the list you sent except Solfaterre, which is too tender.]

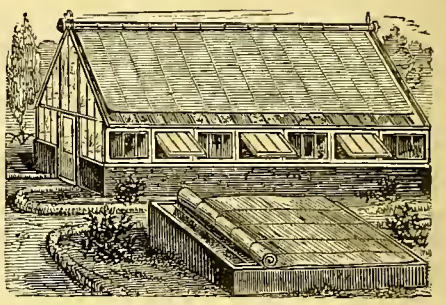
DAHLIA GLABRATA.

There is a small unpretending flower to which I would draw the attention of your readers. I call it "the lady's flower," as I have never known a lady who seeing it did not admire it. It is a small single Dahlia called Dahlia glabrata; a florist proper would, doubtless, despise it, but few, I think, who could see it, as I now see it before me in a vase with Roses, Mignonette, &c., as companions, but would be charmed with its elegant simplicity. In size it varies from that of a florin to a five-shilling piece, according to the vigour of the plant. Its colour usually varies from shades of light purple to violet, sometimes almost white. It is easily raised from seed sown in spring, and will flower the same autumn. I have never noticed the seed in any other catalogue than that of Mr. W. Thompson, of Ipswich. Like its more pretentious kindred, the double Dahlia, it requires protection in winter. I am sure your feminine readers will thank me for drawing attention to it, when they have once seen it in bloom.—Hortator.

The Horse Chestnuts in the Champs Elysées, Paris, are many of them (about one in ten I should imagine), in full bloom, with young leaves, several having on their branches at one time the old withered leaves, fruit, young leaves, and flowers. I noticed two pink-flowered trees among them (Pavia). The leaves are not so large now as they are when the spring flowers come, and the flower spikes are as a rule shorter and more compact than the spring ones, and the flowers themselves smaller. I conclude that this is what should have been next year's crop forced out before its time.—E. L. J.

SHADING AND PROTECTING.

We have received from Messrs. Dick Radclyffe & Co., of Holborn, samples of bags to protect bunches of Grapes and other fruits from the attacks of insects. They are made of a coarse gauze material dipped in boiled linseed oil, or some such substance, to render them durable, and from which circumstance they are called "medicated." Also samples of



greenhouse shading, such as is generally seen on the Continent, and especially in Germany, for shading windows of dwelling-houses in summer. We shall be glad to see this elegant material introduced to this country, if it can be supplied at such a price as to induce gardeners to cover a large extent of glass with it. No better summer shading can be found.

PLANT PROTECTORS.

I did not mean to enter upon the Rendle brick-protector controversy again, but I may be able to elucidate the difficulty which "An Old Lover of Protectors" says he is under when "Au revoir" alludes to the maker of wooden frames. I may be mistaken, but I think "Au revoir" refers to some wooden frames with moveable glass, which I described in the pages of the Journal nearly two years ago, and which awoke the vials of Mr. Rendle's wrath against me, as he thought I was a rival maker going to undersell him, or to infringe his patent, and he threatened me with proceedings in Chancery, &c., though how common deal frames with grooves for the glass had anything to do with loose brick protectors I could not well see. But on referring to Mr. Rendle's specifications on applying for a patent, I found he had tried to make it embrace as wide a scope as possible.

I do not remember to have seen Mr. Rendle's plant protectors anywhere in the Horticultural Gardens except in one of the corridors, where they are put up on a level floor under cover. I do not see that Mr. Rendle need take much credit for the glass not being displaced or broken there, as they cannot be injured by wind, and unless persons wilfully kicked against them they could not easily be knocked over. Mr. Rendle politely calls "Au revoir" clumsy and incompetent because he cannot see the merit of them; many other very practical gardeners have tried them, and have endorsed my opinion concerning them, and I have never seen any reason to alter it, that they are not so efficacious or so convenient as wood, nor are they, taking the area covered, any cheaper than old Cucumber frames. Mr. Rendle seems to have also come to the conclusion that wood is superior, as from the drawings I presume Mr. Bréhaut's lawn conservatory is of wood. What there is in it sufficiently novel or meritorious to deserve a patent I cannot myself see; perhaps the patent is a *nom de guerre*, intended to frighten away imitators, as the patent laws want great revision if any mere modification of wood and glass for horticultural purposes can be patented. I agree with "An Old Lover of Protectors," there is nothing like hinged lights for ground vineries or anything of a permanent character; and at Nottingham, Mr. Foster's (of Beeston) moveable frames—like those he has put up for Mr. Pearson at Chilwell—were an agreeable contrast to the loose bricks over the way. The first lot of brick protectors put up at Chiswick by Mr. Rendle's own man were nearly all blown down and the glass broken within two days,

and when I saw them two months afterwards were in a dilapidated condition. It may be a satisfaction to "Au revoir" to find others agree with him.—C. P. Peach.

HORTICULTURAL PARIS IN 1871.—No. 3.

BOURG-LA-REINE.

I have ever made it a point in visiting Paris to pay a visit to this little suburb. I do not know anyone that I enjoy a Rose chat more with than my good old friend Margottin. Rough diamond though he be, he knows, I fancy, as much (or more) of the Rose as anyone of my acquaintance; and although I would not take him exactly as a judge, yet he has such an amount of Rose lore that he can always bring together information such as a lover of the flower desires. But my visit this year was not for this purpose. I knew Bourg-la-Reine had suffered much from the war, Sceaux and Vitry more so; and although I was prevented from visiting the latter places, I was up with the lark to get to the former, and reached my old friend's quarters at a little after seven in the morning.

Since my last visit great changes had taken place. He had intended to have retired and to have put his amiable son Jules into his place, had built in his garden a neat house whence he could issue forth to superintend and advise; but the war came, that hateful, horrid war, which has brought such misery on many a French home, and many a German one too, and I had to hear a mournful tale of suffering.

Bourg-la-Reine was occupied by the Prussians early in the siege, and many of the inhabitants left, amongst them the Margottins, and their home was taken possession of by the Bavarians, and a mournful tale he had to tell of their doings. They had battered down his walls, had made a place for the passage of artillery and cavalry through his Rose quarters; and where one was in the habit formerly of seeing quantities of lovely Roses or beds of seedlings, there were now only Cabbages and Kidney Beans. These things were, perhaps, matters of military necessity, but their conduct in the house was unpardonable. Every piece of woodwork was torn to pieces and burnt; wooden chimney-pieces, frames of looking-glasses, chairs, even staircases were torn up and destroyed; filth of all kinds was allowed to accumulate, and this although there were heaps of faggots in the garden. It is such things as these that have exasperated the French; that have made such men as Margottin declare that they must dream of nothing but vengeance; that if it were needful he would be quite ready to shoulder his musket and march against the Germans. While talking over these things they said "That, bad as our treatment was, it was nothing to that which Jamain has experienced." Jamain is as well known to all fruit-lovers as Margottin is to Rose-growers, and I know few men in his line of life for whom I have a more thorough respect; and much as I thought of him before, the quiet and dignified way in which he spoke of his terrible losses, and the firm resolve which he evinced to make the best of things, greatly advanced him in my estimation. It was only last year that he took me all over his model garden, showed me his beautifully trained Pear trees, pointed out with pride the success of his treatment, and expatiated on the comfort he hoped to have in his new house. And now Marius sitting in the ruins of Carthage formed no inapt idea of our poor friend sitting in his desolate and half-destroyed house. The Prussians had occupied his place too, had destroyed all his beautiful Pear trees, had used the iron trellises on which they were trained for gabions, had cut up the trees for the same purpose, run trenches through his fruit quarters, made embrasures in his walls, and hacked his standard trees to pieces. But this did not fill up the measure of his sufferings. When the Commune took possession of Paris the Government troops occupied the Prussian positions at Bourg-la-Reine, and poor Jamain's house stood directly in front of the insurgent position of La Haute Bruyère, the shells from which pounded his house, and had it not been that a good portion of it was made of iron it would have been completely destroyed.

The men of whom I have thus written are men of somewhat extensive commerce and considerable means; they have not probably felt the pressure of their untoward circumstances as some might have done, but the small growers of Villejuif, Vitry, and other places have been utterly ruined, unless they can obtain some compensation from the Government, which seems more and more unlikely. The French themselves have done much to destroy the sympathy that was being excited for them, and the immense subscriptions to the new loans have made it questionable whether a great deal of our charity was not misapplied; but it is a good side on which to err, and I am sure it has excited in the minds of French horticulturists a deep feeling of gratitude towards their brethren in this country, who were so ready to help them in the hour of need.—D., *Deal*.

WELLINGTONIA GIGANTEA.

The account of the big tree, which we copy from J. Otis Williams's compilation of "Mammoth trees," first made its appearance in the *Sonora Herald*, and thence spread with wondrous rapidity, like our snow storms, from south-west to north-east, till it flooded the Atlantic seaboard. Crossing thence to England, in July, 1853, it appeared in the London *Athenæum* and the *Gardeners' Chronicle*; and in December of that year Dr. Lindley contributed to the last-named paper a scientific description of what he assumed to be a new genus, and proceeded to christen it the Wellingtonia, with the specific name of gigantea. The California Academy had already noticed it in their proceedings, and in America it had already been called the Washingtonia gigantea. Thus there was every prospect of a free fight between England and America in behalf of their respective heroes. At any rate, it was a very pretty quarrel as it stood. A compromise was effected through French mediation.

Endlicher had, in 1847, described the enormous Redwood, and had given it the name of Sequoia sempervirens, in honour of the distinguished Cherokee Sequoyah (better known as George Guess), the inventor of an alphabet of his native tongue, consisting of eighty-six characters, each representing a syllable, which still exists, not only as a curiosity of literature, but as a text-book for those who wish to make use of the Cherokee as a written language.

At a meeting of the Société Botanique de France held on June 28th, 1854, M. Decaisne demonstrated that the big tree of California and the Redwood belonged to the same genus, and proceeded to christen the former Sequoia gigantea, with the approbation of the Society; and the same year Dr. Torrey, of New York, and Professor Gray, of Cambridge, endorsed this nomenclature. Thus this aboriginal tree will be handed down to posterity with a purely American cognomen, and science exhibits herself as overriding all national pride and personal jealousy, as the tree in question overtops the Oaks and Sugar Pines that dwindle around its base. The interest excited by this discovery elicited scores of scientific notices in different languages. Seeds were sent to the Atlantic States and Europe, and found to germinate readily, and there are probably hundreds of thousands of these seedlings now in existence. Some are in the market, entitled "gardeners' varieties." They flourish with peculiar luxuriance in Great Britain, and grow with extraordinary rapidity. Numerous examples are cited where they have grown over 2 feet per year, and have produced cones when four or five years old.

But while the Sequoia gigantea has obtained a world-wide reputation, its near relative, the Redwood (Sequoia sempervirens) appears to Professor J. D. Whitney, the learned and indefatigable State geologist of California, to be even more attractive; and his description of it in his delightful "Guide-Book to the Yo-Semite Valley," is so charming that I cannot resist the temptation of making a pretty liberal quotation from it. After speaking of the Sequoia gigantea, and mentioning that its range is limited to the sierras, he proceeds:—

"Closely allied to it is the Sequoia sempervirens, or Redwood, which seems to be strictly a coast-range or seaboard tree, something resembling one class of our northern Cedars. Some of them are enormous, 50 feet in circumference, and 275 feet high. Mr. Asburner heard of a Redwood stump, seven miles from Eureka, 38 feet in diameter, in which thirty-three pack mules were corralled at one time; and various others are mentioned equally miraculous in their proportions." During the stormy winter of 1861-2, immense numbers of Redwood logs were carried out to sea along the northern coast of California. They were so abundant as to be dangerous to ships 150 miles from the coast. Numbers of them were piled up near Crescent City. Professor Brewer measured ten varying from 120 to 210 feet long. One of 200 feet was 10 feet in diameter at the base, and one of 210 feet was 3 feet in diameter at its little end. Accurate measurements are wanting, but there are many from 250 to 300 feet high.

"Thus we see," continues Professor Whitney, "that the Redwood falls in size but very little below the big tree, and it is not impossible that some of the former may yet be found as large as any of the latter. In general effect, the forests of

Redwood surpass even the groves of big trees. The Redwood forms frequently almost the entire forest, while the big tree nowhere occurs except when scattered among the other trees, and never in clusters or groups isolated from other species. Let one imagine an entire forest, extending as far as the eye can reach, of trees from 8 to 12 feet in diameter, and from 200 to 300 feet high, thickly grouped, their trunks marvellously straight, not branching till they reach 100 to 150 feet from the ground, and then forming a dense canopy which shuts out the view of the sky; the contrast of the bright cinnamon-coloured trunk with the sombre, deep, but yet brilliant green of the foliage; the utter silence of the forest, where often no sound can be heard except the low thunder of the breaking surf of the distant ocean—let one picture to himself a scene like this, and he may perhaps receive a faint impression of the majestic splendour of the Redwood forests of California."

Since the discovery of the Calaveras grove of big trees by Mr. Dowd, eight or nine more distinct groves have been found, all in California, and between 36° and 38½° of north latitude. They are all also between 5000 and 7000 feet above the level of the sea. But although some of the others are perhaps quite as remarkable, that of the Calaveras is the most celebrated. It was the first discovered, and has the advantage of being accessible on wheels, and possessing a good hotel. This grove is 3200 feet long and 700 feet wide, lying between two slopes, intersected by a brook running north-east and south-west. It contains about one hundred trees of large size, and a considerable number of smaller ones. Some have fallen since the discovery; one has been felled, and one has been killed by having the bark stripped to the height of 150 feet for exhibition in the Crystal Palace at Sydenham. These last two mentioned were perhaps the finest in the grove. Of thirty-one trees, measured by the party under Professor Whitney, the tallest measured 325 feet, and the shortest 231 feet. The greatest circumference at 6 feet from the ground was 61 feet, the least 27 feet. Hutchings, from actual measurement, states that there are ten trees of 30 feet and upwards in diameter, and more than seventy ranging from 15 to 30 feet. Sperry and Perry speak of several trees in the Calaveras grove nearly 100 feet in circumference.

At the Mariposa grove (which contains 365 trees) of forty-six living trees measured, the tallest was 272 feet in height, and the shortest 186, while the greatest circumference at the ground was 92 feet 7 inches, and the least was 27 feet, while the Grizzled Giant has a circumference at the ground of 93 feet 7 inches.

One of the most remarkable trees in the Calaveras grove lies prostrate and half buried in the soil, fitly named the "Father of the Forest," for the description of which I am mainly indebted to the very clever and interesting work of Mr. J. M. Hutchings, of Yo-Semite, called "Scenes of Wonder and Curiosity in California," which, in a very chatty and interesting way, takes the traveller without fatigue through the land of marvels. This tree measures in circumference, at the roots, 112 feet, and 200 feet to the first branch. Entering by an aperture on one side, and turning at a right angle, a horseman can ride a distance of 80 feet and emerge from a similar opening on the opposite side; 300 feet from its base, where it was broken off in its fall, it is 18 feet in diameter; and, judging from the trees shattered where it fell, it must have measured, at least, 435 feet in height. How many centuries it lived and flourished in its grandeur, the children of what now extinct races played beneath its shade, how many centuries it has lain there in its last sleep, amid the undisturbed solitude of the wilderness, are questions almost too vast for even imagination to attempt to answer.

A few weeks since, says the *Mariposa Gazette*, there was a crash in the Mariposa Big Tree grove, which was plainly heard at Clark & Moore's, five miles distant. On visiting the grove it was found that another big tree named "Andy Johnson" had fallen. It had been noticed for two years to be leaning more and more to the south, or south-east, but it had preserved a certain show of stability, and its present humiliating condition of prostration and ruin was not anticipated. It fell in the direction it had been leaning, and the whole upper portion of the trunk from a diameter of 8 feet to the top is broken and tossed about like the wreck of a mighty ship broken upon a surf. The wood, at the fractures, does not appear to be actually decayed, but very brittle in appearance.

Still more wonderful is the South grove, eight miles from Calaveras, by far the largest and finest grove of Sequoias yet discovered in California. In the scenes of "Wonder and Curiosity in California," already referred to, it is stated that "it contains 1380 trees, many of them of magnificent proportions. I have measured ten trees that were 21 feet larger in circumference than any others in either of the groves. Through the prostrate trunk of one tree, resembling an immense tube, we could have driven one of the heaviest Concord stages, crowded with passengers, a distance of 200 feet. In this grove is another tree, still standing but burnt out, in which twenty horses have been coralled at a time."

Professor Whitney concludes his report by saying:—"From what has been stated, the reader will readily gather that the 'big tree' is not that wonderfully exceptional thing which popular writers have almost always described it as being. It is not so restricted in its range as some other Coniferæ of California; it occurs in great abundance, of all ages and sizes, and there is no reason to suppose that it is now dying out any more than the Redwood.

"The age of the big tree is not so great as that assigned by the highest authorities to some of the English Yews, neither is its height as great by far as that of the Australian species, the Eucalyptus amygdalina, many of which, on the authority of Dr. Müller, the eminent government botanist, have been found to measure over 400 feet." "On the whole, it may be stated that there is no known tree which approaches the Sequoia in grandeur, thickness and height being both taken into consideration, unless it be the Eucalyptus. The largest Australian tree yet reported is said to be 81 feet in circumference at 4 feet from the ground; this is nearly, but not quite, as large as some of the largest big trees of California."—(*Boston Cultivator.*)

MR. ROBERT T. PINCE.

Mr. Robert Taylor Pince, the well-known and highly esteemed proprietor of the Exeter Nurseries, died at an early hour on the morning of the 9th inst., aged 67. The deceased gentleman had been an invalid for more than two years, and succumbed at last to an attack of hereditary gout. He was the son of Captain Pince, R.N., a gallant officer, who distinguished himself greatly by his indomitable pluck and bravery in the French War. Mr. Pince was originally intended for the law, and was articled to an attorney at Liverpool. But in his case love, which "rules the camp," ruled, or rather overruled the law. During a visit to Devonshire he met the fair niece of the late Mr. Lucombe, the proprietor of the Exeter Nursery, and in due time married her. The young lady is said to have had an invincible dislike to the legal profession, and Mr. Pince in consequence resigned his prospects of distinction in that quarter, and joined his uncle in the pursuit of horticulture and floriculture. He followed his new vocation with all the energy and enthusiasm peculiar to his nature, and soon became an accomplished botanist. He positively loved his flowers and plants, and nothing gave him greater pleasure than to accompany an appreciative visitor in a tour of his gardens, and greenhouses, and hothouses, and expatiate to him upon the beauties and characteristics of his choice collections. He imported fine exotics from South America, and added materially to the variety of the Exeter Nursery's collections by judiciously hybridising well-known species.

When in the prime of life he took pride and pleasure in competing with provincial and metropolitan nurserymen for horticultural and floricultural prizes, and was remarkably successful. The Camellias, Rhododendrons, and Orchids of his firm obtained celebrity under his supervision. The Camellia house in his grounds at Alphington is, perhaps, unrivalled in the kingdom. It is 200 feet long, and the plants in it have been cultivated to the dimensions of trees, producing myriads of blooms, thousands of which find their way annually into London drawing-rooms.

During the latter half of his career Mr. Pince devoted his attention to landscape gardening, and in this branch of his pursuit attained high excellence, and was also eminently successful. He has left the mark of his superior taste and skill upon many a park and garden in fair Devon. His last work, we believe, of this description was the laying-out of the grounds at Marley. His labours were not confined to his own special pursuits. In the course of his life he endeavoured to do all the good he could for the community. He was for many years chairman of the St. Thomas Local Board, and to the energy which he brought to bear upon the management of the sanitary affairs of that district may be attributed much of the success that has attended the Board's operations. Difficulties were to him only objects to be surmounted; and his perseverance and resolution were but intensified by obstacles and resistance.

He originated the system for St. Thomas by which the sewage of the district is deodorised and converted into a profitable manure, thus avoiding the cost of a law-suit threatened by the Railway Company, and the construction of a sewer to Starcross. His plan of deodorisation by means of carbolic acid, adopted at St. Thomas, was also adopted by his advice at Bombay, and from the authorities there he received a cordial vote of thanks for his council and guidance. It is principally due to his exertions that St. Thomas now enjoys the advantage of an independent and continuous water supply. When he retired from the St. Thomas Local Board, a year or two ago, he retired with the regret of all the members, and of the parish generally, but also with their hearty thanks for his valuable services. Hundreds can bear testimony to his generosity of disposition, and his numerous acts of kindness. It will be long indeed before his name is forgotten in St. Thomas, and it will never be mentioned without the respect due to a man who did his duty in his day and generation. The deceased gentleman's wife died about ten years ago, and he never fairly recovered from the shock and sorrow occasioned by her death. During his long illness his nephew and heir, Dr. William Robert Woodman, has been in constant attendance upon him, and has endeavoured to relieve him as much as possible from the cares necessarily incidental to the management of such a large business as that of the Exeter Nurseries.—(*Exeter and Plymouth Gazette.*)

POTATOES.

We have but very few really good Potatoes from forty varieties grown here on a good Potato soil.

I purpose to plant next season about 25 acres of Dalmahoys and Paterson's Victoria, two of the best round sorts for market on any soil.

In the forty varieties I had three American sorts, great croppers, but worthless except for pigs, and Bovinia is the same.

Of kidneys, all the Ashleafs are fine in flavour, including the Lapstone and Webb's Seedling; but they do not crop like the two round Potatoes above named.

Of earthing-up Potatoes, if all your gardener readers had time and inclination to give their experience, ninety out of every hundred would say, "By all means earth-up your Potatoes, both for produce and for earliness."

The Potato disease here is about equal in all the varieties, except the Dalmahoys. They are the most free from the plague. All others are about one-third diseased. The crop is large. Discard all recommendations of a large number of sorts for cultivation. Let those who really wish to benefit their neighbours name a few of their best; only a few sorts are wanted—not a host.—F. L., *Bailiff, Knowsley Cottage Farm, Prescot.*

HATFIELD HOUSE,

THE SEAT OF THE MARQUIS OF SALISBURY.

If it be a rule of nomenclature, "Once a palace always a palace," then this mansion should retain that title. From being desmesne of the Saxon Kings, Heathfield, for that is the true name of the place, passed by grant to the Abbey of Ely, and then to the bishopric of that name. Some bishop, now unknown, built there his palace, which was rebuilt on a larger and better style by Bishop Morton, in 1478. When it reverted to the crown we know not, but it was the residence of Prince Edward in the lifetime of his father, Henry VIII., and when he succeeded to the throne he conveyed it to his sister, Princess, eventually Queen, Elizabeth. During her sister Mary's reign she was resident here, under the kindly custodianship of Sir Thomas Pope. In 1607 James I. exchanged it for Theobalds with Sir Robert Cecil, created Earl of Salisbury, who laid the foundation in 1608, and in 1611 completed Hatfield House as it now remains.

James I. coveted Theobalds because it was more convenient for indulgence in "kingly sports," but Sir Robert Cecil evidently parted with it reluctantly, and writing in 1607 to Sir Thomas Lake, he tells that he had been to take a last look at Theobalds before it passed into the King's possession. He also tells that he purposed to enlarge Hatfield Park, and several noblemen had been there with him to decide where the future mansion should be placed. A silver thread of ability and aptness for business has ever characterised the Cecils, and in Sir Robert that thread was a stout one. It is very apparent in the details he required to be furnished from time to time of expenses to be incurred and of the progress of the work done. With judicious forecast he began early to arrange and plant the gardens, and we will just touch upon a few relative letters yet preserved. In October, 1609, Lady Tresham wrote to Sir Robert, then Earl of Salisbury, thanking him for his aid against her "vehement adversary John Lambe," and begging him to accept "half a hundred of fruit trees to plant at Hatfield."

Another letter in 1610 asks for instructions relative to the gardener's work to be done there. A third letter in 1611 contains estimates for bringing water in earthen pipes "from the springs to the dell;" and in November of that year fruit trees were sent to the Earl by the French Queen, but he observes "the Apples and Pears are inferior to the English, the Poire Chretienne excepted."

Hatfield House is at an easy distance from London—easy even in the old coaching times, and still more so now when one of the principal railways of the kingdom passes close to it, and has its first important station at the neighbouring picturesque village of Hatfield, nestling as it were in a valley under the shadow of the noble residence of the Cecils.

As we pass through this village we cannot but compare it with the more recent villas and other dwellings which we have passed on our journey from the great metropolis, for while in these red bricks and blue slates are the prominent features, both these have been held in supreme contempt by the architects of such villages as Hatfield—there most, if not all, of the buildings are square or oblong, and their relation one to another is totally disregarded. The lath and plaster gable end of one dwelling advances some distance more to the front than the broad side of another, which is, perhaps, weatherboarded, while another is a mixture of brickwork and flints, the latter concealed in some cases behind a thick coating of colouring matter. Plain flat tiles form the principal roofing of the whole. But what constitute the principal distinction between old country villages like Hatfield and the modern suburbs of a large city like London are the shade-giving trees, which in so many cases throw a shield over the whole, as well as adorn by their verdure.

Another feature usually met with in such villages is the venerable church and its surroundings. Some of these are worshipped by antiquarians, while over others they lament the changes undergone. In the church important alterations and restorations are being made through the liberality of the noble owner of Hatfield House, whose taste and judgment are both too good to leave any doubt of the issue—namely, that it will be embellished in a way becoming the parish church of a rural district; for though but some sixteen or seventeen miles from London, it is only by the occasional sound of passing trains (for they are but little seen from the mansion and grounds) that we are reminded we are near a busy thoroughfare.

The village occupies a valley, through which the Great North road used to run, and its hostelries, once so much needed, are now reduced in number, and the village has settled into one of those quiet country house-clusters which form so pleasing a feature in our land; but there is one connection which it has kept up, and that is its relationship to the great house on the hill—Hatfield House and Hatfield village still occupy the same relative position they did two hundred years ago, when royalty was no unusual visitor; and not many years ago Her Majesty was entertained here with becoming magnificence by the father of its present noble proprietor.

On leaving the railway station, which is close to the village, we descend a little into it, and then commence to rise, passing on our right the church, which forms a sort of connecting link between the village and the mansion, and our first entrance within the precincts of the latter is through a doorway adjoining to, and, we believe, also forming a part of, a mansion that stood here before the present noble structure was erected. A large portion of this building is still standing, and appropriated to some other purpose, but its peculiar features are retained as far as possible. How far back its history dates we are unable to say, but most likely it extends to the period of the wars of the Roses or even further back, as part of the modern building dates from the time of Henry VIII. This memento of a past age is but a short distance from the north front of the present structure, and has been recently carefully and judiciously restored.

The mansion of Hatfield occupies the northern end of a ridge of slight yet sufficient elevation, the ground falling gently away from it on all sides, excepting to the south. The building is regarded as one of the best examples of the Tudor style of architecture, of which Cobham Hall, in Kent, and Ingestrie Hall, in Staffordshire, are also examples. A portion of he

house is of stone, the remainder of brick with stone dressings, the window mullions being in all cases of stone. The north and south fronts present a façade of upwards of 200 feet, the other two sides being a little less. The building is also lofty; the two northern angles are surmounted by domed turrets, which give a commanding appearance.

The principal carriage entrance used to be on the south side, where a spacious courtyard of some 220 feet square, all gravelled (more than an acre), would seem to afford space for all comers, while suitable gates gave access to this enclosure, and the two corners furthest from the mansion were each surmounted by a sort of bastion, in connection with a subterranean passage. Beyond this court is one of the finest avenues to be met with, not of old, but healthy, middle-aged Lime trees. It consists of two rows of trees on each side, the distance between the inner rows being 250 feet. The ample space here shown is further enhanced by the conformation of the ground, which starting on a level from the house at length gradually rises to the south so as to present to view the grandeur of the whole, the glades of grass on each side being ample. The entire avenue, about a mile long, is seen from the court above described. The effect is noble, the wide and well-kept carriage road of course adding its share to the whole. The south court has lately been altered, not shorn of any of its importance, on the contrary beautified; for it has been found that these railway times have changed many things, and amongst others visitors from a distance invariably travel by rail, and the north front being more convenient of access by rail than the south front, for the latter such a spacious area of gravel is no longer required; the space has therefore been cut up into panels of turf, one panel on each side of the carriage road that passes through the centre, and each edged with a stone kerb, while on each of these, panel beds for flowers are also formed—large, bold, well-proportioned beds with plenty of grass space between them. The beds of Calceolarias exceeded in health and vigour anything of the kind I had seen for many years, and justly excited the surprise of two friends by whom I was accompanied, and who were well versed in the cultivation of this uncertain yet indispensable member of the great bedding-out family; and the surprise may be still more increased when it is known that these Calceolaria plants were the same as those which Mr. Record described in the pages of this Journal as having been wintered out of doors without any further protection than the snow which encased them in the dead months of winter. The variety is, I think, Aurantia, a more robust grower than Aurea floribunda, and I believe also older. It was impossible for anything to exhibit a more perfect state of health—not a dead leaf, and no prospect of any lack of flowers during the season, and, be it remembered, it was the middle of September when I saw them. I must say I was surprised at their being so healthy, for although we have never here (Linton Park), had occasion to complain of Calceolaria disease, it is a long time since we had nearly so good a bloom in September, and in many places that I have visited this season they had completely gone off—not merely ceased flowering, but absolutely were dying from some malady which everyone wanted a cure for. If I were to venture a reason for Mr. Record's plants doing so well, I should say that the fresh soil of the newly-made beds had some influence, at the same time the extremely hardy way in which the plants were reared no doubt caused them to flourish better in their improved position. I can only say I have not seen the same robust healthy growth and flowering of the Calceolaria in September for twenty years or more, and I hope if Mr. Record can enlighten us more as to the way to obtain a similar result he will do so.

The other plants occupying the beds were also good, and consisted of the most popular kinds of Geraniums, as Waltham Seedling and

Hatfield House—South Front.

Stella amongst the scarlets, Christine and Wiltshire Lass amongst the pinks; and that perhaps best of all flowering kinds, and one for which I believe the gardening world is indebted to poor Beaton, Indian Yellow, also had a place. Other kinds there were also, as well as some other bedding plants, but Mr. Record very wisely does not attempt to spoil a good effect by that heterogeneous diversity which is often met with elsewhere, for the kinds of plants employed were but few, and no one who saw the effect could wish their number increased.

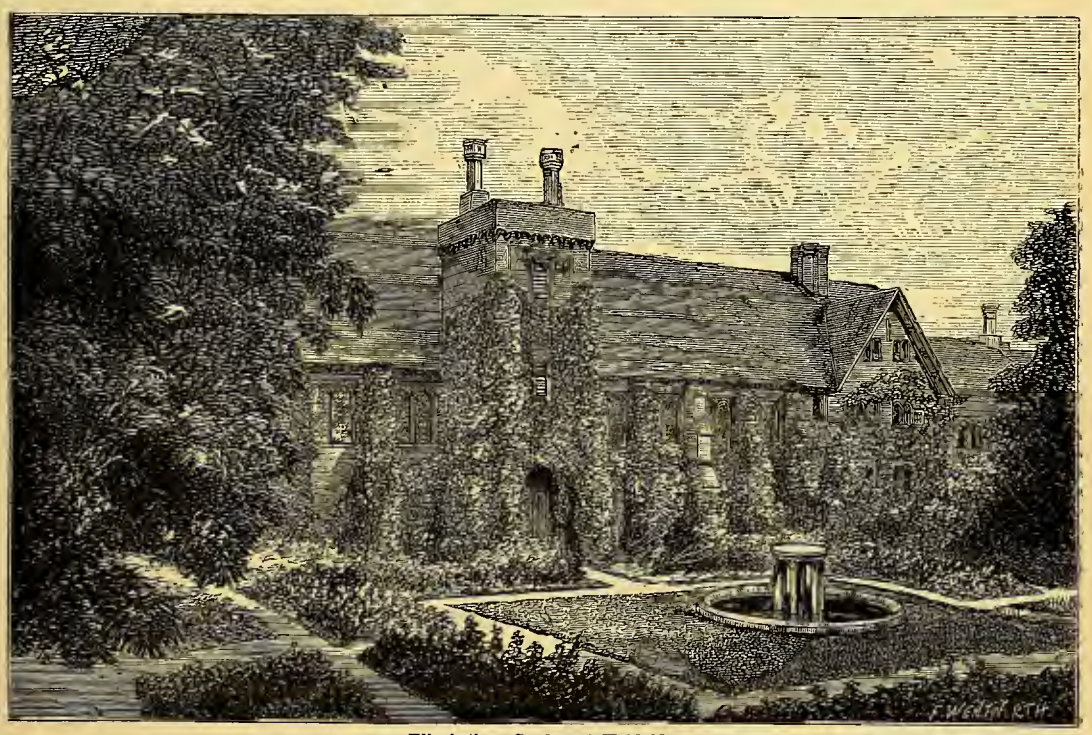
Having described the south court as having been recently converted into a garden, I will next proceed to one of the oldest flower gardens in the country, that still retains its original features, and this carries us back to the time of Queen Elizabeth, or rather to the time of her predecessor, for Elizabeth was a state prisoner at Hatfield for some years during Mary's reign. The garden now about to be described was in existence at that time, and the design of its flower beds, as well as other objects about it, cannot well be improved upon at the present day. This garden is situated on the west of the mansion, but not immediately connected with it, as some of the offices intervene. In form it is a square of about 200 feet to the side, and is therefore about an acre in extent. A circular basin of water is in the centre, and between the centre and each of the four corners is a Mulberry tree. The four Mulberry trees are reported to have been planted by Queen Elizabeth. They are alive yet, but, of course, present an aged appearance, yet, like other old Mulberry trees, they bear well, and, as I proved on my visit, produce good fruit. Some intersecting circles form the principal flower beds, which are also enlivened by turf and well-proportioned gravel walks. One of the most remarkable features is a colonnade of Lime trees all round, outside of which is a wall some 8 feet high. The Lime trees have been planted in pairs, and trained and cut so that no part of them is more than 10 or 12 feet high, forming, in fact, a continuous arcade on all four sides, while the inner or garden side is trained so as to represent twenty arches on a side, there being that number of trees employed. These trees have evidently been planted since the garden was made, very likely to replace others that might have been there before. The whole, taken in conjunction with the geometric figures of the flower beds and other

surroundings, is highly characteristic, and cannot fail to interest all who look upon such a thing. Into the planting of the beds it is needless to enter, as this is a transitory affair compared with the antiquity of the garden; but I should certainly like Mr. Record to give us a plan of this garden at some fitting opportunity, as it could not fail to be highly interesting to all, more especially to those who think that beauty of design only dates its origin from the latter half of the nineteenth century.

On the northern side of the above garden, through the Lime arcade, but at a lower level, is what is called the Palace Garden, so named from its being the spot on which Hatfield Palace once stood. The size and form of the old building, with its entrance door, shape and number of square towers, is distinctly shown by a narrow wall of stone put there for the purpose. A part of the building on the western side, with two of its towers, still remains. The interior formed one large room or hall, was the banquetting-hall of the palace, and was used by Queen Elizabeth when at Hatfield. The garden is enclosed by the boundary wall of the building above described, and was formerly used as a nursery for odd plants, but Mr. Record has lately turfed the ground over, and laid out a neat design of small beds, in which flowers of all sorts are to be grown for cuttings and other purposes instead of mutilating the beds in the best gardens.

Retracing our steps, and going towards the western side of the Elizabethan garden, and also at a lower level, reached by handsome flights of steps, we come upon a large and beautiful Rose garden, half an acre in extent; it is oblong in shape, and is cut in two by a walk across the centre. Each division has a large circular wire trellis on which to train Roses. The design is very neat; the beds are cut out of the turf, and contain some hundreds of the choicest Hybrid Perpetual and other Roses. By the sides of the walks standard Roses of equal height are planted, giving the whole a most inviting appearance. This garden also joins the arboretum, a space of several acres, in which are growing some fine specimens of Purple Beech, Cedar of Lebanon, Acacias, and that noble-looking tree Ailanthus glandulosa, besides many choice trees and shrubs of lower growth. The whole of the western side of the Rose garden and part of the arboretum it bounded by a long and wide terrace walk, which leads in a straight line to the conservatory, and gives a very suitable finish to this part of the grounds.

Retracing our steps we now come round to the eastern side of the mansion, and find there a broad gravelled terrace, bounded by a balustrading resting on a retaining wall, which forms the boundary of the promenade, and from which the flower garden in the basement below can be seen to the best possible advantage, for, let it be observed, here most things are planted in lines at right angles. The two gardens I have described on the south and western sides are each upwards of 200 feet square; this on the eastern side is of about the same size, and is reached by a broad flight of steps from the upper terrace. It consists of a series of figures in the usual formal Italian style, and each bed at the time of my visit was a picture of floral beauty, the only drawback being some edgings of Lobelia that were past their best. These beds, let it be observed, were not crowded, abundance of space was accorded them, and the mixture of turf and gravel walks presented a pleasing appearance, which was further enlivened by the bright colours of the occupants of the beds. Beyond this garden, and in a line with it, but on a lower level (for the ground declined in this direction), was another square of about the same size as the flower garden described. This is the croquet ground, most likely originally intended as a bowling-green, and which, like the garden above, was level and enclosed with a fancy balustrading, and reached by flights of steps. Beyond this croquet ground was one of those antique adjuncts to some of the noblest residences of the kingdom, the maze. The



Elizabethan Garden at Hatfield.

ground occupied by this has not been so completely levelled as the parts already noticed, but declines gently to the east, while the maze is composed of Yew hedges in a high state of preservation and keeping. Although I did not examine the extent closely, I should think it greater than that of the flower gardens. In form, I may remark, it was, like them, a square or oblong, the hedges were disposed in straight lines, and I believe with as much ingenuity and intricacy as in most devices of the kind.

Passing from the maze on the right and turning to the left hand we come upon a Rose walk or arcade, for the Roses are trained in a manner very similar to the Limes in the Elizabethan garden, over a trellis of ironwork, and comprise most of the best sorts of climbing Roses. When in bloom they are a magnificent sight. Passing along this walk, which is about 200 feet in length, and turning to the right hand, we see in course of formation a large lake of about 4 acres or more in extent; it is intended for a boating and skating pond. It is most delightfully situated in the valley eastward of the mansion below the maze. I believe there had previously been something of the kind, but it was situated outside of the garden proper and much less extensive, but the present lake is taken into the gardens, and it is intended to keep it as ornamental water. The ground has a pretty and natural elevation on every side. Already there is a walk running round the whole, and a good deal of planting has also been done, including lots of Gold and Silver Hollies, scarlet Oaks, Acacias, purple Sycamores, Yews, the Purple Beech, variegated Acer, purple, yellow, and plain Willows, Aucubas, choice and common Rhododendrons, Box trees, and many other ornamental things. These were all supplied by Mr. W. Paul, of the Waltham Cross Nurseries, and a very fine lot of shrubs they are. A work of such magnitude, and the arrangement of the groups of shrubs, so far as the work has been done—for there is yet much to be done—naturally requires time to bring out its beauties, but so far as it has gone it strikes the visitor with the belief that it is the most desirable and important improvement in this fine place; and when all is completed that is contemplated a separate description of this fine feature should be given in detail, as the arrangement of the shrubs has been anything but an easy matter

for Mr. Record, who must have devoted considerable time in working it out.

We next come to the northern side of the mansion, which has recently been altered and made into the most commodious carriage entrance, and to make it in keeping with the other sides of the house a large court has been enclosed and gravelled. An open-work balustrade, corresponding in design with that on the south side, has been erected around the northern court, which now embraces a space of 220 feet on the side, or upwards of an acre, entirely gravelled and ready for any purpose that may be wanted, and Mr. Record says it is not too large for special occasions when a number of carriages are assembled here. This, like the southern front, opens upon a straight avenue of trees, but in this instance they are much closer together, and seem not to have been used as a carriage drive as the others have been; in fact, the principal carriage drive curves round to the left after leaving this court, and a new road to the railway station is being made.

Before leaving this part of the grounds we must glance round and see how profusely the park is studded with handsome timber trees in this direction, for apart from the avenue alluded to—and all avenues at Hatfield are composed of four rows of trees—there are abundance of trees of all ages and sizes scattered over the park, not indiscriminately, but with taste and judgment, leaving large open glades here and there, groups arranged to conceal objects in the distance which it is not desirable to show, but at the same time leaving vistas in their proper places.

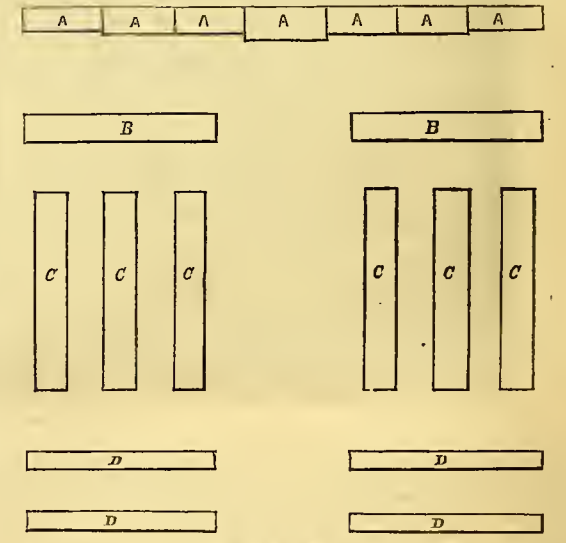
The park is very large, exceeding, I believe, two thousand acres, and much diversified. Some part of it is covered with Fern, in which not only a bullock but a man on horseback is said to have found concealment. Other portions possess a rich, grassy sward, while the whole is so undulating as to do away with that feeling of monotony which a too frequent repetition produces. The age of the trees is also a remarkable feature, and as an instance of this, I may mention an Oak situated but a short distance from the north entrance having a girth of 32 feet 5 inches at 5 feet from the ground. This relic of a bygone age is only a shell, but a mode has been adopted of prolonging its existence which I do not remember having seen before. The interior of the tree, which is hollow, has been filled-in with the ordinary gravelly soil of the district so as to form a compact mass. How far this may be conducive to the welfare of the tree time only can tell; but so venerable an object deserves the greatest care that can be bestowed upon it. I need hardly add that its top showed the usual symptoms of extreme age, portions being dead, and the spread of its branches not at all large. Let us, however, hope its life may be prolonged for many years. It would be satisfactory to know how many such trees exist in the land. Some years ago I myself measured one in a hedgerow in Buckinghamshire upwards of 26 feet in girth, and quite healthy. Still more recently I came across one in Staffordshire 31 feet and upwards in circumference. The most historical Oak, the one under which the Princess Elizabeth was reclining when a messenger came to hail her Queen of England, is no longer in existence, having fallen some forty years ago. Its shell is, however, preserved, but its size is not important.

A striking feature in this place is the inconvenient distance of the kitchen garden from the house which has been long felt, so that a new one is in course of formation which will be described in due time. The old kitchen garden, which was called "the Vineyard," was at the extreme north side of the park, upwards of a mile from the mansion. A path through the park led to it, and the entrance was through a sort of ornamental cottage; the side next the park was by no means remarkable, but the other side was extremely so. The cottage alluded to stood on the edge of a rather steep bank facing the north, at the bottom of which was a broad piece of water, formed by damming-up the river Lea, but its clear and bright appearance as well as the concealment of the weir head kept up the idea that it was an important river. On the other side of this river was the kitchen graden, an enclosure of between four and five acres, having a sort of ornamental tower at the centre of the top immediately facing the cottage. We entered and were surprised at the manner in which the sloping bank from the cottage to the water was disposed of, which was by Yew hedges all pointing in fan-shaped fashion to the cottage, the centre opening of course being the widest, and pointing directly over the water to the ornamental tower at the top of the kitchen garden. A broad walk through the latter gave an uninterrupted view to the object alluded to, while all the side openings, after pointing to the water, also had their course to some important centre in the garden or beyond it, while the age and good keeping of this singular feature carried the beholder back to a period when gardening as a profession must have been little known compared with what it is now; and yet how perseveringly and consistently have these fine features been attended to by the many generations of proprietors of Hatfield! Why it should be called the Vineyard is not so easy to understand, unless, as is not at all unlikely, Vines for wine-making were cultivated in the kitchen garden.

Returning to the neighbourhood of the mansion, and pursuing a south-west course, we emerge in the pinetum proper, and guided by Mr. Record, we find ourselves in a large sheltered spot, where some of the most valuable Conifers introduced to this country some fifty years ago have been planted, and many have attained the proportions of our native trees. Picea Pinsapo was especially fine, as is also P. cephalonica, while Cryptomeria japonica, Taxodium sempervirens, and sundry Pines, were well represented, Pinus excelsa being especially good. Neither were Araucarias wanting in size, while rising specimens of the more recently-introduced Conifers bid fair to equal others of like kinds elsewhere.

Diverging from this we come upon the conservatory, a new building, not lofty, but well adapted for the purpose it is intended for. This structure is 200 feet long by 24 feet wide, span-roofed, and with an ornamental pathway of good width up the middle, the roof being well clothed with creepers, and the sides with such permanent plants as Camellias and Orange trees, and amongst others I noticed one of the best Luculias I had seen for many a day. Fuchsias and other plants standing between gave a good display for the time being. In another part of the grounds I noticed abundance of plants being prepared for the autumn and winter decoration of the house. It ought also to be mentioned that connected with one end of this conservatory, but at right angles to it, so as not to compete with it in point of interest, was a plant stove, also well stocked with the plants mostly wanted at the time the family are here. Only those who are in the habit of supplying a family of rank with plants for the various purposes of table and room decoration, know how much this part of a gardener's duty has increased during the last few years, and how much with it the demand for cut flowers.

As the kitchen garden recently formed is in the direction of the conservatory, we ought to describe it here, but as the graperies and forcing houses intervene between the old kitchen garden and it, my remarks upon them should naturally precede any I have to make upon the other. They were not at the old garden as might be supposed, but were in a sort of yard to the north-west of the mansion, adjoining some farm buildings and other offices. They consisted of some vineries that had done good service in their time, of pits, and of smaller houses for forcing pot Vines, Cucumbers, and Strawberries. I believe that in years gone by there have been obtained from these pits and houses good Grapes from pot Vines. Those I saw this year were excellent. But as a new kitchen garden has been determined on, and as ranges of horticultural structures on a much larger scale are in course of formation, these houses and pits are to be done away with. At the time of my visit, however, they were fully employed, or rather the plants standing about showed that they had been so; and apart from the long array of Vines in pots, and the thousands of Strawberry plants to be taken in, plants for the decoration of the conservatory were being prepared by the hundred, Chinese Primulas, Cinerarias, Poinsettias, and what I was very pleased to see as an old and deserving favourite, a large batch of Calla æthiopica, a plant which far exceeds the bulk of the Caladiums in beauty of form. Cyclamens, Cupheas, Libonias, and other winter-flowering plants, were also being prepared. All of these were in the best possible condition, showing that Mr.



KITCHEN GARDEN.

PLAN OF HOUSES.

A, A, &c. Seven Grape houses forming a range of lean-to houses 270 feet long by the respective widths of 18, 16, and 14 feet. The centre house is the highest, and forms a conspicuous object from the central walk through the kitchen garden.

B, B, Two span-roofed forcing houses each 100 feet long by 14 feet wide. These may be used for Pines, Melons, &c.

C, C, Six span-roofed houses, each 100 feet long by 16 feet wide; the two outer ones being for Peach houses, the use of the others not yet determined upon, but they will be employed for growing plants for the present.

D, D, Cold pits each 100 feet long, and their number may, perhaps, be increased, and possibly some of them will be heated.

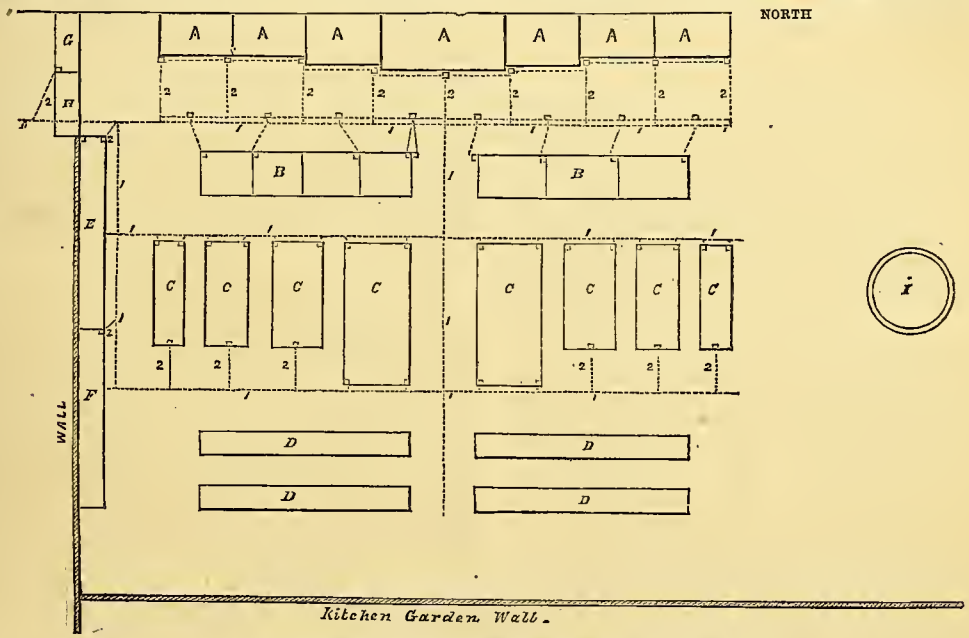
Record, notwithstanding the many duties such extensive alterations as he is making necessarily entail, nevertheless takes care to see into the details which play an important part in the embellishment of the place.

Taking our way in the direction of the new garden, myself and friends first came to the newly-erected Grape houses, and the neighbouring forcing houses, pits, and other structures.

The new kitchen garden is formed at a convenient distance to the south-west of the mansion, the path leading to it passing the conservatory above alluded to, which is included within the boundary of the park proper. The kitchen garden is outside, there not being enough space inside near the mansion that could be spared; being outside, it loses the benefit of the shelter which the fine belt of trees by the park boundary affords in that direction, but there was no alternative. A space of 8 or 10 acres cannot always be afforded at one place, and it is not unlikely that as great an extent will be wanted by the time this garden shall have been finished; for the area enclosed by the garden walls already built is 6¾ acres, exclusive of the space occupied by the forcing houses, &c., besides which there will probably be the slips, for few gardens are without these, and in many their extent far exceeds that of the interior. Much, however, is as yet incomplete, although the works are being carried on by a numerous staff of men. The kitchen garden as walled-in forms an oblong, or nearly so; for necessity has compelled a little divergence from the proper angle at the south-west corner, the south wall being shorter than the north one, and the other two walls longer than either. It is, I believe, intended at some time to run another wall across the garden east and west, so as to afford more south wall to the tender fruits; but as it is the north wall is of a good length, being 564 feet long, and 12 feet high; the other walls are of the same height, and all protected by a coping projecting about 3 inches over each side. Trees had been planted against part of the walls last spring, and in most cases promised well. All the ground was cropped or had been so, and healthy fine-looking vegetables met the eye in every direction. A broad walk from side to side crossed the centre of the garden pointing to the central vinery in the ranges of glass at the back; wide open-work gates were being put up in the centre of the north wall, while other walks, also of considerable width, were being carried round at a proper border distance from the outer walls.

In the forcing department, behind there was still much to do. Mechanics of various kinds were busily employed, and gangs of labourers and garden men were engaged in the earthworks, and that very important operation—making Vine borders. Turfy sods, from 4 to 6 inches thick, were being wheeled in upon a well-prepared foundation of drainage, and some of the Vines had only been planted a few days, yet were looking well. I believe Mr. Record intends one if not two of the vineries to be planted with Muscats, and one or two with Lady Downe's and other late Grapes, but the precise position of each I did not exactly note down.

The heating apparatus was ample, there being three or four boilers, but all united or so arranged that if one should fail the others could work without it. They were all saddle boilers on an improved plan,



PLAN OF HOUSES AS RE-ARRANGED, SHOWING THE DRAINAGE.

A, A, Seven vineries forming a range of lean-to houses 264 feet long, by the respective widths of 18, 16, and 14 feet. The centre house is the highest.

B, B, Two half-span or hip-roofed houses, each 100 feet long by 18 feet wide, divided into four and three compartments respectively. These will be supplied with bottom heat as well as top heat, and will be used for forcing Pines, Melons, Cucumbers, Dwarf Kidney Beans, &c.

C, C, Eight span-roofed houses, the largest two 70 feet long by 20 feet in width; the next size 50 feet long by 16 feet wide, all of which will be used for plant-growing and forcing. The next sized houses, 50 feet long by 14 feet wide, will most likely be Peach houses; and of the two outer houses, 50 feet long by 12 feet in width, one is for a Strawberry house, and the use of the other is not yet determined on.

D, D, Are bedding-plant pits; the two lengths nearest the span-roofed houses will be heated, and the rest are intended to be cold pits.

E, Will be a lean-to propagating house.

F, A house to be used for store plants and bulbs in a dormant state.

G, Boiler house, in which four boilers will probably be placed. The object in having them all together is, that the boilers may be connected one with the other, so that if any boiler should fail to supply the necessary heat required at particular times, or should be under repair, there may be a boiler to supply its place.

H, Is the fuel shed.

I, Water tank, 40 feet across, and 5 feet deep. This tank is kept supplied with water from a large pond situated some distance off in the park. From the tank the water will run into every house in the plan, and all of them are fitted-up with a tank above the hot-water pipes, so that the water may be heated to the temperature of the house.

The kitchen garden is also well supplied with water from the same lake and by the same means, and from a similar tank the water is conveyed all round the garden.

The dotted lines are intended to show the system of drainage adopted for the whole block of buildings. Figs. 1, 1, &c., is the main drain, and is laid with 12-inch glazed socket-pipes; and figs. 2, 2, &c., are the branches connected with the main drain to take the water from the bottoms of the Vine borders and the interior of hothouses.

and were placed at the north-west corner where the ground is low. I believe these boilers are calculated to heat the whole of the structures shown in the diagram, and being placed out of sight, the forcing pits and houses will be open to the inspection of company without anything offensive intruding itself. Probably other houses will ultimately be added to those already in course of erection, as the plan has been arranged with that view; but even as it is the important additions made by the present proprietor of Hatfield will no doubt rank amongst the most useful it has ever had, and near the mansion the changes that have been made by him have been in strict harmony with the character of the building.

I have only to add that the whole place was in excellent keeping, that there were proofs at every step of the future being thought of as well as the present; and finally, the belief of myself and all who accompanied me was that in Mr. Record the Marquis had found a gardener worthy of his place.—J. ROBSON.

WORK FOR THE WEEK.

KITCHEN GARDEN.

TAKE advantage of favourable mornings for wheeling out old hotbed and other manures on spare ground, and getting the ground well trenched and roughly ridged to receive the bene-

ficial influence of the atmosphere. Cut off the *Asparagus* stems as soon as sufficiently decayed; clear the beds of all refuse, cast off right and left with a fork portions of the earth that covers the crowns of the plants, and apply a good dressing of manure; then return the earth over the manure. Those beds which have been attended to in the growing season by applications of liquid manure, will require nothing more than a thorough cleaning and forking carefully over, leaving the surface rough. Cape *Broccoli* and *Cauliflowers* now forming their heads should be well protected from frost by covering them with a few of the under leaves, or by breaking down the heart leaves on the head while forming. Continue to make sloping banks for planting *Endive*, *Lettuce*, *Cauliflowers*, and *Cabbage* plants, and keep the ground among those already planted out hoed and surface-stirred. Cabbage quarters should be searched for grubs and slugs, and any blanks that occur should be made good immediately. Those who grow tall varieties of *Brussels Sprouts* should take off a few of the lower leaves as they become ripe to encourage the sprouts. A good system to blanch Endive throughout the winter is to place 3 or 4 inches of sand on the floor of the fruit-room, vegetable-shed, or cellar, and take up a quantity of plants with balls of earth about once a-week in succession, and place them in the sand, where they will blanch beautifully without further trouble. See that the Winter *Spinach* is thoroughly thinned and aired, well hoed in favourable weather, and in every way encouraged.

FRUIT GARDEN.

The principal operations in this department are the gathering of the fruit as it becomes in proper condition, making preparations for filling-up blank spaces, and trenching new ground for orchards and fruit plantations. They should be well prepared to insure success. Planting may now be carried on with success; mulch and stake safely without delay. Continue to keep the runners removed from the Strawberries, and those that have been some time potted for forcing should now be placed in a comfortable situation to insure their not being too much soddened with wet. Strong pricked-out plants may still be potted with success if placed on a kindly bottom heat.

FLOWER GARDEN.

Except where alterations are in hand the principal work in this department for the present will be mowing and cleaning-up, and if anything like neatness is to be maintained, sweeping-up leaves will require daily attention; also let gravel walks be thoroughly cleared of weeds and moss. Roll them frequently when wet to keep the surface hard and smooth. Continue to afford young stock in pits and frames the most careful attention, and endeavour to have it well rooted and strong without keeping it so close and warm as to render it soft and liable to die-off on the first approach of wintery weather, as is the case with stock propagated in heat late in autumn, and then stored in cold pits for the winter. Therefore, admit air freely to all plants that are sufficiently rooted to bear it without flagging. Newly-potted-off plants should, however, be placed on a gentle bottom heat, which will impart a little warmth to the soil and encourage the formation of roots, but sufficient air should be given to prevent anything like weakly growth. Some spare beds should now be in readiness for the reception of Hyacinths and Tulips. These have a pleasing and interesting effect at an early period of the year when all is cold and seemingly lifeless, and when there is scarcely anything for the eye to rest upon but bare fields and leafless trees. Crown Imperials, hardy Liliums, bulbous Irises, Narcissus, and other bulbs should now be planted in the borders. Soils which have been used in the forcing department should be brought into the compost-yard and mixed up with decayed matter from the waste heap. This mixture forms an excellent manure for flower beds. Prepare composts for Roses by frequent turnings, at the same time adding rich materials; and if a quantity of wood can be procured, also trimmings from hedges and refuse from the shrubberies; these, formed into a heap and charred, will prove a valuable addition to stiff clayey soils.

GREENHOUSE AND CONSERVATORY.

A sufficient quantity of good friable turfy loam for next year's operations should now be procured and stacked up in rows, and thatched with fern or straw to throw off rain, likewise peat and sand, both valuable adjuncts in propagating. Summer-flowering twiners, which usually become unsightly at this season, should be cut back rather freely, as also any others that will bear this treatment. Shade can now well be dispensed with, therefore not a spray which can be spared should be left to obstruct the light. Acacias and other winter-flowering plants having been subjected to a period of comparatively dry treatment to secure their blooming profusely, should now be rather liberally supplied with water at their roots in order to bring them into flower during the dull season, when they will be much more esteemed than in spring, when flowers are becoming plentiful. Manure water, if it can be used, should be given frequently to Chrysanthemums. Give air freely on favourable opportunities, avoiding cold draughts against plants that have been brought from a warm house, and guard against damp by using gentle fires with a little top air on wet days. Let pot specimens in bloom be frequently re-arranged, so as to make the most of them, for the finest specimens become too familiar to be interesting when allowed to remain too long in one place. Be careful not to overwater plants brought from the stove, and also to use the water in a tepid state, as watering tender plants with cold water after this season, injures the young shoots, shortens the duration of the blossoms, and often ruins the plant. Use weak manure water for Salvia splendens, so as to preserve the plants in a vigorous state and keep them blooming as long as possible. Give attention to securing a plentiful succession of plants for maintaining the gaiety of the house as long as possible.

STOVE.

Hardwooded shrubs, such as Ixoras, that have not made their wood after flowering should be encouraged with a warm moist temperature, syringing them lightly overhead, and shutting up the house early in the afternoon. Give any growing plants that require it more pot room as soon as convenient, in order to have them well rooted in the fresh soil before winter. Keep a sharp look-out for insects, especially thrips, which are often troublesome at this time on such plants as are growing in a close warm house. Either fumigate or remove the affected plants, and thoroughly clean them immediately this pest is perceived, for if left to its own way with tender-growing foliaged plants it soon disfigures the finest specimens.

PITS AND FRAMES.

Premising that all tender plants are safely housed, and anxiety with regard to their safety in a great measure diminished, proceed with arranging them, and remove into any spare cold pits the stock of Pentstemons, Antirrhinums, Linums, Phloxes, Intermediate and other Stocks, and all herbaceous annual plants that require a little protection. The pots should be plunged in sand or coal ashes; plunging is not only a protection, but saves much labour in watering during the spring months. When all the plants are arranged in this department there should be a thorough cleaning; all litter, rubbish, and everything offensive to the eye should be removed. If the footpaths between the ranges of pits be in bad trim, a layer of gravel or coal ashes will add much to the neatness and to the comfort of visitors. Measures should be taken to destroy the field mice, which in hard winters work such havoc amongst plants in turf pits. Baits made of cheese, bread, or bacon do not take with these destructive little animals, but a brick trap baited with an acorn or chestnut they cannot resist.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Protectors.—Writing hastily as we do, we find that in alluding to battered and broken hand-lights, with the exception of stating how we filled the broken sides with zinc instead of glass (the zinc being clipped to the requisite size with scissors made on purpose almost as easily as you would clip paper with common scissors), we forgot to mention that with other glasses we used the frames as they were, and instead of glazing, merely set thin pieces of slates or thin boards against the sides where they were broken. We could not do without such rough mending, not so much on account of protection as for keeping all such intruders as mice and rats out of the lights at night. To exclude them still more, we frequently run a light line of tar round at a few inches from the bottom of each glass. Thus temporarily securing the sides of our hand-lights, we like to have the tops well glazed, and generally manage all such matters in wet and stormy days, when the men could do little or no work out of doors, with benefit to themselves or their employers. We find that Cauliflowers and Lettuces do, on the whole, as well under these glasses with opaque sides as they do when all the sides are of glass and in the best order. We are delighted to see that some of our neighbours have dozens of hand-lights, beautifully perfect, and well painted every year. At present we are satisfied with having the tops perfect,

chiefly to keep out intruders, as before now on mild nights, merely from leaving air on, we have had numbers of pretty Cauliflower plants cut down by grass mice and rats. Kill and trap as you may, there will never be an end to such work so long as game are encouraged and fed close to the garden.

One reason of our endeavouring to have the tops of our hand-lights sound is the use we put them to, when not wanted as protectors out of doors, for all propagating purposes during the season. Then, instead of using the bottoms of the glasses, it is often more handy to set the tops on bricks or a rim of wood. We think, however, most of our readers will now be convinced how much more economical it would be to use a square or two squares of glass in a frame instead of the double-hipped roof of the hand-light. The cutting of the glass to meet all the angles and triangles of the tops of the hand-lights is of importance at the present day, on account of the time it takes; but when glass was expensive, the working-up of all the little pieces became a matter of economy. It is altogether different now, for generally large squares in moderation are cheaper than small ones covering a similar space.

We think it important to make these remarks, as we have had several inquiries since last week respecting simple glass protectors. We still hold that a wooden frame with a glass top is the simplest if not the best, and of such we wish we could greatly increase our little stock. Although not at liberty to mention names, we may state that one friend who never tried for early Cauliflowers formerly, had some last season so early as to surprise all his neighbours. These were obtained from a protector formed of four pieces of wood nailed together with eight nails, and enclosing a space 20 inches square, a little elevated on the north side. The top was covered with one square of glass, from 21 to 26 ozs. to the foot, without a frame of any kind, resting on the boards. He was so satisfied with what he could produce in the way of early Cauliflowers, that we believe he has made a number of such boxes since, and had the glass square secured in a wooden frame 2 inches wide.

For mere protection we have long satisfied ourselves that a 1-inch board is nearly as good as a 4½-inch brick wall, and 2 inches as good as a 9-inch wall. Where the object is to obtain as much acceleration as possible from summer heat, brick will be superior to wood, as the heat which is absorbed during the day will be given out at night. Much the same result may be obtained even from single wooden structures by shutting up early. We have seen beautiful Cucumbers at the end of May and June from seeds sown in a shoemaker's workshop in February. They were kept near the stove until the seedlings were above ground, placed near the window during the day in a small glass case containing a tin that could be filled with hot water, and left nearer the stove at night until the plants were ready to go to a frame or pit, when they would pay well for all the care involved.

With all the advantages of hot-water heating there is still this disadvantage, that it has greatly lessened the requisite attention bestowed on everything when there were no such advantages. In conversation with several great gardeners lately they all seemed to agree in this—that it was diminishing the attention exercised by the young gardeners of the day in too many instances, because so much could be done by the simple turning of a valve, and most probably the valve would remain fixed when it ought to be open. After all it is attention to these little matters that makes up the elements of success. The youth who has a mind above giving attention to trifles ought never to think of being a gardener. We were once acquainted with a clever youth, who knew something of almost every "ology," sadly put out because he was taken to task for such a simple thing as not giving air early enough to a Peach house. That want of air, however, made almost every Peach drop before stoning time. Successful gardening results not so much from great scientific and intellectual attainments—though these are desirable when attended with a humble teachable spirit—as from a simple but careful attention to little things. It is the latter qualification that has enabled some comparatively unlettered gardeners, and even cottager and amateur gardeners, to achieve such wonderful results. Get, then, most certainly the best possible means if you can, but never despise the simplest modes or the most economical makeshifts if you cannot readily get what you consider the best; and for encouragement let us say that some of the largest establishments are often those where the most must be made of the simplest and most economical arrangements. By economical we mean for the time only, as there are reasons why a small yearly expense should be incurred rather than that ten or twenty times the amount should be spent at once, though this might be the most economical in the end.

In the fine dry weather of the week, with the exception of hoeing and slightly forking the surface of the ground among young Cabbages and Lettuces, thus admitting air and deterring slugs, we have done little in the kitchen garden. We have planted, however, more Cauliflower, pricked out a lot of young Onions to stand the winter and come in early, and earthed-up Celery, using thin boards and pieces of spouting to place some ashes round the outside of each plant. As to the Cauliflower, a little drift sand on the surface of the soil prevents the plants from damping, and the rougher the sand the less likely are snails and slugs to go over it.

Lettuces on Banks.—These did so well with us last winter, when so many under the protection of frames and at the bases of walls stood very badly, that on a piece of ground from which the summer crops have been taken we have thrown up three wide ridges, and planted them with Lettuces. These ridges run north and south, their sides, therefore, sloping to the east and the west respectively. The bases of the ridges are marked-out 6 feet wide, the apex of each ridge is therefore also 6 feet from its neighbour. This distance secures two things—the apex of each ridge is well raised above the ground level, and the gutter or furrow between two ridges is considerably below the regular ground level. To the comparative dryness of the plants in winter we attribute their greater safety as compared with those planted on the level ground. On each of these ridges we have five rows of plants, two on each sloping side and one along the apex. The ground was well pulverised, and then gently beaten with the back of a spade before planting. The rows are a foot apart, and the plants 6 inches from each other in the row, as the plants, though stubby, are small, and if they stand well, they can be thinned-out to a foot apart in the spring, when the thinnings will come in for succession. With a little mulching in spring we found the plants on the ridges arrived at great perfection with little or no watering. The greater depth of good soil made up for their greater exposure, and the gentle forking over the surface before mulching enabled the spring rains to percolate freely. A crisp early Lettuce being so much enjoyed by many who have only a small rather open garden, must form our excuse for mentioning these details, as we believe that on them the success will chiefly depend. This double-sided ridge will often be more suitable than a bank sloping to the south, as the greater the heat at one time the more risk from frost at another. Such improvised banks are suitable for any soil, but most useful when the soil is rather heavy. When the Lettuces are gone the banks can be levelled as before; but if we had plenty of ground we should not object to such banks as the above, and also others running east and west for a continuance. In the latter case we should have them of double the width at the base, and the south slope we would make larger than the north slope. In such cases we have found the south side most useful for early Cauliflowers, Potatoes, &c., whilst the north side was valuable for summer Lettuces, and late Strawberries. A great deal may be done even in small gardens by making, as it were, so many climates for ourselves.

Onions.—After the ground was well dug and firmed by rolling the surface in this fine weather, the Onions were fastened by the roots, without burying the stem at all, a secret for obtaining fine bulbs instead of thick long necks. We often do this in the early spring, but we get them rather larger when they are planted in autumn for the roots to get firm hold before winter.

Celery we earthed-up, some wholly, especially the dwarf, but the tall red only partially, to enable the heart to rise well. At this season it is well to take advantage of the dry weather for this purpose, as the dews of night will partly supply the waste by evaporation during the day. There will also be little or no danger of bolting, or of seed-stems appearing in consequence of dryness at the roots.

FRUIT DEPARTMENT.

We have not been able to remove a second sprouting of little shoots from bush and pyramidal trees as we wished, since the more air and sunlight there is admitted, the better is it for the buds to be left. The weather was so tempting that we gathered the most of our hardy fruit, though from present arrangements we have been obliged to store it away temporarily, as we feared that after a week of frosty mornings there might come close, damp weather when the moon appears in the evening instead of in the morning. The careful handling of all the keeping fruit is of much importance. One singular fact has happened

as respects some of the latest Pears. Though hard as flints, a great many dropped lately quite prematurely, and if you touched them they seemed to have no hold of their footstalks. We attribute the fact to a chill which they received during the continued cold rains. We should be glad to know if such premature dropping has happened elsewhere. This has taken place more with late Pears than with Apples, and has chiefly been confined to the latest kinds that keep well on to spring. The fruit seem perfectly sound.

Strawberry Plants.—The dry weather made us water the pots, contrary to our wishes; but they were becoming too dry, almost so much as to impoverish the bud. Too great dryness is not desirable even in winter. Cleared the plants of weeds and small runners that made their appearance. The sooner such plants can be brought under shelter the better, but we can rarely accomplish such work early. Even when the plants have been placed in earth-pits and protected by old sashes, we often lose many of them by the incursions of mice and rats, which eat the buds they would not touch when exposed. When frost is apprehended, however, we like to have some bundles of straw or litter to throw over the plants, of which a small quantity will be sufficient. Such protection will not keep out much wet, in which case the pots may be laid on their sides. A cool, dry place, however, under glass, is the best of all places for them, as when they are somewhat dry a sharp frost will not injure the roots much.

Planting.—As soon as the leaves begin to fade, though still retaining a good amount of green, is the best time for replanting and fresh planting. For the modes of doing so we must refer back to previous notices and volumes. For dwarf fruit trees in the open air the simplest mode is station-planting on little raised mounds, and encouraging the roots to keep near the surface by surface-mulching. Such a mode will involve the least trouble as regards replanting, root-pruning, or shoot-and-branch-pruning. Get a good crop from a tree almost as large as you want it, and under the above treatment you will have enough of strength for fertile buds, without any great need of the knife either above or below ground.

ORNAMENTAL DEPARTMENT.

With a sharp frost every morning, and bright sun every day, the air was so dry that nothing has suffered out of doors, except the Coleus, which is considerably injured. Even Heliotropes up to the 14th have been little injured. With the change of the moon we expect that we shall have less frost in the morning for some time to come, and if so, but for falling leaves the flower garden will be interesting a little while longer, as it has even now a good deal of bright bloom.

Leaves driving over a lawn tell us, however, what is coming; and however beautiful the colour of these leaves while on the trees, they sadly spoil the beauty of a smooth green lawn. When only few in number, it is the most expeditious plan to pick them up by the hand and place them in an apron or basket. Some hundreds of leaves scattered over a lawn may thus be quickly removed, when the attempt to sweep them would require much time and labour. When the grass needs mowing, and the leaves are on it, the mowing machine will take them out of sight. There could be no better autumn weather for using the machine all over, as the grass will grow slowly after such frosty mornings. Of course, when, by-and-by, fallen leaves are thick, the rake and the broom must be used, but when there are only a few, hand-picking will be the most efficient plan.

Cuttings for Flower Garden.—Our earliest-struck have had plenty of air during the day. Our latest that were put in cool places under glass, in order to give them a better chance, have had a little air at night, and scarcely any during the day. We want the sun with its heat to incite fresh growth and rooting. There is little chance of drawing cuttings by mere sun heat, and very little air will prevent any accumulation of moist vapour. Much may be done by thus economising sun heat, but it cannot be done when air is given as a mere matter of course, and the cuttings of a week ago or of yesterday and those inserted a month or six weeks since are treated alike as to air-giving. Rather than give fresh cuttings much air or shading, we would rather slightly sprinkle or bedew them with water once or twice during the hottest part of a sunny day, and thus lessen evaporation, whilst giving them the greatest amount of light they could bear. It would be well if the simple principle were acted upon—that every bit of shading not absolutely wanted impedes and hinders the rooting process. How often does shading, applied when really necessary, remain on for hours when it is doing injury. All needless shading, it should be remembered, only tends to deprive a plant of its vigour.

Calceolaria Cuttings.—The inquiries about these remind us that the time for putting them in is approaching. We never saw the plants better supplied with young shoots suitable for the purpose. We generally put them in about the end of the month in a cold pit, as frequently mentioned. We have no place to spare for them as yet, but if we have no severe frost, a few days later or earlier will make little difference. We find, however, that the cuttings give least trouble, and on the whole do rather better, when they keep plump and root but little until the days lengthen.

Where much is done with bulbs in the flower garden, and it is desirable to keep the bedding plants as long as possible, it is a good plan to set the bulbs on a bed of rough loam and leaf mould, cover them over, lift, and plant them with balls. Fine, strong, early growth is thus secured.

Besides routine, cleaning and watering, and getting plants in pots at all tender under, or ready to go under, protection, there has been much potting of Primulas, Cinerarias, and top-dressing Poinsettias, Euphorbias, Cypripediums, &c., for winter blooming. Rivina humilis is now lovely with its long racemes of scarlet berries, and from these berries young plants may be had in myriads.—R. F.

TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—*Catalogue of Roses, Fruit Trees, Hardy Trees and Shrubs, &c.*

Jean Verschaffelt, Faubourg de Brnxelles, 134, Ghent, Belgium.—*Catalogue des Plantes—Prix-courant pour l'Automne*, 1871, *et Printemps et Eté*, 1872.

Godwin & Sons, Ashbourne, Derbyshire, and Angel Road, Edmonton, London.—*Abridged Catalogue of the Best Roses*, 1871-72.

Stuart & Mein, Kelso.—*List of Select Gladioli.*

W. Chater, Saffron Walden.—*Catalogue of Hollyhocks and Roses.*

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

NOTICE.—We have declined receiving three packages of fruits, &c., sent us to be named, as they were not carriage paid.

ASPARAGUS SPINACH (*W.*).—It is all that Spinach can be expected to be, but the flavour hardly justifies the name.

"BRITISH WILD FLOWERS" (*A. L.*).—Of the sixth volume, twenty numbers have been issued, and six numbers of the seventh.

FLOWERING SHRUBS (*M. E. K.*).—We know of no work devoted to them exclusively. Glenny's "Handbook of the Flower Garden and Greenhouse" includes them, and so does the "Cottage Gardeners' Dictionary." Each is cheap.

PRUNING GOOSEBERRIES (*J. B. D.*).—Your Gooseberry plants are probably two years old, in which case you ought to thin out the young shoots if they are crowded, cutting the others back to half their length. The bushes will require to be pruned once a-year in winter, merely thinning out all superfluous shoots, and cutting an inch or two from the points of those which remain. Always study to obtain a compact, well-proportioned bush, and avoid crowding in the centre.

VINES (*James Dickenson*).—Add Black Damascus and Trebbiano to your list. The Muscats you mention are distinct.

OVERCROPPING VINES (*An Anxious Learner*).—Your young Vines have done remarkably well; and the reason that the Grapes have not coloured this year is that you have overcropped the Vines. You should only have taken two or three bunches from each rod the first year of their fruiting, and from 8 to 12 lbs. of Grapes the following season. As the young wood is strong and well ripened the Vines are all right, but you must be content with a very light crop from them next year.

SURFACE-DRESSING INSIDE VINE BORDERS (*H. W. C.*).—The best time to surface-dress Vine borders is immediately after the Vines are pruned, and the glass and woodwork of the house have received a thorough washing. As you used fresh horse droppings, no doubt it was Mushroom spawn that appeared in your borders. It would not injure the Vines, but it exhausts the compost, and we should prefer the border to be free from it. We surface-dress our Vine borders with the following compost annually, after removing 3 or 4 inches of the old material from the surface:—Equal quantities of fresh cow and stable manure, as free from straw as possible, are thrown together in a heap: it will soon heat violently, but we turn it over daily until it is pretty well decayed; it is then mixed with an equal quantity of turfy loam, when it is ready for use.

BLACK MUSCAT GRAPES CRACKED (*R. S.*).—Some varieties of Grapes are more liable to crack than others, and various causes may be assigned for their doing so. As your Grapes are well coloured and have a fine bloom on the berries, mildew would not be the cause. We think in your case the cause is too much moisture in the atmosphere of the house. Be careful when watering the plants not to spill any water; and in damp weather you should make up a fire in the forenoon when the ventilators

are open, allowing it to go out after midday. Always water the plants in the morning. For a good late Grape, later than those you have, we recommend Madresfield Court Black. For very late use, in February or March, Lady Downe's is the best.

Vines for a Cool Vinery (*C. R.*).—There is no black Grape that can be recommended to ripen in your house before Black Hamburgh. You may try the Muscat Hamburgh, and it cannot be too well known that Madresfield Court Black Muscat, though a late Grape, ripens well in a cool house. Of White Grapes to ripen before Buckland Sweetwater there is White Frontignan and Royal Muscadine. The latter, though not a showy Grape, is still a good hardy sort for a cool house.

Potato (*W. J., Shepherdswell*).—We cannot be certain of the name of the Potato you sent, but think it is Douglas's Irish Kidney. Do you not think it very hollow in the eye and wasteful in dressing? As you require a change of seed we would recommend you to change the sort at the same time.

Trellis for Peach House (*W. C.*).—The best material for your trellis is iron wire trained horizontally across the rafters, and fixed 9 inches apart and 12 inches from the glass. In your lean-to house, with trees trained to the back wall, you ought not to trellis the house more than half the distance up the rafters, leaving the upper portion of the roof clear to allow the sunlight to reach the trees on the back wall.

Roses (*G.*).—Yes, we think Bessie Johnson promises to be a late as well as an early bloomer. We know that flowers were upon it on the 10th inst. at Mr. Curtis's, the South Devon Rosery, Torquay, who, you will remember, raised it.

Clay Soil and Lime (*X. Y. Z.*).—The mixture would be a good top-dressing for light land; and the clay, after being burnt and mixed with lime, would be equally good for heavy land.

Errata.—In the description of Preston Hall, page 260, third line from the beginning, read "right-hand side" instead of left; and at page 262, and tenth line from the top of second column, read "upwards of 70 lbs." instead of 60, the bunch of fruit having considerably exceeded that weight. At the bottom of first column, page 273, read "frame" for 'pane.

Cherries for a North Wall (*A. F. B.*).—Morello is the only one worth growing on a north wall. For a west wall you can have Green Gage Plum and the Purple Gage.

Fruit-growing for Profit (*J. H. C.*).—From the little information in your note, we warn you not to invest your money as you suggest. We shall publish soon some notes on market gardening.

Planting Flower Beds (*Amateur, Cork*).—We have no doubt that the bed would look well. We have no faith in Myosotis sylvatica for the corresponding bed, but would recommend the common M. palustris, only it requires moisture, which can be had by mulching. M. azorica also would do, only both must have the seeds picked off. The other year we noticed a beautiful border of M. palustris at Ashridge Park in August; we noticed, however, that it was well watered. Mr. Fleming used it largely, and with fine effect, at Trentham. With some attention the Forget-me-not will last quite as long as Viola cornuta, and the latter will stand longer if fresh planted every year. To continue regular and well it should likewise have the seeds removed. If your fancy stones are of a dark colour, or if you make them black with a coat of tar, or, if the smell be unpleasant, with lampblack and oil, then you could not have a more beautiful ring inside of them than Cerastium tomentosum. If the stones are of a light whitish colour, then Oxalis corniculata rubra with its dark foliage would look well, with the Pyrethrum inside.

Frame for Bedding Plants (*I. H. M.*).—We would recommend you to have the floor of the pit or frame for preserving plants through the winter a little above rather than under the ground level. We would have no fermenting material beneath; it will cause more harm in winter by sending up damp than it will benefit the plants by the heat. You cannot have anything better for setting your plants on than dry ashes, and kept as dry as possible by taking your plants out as you water them, and letting them drain before you return them. They will be a little safer as respects the roots if plunged to the surface in cocoa-nut fibre. All the hardier bedding plants may be so kept, and there is no better plan for Calceolarias. A little house that you could go into, with a small flue or a hot-water pipe, would in the end be more serviceable and economical, as mats for covering are becoming dearer every year, and one mat will not be sufficient in severe weather without litter over the mat.

Heating an Aviary (*A Subscriber*).—We are not quite sure if you wish to heat A and C, as well as the glass-covered part B. A small conical boiler with the fire inside, with indiarubber fastenings for the pipes, would suit you, as you wish all to be moveable. In all such boilers exposed and set aboveground there is a loss of heat, unless there is a non-conducting covering placed over them, and then the pipes must be higher in the house. If against B, you could place a small furnace and one of Rivers's small flat boilers over it, you could heat all the places comfortably. For economy we would place a brick Arnott's stove in B, and if fed from the outside all the better; if birds are there, place a wire guard round A. If you want heat in A and C, then have an 18-inch opening at the apex of the C roof, and one close to the floor of each department, and the circulation will be ample, though it would be difficult to heat the wire-covered place. This would be the simplest plan. An iron stove may be used instead of brick, but the brick would be the most kindly; and the bricks could be taken down, though not so easily as the iron stove. An iron stove 15 inches square, with a fireplace of 9 inches in the centre, and height of 24 to 30 inches would be ample. It would be best square, so that the flat top might have a vessel of water placed upon it.

Heating Small Greenhouse (*H. G., Chichester*).—Use Shrewsbury's gas apparatus. If you write to the maker and tell him the size of the house, &c., he will inform you of the size and price of the apparatus. (*J. Tart*).—Use Shrewsbury's gas-heating apparatus.

Heating Workshop (*An Old Subscriber, Camden Road*).—Being nearly 20 feet square, one large Shrewsbury's gas-heated apparatus would suffice. Tell the maker the size of the workshop.

Slow-combustion Stove (*Amicus*).—We cannot give you any further details of the stove you inquire about. A good Geranium of the Jean Sisley shade of colour in the list we gave last week, is Blazer—the finest of the bright scarlets.

Rats Barking Fruit Trees (*F. H.*).—If you do not wish to destroy the rats, which we presume are water rats, you may dress the stems with paraffin oil, or you may wrap the stems with a hayband, and coat it all over with coal tar. The rats will not touch the trees, as in doing so they must get the tar on their coats, which they keep most scrupulously clean. If they are ordinary rats poison them by all means.

Liliums (*O. P.*).—The Liliums you name will in a greenhouse start into growth in December, or between that and March, according to the temperature. If the pots are protected from frost it is sufficient.

Gloxinia, Amaryllis, and Vallota purpusea (*Bulb Amateur*).—Gloxinias to flower in July should be potted in February and forwarded in a stove, or a pit with a stove temperature. Those for August should be potted in March, and those for September in April. The Amaryllis you must retard by keeping them dry in a cool stove until six weeks before you wish them to flower, and then give a brisk bottom heat to start them. Vallota purpurea will ordinarily flower in a greenhouse in September, but may be had in flower earlier by placing it in a gentle hotbed. The plants ought to be in pots when you get them, and if not, should be potted as soon as received. Pot the Liliums now, winter them in a cold pit or cool house, and protect them from frost. Grow them in a greenhouse for July, in a cold pit for August, and out of doors for September flowering. Twelve Liliums are not too many to make a good 11-inch pot. Of Vallota we have a score or more flowering bulbs in a like size of pot. Amaryllis and Gloxinia should be single bulbs.

Pruning Newly-planted Fruit Trees (*F. R.*).—We advise you to prune them at once, and mulch the ground round them with the stable dung you speak of, but we should prefer its being rather littery.

Viola cornuta and alba Dividing (*A Constant Subscriber*).—The best time is now for securing to each division a fair amount of roots. For late summer flowering March is preferable. It is better for a head gardener to enter a new situation in autumn than in spring. We cannot name the twelve best Lilies for greenhouse decoration in the spring. Liliums are summer and autumn flowering.

Preserving Geraniums (*A. B.*).—Without a greenhouse, and being ignorant of the convenience you have, we cannot say how you are to proceed in order to have strong plants in the spring. Either you will need to keep them in a room, dry and safe from frost, or packed in dry sand in a cellar, all the leaves being picked off. Keep them there safe from frost until March, then pot and place them in a frame over a gentle hotbed.

Pansies (*R. T. W.*).—They are common, and only suited for borders.

Peaches for Cool House (*F. C., Maidstone*).—Dr. Hogg, Early Grosse Mignonne, Royal George, Bellegarde, and Walburton Admirable.

Cocoa-nut Fibre Refuse (*Mrs. S.*).—Apply to Messrs. Barsham & Co., Kingston, Surrey.

Flower Garden Plans (*I. I.*).—Tastes differ too much for us ever to furnish a plan. For five postage stamps you can have "Flower Gardening for the Many" free by post from our office. It contains plans from which you can select.

Pandanus elegantissimus, Maranta Veitchii, and Terminalia elegans (*A Many-years Subscriber*).—The Pandanus is propagated by offsets, also the Maranta Veitchii. They should be taken off with a fair amount of root, and placed in small pots filled with sandy compost. Put them in a warm close frame, keep them moist, and harden them off after they have begun to grow freely. Terminalia elegans is increased by cutting off the growing points, with the base of the cutting firm but not very hard; insert singly in a small pot placed in one of larger size, covering with a bell-glass, and placing it in a hotbed of from 75° to 85°. They are all stove plants, and require a compost of two parts loam, one part sandy peat, one part leaf soil, and half a part each lump charcoal and silver sand. Good drainage is necessary, with moderate pot-room. Water freely when growing, maintaining a moist atmosphere, and shading from bright sun. Temperature 60° to 65° in winter, 65° to 70° at night, 75° to 90° by day in summer. Remove all the Walnuts from the husks and store them in layers of dry sand, in a dry cellar.

Grafting Spruce with Picea nobilis, Pinsapo, &c. (*J. D.*).—We have no doubt of the possibility of the graft, but we question its utility, as you will be obliged to use the side branches or growing points of the side branches of the Piceas, and such never form anything but a branch-like tree. Place the stocks in a cold frame, cover them with another frame of larger dimensions, or a frame in a cold house will serve just as well. Graft from the end of August until the scions begin to grow. We consider late in summer the best time to graft. Whiten the glass with a size of skim milk and whiting. Bind with matting and cover with grafting wax. Leave the grafts in the frame until the union is complete and the scions are growing, then admit air and harden off. Lilacs and Syringas are propagated by layers and suckers. The former may be made, and the latter taken off and planted now or in spring before they begin to grow.

Hardiness of Cytisus (*Brisbane*).—You do not say what species it is, but we presume it is C. racemosus, or some of the evergreen kinds used for greenhouse decoration. If it is the kind named we think it likely to be hardy against a west wall. The pot should have enough soil placed against it to cover the rim, and then be mulched with litter. In severe periods protect with mats, removing them whenever the weather is mild. We are not certain that it would survive severe weather with the protection named; and if you do not wish to risk losing the plant, we should not hesitate to cut away all the roots that are beyond the pot, and any irregularity of growth, and then remove it to the greenhouse. If you have duplicates we should test its hardiness, for we are convinced that many so-called greenhouse plants are hardy in well-drained soils.

Phloxes from Seed (*J. W.*).—We can only account for the seed not germinating by its being bad, which is often the case. Sow next March in good light loam, covering the seeds about a quarter of an inch with fine soil, water gently, place in a gentle hotbed, and keep just moist. Place the pots near the glass, and when the seedlings have a pair of rough leaves prick them off in pans at about an inch apart, return them to the hotbed, and when established harden them off and plant them out of doors. Try again, but with fresh seed. Old seed is useless. We do not credit the assertion you allude to. Supplying an article is essential to a seedsman's credit.

Names of Fruits (*Cacopomologist*).—*Apples:* 1, Trumpington; 2, Golden Winter Pearmain; 3, Marmalade Pippin; 6, Dutch Codlin; 7, Royal Russet; 8, Golden Russet; 9, Yorkshire Greening. *Pears:* 10, Napoléon; 11, Doyenné Gris; 13, Princess Charlotte. (*G. P. G.*).—

Pears: 1, Bois Napoléon; 2, Beurré Diel. *Apples:* Both numbers appear to be Lewis's Incomparable. (*E. B. B.*).—Your Apple is not Catshead, but a good specimen of Gloria Mundi. (*A. M., London*).—Lincolnshire Holland Pippin. (*Isca*).—1, Soldat Esperen; 2, Princess Charlotte; 3, Bellissime d'Hiver; 4, Dunmore. (*Mrs. Phelps*).—1, Reinette Blanche d'Espagne; 2, Margil; 3, Norfolk Colman. (*A. M.*).—1, Calebasse; 2, Duyeuné Gris; 3, Bergamotte Cadette; 4, Brown Beurré; 5, Dunmore; 6, Passe Colmar; 7, Lady's Finger. (*B. C. Gidley*).—Through the Pear being addressed to Dr. Hogg instead of to "The Editors," it was not unpacked during his absence, and was rotten on his return. (*Clay Bank*).—1, Tonneau; 2, Hampden's Bergamot. (*A. B.*).—Black Hamburgh. (*C. B.*).—4, Duchesse d'Angoulême, small specimen; 5, Jersey Gratioli; 6, Court of Wick; 7, Fondante des Charneuses; 8, Autumn Colmar; 11, Beurré Bosc; 14, Dumelow's Seedling; 15, Baddow Pippin; 16, Figue d'Alencon; 17, Vineuse; 18, Golden Winter Pearmain; 19, Reinette Grise. (*John Jeffries & Sons*).—No. 1, Mère de Ménage; 2, Duncan. (*James Dickson and Sons*).—Harvey's Wiltshire Defiance. (*W. W.*).—1, Thompson's; 2, Bergamotte Cadette; 3, Belle de Noël; 5, Beurré Diel; 6, Nouveau Poiteau; 7, Knight's Monarch; 8, Brown Beurré; 9, Nouveau Poiteau; 11, Louise de Prusse; 12, Beadnell's Seedling; 13, Winter Nelis; 15, Comte de Flandre; 17, Beurré Diel; 22, Comte de Paris; 25, Calebasse; 28, Conseiller de la Cour; 32, Winter Nelis; 34, Urbaniste; 43, Beurré des Charneuses; 45, Figue d'Alençon; 46, Jean de Witte; 47, Knight's Monarch; 48, Arbre Courbé. (*Fisherman*).—2, Sykehouse Russet; 3, Royal Russet; 4, Holland Pippin. (*A. M. R.*).—1, Cellini; 3, Winter Hawthornden; 4, Holland Pippin; 6, Dumelow's Seedling; 7, Hawthornden; 8, Augustus Pearmain. (*B. Godbold*).—1, Passe Colmar; 2, Susette de Bavay; 3, Fondante d'Automne; 4, Urbaniste; 5, Bellissime d'Hiver; 6, Duchesse d'Orleans. The Plum is McLaughlin.

NAMES OF PLANTS (*Aperio*).—Saxifraga pedatifida. It is not a British plant, and if you have found it in a wood it must have first escaped from some garden. As to the latter part of your inquiry, there are several other species of dactyloid Saxifrages, several of which are very closely allied. Examples are S. geranioides, ceratophylla, pedemontana, pentadactylis, capitata, adscendens, &c. (*J. C. C. S.*).—1, Lastrea Filix-mas (typical); 2, L. spinulosa; 9, L. dilatata; 4, L. remota; 6, L. Filix-mas, very young, certainly not L. Oreopteris as supposed, the character of venation separating it; 3, 5, and 7, Athyrium Filix-fœmina; the last very young, the first the most typical; 10, Very probably Lomaria alpina; 8, Too young to be identified; No. 4 is decidedly a good thing, being in a wild state excessively rare, and has only been recorded from one locality in England (Windermere). It has been found, however, in Germany and in the United States. (*O. P.*).—2, Meyenia Vogeliana; 3, Gesnera (or Isoloma) spicata; 4, Peperomia Saundersii, also known as P. argifolia var. argyrea; 5, Apparently Brugmansia suaveolens. No. 1 was not received. (*R. B. L.*).—Oxalis sensibilis, native of the United States. (*J. W. Abrahams*).—1, Ligustrum robustum, native of India, especially southern India and Ceylon; 2, No doubt it is Brugmansia suaveolens, or an ally, judging from the leaf alone. (*W. W., Putney*).—1, Adiantum cuneatum; 2, A. curvatum. (*Elizabeth M. Dance*).—Your Fern is Nephrolepis exaltata, a plant widely diffused in the tropics generally. Layer any of the "fibrous pieces" you speak of in small pots, attaching them there by a small hooked peg or a stone; allow them to root and get well started into growth before severing them from the parent plant. We cannot undertake to name florists' flowers, even if the specimens are in a good state, which yours were not. (*W. B.*).—Your flower is that of Anemone pavonina (Lois.), otherwise A. fulgens (Dec.), native of southern France and northern Italy. It was a somewhat unusual occurrence for such a plant to be blooming at this season of the year, we should suppose. It seems to have mistaken autumn weather for spring time, as your flower appears to be quite fresh. (*J. R. Neeve, Calne*).—1, Hypolepis anthriscifolia; 2, Lastrea dilatata; 3, Pellæa hastata; 4, Asplenium flaccidum; 5, Pteris serrulata var. cristata; 6, Adiantum hispidulum; 7, Lastrea Filix-mas; 8, Pteris cretica albo-lineata; 9, Not recognised. (*R. A. K.*).—Calceolaria chelidonioides, native of Peru and New Grenada.—H. B. K. (*W. B.*).—1, Asplenium flabellifolium; 2, Pteris biaurita; 3, Thunbergia grandiflora. (*J. Foster, Collumpton*).—We take your plant to be Cyrtanthera magnifica, more generally known as Justicia carnea (Hook.), an old-fashioned favourite in gardens, a native of Brazil. It is only the first part of "Paxton's Botanical Dictionary" which you see advertised for 2s., not the whole work. (*Connemara*).—Your shrub appears to be Calothamnus quadrifidus, a native of Australia, and frequent in greenhouses at home. Your account of a hedge of it sounds very strange to us; yet the twig sent is certainly as named, so far as we can tell. (*W. F. R.*).—From the imperfect specimen sent we can only say that we believe it to be the perennial Sunflower (Helianthus multiflorus plenus).

POULTRY, BEE, AND PIGEON CHRONICLE.

FEATHERS.

It is a remarkable fact, that although goldfinches and linnets produce their absolute fellows, and that there is no variety of colour, no cloudiness here, no mossing there, no deficiency, no excess, yet in breeding fowls the plumage is not so perfect. In wild birds, again, there is no throwing back. It may be they came originally from the same, but if so, Nature has forgotten it, for no trace of the beginning is ever visible.

All birds in a state of nature come perfect, so perfect that the most practised eye can detect no difference; yet we know that fowls can seldom be bred to an exhibition standard unless two yards are kept—one to breed cocks, the other hens. We speak of feather. We know that in Pencilled Hamburghs pencilled tails were called for in the hens and pullets, and they were accomplished, but at the same time clear hackles were wanted, and when the tails were pencilled so were the hackles. There is in Nature a sort of "compensation balance," or a vindication of herself. She will not allow us to improve her work, or to make serious inroads on that which she has made perfect. Where it is sought to increase size and weight, it has to be done according to rule. It has been attempted to increase the body, and to leave all other parts as they were. Thus in Dorkings 2 or 3 lbs. were to be added to the weight of the body, but it was ordered the legs should remain short. It could not be; the increase must take place everywhere, and must be spread over the whole frame. We have obtained the weight, but we have lost somewhat in symmetry, especially in shortness of legs.

If this be true of size, it is still more so in feather. Enthusiasts have tried to have one part of the body dark and another light in the same bird. It may not be. No greater exploit was ever performed in the way of feather than that of Sir J. Sebright, when he tasked himself to make or compose the Bantam that bears his name, and succeeded. He not only chose his colours, but he named the order of them; golden or silver feathers delicately edged with black. We have only to do with feathers, and therefore treat of no other point. It required delicate handling; the Black hen was wanted to restore and deepen lacing, and she did it, and then the bird was let alone for a year or two, and the lacing became perfect. The difficulty was to keep it so. It would only last a short time. Those who only know the Sebrights by seeing them in perfection have little idea what a poor shabby bird it becomes if left alone. All the lacing disappears, the round tail becomes a sickle, the comb is a single one, and the delicate correct lacing is a piece of patchwork of black and red, with here and there enough of spangling to justify its being called a spangled fowl.

As the beards of fowls are composed of feathers they come under our notice; Crève-Cœurs, Polands, Houdans, all require these appendages, yet they sometimes appear without them. It is disqualification in any competition. What's in a feather? Much. The finest Black Red Game cock that ever was seen is disqualified because two or three brown feathers are discovered on his breast. The Brown Red having a black breast is disqualified and disgraced by the fact of having one. Then more or less of brown feathers on the breast of a Grouse Cochin cock disqualify. The least mistake in the colour of a Silver-Grey Dorking, a black breast in a Golden-spangled Hamburgh cock, a clear hackle in a Silver pullet, mossiness in either, are all disqualifications, and will cost a prize, it may be a silver cup. In like manner, if Cochins or Brahmas lack the feathering on the legs they are hopelessly excluded from all chance of distinction. There are degrees in this tyrannical ruling. In the human being leaden combs, skilfully compounded washes, and the various appliances of an elaborate toilette may so increase and darken the down that it may do duty for moustache or beard; but in fowls, judges are pitiless, no apology will be admitted for a beard, and no excuse for deficient feathering.

Feathers, however, have their freaks. Instance, the Emu Cochine. Many of our readers will remember the beautiful bronze of Daphne and Apollo. The god is about to put his hand on her shoulder, but her prayer is heard, the bark is covering her body, and her fingers are becoming branches; so the Emu Cochine first had their tails and flight feathers changed into hair or silk, and then soon after all the feathers disappeared to make room for the same material. We had in the same hen and from the same parents perfect Emus and perfect Cochins. Another peculiarity in feather is, that all cocks of black plumage are prone to have coloured feathers in their hackles, saddles, and sometimes in their wings. This is true of Spanish, Polands, and was so constantly the case with Black Cochins it destroyed the breed. The hens were always black, but the cocks had white under-feathers, and these after the first moult mixed with the outer plumage to the great detriment of the breed. In many breeds where a white feather is a detriment it comes like grey hairs to men of a certain age, and allowance should be made for them in the yard. There is neither pity nor allowance at the exhibition.

WORKING-CLASS POULTRY PRIZES.

APPEALED to by Mr. L. Wright, I have given some thought to this subject. It seems to me that it is not a matter which needs to be met by a general subscription, but rather, like prizes for cottagers at horticultural shows, it is a subject to be considered by the committee of each town show; I say town show, because it is the townsman—artisan, mechanic, or other workman—that I have in view. Let, for instance, a dozen pens, or any number, taking whatever room can be spared, be marked "Working Men's Poultry." I would have no entrance fee at

all, but as there might be a glut of valueless birds sent, the committee should have power to admit to, say, their dozen pens, the best dozen birds (cock and hen), that were offered. The prizes should be money, not necessarily large sums, and in addition a framed and glazed card well got up with the exhibitor's name on, that of the show, and first, second, or third prize as it might be. I plead for the card framed, because I know such gives a man pleasure to hang up in his cottage, and the money could be put by the husband into the good wife's hand towards something most wanted. Perhaps there is a small doctor's bill, or the landlord frowns about that 10s. left of last quarter's rent. I am sure the thing could soon be done; let Bristol try, and may I be there to see the result.—WILTSHIRE RECTOR.

SILVER-BUFF COCHIN-CHINAS.

IN one of your replies to correspondents you write, evidently to some person desirous of learning into what varieties the Buff Cochin-China fowl sports, "There is no such thing as Silver-Buff." Now, I readily admit that the language of all fanciers is inaccurate; that in describing their pets they use phrases and compound words that Dr. Johnson would shudder at; but why "Silver-Buff" should be tabooed and "Silver-Cinnamon" be admitted it is difficult to see, and you allow Silver-Cinnamon! Both epithets, like "Silver-spangled Hamburgh," "Silver Sebright Bantams," "Silver varieties of Pigeons," are attempts to convey, what no human speech can fully express, an idea of one phase of natural beauty. To describe one shade of colouring, fanciers have borrowed a metaphor from gold; to describe another, from silver. In both cases the epithet gives but a shadow of the truth; but the fanciers, simple folk, are content, and intelligible to each other, and I do not see why they should not be. When you have once seen the ground colour termed "gold," you have no difficulty in understanding what a Golden variety is like, and so it is with "silver." When the compound "Silver-Cinnamon" has once been heard, and the feathering described by it seen, there is no difficulty in understanding what sub-variety of the Cinnamon-coloured Cochin is intended. Cinnamon-coloured is a metaphor which explains itself. Silver-Cinnamon was a good suggestion by some person, familiar with Gold and Silver Hamburghs or Bantams, who wanted to describe that sub-variety which always makes its appearance among Cinnamon birds—*i.e.*, where the neck, back, and tail are like the Cinnamon parents; but the breast, fluff, and legs are French white. Now, precisely the same variation occurs when we try to breed the different shades of Orange or Lemon-Buff. Pullets will appear which have the breast, legs, and fluff French white; whilst neck, back, and tail are of different shades of yellow. Silver-Cinnamons such pullets cannot be called, for there is not one feather on them which resembles the brown or chestnut-coloured bark of the cinnamon; why should the birds not be called Silver-Buff? They are entitled to the moiety Buff, because their hackles, saddles, and quills are of different shades of Buff. Why should the other moiety, Silver, be denied to them, when it is granted to their congeners who bear exactly the same relation in colour to their Cinnamon parents which these do to their Buff ancestors? Surely anyone who has ever seen a Birmingham Show knows that birds with whitish bodies and yellow necks do occur. Why should they not be called Silver-Buff?—SILVER-BUFF.

BANTAMS VERSUS GARDENS.

I AM afraid that "H. C., *Galway*," had not an attack of genuine Bantam fever, only what looked like it. Clearly he expected an alteration of nature, and that he should have a breed of fowls not granivorous chiefly and carnivorous partially, but the reverse. Now, I cannot warrant Bantams to devour heaps of slugs, but this I say, that under the limitations I mentioned in my article of June 1st, 1871, they do infinitely more good in a garden than harm; and add to this the pleasure of keeping them, and,—the eggs,—such eggs, too, so superexcellent.

Writing in this Journal as far back as December, 1862, I mentioned that I caught a brood of half-grown Blacks clearing a mignonette bed of caterpillars. I have also been followed all round the garden by a lot of chickens which eagerly devoured the green flies brushed off and shaken from my rose trees. Certainly, too, I know that by constantly having Bantams in a garden, it is kept wonderfully clear of all insect pests.

"H. C." not only writes from Ireland, but from western Galway; Ireland is called the Emerald Isle because of its greenness, and its landscapes are so green because of its humidity, and humidity breeds slugs in millions. A dry summer in England thins the slugs, a damp one increases them a thousandfold; but in Ireland, Galway lying to the Atlantic, no wonder there is an abundant crop of slugs there. St. Patrick charmed "the sarpints" from "ould Ireland," but he really should be woke up again to drive away the slugs from Galway. However, as the saint is not likely to be of any more use in this world, I will tell "H. C." how to clear his garden of slugs. Get a barrowful of cabbage leaves, lay them overnight singly near box edgings and wherever slugs delight to dwell. Go in the morning and gather up the leaves, and you will find slugs and snails under each leaf. Repeat this process—the same leaves will do—for a few nights, and "the take" of slugs will be great. Under the limitations I have made in my former article, and not kept in too great numbers, I am quite sure that Bantams do much more good than harm in a garden.

I have generally found that the people who have tried and then given up Bantams, have in their garden a nagging working man, who is always abusing the little things (the best Sebright I ever bred was killed by such a man), and then for the sake of peace master or mistress gets rid of the birds instead of the man. One such man caused a lady friend of mine to send away some high-class Tumbler Pigeons (*short*-beak Tumblers, mark you), because they opened and shelled his green peas; the real culprits were the jays, which he did not get up early enough to kill or drive away. These men have a born hatred to poultry. If "H. C." had a heap of dry earth in a warm corner his Bantams would not have burrowed as he describes.

"DEVON" inquires if Bantams can be kept profitably for laying. I answer, Certainly. Game Bantam pullets are as good as Hamburghs or Black-breasted Red Game pullets, which I have found equal to Hamburghs as winter layers. Game Bantams are certainly not delicate; but, perhaps, "DEVON" might prefer Blacks, which do not wander so far as Game. Bantams may be fed as other fowls, only they need much less. For more on feeding *vide* my article of July 6th. The warmer, in reason, they are kept, the better they lay in cold weather. WILTSHIRE RECTOR.

P.S.—Since writing the above I chanced to sit next to an Irishman at dinner. I surprised him by asking, "Is Galway famous for slugs?" After explaining myself, he said that being in the west there was probably an unusual supply of those slimy pests.—W. R.

FOUL BROOD.

THIS disease, of which so much has been written in this Journal, appears to be comparatively little known in England, although common enough in other countries. It seems to have spread largely in the United States of America, and to have found its way into Canada. I must happily profess myself to be totally unacquainted with it, nor do I know a single bee-keeper of my acquaintance out of Exeter who has had practical experience of the fell disease. It would not be uninteresting if we could obtain returns from different parts of England and Scotland, so as to ascertain whether this pest is on the increase. Who can tell how long it has been known in Britain? Did it come in with the Italian or Ligurian bees? for it seems to have been long known in Italy. Every reader of Virgil is acquainted with the minute account this poet gives of a disease which seems to have been not uncommon in his time. It has been supposed he was describing the dysentery which has long been known to be fatal to bees, but it may have been foul brood which he had in mind. Among remedies hyposulphite of soda appears to have been successfully used in Canada for the cure of the complaint, but for my own part I should be disposed to break up and burn every hive which I found affected.—B. & W.

BEE SUPERSTITIONS IN FRANCE.—In Brittany, if a person who keeps bees has his hives robbed, he gives them up immediately, because they never can succeed afterwards. This idea arises from an old Breton proverb, which says, being translated, "No luck after the robber." But why the whole weight of the proverb is made to fall on the bee hives, it might be difficult to determine. In other parts of France they tie a small piece of black stuff to the bee hives, in case of a death in the family;

and a piece of red on the occasion of a marriage—without which, it is believed, the bees would never thrive.

OUR LETTER BOX.

Books (*W. S.*).—Eaton's book is out of print.

Standard (*A Reader*).—Messrs. Groombridge & Sons.

Tunbridge Wells Poultry Show.—Mr. Samway's Bantams which obtained the second prize at the above Show were Black Red Game, not Black Bantams as stated.

Hackle of Light Brahmas (*M. D.*).—Perfectly white hackles would be a serious objection if brought into competition with pencilled ones.

Fowls Becoming Blind (*C. B.*).—Your fowls have the roup. Formerly it was considered very contagious. It is not so now; some will catch it, but all will not. Lime-white their houses, cleanse them scrupulously, wash their faces with cold water and vinegar, feed on bread and ale, and give Baily's pills.

Feeding Poultry (*A. S. L. M.*).—Your feeding is very bad. Alter it all. Give ground oats in the morning, whole corn, barley, or maize at midday, but no oats, and again in the evening ground oats slaked with water. If you have table and kitchen scraps, give them in lieu of the mid-day meal. If your neighbours fed as you did, we do not wonder they had the same illfortune. Have your fowls grass? Have they a supply of green food? If not, give it to them. Give them a huge sod, cut many inches deep; you will see them eat it all. It will be to them at first like the one day's fresh air and the one good dinner among trees to the 7240 children of St. Magnus Parvus, advertised in June and carried out in October—cannot have enough of it.

Crossing Brahmas and Dorkings (*A. F. B.*).—It is believed the produce takes more after the hen. The Dorking is the best table fowl, and the intent of the cross is to make a fowl for food. The Dorking should predominate; put them up then—Dorking pullets and Brahma cock. The first will give delicacy of flesh and flavour, the second hardness of constitution.

Feeding Brahmas (*W. H. D.*).—You will find the Brahmas hearty feeders, not so hearty as the Cochins, but they will make you a good return for the food they consume. Give them in the morning ground oats mixed with water, at mid-day house scraps of any kind, in the evening ground oats again. You say they have limited space, and you want eggs. Do not be persuaded to use stimulants. They do mischief and nothing else. Supply your birds with lots of road grit; give them large growing sods of grass, cut them with plenty of earth. Whatever you give, throw it down in lumps, and let the birds scatter it. While they are scratching and watching they find food that costs you little or nothing. If you begin to give stimulating food you will spoil the fowls, be they ever so good.

Legs of Japanese Bantams (*H.*).—The legs should be so short, and the wings should be carried so low down, that the former should be invisible. They should, nevertheless, not be booted.

Brahma Crooked-breasted (*J. R. L.*).—A crooked breast is only a positive disqualification in a Game cock; it is a disadvantage in any other. It is a disputed point whether the breast of a Brahma cock should be black or speckled. We lean in favour of the latter.

Colour of Crêve-Cœurs (*G. M.*).—The Crêve-Cœur is accepted in England as a black fowl, and we do not think the Cinder (?) Crêve-Cœur would have a chance against them. They must go to the "refuge for the destitute and friendless,"—the Any other variety class.

Fowls Turning Black and Dying (*A. D.*).—Your fowls get at something that is either poisonous or so injurious as to cause death. They have every appearance from your description of dying from the former cause. Remove some of them, and see if they suffer when they are elsewhere.

Aylesbury Ducks (*S. B. S.*).—There is no Grey Aylesbury Duck. The pure bird was always white. Grey Aylesbury is an invention.

Weight of Dorking Cockerel (*J. J. W.*).—The weight (9 lbs. at five months old), is enormous for a bird of that age, and far above anything we have ever seen in Silver-Greys. We should almost doubt his being Silver-Grey. Look closely. Is there no suspicion of white on any part of his breast; no white shade in his tail; no straw hackle? We advise you, if you have any doubt as to his colour, not to run the risk of his being disqualified as a bird of plumage, but, if all be well with him, to put him in general competition.

Worms in Fowls (*W. C. D.*).—We know no vermifuge so strong as camphor, and therefore advise you to administer it freely to such of your fowls as suffer like the deceased. Dose, two pieces the size of a garden pea. They must have access to some very improper food, as these worms can only be taken in the state of larvæ. What was the colour of them? It is evident they were not developed till they reached the gizzard.

Fantail Pigeons (*Fantail*).—Why at the Crystal Palace Show are prizes of £2, £1, and 10*s.* offered for all varieties except White Fantails? These have only 80*s.* as a first prize.

Accidents (*Ellen*).—We are very glad that you have asked the question, for there is a book—a waistcoat-pocket book, which every one should have—Smee's "Instructions for Prompt Treatment of Accidents."

Are these Bees Ligurian? (*H. B. C.*).—The bees sent are certainly not at all Ligurian, but that does not prove that your stock or queen is not of pure blood. It is the common practice of those apiarians who send out Ligurian stocks to make up their chief population by the aid of sealed brood comb, or of adult bees of the ordinary variety. As these die out their place will be filled by the pure progeny of the Italian mother. When the first batch of brood from the present queen takes wing from the hive, you will be able to ascertain whether your bees are pure bred or otherwise. As you do not say when you first received your stock, we cannot tell whether you ought to be able to see young bees this season, or if you will have to wait until spring. We do not know from whom you obtained your so-called Ligurian stock, but we believe that you may depend on obtaining a genuine article from Messrs. Neighbour.

Removing Bees to a Distance (*E. S. Tiddeman*).—We would advise you to defer moving your bees till after the first cold or frosty weather in November, except, perhaps, the one of which have the combs fallen on the bottom board; but we should try to move this bodily along with the others, board and post together. Bees, after some days' confinement in wet or frosty weather, are easily moved, and seem to make a fresh *reconnaissance* of their hives. We should place the bees (boards and hives) as they are on straw in a light spring cart, carefully stopping up the entrances, and walk them the whole six miles. The less jolting the better.

Grubs in Comb (*W. L.*).—The grubs you mention are probably those of the wax moth. We would examine the hive itself, driving the bees up among the combs with a little smoke. If the bees are few in number and the traces of wax moth considerable, we should advise you to destroy the hive, as you think of doing. But it may be the grubs have only found their way into the super. In this case we should certainly not destroy the hive, but content ourselves with clearing away the combs from the super. The wax moth is not likely to attack the neighbouring hives, unless they happen to be weak in bees; but we should take care to allow no empty combs to litter about to tempt them to breed and multiply.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Oct.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg	In.
We. 11	30.233	45.6	44.6	S.E.	49.7	52.2	36.3	57.6	32.8	—
Th. 12	30.470	46.3	44.5	N.E.	48.9	55.8	35.0	82.3	31.9	—
Fri. 13	30.489	49.9	49.9	E.	48.0	57.6	31.2	81.6	30.1	—
Sat. 14	30.3 5	39.8	39.8	E.	47.5	57.6	35.2	84.0	31.3	0.020
Sun.15	30.094	39.6	39.6	Calm	47.4	57.4	35.0	65.0	31.0	—
Mo. 16	29.990	52.9	52.5	S.W.	48.3	61.0	39.8	82.0	40.1	0.010
Tu. 17	30.080	56.5	54 4	S.	49.8	64.4	50.8	90.8	46.3	0.120
Means	30.221	45.9	45.2		48.5	58.0	37.6	77.6	34.8	0.150

REMARKS.

11th.—Cold, dull, uncomfortable day, though without rain.

12th.—Very fine in the early part of the day, and moderately so afterwards, but foggy at night.

13th.—First white frost seen here this season; hazy morning and evening, but fine between, and warmer.

14th.—White fog, clearing off by 11 A.M., and very fine after.

15th.—Foggy morning and evening, and rather so all day, though occasionally bright.

16th.—Rather foggy all day, with a little rain and great dampness.

17th.—Dull morning, very fine afterwards, and so warm as to be rather oppressive. Overcast at 10 P.M. Rain at midnight.

Although very little rain has fallen the week has been very damp, the air being saturated on three mornings (13th, 14th, and 15th), at 9 A.M. and at several other times. The uniformity in the maximum temperature of those days is also striking.—G. J. Symons.

COVENT GARDEN MARKET.—October 18.

This week we have again received heavy supplies of Apples and Pears both from France and the Channel Islands, notwithstanding which, home-grown fruit commands fair prices, and stands of good descriptions are easily cleared. Auction goods, also, have been freely offered, such as Nuts, Lemons, the Opuntia, and Almiera Grapes, the latter not being so good as they were last season. Agricultural reports state that Potatoes are much diseased in some parts; good qualities maintain prices.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples	½ sieve	2	0 to	4	0	Mulberries	lb.	0	0 to	0	0
Apricots	doz.	0	0	0	0	Nectarines	doz.	3	0	24	0
Cherries	lb.	0	0	0	0	Oranges	₩100	0	0	0	0
Chestnuts	bushel	0	0	0	0	Peaches	doz.	6	0	12	0
Currants	½ sieve	0	0	0	0	Pears, kitchen	doz.	2	0	0	0
Black	do.	0	0	0	0	dessert	doz.	2	0	4	0
Figs	doz.	0	0	0	0	Pine Apples	lb.	3	0	6	0
Filberts	lb.	0	6	1	0	Plums	½ sieve	3	0	5	0
Cobs	lb.	0	6	1	0	Raspberries	lb.	0	0	0	0
Grapes, Hothouse	lb.	1	0	5	0	Strawberries	lb.	0	0	0	0
Gooseberries	quart	0	0	0	0	Quinces	doz.	0	0	0	0
Lemons	₩100	8	0	12	0	Walnuts	bushel	10	0	25	0
Melons	each	2	0	5	0	ditto	₩100	1	0	3	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	doz.	0	4 to	0	6	Leeks	bunch	0	3 to	0	6
Asparagus	₩100.	0	0	0	0	Lettuce	doz.	0	3	1	0
Beans, Kidney	½ sieve	0	0	3	0	Mushrooms	pottle	1	0	2	0
Broad	bushel	0	0	0	0	Mustard & Cress	punnet	0	2	0	3
Beet, Red	doz.	2	0	3	0	Onions per doz. bunches		2	0	4	0
Broccoli	bundle	0	6	1	0	pickling	quart	0	6	0	8
Brussels Sprouts	½ sieve	2	0	3	0	Parsley	sieve	3	0	4	0
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	3	1	0
Capsicums	₩100	1	6	2	0	Peas	quart	0	0	0	0
Carrots	bunch	0	6	0	0	Potatoes	bushel	1	6	3	0
Cauliflower	doz.	3	0	6	0	Kidney	do.	3	0	5	0
Celery	bundle	1	6	2	0	Radishes	doz. bunches	0	6	1	0
Coleworts	doz. bunches	2	0	4	0	Rhubarb	bundle	0	0	0	0
Cucumbers	each	0	6	1	0	Savoys	doz.	0	0	0	0
pickling	doz.	2	0	3	0	Sea-kale	basket	0	0	0	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	6	0	9
Fennel	bunch	0	3	0	0	Spinach	bushel	3	0	4	0
Garlic	lb.	0	3	0	0	Tomatoes	doz.	2	0	0	0
Herbs	bunch	0	3	0	0	Turnips	bunch	0	3	0	6
Horseradish	bundle	3	0	4	0	Vegetable Marrows	doz.	1	0	2	0

POULTRY MARKET.—October 18.

No great change. Game is becoming plentiful, and has some little effect on poultry. If the weather become dry and colder, we may expect an improvement in prices.

WEEKLY CALENDAR.

Day of Month	Day of Week.	OCT. 26—NOV. 1, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
26	Th		55.6	38.5	46.1	18	44 af 6	43 af 4	36 af 4	4 af 4	12	15 54	299
27	F	Length of night 14h. 5m.	55.1	38.4	46.7	27	46 6	41 4	54 4	17 5	13	16 0	300
28	S		54.5	35.9	45.2	27	48 6	39 4	11 5	29 6	O	16 5	301
29	Sun	21 Sunday after Trinity.	54.0	35.7	44.8	20	50 6	37 4	29 5	40 7	15	16 10	302
30	M	Length of day, 9h. 45m.	54.9	38.3	46.6	22	51 6	36 4	52 5	51 8	16	16 13	303
31	Tu		54.0	38.0	46.0	22	53 6	34 4	21 6	59 9	17	16 16	304
1	W	Royal Horticultural Society, Fruit, Floral, and General Meeting.	54.3	37.9	46.1	25	56 6	32 4	16 7	3 11	18	16 18	305

From observations taken near London during forty-three years, the average day temperature of the week is 54.6°, and its night temperature 37.5°. The greatest heat was 67°, on the 31st, 1854; and the lowest cold 22°, on the 28th, 1836. The greatest fall of rain was 1.03 inch.

FORCING VEGETABLES.—No. 1.

THE POTATO.

WE are rapidly approaching the commencement of the forcing season, and perhaps it is unnecessary for me to remind all those who have any forcing to do that every preparation should be made without delay. The most successful are generally those who have well matured their plans, and who have everything in a fit state for use. In this and subsequent papers I purpose relating my experience in the forcing of such vegetables as are most in demand in the spring when other vegetables are not plentiful. I shall therefore begin with the Potato, because it is in general request, and is always looked for in its young state with more interest than any other vegetable.

The Potato is capable of being forced in a variety of ways; some prefer to force it in pots or boxes in a vinery or Peach house; others grow it successfully in pits or frames on hot dung beds; but whichever way be chosen, the selection of sound well-ripened tubers of a good sort is the most essential point I believe many sorts have been tried, some of them more on account of the size of their tubers than anything else; but to produce, regardless of the variety, the largest Potatoes within a given time ought not to be the aim of the Potato-forcer; he should strive by selection and cultural treatment to get in as short a time as possible a fair-sized well-proportioned Potato, somewhat dry and floury. For the attainment of this object there are not, in my opinion, for very early production, any better kinds than the old Ashleaf and Myatt's Prolific, as they are both short-topped sorts, and mature themselves early.

The next important point is the soil, not so much as regards its qualities and composition, as securing it early, and packing it under cover before the autumn rains come on. I remember that the very first day I entered a garden to work, my first task was collecting and storing soil for Potato-forcing. That was at Chilstone Park, in Kent, where the first crop was always planted in 12 or 14-inch pots in the following manner:—Every pot was well cleaned, a large piece of broken pot placed at the bottom, and the pot half-filled with leaves, not thoroughly decayed, but sufficiently so to form a rooting medium for the tubers, and to secure drainage. Some may say, "Why not place more drainage at the bottom of the pot, and leaf mould instead of decayed leaves?" This would certainly be easy to do, but the object is to allow the Potatoes every inch of rooting space, and if much space be taken up by the drainage there will not be enough for the number of tubers placed in the pot. Coarse gritty sand, or if such is not to be easily obtained, road-drift should be collected during the summer; and to this add an equal proportion of the soft sand of the locality, the colour not being a matter of importance. After mixing them together add a layer of the mixture 2 inches deep on the top of the leaves, and on this plant the tubers. I have found that three or even four of these in each pot are not too many. If there are three, place them in a triangle, and if four, in a square, as far apart as possible, with the tuber an inch or two clear of the side of the pot. Afterwards fill up each pot with the sand, and, without watering, place the pots side by side in some cool house or pit, where they will be secure from frost. If the Potatoes have sprouted before potting they will soon shoot up through the sand, and may then have abundance of light and air, regulated according to the weather. In a few days the pots may be taken to any moderately-heated structure, such as a vinery or Peach house, and watered as they require it. Should the roots appear above the soil, as is not unlikely if the house is kept moist, a top-dressing ought to be given, and as the haulm gains strength the plants will bear more heat; but great care should be taken not to force them too severely, which is easily done in the case of the Potato, and the crop will be ruined.

Another mode of pot-culture is preferred by some, and it has its advantages where space cannot be allowed at first for storing a number of large pots—it is that of potting the tubers singly in small pots, and afterwards transferring them to the large pots above alluded to. In this case there is the labour of two pottings instead of one, but I have been unable to discover that it is of any benefit to the crop, as some assert it is. On the other hand, when the Potatoes are to be forced on the planting-out system on dung beds, there is some advantage to be gained by placing the tubers in small pots, as above described, if the plants are kept in the pots long enough to form young Potatoes before transferring to the frames. The advantage in this case is that the tubers are fit for use as soon as those grown in pots, but the crop is no better. I have grown them in both ways at the same time, and with this result.

For the first crop I prefer pot-culture—firstly, because the tubers become fit for use early, and the pots can be transferred from one place to another as occasion requires; and, secondly, the ripening process, so necessary to a forced Potato, is more thoroughly under control. This ripening-off should commence when the tubers have completed their growth by our giving gradually more air, keeping a drier atmosphere, and by degrees withholding water. If only part of the crop be required at first, a few of the most forward pots can be selected for ripening, and the yield from pot-culture is generally satisfactory. If sand be used, as recommended, the Potatoes will turn out clear-skinned and good in colour. The middle of December is a good time to start the first crop, and every succeeding crop should be planted according to the demand for the preceding one.

If Potatoes are grown in dung beds, a bottom heat of 60° is very suitable; and while the bed is being prepared, I like to start the tubers in a gentle heat by placing single layers of them in boxes, and covering them with about an inch of soil; their eyes then break regularly, and roots are produced thickly, so close to the Potatoes that when planted out these can be taken up with a trowel and transferred to the frame without a check. It is not advisable to use a great depth of soil in the frame at first, I would rather add soil to the surface as the plants require it, using always an open gritty soil pressed moderately firm. A foot between

the rows, and about 8 inches apart in the row, are safe distances at which to plant. Water sparingly at all times, particularly on the finishing-off of the crop, otherwise, instead of having a firm-fleshed Potato of good flavour, you will have a soft and soapy one without flavour.—Thomas Record.

OPINIONS ABOUT ROSES.

It is always interesting to compare opinions with regard to Roses; and for the sake of inducing others to give their experiences of this year some correspondents have already done so, as the Rev. W. F. Radclyffe; "P., *Essex*;" Mr. A. H. Kent, and others, and I now offer a few more remarks. It is in my opinion very difficult to name the best twelve Roses, as in naming only twelve it would be necessary, I think, to give the best in each shade of colour. I will endeavour to do so, beginning with the dark Roses, and shading to the light. 1, Xavier Olibo; 2, Pierre Notting; 3, Charles Lefebvre; 4, Alfred Colomb; 5, Marie Baumann; 6, John Hopper; 7, Cécile de Chabrillant; 8, La France; 9, Baroness Rothschild; 10, Madame Vidot; 11, Gloire de Dijon; 12, Maréchal Niel.

Of these Xavier Olibo is hardly free enough in growth, but it is decidedly the finest as yet in its shade of colour. Pierre Notting requires protection from direct sun, as it burns. Charles Lefebvre still keeps its position as one of the hardiest and most useful Roses grown. Alfred Colomb, omitted in "P.'s" list, is, taking it all and all, the best Rose; and the next is Marie Baumann, running it a very close race, and drawing very near it in point of colour, only a shade lighter; its fault is that the flower-stem is too weak, and the bloom generally hangs its head; with me it makes plenty of growth. John Hopper is too well known to need any remark, except that many persons might not think its shape good enough for the first twelve. It has been everywhere good this year, and is more constant than any other variety. I especially remember a bloom shown by Mr. Mitchell, at Manchester, which not only was splendid in point of colour, but was not to be beaten in shape. Comtesse de Chabrillant still holds its own. La France is the most perpetual bloomer of any Rose yet introduced, not even excepting Gloire de Dijon, and I cannot understand why Mr. Radclyffe should consign it to the conservatory, as I will undertake, given six or twelve plants of any variety, oftener to pick good Roses for the table from La France than from any other Rose. It has some of the blood of the old China Monthly, as may be seen by noticing the manner in which the young wood pushes from growing shoots. Baroness Rothschild is the most beautiful Rose of its colour, and is quite unequalled both in size, form, and smoothness of petal. It has one great advantage—it rarely has more than one bud on a stem. Madame Vidot I should not have put into the list except for the sake of the colour, as there is no pure white good enough to name among the first twelve. Baronne de Maynard and Boule de Neige, though good Roses, cannot take rank among those I have named. Madame Vidot is most beautiful, but, alas! difficult to grow. When caught in perfection, as Capt. Cuttle would say, make a note of it. Gloire de Dijon I am still faithful to, and though rarely shown to perfection in stands of cut Roses during summer, it is a fine spring and autumn Rose, and an undeniable grower, certainly the best climber to cover a house with either a S.E., or S. to W. aspect. My No. 12, Maréchal Niel, is in favourable situations magnificent, and certainly the finest yellow Rose ever yet introduced.

I agree with Mr. Radclyffe, that Louis Van Houtte (Lacharme) is likely to be too weak a grower, besides which the flower is too small. I am in hopes that Marquise de Mortemart will succeed when established on the Manetti, as it will then get on to its own roots as well.

This summer has added still further to my faith in the Manetti stock for the permanent Rose garden. Many of my plants were cut down to the snow line, and more than half injured, but all have made shoots from beneath the soil, and nearly all have made from 4 to 6 feet of strong young wood from the base. Some that I cut down to only two eyes have pushed from below the ground, and have made as good plants as any. On a strong Rose soil, and for exhibition purposes, I do not deny that the Dog Rose is the best stock, but the Dog Roses (Briars) on which the nurserymen bud, are very unequal in point of merit, for besides the number of different kinds of Dog Roses which may be used as stocks, they are cut out of the hedgerows by the dozen or hundred with very little care, and the roots are often sadly damaged to begin with. Some, too, are old, others young, and nearly all contain a plentiful store of young root-suckers laid up in the hard knob root. With Manetti stocks it is different; they are all raised by cuttings under the care of the nurseryman, generally have much the same treatment, and have plenty of fibrous roots. They never throw up root-suckers, but only push shoots from dormant eyes at the base; if these eyes are properly cut out at planting time there will be no more shoots from the Manetti to trouble the Rose-grower. I have not had to cut away more than half a dozen Manetti shoots from six hundred plants this year, whereas a few dwarf standards on which I have some Bourbons, have furnished on an average from five to seven suckers each, to be pulled or cut out, but which can never be permanently got rid of without lifting and replanting, even if then.

Besides the twelve Roses I have named, I should add Abel Grand, Adolphe Brongniart, Antoine Ducher, Berthe Baron (rather too like Abel Grand), Boule de Neige, Centifolia rosea, Countess of Oxford—an undeniably good new Rose, which I should put among the first twelve if I had not confined myself as to colour—Devienne Lamy, Dr. Andry, Duc de Cazes, Duc de Rohan, occasionally splendid; Duke of Wellington, nearly fit for the first twelve; Duke of Edinburgh, very fine in point of colour, but nearly always quartered, and soon gone by; Dupuy-Jamain, very promising, very free-blooming, and of a pure bright colour like old Madame C. Crapelet, but not quite full enough; Edward Morren, a good Rose, but I have not yet seen its claim to the first prize at the Exposition Universelle at Paris, and I do not understand its being named as one of the first twelve; Elie Morel; Emilie Hausburg, an undoubtedly good Rose, very fine form; Fisher Holmes; François Lacharme; Henri Ledechaux, an exquisitely coloured Rose, giving me the impression it is a seedling of Jules Margottin crossed with Victor Verdier; Horace Vernet; La Brillante; La Duchesse de Morny, which runs a near race for the first twelve, a very soft pleasing cerise colour, with fine depth of petal, and good shape; Lady Suffield, La Ville de St. Denis, Lord Macaulay, Madame Boutin; Madame Caillat, a very fine Rose, and as yet distinct; Madame Clémence Joigneaux, glorious foliage; Madame Creyton, Madame Knerr, Madame Liabaud, Madame Thérèse Levet, Madame Victor Verdier, Mdlle. Eugénie Verdier, Mdlle. Marie Rady, Marguerite de St. Amand, Marquise de Mortemart, Marquise de Castellane, Madame Noman, Monsieur Paul Neron, Monsieur Woolfield, Nardy Frères, Paul Verdier, Prince de Portia, Princess Mary of Cambridge, Sénateur Vaisse, Vicomte Vigier, Victor Verdier, Victor le Bihan, Virginal. Bourbons—Baron Gonella, Louise Margottin, and Souvenir de Malmaison. Noisettes—Céline Forestier, Climbing Devoniensis, and Triomphe de Rennes. With Teas I have not much experience, and will leave them to your other correspondents who have lately given us some interesting and able remarks on them.—C. P. Peach.

P.S.—Since writing the above notes on Roses I have read the remarks of "J. B., *Darlington*," and "A. C." "J. B.'s" experience in the north of England very nearly corresponds with mine; the only difference is, I retain Cécile de Chabrillant and Madame Vidot instead of Madame Victor Verdier and Marquise de Mortemart. Madame Victor Verdier is undoubtedly good, but not sufficiently distinct, and Alfred Colomb is far superior in the same shade of colour. Marquise de Mortemart will not, I think, prove any stronger in constitution than Madame Vidot, and it is certainly not so finely shaped, as it opens much too flat. I am in hope that "J. B." has underrated Countess of Oxford, as a stand of twenty-four blooms put up by Messrs. Paul & Son at Manchester were nearly as fine as any twenty-four I have ever seen, except twenty-four of Baroness Rothschild and the same number of Madame Furtado. I am afraid Homère will be too delicate for the north of England. I add these few lines to what I have already said, as I have rarely read any notes on Roses that I could more thoroughly endorse.

As to "A. C.'s" remarks on the premier Rose at Nottingham, I may say, as one of the Judges, we were not at liberty to choose from all the stands in the tent, as is generally the case, and as in my opinion ought to be done whenever a prize is offered for the premier bloom at a show; and in this case there were several blooms of La France much finer than the Duke of Edinburgh shown by Messrs. Paul & Son. We had, however, to select from single specimens staged by growers for the purpose of competing for the prize, and the competition was very close indeed, Duke of Edinburgh winning on account of its fresh colour. Marquise de Mortemart would have beaten it if it had not been too flat, and President (Tea) ran a very near race. The Duke, shown at Nottingham, though very fine, was certainly by no means perfect in shape. It is a very good-con-

stitutioned Rose, and stands cold weather in the spring better than most Hybrid Perpetuals. Thyra Hammerick has always disappointed me. I have only had one good bloom of it this year, and not one from Souvenir de Poiteau, which is always rough, and I do not remember having seen a good bloom of it staged this year.—C. P. P.

POTATOES—EARTHING BETTER THAN NOT EARTHING.

I SAID I would send you the result of some experiments on this subject. I can answer for the correctness of them, for I saw the Potatoes weighed; 5 yards of each kind were taken up and weighed.

	Earthed.	Not Earthed.
Paterson's Victoria	18 lbs.	16 lbs.
Dalmaboy	16 lbs.	14 lbs.
Lapstones	16 lbs.	13 lbs.
Whitebread	18 lbs.	17 lbs.
Rocks	16 lbs.	11 lbs.

This is conclusive. There can be no question with me henceforth but that in a rich light soil like ours, in a moist summer like the past, earthing increases the crop. But it has advantages besides. The Potatoes earthed-up are certainly rather larger, and have less small ones among them. There are no green ones—a slight advantage. In lifting, the gain is very considerable. Where they have been grown on the flat the soil has set hard, and is more difficult to pierce. Then the fork has to be thrust downwards instead of through looser soil horizontally, which anyone looking on may see makes a great deal of difference in the labour. Then, on the flat, the digger, late in the season, when the haulm is dead, finds some difficulty in making out the row, and a few tubers are injured by the fork. Lastly, earthing-up, though much less laborious when carried out by a horse in the field than by one hand-hoeing, is quite as effective as two hand-hoeings in killing weeds. Those between the rows are effectually swept away, and those between the plants as effectually buried alive. This very great advantage alone would incline me to earth-up, even if it were proved to be slightly injurious to the crop. Facts have proved it to be beneficial.

The following rules, however, should be observed. Earthing should be done, if possible, after a shower—at any rate, not in very dry weather, that the roots may not be buried in a heap of dry dust. It should be done before the roots meet in the space between the rows, and the roots grow much faster than the tops; the ridge thrown up along the stems should not be pointed but flat on the top, that falling rain may not be shot off as by an umbrella, but soak in round the stem.

It still, however, remains to me as great a mystery as ever how it can benefit a plant to scrape the soil from its roots and expose them to the drought, and heap the soil round the stem of the plant, where roots do not find their way into it. I wish one of your scientific men would explain this.—WYESIDE.

SANTOLINA INCANA.

IT was some ten or twelve years ago that I first saw a dwarf grey-leaved plant so well managed as a bedding plant as to fairly approach perfection, and that was Cerastium tomentosum. It was planted in broad rings alternating with others of Lobelia speciosa around the Araucarias upon the upper terrace of the Crystal Palace, and I believe this arrangement was noticed in the Journal at the time. The exquisite neatness of the flower and the design, which has found a host of imitators since then, made as great an impression on others as it did upon me. The Cerastium has worthily been a very popular plant, holding the first place among dwarf grey-foliaged plants for many years, but at length it is doomed to an honourable retirement in the shrubbery or herbaceous border, where it ought always to find a place.

A plant now becoming even more popular than Cerastium is Santolina incana. This is one of those gems that have been used so extensively during the last few years in the flower-beds at Battersea Park. It has a dwarf, spreading, and very dense habit of growth, is of a beautiful clear bright shade of grey, and has foliage so minute and so serrated, that it is hardly possible to imagine anything in which grace and neatness are more exquisitely combined. It is, I believe, perfectly hardy, and, though such a dwarf plant, is quite free-growing enough to enable one to obtain a large stock of it from a few plants in a single season. I am glad of this, for from the high price at which it is still sold, 12s. a-dozen, I imagined that it must be a difficult subject to grow, or that its culture was not generally understood. That the latter is the case I am led to conclude from the fact that, after having had a dozen plants of it in my hands for half that number of months, I have found it is not at all a difficult plant to propagate, for cuttings of it strike root as freely out of doors in sandy soil without any protection as an ordinary bedding Geranium. There can be no reason, therefore, why this valuable plant should not speedily become as plentiful and cheap as the majority of other plants of its class. Some cuttings inserted in a border of the kitchen garden the last week in August, and suffered to remain fully exposed to all possible kinds of weather, have without one exception put forth roots, whilst others have grown equally well in a cool vinery. Thus, in addition to an elegant appearance, it possesses every other quality requisite in plants of this description.

With regard to its position in the flower garden, there is no necessity to say more than that its rigid firm growth gives it an additional advantage over Cerastium tomentosum, every branch as it points upwards rendering it a conspicuous object. Many of your readers have, doubtless, seen the skilful manner in which it has been introduced in some of those beautiful combinations of colour to be seen at Battersea Park. With masses of its grey are blended the bright crimson of Alternanthera amœna, and the cheerful yellow of the Golden Pyrethrum. These three plants may be strongly recommended, as much for the clear, distinct, and lasting colour of the foliage, as for their great utility either when employed as edgings to other plants, or when combined in those charming designs which carpet the beds, and which exhibit none of that glare so offensive in many floral displays. Very much can be done with them in the flower garden without the slightest fear of monotony. It is not often that a decided tone is imparted to a garden by its edging or border plants; but I may very safely venture to advise those seeking for novelty in their arrangements of colour for next season, to use these useful plants largely side by side, and with other suitable things, such as the true Trentham Blue Lobelia, Coleus, Iresine, Echeverias, Sempervivums, Polemonium, and Arabis lucida variegata. These few plants afford rich materials for planting entire beds, and for forming most beautiful ribbon lines, or embroidery round central masses of stronger-growing plants.

One word more respecting the Santolina. I do not suppose I have ascertained all its capabilities yet—the time has been too short for that, but I have seen enough of it to know that it is an exceedingly useful plant, amenable to the simplest method of culture, and, therefore, as valuable to the amateur as to the professional gardener.—EDWARD LUCKHURST.

RISING SUN DAHLIA.

MR. DOUGLAS, in writing of the Kelso Nurseries, mentions a fine scarlet bedding Dahlia. I can endorse all he says of it. It was not raised near Kelso, but in Northumberland, by Mr. Crossling, of Felton Park; he has a fine stock, one line of it being 128 yards long. Mr. Douglas reverses the name; it is Rising Sun, not Sunrise.—J. SMITH, *Croft House*.

AUTUMN STRAWBERRIES.

WE have received from Mr. George Lee, of Clevedon, near Bristol, about 1 lb. of Strawberries freshly gathered, of a size and quality equal to anything we tasted of the same class of fruit during the past summer. We have observed that this autumn some varieties of Strawberries have shown a free tendency to produce fruit, and in our own collections Vicomtesse Héricart de Thury has shown this peculiarity in a great degree. Mr. Lee appears to have observed this character in Strawberries during past seasons, and now he seems to rely so much on an autumn crop as to make it worth his while to give special attention to it. Mr. Lee, in a letter addressed to us, says—

"It may be interesting to some of your readers to hear that I get autumn Strawberries every season more or less, but some seasons a good crop. I am not quite sure about the date on which we gathered the first, but think about the end of August. For some weeks we have gathered about 10 lbs. per week, and when the autumns are free from frost we have fruit very late. Three years ago we gathered some during Christmas week. The kind was May Queen, which, if the plants are good and get a little rest in the summer, will generally produce a crop of fruit in the late summer and autumn. The best of all for autumn fruiting is one I had some years ago under the name of Patrick's Seedling; some of those I packed and posted for you are that variety. It is a very distinct variety, but is quite out of character as

compared with its summer appearance, not so dark, firmer, yet fine and of good flavour. The second best as a cropper is one which I had many years ago from Mr. Nicholson under the name of Sir Walter Scott, but this is pale and soft, yet large and a good cropper. The next best cropper is Swainstone's Seedling; this is very fine, rather pale, and rather soft, but of good flavour. From May Queen one may always obtain a crop; the berry is small and soft, but of good colour. From Black Prince, too, can be obtained, not a large crop, but berries of good colour and firm.—GEORGE LEE."

We hope to have the pleasure very shortly of receiving a paper from Mr. Lee on his mode of culture.

ORCHARD-HOUSE NOTES FOR 1871.

WE have just (October 9th) finished picking the last of the Peaches and choice Pears in the orchard house, and turned all the trees out of doors, where they are arranged close together. The pots stand on a hard gravel bottom, a handful of soot being scattered underneath each to prevent the ingress of worms. The pots are completely covered with cocoa-nut fibre refuse, which keeps the trees in good condition until the house is again ready for their reception in January.

An essential to success is repotting the trees, or top-dressing, early in September, or as soon afterwards as the fruit is gathered. I have found, after some years' experience, that those trees which are repotted in September always bear the best fruit the following season. I have therefore repotted nearly all our trees this season. Those potted in the early part of September had rooted into the fresh material, and were firmly established ten days after repotting. Pots of 15 inches in diameter are the largest size we use now, so that those trees which were growing in pots of this size have the roots sufficiently reduced to admit of an inch or more of fresh compost being rammed firmly between the ball and sides of the pot. Another advantage gained by repotting is that the drainage is renewed, as in many cases it becomes choked by worms working into the pot, and when this is the case I do not find the fruit of good flavour. It would be as well to state that in repotting in this manner trees which are in full leaf, care must be taken to prevent them from flagging, as not only would this occur, but the young wood would shrivel. To keep all right syringe the trees frequently, and keep the house rather close for a day or two.

It is unnecessary to enter into full cultural details at this time, as ample instructions have been given in recent numbers; but in passing I may remark on one very important matter connected with pot culture, and that is watering. The trees require abundant supplies of water, and especially after stoning has commenced. The uninitiated will be able to know this time by the stoppage of the swelling of the fruit (hitherto rapid), which takes place when the stones begin to form. Manure water should be given to the Peach and Nectarine trees with caution, and none before the fruit begins to stone. This year I have not used any, but relied entirely on surface-dressings given only twice—namely, about the end of June and in the middle of July, and there was no apparent difference either in the size or quality of the fruit, except some slight allowance that ought to be made for the unfavourable season.

It is equally important to pay attention to keeping the trees clean; do not allow insect pests of any description to harbour on them. Red spider is kept at a distance by syringing twice a-day in hot weather, and aphides of all sorts are destroyed by fumigation with tobacco. The aphis which attacks Peach trees is not easily destroyed. I fumigated our large orchard house six times one season before it was exterminated. I have noticed the insects drop from the trees and lie on the surface of the pots for three or four days, and yet show signs of vitality.

With regard to the best varieties to cultivate, of course a larger number of sorts may be grown in pots than when the trees are planted out. Beginning with the earliest Peaches, we have Early Beatrice, the earliest of all, followed closely by Early Rivers. This year their earliness was their only recommendation; the quality was very indifferent. If we could obtain a variety with fruit of large size and good quality, and ripening at the same time as Early Beatrice, it would be a great boon. We gathered Early Beatrice about the first week in July, and Early York three weeks later. The latter I think the hardiest and most useful early Peach we have; it is sure to carry a crop of good-sized well-flavoured fruit. Early Grosse Mignonne has very fine-flavoured fruit of large size, and was ripe the last week in July; the tree is rather tender. Rivers's Early York has not been so fine nor so early with me as the old sort. Ripening with Early York Peach was Hunt's Tawny Nectarine. This has two faults—the fruit is deficient of flavour, and the tree is more liable to mildew than any other I know. I would rather be without it in the orchard house, but we have not as yet another to replace it. As soon as mildew appears throw a cloud of flowers of sulphur amongst the trees with a distributor; this will effectually check its progress. When well grown this is a fair-sized good-looking fruit, and it hangs well on the tree after it is ripe. Rivers's Orange Nectarine has been particularly fine this year, and was the next to ripen after Hunt's Tawny.

After the foregoing the mid-season Peaches and Nectarines come in, and here there is no difficulty in making a selection. About the 10th of August we had ripe in abundance the following sorts of Nectarines, all first-rate—viz., Balgowan, Cricket, Downton, Elruge, Violette Hâtive, Pitmaston Orange, and, though somewhat later, but one of the very best, Pine Apple (Rivers). Of Peaches we had Royal George, Royal Charlotte, Alexandra Noblesse, a very large fine-flavoured kind, having a very pale skin with scarcely any flush of red; Grosse Mignonne, and Bellegarde, two of the best Peaches in cultivation. I have a number of new or little-known Peaches and Nectarines; some have not fruited yet, and respecting others which did fruit I can this year scarcely venture to give a decided opinion. Some are highly promising, others are of doubtful merit. Amongst midseason Peaches we can hardly look for any further improvement. Of Peaches and Nectarines ripening with Walburton Admirable some of the recently introduced varieties are decided acquisitions. Amongst those introduced from America I think Exquisite is one of the best yellow-fleshed Peaches we have when cultivated in the orchard house. I do not know whether it would be equally valuable as a wall-trained tree out of doors. Princess of Wales (Rivers) is a magnificent Peach when well grown, and is very distinct. Desse Tardive is another late variety which ought to be grown much more extensively than it is. I find it an excellent pot tree, setting fruit very freely when trained to a trellis under glass; the fruit is magnificent, 12 inches in circumference, from trees planted out.

For late Nectarines to succeed the Pine Apple there is that fine cross-bred variety Victoria; this will be a lasting memorial to Mr. Thomas Rivers of Sawbridgeworth. No collection should be without it. Prince of Wales I have never had finer than in the present season. The fruit was highly coloured outside, bright red at the stone, and measured just over 8 inches in circumference. This variety is liable to crack; to prevent its doing so, crop rather heavily, and do not give too much water when the fruit is swelling. These are our last Nectarines.

The Peaches continue longer. There are just three which I will name—Lord Palmerston, Lady Palmerston, and Salway. The only good one amongst the three this season has been Lady Palmerston; it ripened after Lord Palmerston and before Salway, and for a yellow-fleshed Peach it was of very good flavour. The fruit was only medium-sized, although it is generally large. Lord Palmerston, usually good, has shown too much of the Pavie blood to be agreeable, and the skin exhibited little colour, though fully exposed to what sun there was. As for Salway, the fruit is quite dry and unpleasant; but it is, as Mr. Rivers says, "sometimes good" even from pot trees, and it is to be had after the other two are over.

There are, no doubt, many of your readers and contributors who have also had experience with orchard-house fruit; if it differs from mine in any particular I should like to hear of it, especially in the case of the Early Beatrice and Early Rivers Peaches. One would like to know if Mr. Rivers still holds the same opinion of them.

I may say, in addition, that Pears and Plums have been fine this year. One Plum which I would particularly recommend is the Golden Esperen; it has fruit of delicious flavour and fine in appearance, though not of the largest size. Souvenir du Congrès and Madame Treyve will, I think, hold a high position amongst Pears. I had the former, which weighed half a pound each, from trees in pots under glass, and I weighed one fruit of the latter taken from a pot tree out of doors, and found its weight exactly 12 ozs. Souvenir du Congrès somewhat resembles Williams's Bon Chrêtien, but is rather later in ripening. The flavour of my specimens was past before I tried them; but some fruit sent on October 4th by Mr. William Paul, of Waltham Cross, to the Fruit Committee at South Kensington were of good flavour, although also a little past their best.—J. DOUGLAS.

THE PEACH CROP OF DELAWARE. — The *Wilmington Commercial* states that the railroad accounts, made up on the 14th

of September, show 2,656,673 baskets carried, and about a million were sent by water. The net prices returned to the grower are estimated at 35 cents per basket, so that the crop has brought into the peninsula this year over 1,225,000 dollars; and counting consumption at home, a fair statement would be very nearly a million and a half dollars.

PEAS FOR SUCCESSION.—No. 1.

"What varieties should I sow to obtain the longest succession of Peas, and when should I sow them?" These are questions which can only be satisfactorily answered by advising for both large and small gardens, for Peas differ considerably in height.

Peas for Large Gardens.—In these there is nothing to prevent tall as well as dwarf varieties being grown, for sticks may generally be procured with less difficulty and cost than in small gardens. In the latter, especially if near a town, Pea sticks are scarcely to be had for money—indeed, I have paid for sticks as much as the crop was worth; and in such cases it is desirable to dispense with sticks as much as possible by choosing kinds of Peas that will do with little or no support. I may remark that I do not believe in Peas that require no sticks. Those which I receive as growing only 1 foot high attain twice that height, and when unsupported produce one-half the crop which the same kinds do when staked. I may be told my ground is too rich. Nothing can be grown well without manure. Except for the early varieties—a few to come in early—the ground cannot be too rich. I manure heavily because I must crop heavily, and yet my soil shows no evidence of having had too much manure. Just pointing in a quantity of manure soon renders the surface soapy; and though everything sown or planted may be stimulated for a while, yet when the roots pass beyond that the time of trial begins; for dry hot weather sets in, growth comes to a standstill, and grubs innumerable, with mildew, make sad havoc of the crops. Manure heavily, dig deeply, and the crops will in general be satisfactory both in quantity and quality. The varieties of Peas are extremely numerous, and most of them have been useful in some soils and localities, or for some particular purpose. I therefore do not assert that those which I shall name are the best of all to equal them, but with me they have proved so.

Dillistone's Early, or Dickson's First and Best.—Height 3 feet. Sow from the 5th to the 10th of November on a warm south border; on the 10th of December also on a warm border; and again, if the ground is in good order, on the 15th of February; or, if the weather is very wet or frosty, on the 5th of March in an open situation. The Peas ought all to have a little soil drawn to them when 2 inches high, and be sticked. This applies to all Peas, but those on the south or warm borders should be sticked as soon as above-ground, putting in rather thickly the leafless spray of the Spruce Fir about a foot high, and staking fully afterwards. Also sow on the 5th and 15th July.

Laxton's Supreme.—6 feet. Sow March 5th, March 15th, and March 25th.

Eastes' Kentish Invicta.—4 feet. Sow March 5th and 15th, July 5th and 15th.

Champion of England.—6 feet. Sow March 15th and 25th, April 5th and 15th.

Fortyfold.—6 feet. Sow March 15th and 25th; April 5th, 15th, and 25th; May 5th.

Premier (Maclean's).—4 feet. Sow April 5th, 15th, and 25th; May 5th and 15th.

Veitch's Perfection.—3½ feet. Sow April 25th; May 5th, 15th, and 25th.

Hairs's Dwarf Green Mammoth.—3 feet. Sow May 15th and 25th; June 5th, 15th, and 25th.

Yorkshire Hero.—3 feet. Sow May 25th; June 5th, 15th, and 25th; and July 5th.

Ne Plus Ultra.—7 feet. Sow May 15th and 25th; June 5th, 15th, and 25th; and July 5th and 15th.

Under ordinary cultivation and in general seasons the Peas will be fit to gather the first week in June or earlier in the south; but I am in the north, and the beginning of June is about the time to expect to have Peas north of the Humber. There will be no break in the supply from early in June to early in October, and after that all depends on the weather. I have gathered a dish of Ne Plus Ultra on December 21st at a place nearly 500 feet above the sea level in Yorkshire. I have now (October 16th), Veitch's Perfection, Hairs's Dwarf Mammoth, and Yorkshire Hero with fine well-filled pods, and Ne Plus Ultra that shows blossoms as well as pods. They are in an open spot, where the east and west winds cannot cut nor knock them about, which is ruinous to Peas, especially late ones.

I think we shall have an acquisition in the Pea called Wonder of the World; it appears to stand autumn wet and cold well. It is evidently another Ne Plus Ultra.

The accompanying table will show at a glance the times of sowing:—

Variety.	Height.	Colour.	Nov.	Dec.	Feb.	March.	April.	May.	June.	July.
	ft.	*								
Dickson's First and Best	3	W.	5	10	15	5	....	....	....	5,
Eastes' Kentish Invicta	4	B.	..	..	..	5, 15	....	....	....	5, 15
Laxton's Supreme	6	G. M.	..	..	..	5, 15, 25	....	....	....	..
Champion of England	6	G.W.M	..	..	..	5, 15, 25	5, 15	....	....	..
Fortyfold	6	G.W.M	..	..	..	15, 25	5, 15, 25	5	....	..
Maclean's Premier	4	G.W.M	..	..	..	....	5, 15, 25	5, 15	....	..
Veitch's Perfection	3½	G.W.M	..	..	..	....	25	5, 15, 25	....	..
Dwarf Green Mammoth	3	G.W.M	..	..	..	....	....	15, 25	5, 15, 25	..
Yorkshire Hero (Dixon's)	3	G.W.M	..	..	..	....	....	25	5, 15, 25	5
Ne Plus Ultra	7	G.W.M	..	..	..	....	....	15, 25	5, 15, 25	5, 15

* White; B., Blue; G. M., Green Marrow; G. W. M., Green Wrinkled Marrow.

The above sowings would at first sight appear excessive, but the autumn and first spring sowing of Dickson's First and Best, Kentish Invicta, and Laxton's Supreme are quart sowings, all the others pints. So that we require of Dickson's First and Best, 4 qts.; Kentish Invicta, 2½ qts.; Laxton's Supreme, 2 qts.; Champion of England, 2 qts.; Fortyfold, 3 qts.; Premier, 2½ qts.; Perfection, 2 qts.; Dwarf Green Mammoth, 2½ qts.; Yorkshire Hero, 2½ qts.; and Ne Plus Ultra, 3½ qts., equal to 26½ qts., a sufficient seeding for a garden of two acres. A quart of early Peas will sow a row 36 yards, or 108 feet, and a quart of late or general crop 50 yards, or 150 feet. The distance between the rows is fully that which each variety attains in height.

It will be seen from the table that the aim is to make sure of a thorough first, midseason, and late supply, by frequent sowings, using also different varieties to insure a constant succession. My aim in growing Peas is to give enough to satisfy at first, and never to be without them. I remember a rather good tale of an Archbishop of York who was very partial to Orach. It happened that the gardener ran short of it, and the kitchen-server took in small dishes. His Grace ordered it twice a-day, and the kitchen-server was at his wits' end—there were only two small dishes left. He very properly consulted the head gardener, who directed him to send it all in at once—all he could find, and if the cook or anyone asked him if there was any more, to give them answer, "Cartloads." After the midday meal a messenger was dispatched to the gardener by his Grace to inquire if there were any more Orach, and got his answer, "Cartloads;" which, being told his Grace, he sent word to the cook, not until he again ordered to send in any more Orach. It is upwards of a century since this occurred, and it is true in principle to-day, and those just entering on the responsible charge of a garden will do well to "always make semblance of abundance of everything, and never ask a cook to be careful."—G. Abbey.

SEDUM FABARIA.

I am glad that Mr. Record has called attention to this plant, which deserves all he says in its favour, being, without exception, one of the best vase plants which I know, as hardy as the common Houseleek, and, like it, succeeding either with water or without it in the driest and hottest weather. We have some plants of it in vases not easy of access, and they have not been watered for many days, nay even for weeks together, and they did not appear to suffer in the least. The spreading uniform habit of the plant is all that can be desired in such places, it withstands wind and weather of all kinds, and although it flourishes in sunshine, it does well in the shade. Certainly its greatest defect is being late in flowering, but when once out, the flowers remain fresh a long time, both in beds and vases, for I have had it for some years in both, and I do not think I have ever lost a plant. A bed of it at the present time (October 13th) is about one of the best we have; it is an oval bed, 14 feet by 9, and was planted in the spring of 1869 (other plants were out many years before that), but those in the bed referred to grew up and flowered with as much regularity as could be desired. The bed is slightly raised in the centre; the flowers of the Sedum present the same outline, while the edging enhances the beauty of the whole. The edging is the dark ornamental Beet, which is employed in so

many places, and which I have grown more or less for some years; in this instance it comes in remarkably well, being just the proper height to meet the flower stems of the Sedum, while in point of colour, uniformity, and, above all, durability (for it lasts a great part of the winter), I almost think that it requires a champion as well as Sedum Fabaria.

I can fully confirm all Mr. Record states respecting the hardiness, easy culture, adaptability to all soils, and other qualities of this Sedum, the only drawback being that it is late in flowering; but the orderly appearance the plant presents before that time almost entitles it to be classed amongst those grown for foliage, while the promise of future bloom creates an interest well worth waiting a little time to realise. To those who want very large heads of bloom, I would recommend planting in spring young plants struck out of doors the preceding autumn, such as come up with only one or two stems to each. I will not say how large the corymbs may be, for I have seen so much of what I call injustice in measuring leaves and flowers that I will not pretend to say how large we had some of them a short time ago. In vases and beds I prefer the smaller heads which old plants throw up, more especially as they are much more numerous.—J. Robson.

TWELVE OF THE BEST ROSES.

I shall presume "D., *Deal*," means twelve Roses that answer to the following description—namely, that are best for exhibition and also for garden purposes, varied in colour, hardy, good growers, free and constant bloomers. The Roses are placed in alternations or shades of colours. Perfection de Lyon is the finest show Rose of them all. I had six plants each of Perfection de Lyon and Madame Chirard, and nine plants of Edward Morren to judge from. Edward Morren had no green eyes, but gave a splendid and abundant first and second series without one malformed bloom.

The following is my selection—Maréchal Niel (Pradel, jun., 1864), golden yellow; Pierre Notting (Portemer, 1863), deep crimson purple; Madame Chirard (1869), pale clear rose; Alfred Colomb (Lacharme, 1865), fiery red; Perfection de Lyon (Ducher, 1868), pure rose, with silvery lilac reverse of the petals; Madame Victor Verdier (Eugène Verdier, 1863), rich red; William Griffiths (Portemer, about 1854), salmon rose; Edward Morren (Granger, 1868), light silvery cerise; Marguerite de St. Amand (Sansal, 1864); Charles Lefebvre (Lacharme, 1861), rich dark shaded crimson; John Hopper (Ward. 1862), crimsonish centre, with paler edges; Maurice Bernardin (Granger or Levêque, 1861), vermilion. Mdlle. Marie Rady (Fontaine père, 1867), is a first-rate Rose, and I regret there is no room left for it in the twelve.—W. F. Radclyffe.

HOUSING CHRYSANTHEMUMS.

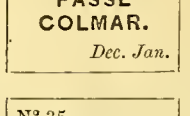
I always find my plants do better out of doors until the buds show colour than when I take them in before that time.

I do not house my plants before the 1st of November; I never find frost interferes or injures the buds before that time, as they do not bloom before the middle of November, even if put in a month earlier. Heavy rains and winds are more injurious than bright days and slight frost by night, as a little frost renders the plants hardy, and prevents drawing and the weakening of the buds.

Liquid manure I use very sparingly; I depend more on a good top-dressing composed of a mixture of soot and well-rotted manure, as it causes the foliage to be retained and at all times supplies nourishment to the plant.—P., *Rochelle, Cork.*

ADHESIVE FRUIT LABELS.

We have received from M. Edouard Pynaert, of Ghent, samples of his new adhesive fruit labels. It is impossible to speak too highly of this ingenious and very useful contrivance of Mr. Pynaert, by which fruit-growers, and especially fruit-exhibitors, are furnished with a means of labelling their fruit with a nomenclature at once correct and neat, which obviates the necessity of those large and clumsy cards we see so often accompanying specimens of fruits, and at the same time secures immunity from those stupid and sometimes laughable forms of nomenclature which are too common in our fruit exhibitions. If we were in a humorous mood we might make merry over some of the names that appeared at the late great fruit show at South Kensington. Such examples as Ballyband for Belle et Bonne, applied to the Apple of that name, are enough to make us long for a deliverance from such a system; and if fruit-exhibitors will adopt Mr. Pynaert's excellent tickets they will avoid the remarks which, though not uncalled for, are far from complimentary.



We give specimens of these adhesive tickets, and merely remark that they are on sheets, which are perforated like postage stamps, and the various tickets can easily be separated. Being gummed on the back they are always ready for use, and can be applied to the fruit with all the facility of postage labels. The cost of these tickets is small, only 2*s.* a-thousand for the general sheets, containing an assortment of names, and 2*s.* 6*d.* per thousand for special sheets containing a single variety. Orders for England accompanied by postage stamps will be sent free.

For labelling in the fruit-room, for sending in fruit for dessert, or for exhibition purposes, these simple and elegant tickets are a real boon. They were deservedly awarded a special certificate at the late International Fruit Show at South Kensington.

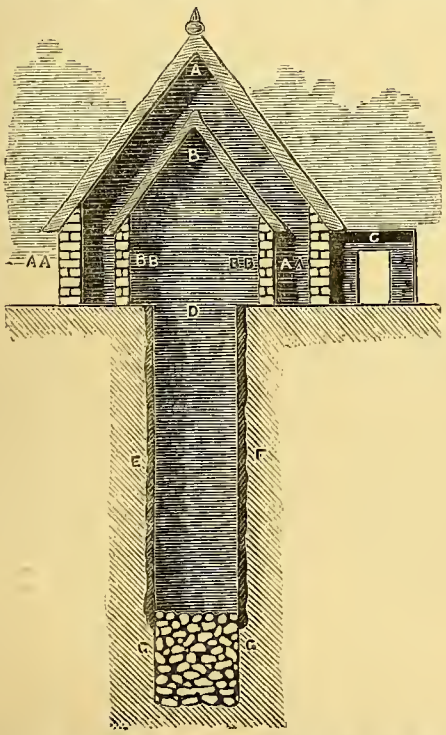
THE PRESERVATION OF ICE.

A prime necessary of life in the sultry and feverish East is congealed water, that most exhilarating and tonic of human beverages. In old times, the Anglo-Indian exile was solely dependent on the troublesome and expensive cooling preparations known as "freezing powders," of which saltpetre and sulphate of soda were the chief components, entailing the service of a special attendant called an abdar, or "water-cooler," with one or more assistants. This was generally the rule in the humid province of Bengal, and at the small out-stations throughout the country where ice could not be manufactured for want of frost, or funds. Now-a-days, our American cousins with special ships supply the seaboard, and our increasing network of railways carry up the superb blocks of Wenham Lake at a selling price of 3*d.* to 9*d.* per lb., more or less, according to the distance of transit. But there is a limit to all things, and ice will waste so much in travelling that it could not be sold at a remunerative rate, or meet with purchasers. Hence, machines on a large scale have been introduced into the more populous garrison towns, and do a large amount of business in the very hot months. Natives, especially those of rank, have taken to the luxury as a great improvement on their old lukewarm element; while in all the British hospitals Government sanction a certain outlay in this highly-valued therapeutic of Nature; undoubtedly it will save life in all those irritable and congested conditions of the brain and other organs, while as a styptic it is (next to electricity) unequalled. Could this great article of consumption be produced at a sufficiently low cost for issue as a daily ration to European soldiers, I have long ago been convinced that a large amount of mortality would be reduced.

As soon as we reach the N.W. provinces and the Punjaub we attain a climate with a winter and frosty nights in a long continuation, the soil and air as dry as any in the whole world. Here by the nocturnal radiations of heat we attain the most profitable results in congelation by the exposure of shallow saucers on plains strewed with straw. I remember one uncommonly sharp winter at Lahore more than twenty years ago, when our newly-built ice pits were crammed to the brim in ten or twelve days for the long hot season's supply of the unusually large garrison. Soon after sunset congelation began, and before sunrise a small army of coolies, man, woman, and child, were collecting and carrying off the glistening product, almost an inch thick—a most unusual circumstance, as the ice so made is seldom more than half an inch to a quarter of an inch in substance, and when thrown into the pits there consolidates into masses. The cold was such in that memorable season that dogs and mendicants were found dead on the exposed plains, and the troops, British and native, went out to exercise at midday, their fingers being too stiff to cap their fire-arms at an earlier hour, while officers and men off duty would be met in the sheepskin pelisses and camel-hair robes of far Afghanistan, with gloves and stockings of the latter dense material.

The so-called "ice-houses" of Northern India are more properly ice wells, and I will at once explain their very economical and efficient construction in these hot and dry climates, where, during most of the twelve months, the earth's surface is oven-

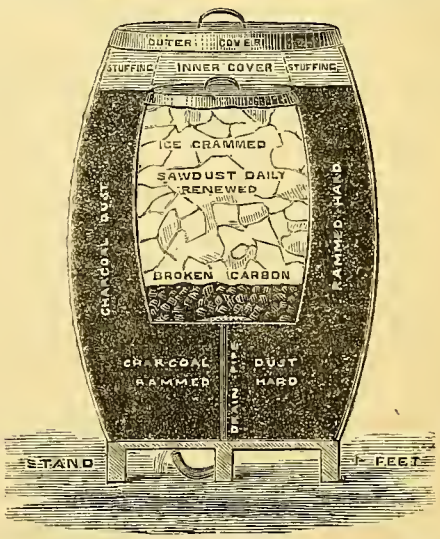
like in temperature, and rapidly falls to extreme cold as we descend, a natural result of which the northern races have long been cognisant, for in most cities there are "Tytchanas" or subterranean rooms, with stone benches, and even fountains therein, which are favourite retreats of the rich and idle during the excessive heat of the outer air. Perhaps in the very humid climate of Great Britain this oriental system of preserving the ice may not succeed, though it might be modified accordingly. A A, external walls about 5 feet high and 2 feet thick, of sun-dried clay brick. B B, internal walls of the same height, but only 1½ foot thick, of the same stuff. Both the above walls are circular, and when dry should be well plastered with any water-proof compo, to protect them in bad weather; I suggest bast mats as the best ones in England. Doors to enter each circular erection must be made, taking care that they are not opposite, so as to avoid direct entrance of the outer air. A, outer thatch, thick, and of reeds or rushes well packed. B, inner thatch of less thickness. C, porch built on to outer door, and having a closely-fitting door as first entrance. When taking out ice (always before sunrise) a person entering this outer door will shut it after him tightly, then enter the outer circular wall by its own door, fastening which he will open the inner door of central compartment; closing that also, he will then take off a thick felt cover from the mouth of the pit, and carry away the required ice in a double basket, covered with felt in each compartment, the blocks being separated by a stock of cold sawdust, stored between the walls. Beware of strong-scented woods when collecting the dust, as they will flavour



your ice. The well or pit must be in a dry, gravelly, or sandy, slightly-elevated situation, with a porous subsoil to the very bottom. The depth will depend on the quantity to be stored for the season; there is no advantage in a surplus. This pit is to be lined throughout with wicker-work (or matting in India) and spread with felt sheeting as thick as you can afford, as the best non-conductor in a large scale, E F. G G, the drainage chamber, which should be by choice in the most porous soil or stratum attainable, its object being, when filled with small charcoal, to act as a colander or strainer for the drippings of melted ice to pass away into the earth, without creating humidity, a state so destructive to all congelation and its preservation. The little entrance portico I should construct of Croggon's patent felt (being waterproof) nailed to a light framework of deal spars, well-pitched. The inner door should have a chain and padlock, and work so lightly on its hinges as to close on a latch by its own impetus.

I will now proceed to the construction of ice safes and small domestic receptacles for the daily supply. For the casual consumer, the invalid, or the midsummer picnic, I know of no plan so simple and effective as the following:—Have two good clean white blankets by you, the stouter the better, lift the lumps of ice, as large as you can get them, with a pair of wooden tongs into one blanket, and wrap it up into as small and uniformly tight a bundle as you can manage; put this in a light basket and wrap up the latter again in your other blanket, and keep in as dark and shady a spot as you can find. A bottle or two of previously cooled beer or soda water may be enclosed with your ice in the same blanket when packing. Every two hours in hot weather change your blankets, and try to keep your ice as dry as possible, therein consists the knack of preservation. Sawdust of hard woods is most useful as an auxiliary. The blankets will be none the worse for being used, if continually changed, as above. I tried a new discovery a few years ago, and it will give a valuable hint to nurses and others who have to economise their store of ice in a sick room or hospital. Dr. Schwarz published the fact that soft bird-feathers are the most effective of all non-conductors: he kept ice in a jug covered by a plate, some 6 lbs. weight, for eight days in an invalid's room during summer.

For many years I used the following inexpensive ice-box, constructed by my own hands, its principle taken from an American recipe book. The work is laborious and also dirty, unless feathers be used, which would cost something:—Get an eighteen-gallon cask, clean and new, if possible; get a smaller, of four gallons, or rather larger, according to your



probable requirements. On this scale I stored Wenham ice for forty-eight hours, 8 lbs. weight, after it reached me nearly two hundred miles by rail and boat, being in a joint club with others, and the total cargo being about 200 or 300 lbs. on every trip. We had to subscribe a small fund to purchase cases and country blankets, and advances to the American company in Calcutta. The blocks on arrival were all cut up and weighed out in allotments to the several subscribers. My share rarely exceeded £2 sterling *per mensem*, with a small dividend to receive when the cool season came round. The per-centage of loss by waste in transit was usually quite insignificant, unless detained by occasional mishaps.

The larger cask must be partially unhooped to admit the lesser, and a large quantity of clean and fresh charcoal dust must be previously collected. First a hole must be bored in the bottom for the outlet of drainage pipe, and then the cask fitted to stand on a strong frame on four feet, sufficiently high to contain the bend of the siphon when inserted into the pipe; both may be of lead tubing a quarter of an inch. Insert the length of pipe upright in the hole of large cask, and begin ramming well with a long heavy cylinder of wood close up to and around the pipe, till about an inch or two only remain above; you then put inside the smaller cask, which must have a hole at bottom to hold the pipe end. This being duly adjusted and quite straight, replace the top hoops of the large cask, and go on with the charcoal dust till you arrive close to the mouth of the small one, you will then put a curved piece of perforated zinc

over the pipe hole, and over that again firmly pack some animal carbon. You will now make two lids of the two cask-heads, nailing them on with leather bindings, and tack some extra stout felt, with a deep flounce of the same, all round. I covered all my outer cask with double felt, and then rendered the ice-safe fit for human eyes by a coat of cheap red cotton cloth. The last operation is to stuff all the space around the mouths of the inner and outer cask with felt clippings, covering them from view by a piece of cloth tacked on.— Eos. — (*English Mechanic and World of Science.*)

POSSINGWORTH.

The Seat of Louis Huth, Esq.

The elegant mansion of Possingworth stands upon one of those commanding eminences so frequent in the Weald of Sussex. The position is well chosen, overlooking a most magnificent landscape, which is expansive, but not flat or tame, as the lower part of it is beautifully undulating, sweeping downwards and outwards in the most picturesque manner, and rising again in the distance, till it meets the boundary line formed by the bold uplands of the South Downs. Midway in the field of view, and standing well back on either hand, are high turf-clad banks crested with trees, sloping downwards to a fine sheet of water, in a bold yet irregularly wavy outline, the beauty of which is much enhanced by the introduction of occasional admirably arranged groups of trees. Possingworth and its gardens are very beautiful, seeing it as I did in all the richness and beauty of one of those luxurious days when summer is gliding into autumn.

The house may be said to be quite enclosed by the dressed grounds. The carriage drive sweeping past the north front is so beautifully kept, as are the lawns through which it passes, that the eye is at once attracted by the exquisite neatness. A steep irregular bank springs from beside the drive to a considerable height upwards, its highest part having a dense mass of Firs growing there, sheltering the house, and, doubtless, forming an admirable background to it when viewed from the valley. On the west side the chief features are, a conservatory, whence a flight of steps leads on to a broad terrace walk with vases raised upon pedestals along its outer edge, and a lawn in fine order, level, and belted by a walk fringed on both sides with bright masses of flowers in beds; thus, while there was much of brightness here, an air of repose prevailed from the unbroken expanse of turf. This effect, and the way in which it was produced, impressed one as being worthy of attention, repose in gardenesque scenery being frequently difficult to attain satisfactorily.

The flower garden by the south front is also in connection with a terrace of handsome proportions. The flower-beds are few in number, simple in form, and of large size. They are upon turf, and are raised very high in the centre, forming a garden of a peculiarly massive and dignified character. They were well filled, the plants being beautifully graduated from the high centres downwards and outwards. Some of the beds were surrounded by a novel and pretty belt, consisting of two outer rows of dwarf Box edging planted closely side by side, and enclosing a compact band of Vinca major elegantissima, a foot wide, of a beautiful clear pale yellow, The Vinca was kept as dwarf as the Box, two more rows of which immediately succeeded on the inside, then came a band or path of gravel 2 feet wide, with another double line of Box enclosing the bed itself.

Apart from the principal flower garden were numerous well-filled beds, borders, and vases, all rich with summer's various charms. In one long border a collection of herbaceous plants is being gradually formed, this will in time be a very interesting and attractive feature. I would commend this plan to the notice of those who lament the sacrifice of many an old favourite to modern caprice.

A Rose garden of a somewhat quaint and formal aspect connects the flower garden with a shrubbery, to the east of which are the kitchen garden and the glass houses. The Rose garden consists of a series of long unbroken borders, not straight, but in the form of a gentle curve. They are upon sloping turf, in tiers one below the other; between every two borders, and running parallel with them, are low clipped Laurel hedges to shelter the Roses from the effects of high winds.

It was a treat to walk through the glass houses at Possingworth. No trash, no plants suffering from neglect, poor culture, or overcrowding meet the eye, but everything betokened the most painstaking care and skilful supervision. I was glad to see evidence on all sides of Mr. Reid's fondness for cone-shaped plants; to my mind no form is so symmetrical and elegant. The collection of Azaleas trained to this form, and clothed with foliage of a most healthy green, was a refreshing sight. A number of fine Allamandas were also so trained, and I noticed two fine specimens of the charming old favourite Rhyncospermum jasminoides laden with bloom for the second time this year, the plants having flowered freely in March. The plant houses and pits were well placed in a compact block, and the vineries and Peach houses ranged along south walls. These structures are well built, and had suitable fittings and excellent internal arrangements.

Of the Grapes which most attracted my attention were some deep-coloured bunches of Alicante, well shouldered and thoroughly finished, Bowood Muscat extremely fine, and Madresfield Court Muscat. Mr. Reid has this last fine kind grafted on a variety of stocks, planted in different houses. The bunches of it were of a useful medium size, and the berries were large, well-coloured, and altogether fully developed; but there was the cracking or bursting of many berries, a blemish which affected every bunch more or less. None of the various stocks upon which it was grafted seemed to have much influence in checking this serious evil. Of the plants of it which I saw bearing fruit, there were some upon their own roots, others were grafted upon Dutch Sweetwater, Royal Muscadine, and Frankenthal, upon which last there did not appear to be so many faulty berries, though they were not entirely absent. Every means had been unsuccessfully tried to prevent the cracking. It was not supposed to arise altogether from too much moisture in the borders. I particularly inquired about that. If there was a superabundance of sap it was checked by cutting a deep notch in the wood both immediately below and above the bunches. A few of them to which this treatment had been applied with severity bore tokens of suffering therefrom in the small size and pale colour of the fruit. Can a reason be given for this, or an effectual remedy be suggested? Remember, it is not to Vines in the hands of a novice that this has occurred, but to those under the care of an experienced, energetic, clever man, who has given the matter his most earnest attention, applying every remedy that he thought likely to succeed, but without avail. My own idea is that a border containing a larger quantity than is usual of crushed bones, broken bricks, and coarse gritty matter, and elevated well above the surface of the surrounding soil, would best suit a variety liable to be so affected.

In looking over new gardens like these, one is disposed to be more critical in the survey than when seeing old-established places; or rather, I should say, one is more keenly on the outlook for lessons of usefulness which may be applied to future practice. My visit was far from being a barren one in this respect, and while refraining from entering upon details which it would be wrong to make public without permission, I may safely venture to promise to keep no useful hint from the readers of "our Journal," but to introduce all such lessons in any future articles upon which they may bear.—Edward Luckhurst.

BULBS.

In the "Botanists' Repository" of Andrews, published about the beginning of the century, there are plates of a vast number of Cape bulbs, the names of which are not now to be found in nurserymen's catalogues, but which appear to be very desirable acquisitions. The greater number seem at that time to have been in the collection of Mr. Hibbert at Clapham, and nowhere else in this country. What has become of the Hibbertian collection? If it has been dispersed, has it fallen into any nurseryman's hands? Andrews figures a number of dwarf Gladioli that would be admirable for pot work, one of them a lovely blue. He also has plates of a number of tuberous-rooted Geraniums with yellow flowers; among these is one named radicans. Van Houtte has one in his catalogue under this name, but it is rosy pink, not yellow.—K. I. N.

RENDLE'S PLANT PROTECTORS.

I really must apologise for appearing again before your readers, but I cannot allow the remarks made by your correspondent, the Rev. C. P. Peach, to remain unchallenged. He says my protectors were fixed in the corridors of the International Exhibition. It is true a few of the specimens were fixed there, but I was allowed by the Royal Commissioners to erect large working protectors in the garden of the annexe.

There they were, and I am sorry your correspondent did not see them there, because then I am sure he would not have made the remarks he did. There they stood through many a gale and eddy-wind without a single brick being displaced or a pane of glass broken. One word more and I have done. He refers to the old-pattern bricks at Chiswick several years ago. I do not think he has seen the new "Belvoir Castle" or the "Enville" patterns; when he does so he will change his mind. He might as well say the locomotive steam engine is a failure because the original one on cog wheels broke down.—W. Edgcumbe Rendle.

[We think it needless to insert more upon this subject.—Eds.]

WOOLHOPE NATURALISTS' FIELD CLUB.

THE FORAY AMONG THE FUNGUSES.

The last field meeting of the year was held on October 10th. The attendance was numerous, the weather was beautiful, the scenery of the district selected for the hunt was very fine, and, above and beyond all for the object of the day's excursion, Funguses were abundant. The sun shone brilliantly as the visitors left the Dinmore station to wend their way up the hill to the tower on the top, but the admiration of the varied foliage tints was quickly exchanged for that of the forms and colouration of the Funguses. The scarlet tints of Hygrophorus coccineus, Peziza aurantia, and Agaricus (Amanita) muscarius; the amethyst and purple variety of A. laccatus; the large white Lactarius vellereus, the delicate Hygrophorus cossus, and Clavaria vermiculata; the yellow wax-like Hygrophorus ceraceus, and hundreds of others in shades of yellow, brown, and black, mixed by Nature's art, with many a varied grace of form and texture. Meantime the way led on, and whether it was the many attentions the Funguses had, or the old sad habit of keeping too long to the broad and easy path, the visitors found themselves on the turnpike-road to Leominster, without a sight of the tower. Away through the wood side tracks were taken, and the baskets were rapidly filled with the *spolia* of the day. In the hunt for the tower, which conceals itself wonderfully well in the woods of this wide-backed undulating hill, some found it and some didn't, and the President was amongst the unfortunate; and so it came to pass that the business of the Club was transacted under the Beech trees at the far side.

The delicate beautiful Fungus Agaricus mucidus, white and fragile, was here gathered from a decaying branch of the Beech tree above, and on its roots below Polyporus giganteus was beginning to grow. Here, too, soon was smelt out that curious, undesirable, beautiful, horrid, graceful, disgusting, interesting, stinking Fungus, Phallus impudicus, which is justly named "stink-horn."

The wood was now left for the more open ground of the hill, and on the remains of some charcoal-burning places the Funguses peculiar to such spots, Agaricus carbonarius, A. atratus, and Cantharellus radicosus were found.

The private bridge over the Lug was crossed, and following some little distance a tempting glade by the river's side the ascent of the hill was again made for the home journey, and the Fungus hunt was resumed all the more vigorously for the charming *hiatus* of the visit to the valley. The buff Hygrophorus pratensis, edible and good, with its odd little associate H. psittacinus, with several others, were gathered here. This last is said to be edible too, in spite of its greenish-yellow untempting aspect, and as the esculent Funguses have at length come uppermost, it may as well be said at once that many of them were found. A good dish of the Maned Agaric, Coprinus comatus, had already been secured as provision for the feast, and others had still to be gathered. A hunt was made for the "Vegetable Beefsteak," Fistulina hepatica, for it may almost be said of this, as Browning has lately said of the Pomegranate in the Island of Rhodes:—

> "Where'er the red bloom burns
> I' the dull dark verdure of the bounteous tree,
> Dethroning in the rosy isle the Rose,
> You shall find food, drink, odour, all at once."

But though some small specimens were found, they were too young to be fit for the table. The spiked Mushroom, Hydnum repandum, "Hydnum good as oysters," as Dr. Badham says, was found growing in several localities, and some fine specimens were gathered, but as this one had already been cooked at the dinners of the Club, the caterer passed them by for the Red Milk Agaric, Lactarius deliciosus, which is very plentiful this autumn in the situation it delights in, the drip of Scotch Firs. The Chantarelle, Cantharellus cibarius, was gathered, and very common it has been this year in almost every Oak wood of the county. This and Marasmius oreades, the Fairy-ring Agaric, or Champignon, have been extremely abundant all through the summer. If people did but know how strong and excellent is the catsup it makes they would not let it be thus wasted, though from its small size and rather dry nature it takes a deal of gathering to get a supply of this delicious condiment. Then there was Agaricus orcella, vegetable sweetbread, Boletus edulis, Russula heterophylla, Agaricus rubescens, Lepista nuda, and some others of which compassion for the compositor alone forbids the mention at this time. Edible Funguses often get into discredit from being eaten when unripe. There is a common saying about the Pear, that you should sit up all night to catch the minute it ripens; and if there is a basis of truth in the proverb with a fruit that takes so many months to reach perfection, one ought to be electrically sensitive to the exact moment of maturation of a Mushroom, which a few hours only will suffice to develope.

On the way through the woods many other Funguses were gathered; and by way of balancing the virtues of the edible kinds, it is well, perhaps, to mention that the virulently poisonous Lactarius torminosus or necator, "the slayer," as it is sometimes called, was very abundant, and a very beautiful Agaric it is with its rich orange zones and its woolly margin. The venomous-looking Lactarius turpis was frequently found, Agaricus fascicularis, A. sublateritius, and some others. One other Agaric only shall be named, and that because it is very rare and so very interesting. On a stump not far from the station Marasmius fœtidus, the little fœtid Marasmius, was growing plentifully. More Lactarii and Cortinarii were met with than could be named, for some were either new or in a peculiar form.

With well-laden baskets the Fungus-hunters reached the "Green Dragon," and all their fatigues were soon forgotten in close examination of the Funguses brought or sent for exhibition. Several of the scientific visitors who had come from long distances to be present at the foray had brought rare specimens with them. C. E. Broome, Esq., F.L.S., from the neighbourhood of Bath and Bristol, brought the small Truffle Genea hispidula from Hanham, near Bristol, Peronia punctata, Peziza rutilans and humosa, Polyporus scoticus, Agaricus squarrosus in its variety Mulleri, and many other sorts from Clifton and the Leigh Woods. The Rev. W. Houghton, F.L.S., &c., brought two specimens of Sparassis crispa, which is so excellent in flavour that it is a pity it is so rare; Agaricus clavipes, only of late added to the British Flora, and many others. W. Phillips, Esq., also brought from Shropshire Peziza onotica and cochleata; Agaricus (Clitocybe) cyathiformis, an unrecognised violet Cortinarius; (I.) Lycogala epidendron, &c. Charles Plowright, Esq., brought with him from Norfolk the rare Agaricus (Mycena) Iris, the curious and rare Cordiceps ophioglossoides growing parasitically on Elaphomyces muricatus, Boletus variegatus, and many others. The Rev. J. Jones Machen brought Craterellus crispus, &c. Miss Lewis, of Ludlow, sent Cantharellus tubæformis and many others. The remaining collections were from Herefordshire. A large hamper came from Whitfield of fine kinds in excellent order; a good collection was also sent by Mr. Miller from Eyewood, near Kington, containing the rare Hydnum zonatum, with two very grand specimens of Polyporus giganteus. Many members of the Club also did their duty scientifically, and the tables were well crowded with specimens. Time, unfortunately, did not admit of their being well arranged for study, but this want shall be supplied in some measure here. It will be an interesting feature if the Funguses gathered in Herefordshire for this meeting are put on record for the future. To prevent repetition, however, all those which have been already named in this account of the excursion will be omitted, and the names of the others well-recognised upon the table shall be strung together in the most concise manner and without comment. This arrangement will give readers in general the pleasant advantage of skipping them in a lump.

In the great order Agaricus the following species were present:—

(Amanita): phalloides, pantherinus, excelsus, vaginatus, and Ceciliæ.

(Lepiota): procerus, rachodes, excoriatus, Badhami, gracilentus, cristatus, and granulosus.

(Armillaria): melleus.

(Tricholoma): sejunctus, flavo-brunneus, albo-brunneus, rutilans, imbricatus, Columbetta, murinaceus, terreus, saponaceus, albus, personatus, nudus, grammopodius, humilis, and subpulverulentus.

(Clitocybe): nebularis, fumosus and its variety polius, odorus, cerussatus, dealbatus, infundibuliformis, geotrupus, and fragrans.

(Collybia): radicatus, maculatus, platyphyllus, fusipes, butyraceus, dryophilus, undatus, or vertirugis, tuberosus.

(Mycena): purus, polygrammus, alcalinus, epipterygius, pelliculosus, pterigenus, galopus, and tenuis.

(Pluteus): cervinus.

(Crepidotus): mollis.

(Entoloma): sinuatus, Bloxami, nidorosus, and rhodopolius.

(Clitopilus): prunulus and pupinalis.

(Nolanea): pascuus.

(Pholiota): spectabilis, mutabilis squarrosus, and radicosus.

(Hebeloma): lucifugus, longicaudus, fastibilis, and testaceus.

(Naucoria): cucumis, and furfuraceus.

(Psalliota): campestris, arvensis, æruginosus, squamosus, and semiglobatus.

(Hypholoma): lacrymabundus.

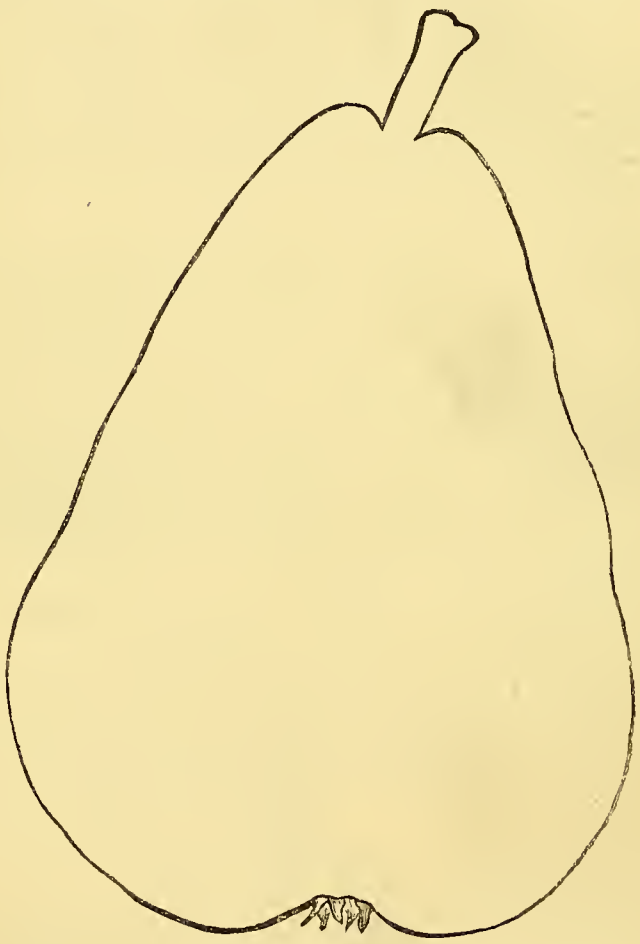
(Psilocybe): Fœnisecii, spadiceus, and semilanceolatus.

Coprinus atramentarius, picaceus, and niveus. Cortmarius callochrous, collinitus, fulgens, elatior, tabularis, diabolicus, cinnamomeus, caninus, and callisteus. Paxillus involutus, Gomphidius glutinosus, and viscidus. Hygrophorus olivaceo-albus, virginius, niveus, cerasinus, ovinus, Colemannianus, coccineus, puniceus, and lepurinus. Lactarius insulsus, blennius, chrysorrheus, pallidus, quietus, serifluus, subdulcis, glyciosmus, and fuliginosus. Russula nigricans, adusta, furcata, vesca, rubra, sardonia, virescens, emetica, ochroleuca, fragilis, and alutacea. Cantharellus aurantiacus and tubæformis. Marasmius urens, peronatus, and rotula. Lenzites

betulina. Boletus luteus, elegans, flavus, laricinus, granulatus, chrysenteron, luridus, scaber, versipellis, and badius. Polyporus perennis, squamosus, quercinus, lucidus, betulinus, fomentarius, cuticularis, versicolor, and igniarius. Trametes suaveolens. Dædalia quercina. Craterellus cornucopioides. Calocera cornea. Clavaria formosa, cristata, stricta, fumosa, and rugosa. Lycoperdon giganteum, cœlatum, saccatum, gemmatum, and pyriforme. Scleroderma vulgare. Cyathus striatus. Crucibulum vulgare. Helvella crispa. Leotia lubrica. Spathularia flavida. Thelephora laciniata. Peziza aurantia. Xylaria Hypoxylon, Merulius tremellosus, and Helotium virgultorum. Many others were also shown on the tables, which time did not admit of being properly named by the mycological authorities who were present.

OUR LARGEST AND FINEST SEPTEMBER PEAR.

I HAVE to-day (Sept. 25th) eaten one of the finest Pears of the month. It is large, and in colour much like the Brockworth Park. One figure in the "Dictionnaire de Pomologie" is like that given of this sort in the "Year-Book;" another in the same book differs from it widely. The French and English descriptions of it do not vary much. The former is "Peau jaune-citron, ponctuée, strié de roux, largement marbrée et tachée de même vers l'œil et le pédoncule;" the latter —"Skin smooth, pale yellow, slightly flushed and streaked with crimson on the exposed side."



Beurré de l'Assomption.

In France this sort ripens in August, here in September, and this year late. The habit of the tree is robust, much like Williams's Bon Chrêtien, of which I should think it a seedling, and it is marvellously fertile. There is none of the Williams's musk in its flavour, but a rich, pleasant, vinous, sugary taste. It seems as if this Pear is a twin of the Brockworth Park Pear, and if so, a very worthy sister or brother.

The Beurré de l'Assomption was raised at Nantes, and was introduced with another very large Pear raised at Lyons, called Souvenir du Congrès. This has much the habit of the former, and seems to be also a descendant of Williams's Bon Chrêtien, but it has hitherto proved coarse; it is, however, larger than Williams's, more robust in habit, and if it bear well it will prove a valuable market Pear.—T. R.

DESTROYING PHALLUS IMPUDICUS.

SOME of your readers may be glad to learn that we have succeeded at this place in gradually extirpating the miserably stinking Fungus (Phallus impudicus), with which we were a few years since much infested, by a steady perseverance in the following operation—viz., we dug up every Fungus as soon as it appeared, committing it to the fire, and spread over the place where it grew a handful of common salt. By the careful adherence to this mode of operation, in a copse of about a quarter of an acre the number of Fungi was reduced to one in the year 1869, to 0 in 1870, and to one in 1871.—C. W. JOHNSON, *Waldronhyrst, Croydon.*

FILMY FERNS.

WHAT are they? is a question not unfrequently put to us by correspondents and others. We purpose to-day furnishing a few particulars regarding their haunts and habits.

First, then, as to the name Filmy Ferns; it has been given to this most interesting division of the tribe by reason of the cobweb-like texture and transparency of the fronds of many of the species. In some this filmy, diaphanous character is so marked that the smallest print may be read through their fronds. This transparency is strikingly and pleasingly illustrated in that loveliest of Ferns, the New Zealand Todea superba, by quickly placing an envelope, or other piece of white paper, at the back of a frond, when the latter appears as though illuminated by a flash of light. Though the vast majority of species are to be found only in the lofty ranges of distant Chili and New Zealand, it is not necessary to travel outside our own country for examples of these delicate Ferns. In what is called, *par excellence*, the Irish or Killarney Fern, Trichomanes radicans, and the tiny Hymenophyllums, H. tunbridgense and H. Wilsoni, we have excellent illustrations of the two genera which take in nearly all the known species of Filmy Ferns. Now for a few words with regard to the haunts which they affect, and the conditions under which they are found growing.

The shady forest and the damp ravine in mountainous districts, where air and soil are saturated with moisture, are where the Filmy Fern grows and revels in luxuriance; consequently, in cultivation, a humid atmosphere is an essential element to their well-doing. They rather affect cold and temperate climes; and except in the case of a few West Indian species, artificial heat in their cultivation is not only not required, but must be sedulously avoided. Even natural atmospheric heat must be subdued by attention to aspect and other means of modification. Many of the species will bear with impunity the closest hug of the ice, but not one of them the slightest touch of the sunbeam; let it but play directly upon these delicate subjects, and they shrink from its influence, shrivel, and die. This, however, does not imply absolute darkness; too deep shade, even, suits only a few. They like light, but light subdued. The habit of most of them is to extend their creeping rhizomes over the rock or other surface to which they are attached. In growing species of this habit, care must be taken not to cover the delicate rhizomes with soil. The soil best suited to them

is a mixture of sandy peat, either alone or mixed with a small portion of loam and lumps of sandstone, such as the soft red granite of the Wicklow hills. Besides securing for them a humid atmosphere, it is essential that it be still, and currents of air carefully avoided. As to water, it should be quite pure, and free from lime—rain water is, of course, the best. As to the mode of watering, there must be no dashing or rough practice. When grown in Wardian cases, the practice of sprinkling overhead is very general; but whether in the Fern case, or the more extended field of the Filmy Fern house, the safer practice is, we fancy, to eschew hand or heavy watering, and let them draw their supply from the pure and compensating agency of alternate evaporation and condensation.—(*Irish Farmers' Gazette.*)

GROUND LEVELLING AND PRACTICAL GARDEN PLOTTING.—No. 24.

DRAWING PLANS.

To transfer *fig.* 49 to the ground. Erect the rectangle A B C D, the sides being 55 feet and 82 feet respectively. Insert stakes at each point, and lay lines connecting them. Lay the diameter lines E F and G H. On each side of centre *z* (the point where the diameter lines cross each other), on diameter line E F, measure 18 feet 3 inches, and insert pegs as at centres *a* and *b*. From the peg at centre *a*, with a string 33 feet long, trace arc 1, as shown by radius *a* 1, terminating at points *g g*. From the peg at centre *b*, with the same radius, trace arc 2, as shown by radius *b* 2, also terminating at points *g g*, as shown by the dotted lines. From the peg at point *g*, with a string 11 feet 8 inches in length, trace arcs as shown at points *e*, H, *f*. Where the arcs cut arcs 1 and 2 insert pegs, as at points *e*, *f*. From the peg at point *g*, with a string 23 feet long, trace arcs as in *d*, *s*; insert a peg at each point. From the peg at centre *a*, with a string 29 feet long, trace arc 4, as shown by radius *a* 4; reduce the string 4 feet and trace arc 6; again reduce the string 4 feet and trace arc 9. From the peg at centre *b*, with the same lengths of string, trace arcs 5, 7, 10, corresponding with arcs 4, 6, 9. On each side of centre *z*, on diameter line G H, measure 10 feet, and insert a peg as at point *c*. From the peg at point *c*, with a string 11 feet 6 inches long, trace arc 3, connecting arcs 4 and 5; reduce the string 4 feet and trace arc 8, connecting arcs 6 and 7; again reduce the string 4 feet and trace arc *x*, connecting arcs 9 and 10. Trace the four small circles as shown; and with a radius of 5 feet trace the arcs that cut the ende of the beds. From the peg at centre *a*, with a string 13 feet 4 inches long, trace arc 11; reduce the string 1 foot and trace arc 12. From the peg at centre *d*, with a string 12 feet 4 inches long, trace arc 23; reduce the string 4 feet and trace arc 24. From the peg at centre *f*, with a string 12 feet 4 inches long, trace arc 21; reduce the string 1 foot and trace arc 22. From the peg at point *g*, with a string 11 feet 8 inches long, trace arc 19; reduce the string 4 feet and trace arc 20. Trace the corresponding arcs in the same manner. Find centres *h*, *i*, *k*, and *t*; insert a peg at each centre, and from their respective pegs trace arcs 25, 26, 27, 28; trace the other corner beds in the same manner. Divide the distance between points *i* and *k*, as shown by the dotted line, into two equal parts, and from the centre set off 2 feet on each side, lay lines from the points thus found to the angle of the figure, and lay out angles B, C, D in the same manner. Trace circles *u*, *v*, and *w*, also circles *t*, *r*, and *x*. Trace the corresponding side in the same manner. The width of the entrance walks, as shown in G H, is 4 feet. The lines and dotted parts represent Box; B, beds; W, walks; C, coloured material.—M. O'Donnell, *Gardener to E. Leeming, Esq., Spring Grove, Richmond.*

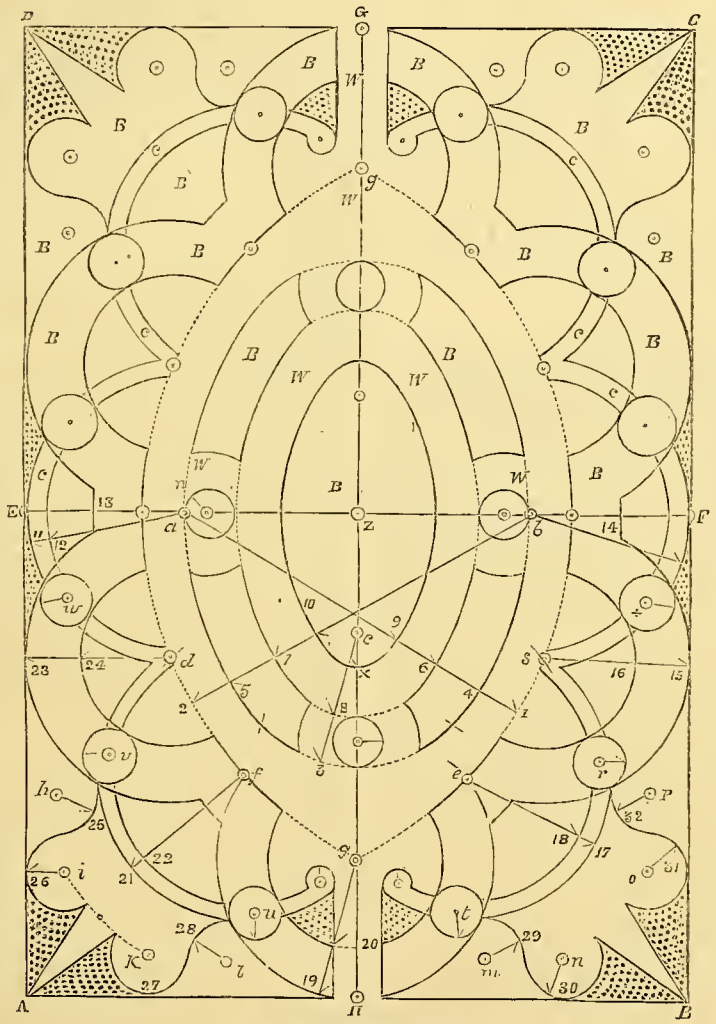


Fig. 49. Scale 16 feet to the inch.

THE AUSTRALIAN PEA, alias GROTTO'S MOSSY PEA.

Some sixteen or seventeen years ago a gentleman brought some Peas from Australia, which have since that time been cultivated in a few private gardens under the designation of the Australian Pea. Three or more years ago it got into the hands of Messrs. Kennedy & Co., seedsmen, Dumfries, and was last season distributed by them under the honest impression that it was a Pea new to this country. It was, however, confidently affirmed by the Messrs. Drummond, seedsmen, Stirling, to be none other than what they term Grotto's Mossy Pea, which had been grown in this country fifty years ago, but from some cause or another it had become scarce and little known by either seedsmen or gardeners. We have these two

Peas growing in the same row, and find them in every respect the same; and we observe that it has recently been shown in London under a third name, and there recognised as Grotto's. It is, however, a most valuable Pea for late supply, being an enormous cropper, medium-sized, and of a delicate green colour —points much appreciated by kitchen artists and those they have to cater for. Added to a delicious flavour, these qualities make it a very desirable Pea. We have frequently gathered it in fine condition at the very end of October. It has a thick mossy or succulent husk, and, in consequence, the Peas remain tender long after the appearance of the husk would indicate that they were too old. This Pea is well worthy of being, what may be called, reintroduced into all gardens where fine late Peas are an object, and where tall stakes are to be had. It grows 7 feet to 8 feet high. We think it best described by its original name—The Mossy (podded) Pea.—*(The Gardener.)*

MARKET GARDENING.

Fuller shows us the beginnings of market gardening two hundred years ago; he wrote in 1662. "Since gardening hath crept out of Holland to Sandwich in Kent, and thence into this county (Surrey) where, though they have given £6 an acre and upwards, they have made their rent, lived comfortably, and set many people on work." The extension of garden farming in Essex, with horse-tillage and steam cultivation, in one instance, has been rapid. A wealthy grower of vegetables is only lately deceased who was among the first to emigrate from the older site in Bedfordshire. He arrived in the new colony without capital, and without the skill to read or write a market tally, and lived to occupy a farm where more than 500 acres of vegetables were grown every year.

The Essex District extends from Stratford, bricks and mortar permitting, to West Ham, and thence through East Ham, to Barking, Rainham, Dagenham, Hornchurch, and Romford. The parishes of Aveley and Purfleet are at present, but may not long be, beyond the boundary of vegetable-growing. They are now famous for early Peas, and on June 19th this year large gangs of women were picking the first crop. At Rainham Strawberries were begun on the same day, and Potato-digging had commenced a few days earlier. The crops are all seven or eight days earlier than they would be under ordinary farming, without the warm coat of manure. The subsoil of the Thames Valley is a drift of sharp small flint, or gravel; it is generally covered with good light loam, which is in many cases several feet in depth, and is continually enriched by heavy dressings of dung.

This district takes most of the manure produced in the eastern part of London, and it supplies a large portion of the fresh, bulky vegetables consumed in the metropolis between spring and autumn. The whole of the produce is sent by road, and, except near a river wharf, or close to a station, the manure is brought by the waggons on their return from market. The outlay on the farms, as will presently be shown, generally exceeds £20 an acre, and requires such a return as is yielded only by garden crops and garden farming. The growth of corn has been almost abandoned.

In this district of large garden-farms the fields are seldom less than 10 acres in extent, and are generally from 20 to 40 acres.

In garden-farming there are no strict rules with regard to the succession of crops; the land is kept constantly under crop by sowing, or by replanting from seed-beds as fast as the fields are cleared. Cabbages may follow Cabbages; and the loading of the market waggon proceeds in one part of the field while the plough teams and planters are busily employed close by.

In the London district Potatoes are followed by a second crop. The earliest may be followed by Cabbages, the later by Savoys, and the latest by "Collards," for bunching during the winter months, when Cabbages are out of season. Cabbages should not be planted much later than the third week in June; they will then be sent to market in November. Savoys are next pricked out from the seed bed; and Collards, which are planted almost at any time when there is a piece of ground to spare, follow up to the end of August.

In dry seasons the transplanted crops require watering; and although irrigation generally is neglected, it is sometimes very beneficial to garden crops. A 50-acre gardener, who grows Celery, Cauliflowers, and other crops, showed me a little rivulet running through his ground. It costs him £60 a-year; but, "when other grounds are scorched," he said, "my garden is as green as a Leek! It will give some idea of speed in gardens if I mention that Cabbages planted in the second week in April afforded a first cutting this year on the 28th June. Another example of double crops is in the case of early Cabbages, which are sent to market in April and May. A month before cutting them, the land being in good tilth, holes are made in the rows with a spade, one hole between each two Cabbages; a boy follows and plants Potatoes, which are covered with the earth taken from the next row. This plan obviates the treading which occurs when the sets are planted between the rows.

Peculiar virtues have been attributed to the spade as an instrument of cultivation, but the secret of the great fertility which follows the spade lies in the heavy dressings usually applied to the gardens. As an example of this kind of cultivation, I visited a large garden of 40 or 50 acres, in the parish of Bermondsey, flourishing in the midst of smoke and vile smells. The larger part of the garden is planted with Radishes, Cauliflowers, and Celery, taken from the same ground every year; and the rotation is repeated every year, with the precaution of moving the site of the rows of Celery. These are planted 5 feet apart, with two rows of Cauliflowers between them. The ground is dug in the ordinary way, once a-year, in winter, as soon as the Celery is removed. One hundred tons of dung per acre are sometimes applied, at a cost of between £30 and £40. The Radishes are sown in March; the Cauliflowers, having been sown in October in frames, and protected from frost during the winter, are pricked out among the Radishes; and the Celery follows.

Eight acres of Rhubarb are cultivated with the five-tine steel fork. I was told, "the more manure the more Rhubarb." Asparagus is forced by frames and hot dung. Plants of three years' growth afford three weeks' cutting, and are then destroyed; and a less price than 7*s.* 6*d.* for a bundle of 105 does not pay the grower.

On the 11th of July a large bed was planted with "Collards" and Walcheren Broccoli in alternate rows, at 18 inches from row to row. The Broccoli will be sent to market in November. There is a large fenced plot for Cucumbers and Vegetable Marrows.

The very deep cultivation which is frequently heard of, and occasionally practised in agriculture with more or less profit, has not been found desirable in market gardens. The Cabbages, Greens, Cauliflowers, Broccoli, Onions, Potatoes, Cucumbers, &c., which fill the markets of London, are generally grown on a 7 or 8-inch furrow; and as a rule, only one furrow is turned for each crop. In the case of subsoiling for late Carrots and for Parsnips, the object appears to be to give mechanical assistance to the root, to enable it to run down long and tapering. One of the most eminent growers of Parsnips in the metropolitan district cultivates 9 or 10 inches deep by means of a common plough, followed by a subsoil plough. A 6 or 7-inch furrow is enough for two horses, and 3 or 4 inches are as far as the subsoiler reaches in a gravel loam with three horses.

Mr. W. W. Glenny has been good enough to permit me to give an account of his garden-farm at Barking. It consists of 150 acres of gravel loam, made rich and friable with manure, and kept in the highest state of cultivation. The farm is entirely in vegetables, with the exception of 18 acres of permanent pasture, and 16 of wheat, on the stiffest land, which is furthest from the railway station.

At the time of my visit the acreage of the farm was thus appropriated:—Potatoes, 34; permanent pasture, 18; spring-sown and Lisbon Onions, 15; Cabbage, 12; Red ditto, 2; seed-beds, 2; Carrots, 7; Parsnips, 9½; Dwarf Kidney Beans, 6; Scarlet Runners, 3; Vetches and green food for horses, 4; Parsley, 1½; Willow and Osier beds, 1½; Wheat, 13; Mangold, 1½; Peas, 8; Asparagus, 1; men's allotments, 1; Cucumbers and Vegetable Marrows, 2; seeds, 1; buildings, roads, brook, and small crops, such as Sage, &c., 11.

Twelve horses are kept to cultivate the farm, convey the produce a distance of eight miles to London, and to cart manure. The sums paid for dung, exclusive of cartage, during the past three years have been—£211 9*s.* 3*d.*, £271 16*s.* 7*d.*, and £278 15*s.* 2*d.* From 400 to 700 bushels of soot were also used in each year. About one-half of the dung is purchased at 3*s.* or 3*s* 6*d.* a-ton, and is drawn from London in the empty waggons; the remainder is bought at 5*s.* per ton, at the railway station or the quay. Some other manures, including the spent hops from an adjoining brewery, are also brought on this farm.

The live stock consists of a couple of milch cows, and forty or fifty pigs during the winter.

The labour bill, including beer, is £1500, or £10 an acre. At the time of my first visit (June 17th) the number of labourers employed, including ten women, a wheelwright, and a salesman, was thirty-five, and their wages amounted to £30 a-week. During the winter five women are employed preparing goods for market, bunching Leeks, pulling and bunching Greens, putting up Onions, &c.

The implements of the farm, besides carts and market waggons, consist of common ploughs, a double-breasted or ridging-plough, for moulding Potatoes, Beans, and Peas, and some hand-drills. A small patent tool, which resembles a Dutch hoe put on wheels, must be mentioned, because its use shows the mechanical effects of dung and good farming in making the surface friable. It is not uncommon for a man to push this little implement over two acres in a day, cutting up all the weeds between the wide rows of the garden crops.

A Willow-bed supplies bunching rods for tying the bunches of Onions, Greens, &c. The plants are set at 2 feet by 18 inches, and the bed lasts twelve years. Osiers of coarser habit are grown to make baskets for vegetables and fruit. I may note that the cost of the baskets (with a few sacks) used on the farm exceeds £50 a-year.

Parsnips are one of the main crops which are successfully grown on this farm. The chief points to observe in their cultivation are—1st, To sow on land that is least liable to wireworms and the small creatures—probably slugs—which are said to be invisible to the eye, and which soon make the Parsnips so, by eating the young plants as fast as they appear; the remedy for slugs is soot, and the prevention is, sowing on land that is not liable to be infested. 2nd, To take precautions against having forked Parsnips, and to grow them of a fine, tapering, marketable shape by breaking the land well up and applying the manure to the previous crop. It is not perfect management to sow after Corn, because the land is not then in sufficient heart and tillage; or after Clover and Grasses, on account of the danger of wireworms and canker; or after Potatoes, because Potato-ground ought to yield a crop of Greens after the Potatoes are off, instead of lying idle till Parsnips are sown. They generally follow late Cabbages or Savoys, which are cleared respectively in November and from Christmas till 1st of March. In either case, the field is not touched until immediately before sowing the Parsnips, and Mr. Glenny would prefer to plough, scarify, and sow on the same day, so that the seeds of the crop might start fairly with those of the small Nettle, Chickweed, Grass, and the Shepherd's-purse, which are favourite weeds in market gardens, frequently escaping the continual hoeing, and almost serving to establish in some quarters the theory of spontaneous generation. Supposing the clearings of the Savoys to have been bunched by the 1st of March, as in 1867 (14th of March in 1868, 20th of February in 1869), the land is ploughed with two horses and subsoiled with three horses, and is thus moved and stirred to a depth of about 9 inches. It is then drilled with a hand-drill as early in March as the state of the weather permits. Mr. Glenny objects to preparing the land in autumn, because it solidifies too much by the time the crop is sown. In garden-farming a stale furrow and a frosted surface are not entirely appreciated, since the made soil of a garden-farm is effectually pulverised by manure and surface tillage. Parsnips are sown 15 inches apart in the rows, and the plant is singled at 10 or 12 inches. The crop is hoed, singled, and kept clean for 45*s.* an acre. The hoeing this year had cost, up to 21st of June—First hoeing, 5*s.*; singling, 16*s.* 8*d.*; second hoeing, 6*s.* Frost does not injure Parsnips. The roots are raised and sent to market from the field, and are in season from November till the end of Lent, occupying the ground longer than any other crop.

Dwarf Kidney Beans often follow early Cabbages, without dung. The last of the three successive sowings is made about the 21st of June. This delicate plant is impatient of fresh manure, and requires the preparation of a perfect garden-tilth. Mr. Glenny always ploughs twice, and for this and similar crops the land should be lightly rolled, to level it and to retain moisture. Drills are formed at 2½ feet apart by means of a small hand-plough, or marker, drawn by a man and a boy; women follow, and drop a seed at every 9 inches, and the drill is then covered by a man with a hoe. The plants are carefully hoed. Dwarf Kidney Beans grow rapidly, and soon become what salesmen call "old Beans." In hot weather they should be gathered every other day, and they are cleared in about four pickings. The latest-sown Beans are cut down by the slightest frost.

Scarlet Runners are generally sown in the last week of April, after Greens. The land is ploughed twice, with an interval of two or three weeks. The rows should be 3 feet apart, and a seed is planted in every foot of the drill. Runners continue to bear until they are cut down by severe frost. When manured, they are liable to become too luxuriant in damp summers; they should, therefore, be planted on good land, without manure. It does not pay to support them on sticks, except when they are grown as a shelter for Cucumbers; and instead of giving them artificial support, an upstanding habit is induced by continually topping the vine from the period of its beginning to "run," about the middle of June.

Unless Dwarf Kidney Beans and Runners are gathered when very young, they should be sorted before sending them to market, in order that the broad ones may be picked out.

Cabbages.—A second crop in succession was planted this year, on June 21st, after ploughing in a second and heavy coat of dung with a 7-inch furrow. After rolling the land a line is used in setting the plants, which are put in with a short dibble, at a distance of 22 inches by 20 inches. In the case of "Collards," which are planted 12 or 14 inches each way, a light roll after the plough is followed by the "fiddle"—resembling a rake with four or five long teeth—dragged by a boy, to mark drills for the plants.

Red Cabbages for pickling are planted in October, a yard apart in each direction, and occasionally Collards are set previously between the rows in which the Cabbages will afterwards be planted. The catch crop is sent to market early in spring, before the ground is required by the main crop.—H. Evershed (in *Royal Agricultural Society's Journal.*)

(To be continued.)

MEALY BUG.

I have an early vinery which by some means became infested with mealy bug, and I have tried the following plan, but with what success I must leave the future to decide. As soon as the fruit was set I packed all the stems of the bunches with cotton wool, which in a great measure prevented the bug from travelling over it and lodging amongst the berries. The crop, which was excellent, averaged 30 lbs. to each Vine, and was borne on single rods spurred. The principal variety was Black Hamburgh. The bunches were all cut by the end of May. I then vigorously applied clear water with the syringe twice a-day, and at intervals of a week Gishurst compound at the rate of 4 ozs. to a gallon of water; and as soon as the Vines were stripped of their leaves I washed the stems with soft soap and warm water applied with a hard brush, then scraped every particle of old bark off, gave another scrubbing with the same, and lastly painted with Gishurst compound as directed for winter dressing. I painted all the wood—rafters and sashbars—with turpentine, and the back wall with hot lime. I pared 2 inches of soil off all the inside border, burying it in the kitchen garden, and I intend giving the Vines another dressing or two before they are started this winter. Should I be successful in stamping out this horrible pest I will not fail to let you know.—McGregor.

[Our correspondent wishes "Observer" would send more details. See our number published September 7th.—Eds.]

NOTES AND GLEANINGS.

Mr. George Mills, formerly gardener to Baroness de Rothschild at Gunnersbury Park, died on September 30th, at his residence, Uxbridge Road, Ealing, aged eighty-four years. After spending some time in the garden of Mr. Goldsmith at Roehampton, and Messrs. Lee & Kennedy's nurseries at Hammersmith, he went as gardener to Mrs. Hall Dare, of Cranbrook Park, Ilford, who, on her death, left him a pension of £30 per annum. He continued to fill the same post, along with that of bailiff, under her son, R. W. Hall Dare, Esq., M.P., remaining altogether twenty-two years at Cranbrook Park. In 1833 he became gardener at Gunnersbury, first to Mr. Copeland, and afterwards to Baroness de Rothschild. He retired in 1853, and after being engaged for some time in giving advice on laying-out gardens, he took to Rose-growing for market. He was celebrated as a successful cultivator of the Cucumber, Melon, and Pine Apple, and some very heavy specimens of the last-named fruit were grown by him. He published a treatise on the cultivation of the Cucumber and Melon, and another on that of the Pine Apple. The former, which we believe was revised by the late Mr. London, passed through three editions.

—— We have also to record the death of Mr. Jean Van Geert, the well-known and respected nurseryman of Ghent. He, too, had reached a ripe age, being in his 78th year at the time of his decease, which took place on October 14th.

—— Wellingtonia gigantea.—The *New York Times* states that a section cut from one of the original "big trees" of California is in New York on its way to a European Museum. Five men were employed twenty-five days in felling this huge tree; its height is 302 feet, and its largest diameter 32 feet. The specimen was cut at a distance of 20 feet from the base. The stump is covered in, and is now used as a ball-room! It has been ascertained from counting the annular rings that the tree is more than 2500 years old.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Persevere in hoeing, forking, and surface-stirring amongst progressing crops, particularly Coleworts, Cabbage, late Savoys, and Kale, as a considerable demand for vegetables of this description may be expected throughout this season, and more particularly in the forthcoming spring. The decayed *Asparagus* haulm should be cut on a fine day, and taken care of for thatching the Pea sticks, or tied in bundles to be placed as drainage under temporary structures for sheltering *Endive* and *Lettuce* in winter. In clearing the refuse from Asparagus plantations, and the decayed leaves from amongst the Broccoli, Kale, Savoys, &c., observe particularly if there are any fresh-used mouse-holes; if any should be discovered, at once pour some water hastily into the hole; this will start the inhabitants, which may then be destroyed. Collect some of the driest leaves for placing about the rootstocks of *Artichokes;* if leaves are not procurable, place dry litter or fern for their protection.

FRUIT GARDEN.

Look over all kinds of stored fruit occasionally, sort out the affected fruit, wipe others, where required, with a dry cloth, and where it is convenient, and where the plan is approved of, pack away in boxes, drawers, or casks some of the late table fruit in dry sand. Where there happens to be any quantity of spotted, rotten, or affected Apples and Pears, collect them together, pound them down, and press out the juice; barrel it, and see well to its fermentation by repeatedly racking it. A pleasant and wholesome beverage may be thus obtained for summer drinking. The out-door Vines should now be gone over, and all the lateral shoots that have been left on the strong shoots may be taken out, and two or three of the joints of all the young wood at once pruned off. This will greatly contribute to the ripening of the wood. Every means which will tend to encourage the ripening of the young wood should be adopted. Look over the trees in old orchards, and remove at once those that are considered worthless and worn-out. Prepare for making new plantations of Strawberries, Gooseberries, Currants, and Raspberries. A portion of the old plantation should be grubbed-up annually and renewed, if an abundance of fine fruit is expected to be obtained.

FLOWER GARDEN.

Preparations for severe weather should be completed as soon as possible. All tender stock intended for protection under glass must be at once placed in its winter quarters, plunging it as before observed in ashes or sawdust. A good supply of garden mats should be instantly provided, for although expensive they must be had, as it is folly to permit the ravages of the frost before they are procured. A good stock of new sawdust should be laid-by in a dry shed to put round the stems of tender Roses or half-hardy plants. This should always be obtained as new and fresh as possible. It should not, however, be applied to the plants for some time; when it is applied a dry period should, if possible, be chosen, as a casing of such material immediately after heavy rains would probably prove very prejudicial, for confined air or damp is a greater enemy than frost in many cases. Wooden shutters are very useful things, whether to lay on as a temporary framework to exclude wet and the keenest of the frost, or to cover pits and frames instead of mats. Old worn sashes which have been stripped of their glass may be brought into use by thatching them with a straw facing; temporary frames composed of rough slabs, may be readily got up to receive them, by any ordinary carpenter. Such will prove a relief to the regular frames, for in very many establishments there is no surplus of these, and most of them are wanted betimes to force Asparagus or Cucumbers, or for early Melons, &c., which purposes require that the frames should be at liberty by Christmas at the latest. Those who can spare time should wash all their pit and frame-glass before the dark weather sets in, as the disproportion of the light to the heat is the great bane of forcing in Britain during November and December. After the removal of summer-flowering plants, which takes place about this period, no time should be lost in having the beds freshened-up by a light digging, and fresh plants being put in so as to prevent the ground having a bare and dreary aspect throughout the winter. Nothing is better for this purpose than a supply of small neat plants of the different dwarf, hardy, evergreen shrubs. A sufficient number of these to fill a moderate-sized flower garden could be kept in pots and placed during summer in a reserve ground without much difficulty and trouble. Small plants of many of the variegated shrubs, together with others of a dark and light green tint, and the different modifications of conical and globular-formed heads and decumbent stems, would afford variety enough to render a flower garden very pleasing even in winter. All the offsets and small stock-roots of Tulips should be planted as early as convenient in the store beds. They may be planted in rows 6 or 8 inches apart, and the strongest 3 or 4 inches apart in the rows; the smaller ones may be put in closer. The principal blooming roots may be put in at the earliest opportunity; but if the present dry and favourable weather continue, no time should be lost in having them planted while the soil can be worked with facility. After wet the operation of planting will be far less satisfactorily performed. They may be planted 6 inches apart each way. On most soils the practice of placing a small portion of clean sand beneath each root, and a small cone of the same around and over it, is beneficial; it tends to keep the bulbs clean and healthy by preventing excess of moisture from accumulating in close contact with them. Other spring hardy bulbs, such as Hyacinths, Narcissus, Jonquils, Fritillarias, Crown Imperials, Lilies, Snowdrops, Crocus, Dog's-tooth Violets, &c., had better be planted as early as possible. The advantage of getting them fairly in the ground while it admits of being worked with such facility as at present, is too great to be overlooked. Pansies, as also plants of Polyanthuses, Auriculas, &c., whether kept in pots or frames, or planted in the open ground, should be carefully watched against the depredations of slugs, which soon make great havoc if neglected. When the frost has destroyed the flowers and foliage of Dahlias, the stems may be cut down within a foot of the ground, then lay a heap, 6 or 8 inches thick, of dry sawdust or some protective material close round the stem, extending about a foot each way. The roots had better not be taken up until the tubers have become more fully ripened.

GREENHOUSE AND CONSERVATORY.

These structures will now, of course, be arranged in a systematic way. The inmates, or at least some of them, begin to put on their winter attire. The numerous plants adapted for winter and spring-flowering will begin to afford much gratification, which will be enhanced by the desolate appearance outside. Scarlet Pelargoniums, Salvias, Camellias, Chrysanthemums, Cyclamens, and Perpetual Roses, will now require careful management, and most of them a liberal supply of water. Now that summer flowers are waning let a strict eye be kept on those which, though of no particular botanical interest, are of great importance as cheering the mind amidst the gloom of winter when all out of doors appears so desolate. Let all flowering plants, of whatever kind they are, be kept near the glass in the lightest situation to be found, and let those from warm climates enjoy bottom heat, if possible, until they commence flowering, when they will do tolerably well without. Of course, such plans cannot be carried out where Ericas, Pelargoniums, and hardwooded plants from temperate climates are preserved. I merely throw out the suggestion to those who have a number of structures.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

The past week was almost as warm as the end of June. Flower beds in many cases assumed a bright appearance. Yellow Calceolarias were yellow again, and some of the Nosegay scarlet Geraniums were rather fine, but we fear that the threatened rain will deprive them of their beauty. As we wanted to empty a shallow pit of the little decayed dung at its bottom, in order to save two wheelings, we took it at once to part of our Asparagus ground. We cut down the Asparagus stems with an old scythe, knocked up the few weeds that appeared, raked the

ground roughly with a wooden rake, gave a sprinkling of salt, and then placed on the surface enough of the manure to form a covering fully 2 inches in thickness. This covering is chiefly put on in order to save the crowns and buds from severe frosts in winter and spring.

Cucumbers.—Those which were planted in pots sunk in a warm bed in a pit, have produced unusually well all the season. We meant to have replaced them before now, but they are still bearing so freely that we do not like to remove them just yet, and therefore have potted some strong plants in 10-inch pots, so that we may keep them in little space until we remove the others. It is likely enough that with a rich, light, top-dressing the plants would bear all the winter, but there is a little more risk with them than with younger plants. We lately took out a plant showing signs of distress; it had stood through the summer and winter of 1870. Once we had a plant in a wooden box in a Pine stove that stood and bore well for two winters and the greater part of three summers. Besides frequent pruning and cutting, and frequent rich top-dressings and manure waterings, the peculiar treatment it received was a sponging at times of the thick stem to remove greenish incrustations. The cracking of the stem longitudinally, and the consequent damping and decaying at the cracks, destroyed the plant at last. But for curiosity, we do not think there was any real advantage in keeping the plant so long; for even as respects room Cucumbers may be kept in little space in rather large pots until they are turned out into beds or fruiting pots, so as to show fruit at once.

We had this plant years before we were troubled with the disease, as whilst its attacks continued we could find no remedy, except frequent sowing and planting, for after the disease appeared we were perfectly helpless to save the plants. As we have frequently stated, we are ignorant now what brought it, and what took it away. We met with a fact lately in an establishment where Cucumbers were grown for market. In one house there was not a trace of disease. In another house the plants were killed; there was the breaking-out guttering on the fruit, and the unmistakeable brownish blotch on the foliage. The glass sashes of this house had been brought a good many miles from a place where they had been used for Cucumber-growing, and where the Cucumbers grown were diseased. The glass and woodwork had been thoroughly washed, but it would seem that somehow the taint had come with the sashes. Fresh painting might have obviated the evil. We can only say might, for in our own case we have washed glass, woodwork, and walls with water as hot as it could be applied. We have shut the place up, and fumigated it with burning sulphur. We lime-washed the walls with hot lime and sulphur, ran a paint-brush over all the woodwork, glass sashes included, and then, after a fine growth and gathering a few fine fruit, the disease would again show itself. The famed Cucumber-grower in the case referred to above may consider himself fortunate if the disease is confined to the one old house. We would rather grow anything else in it than Cucumbers.

Mushrooms.—We missed our old shed this summer, as whatever there might be in the park, there are reasons for our not taking any from thence. We have had a fair supply from the Mushroom house, but not the basketfuls of plump fleshy Mushrooms we used to have from the shed. We have covered a bed in the Mushroom house with a little litter. It has been spawned about three weeks, and we should like to see the Mushrooms in another three weeks, as the older beds will be getting thin by that time. This bed was in excellent order when spawned and earthed-up, and had just the desirable warmth to entice the spawn to run freely, but for a few days lately the heat seemed to decline too much, and hence the covering. Besides, this bed, being a shelf bed, we put the most of the material that will be need for another piece in the ground space for a bed underneath, and run mats round in the space between, so as to confine a little the heat of this fresh material to act on the bed. We can easily regulate this as well as the covering, when the bed shall have become healthily warm again. Too much heat would be injurious, and too little would not so much injure as delay the gathering of the crop. Having a hot-water pipe we could have turned heat on, but that would not have so well suited our purpose, as two other pieces are coming on, and both beds are yet too hot for spawning; one, though in otherwise excellent order, and firmly beaten, keeping its strong heat longer than we expected or wished, as we generally maintain a regular supply, not from large beds, but from small beds following each other. Had we applied the hot water, the house and this bed we are waiting to cool sufficiently would have been heated throughout, whilst all we wanted was to give a little extra heat to the first bed we have made this autumn, and this the dung beneath will do, whilst the mats round will prevent the steam affecting the Mushrooms now growing. When we get the desired heat in the bed, not more than the warmth of new milk, we shall remove the mats, and can easily keep down heat and steam by throwing some rough fibrous dry loam over the surface. This, mixed with the manure, will do for another piece of a bed, and we generally make those raised on shelf platforms before the beds on the ground. The material we have often alluded to; horse droppings, with about an equal portion of short litter, is the best, and this should be rather inclined to dryness than to wetness, especially at this season. As often stated, however, we have had fine beds formed chiefly of litter and tree leaves to give an enduring heat, and with from 3 inches of horse droppings on the surface. All these matters, however, have already been largely dwelt upon.

ORNAMENTAL DEPARTMENT.

Besides mowing, cleaning, and rolling, the chief work has been potting, shifting, making cuttings, washing glass, renewing glass where broken; also making arrangements for lifting some plants, for making Calceolaria cuttings in the manner often described for planting and potting Pinks, and for getting Chrysanthemums under cover.—R. F.

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

EPITAPH (*Stafford*).—Your loss we know is very severe, so we do not criticise your letter, but suggest that you should adopt this epitaph and ponder on its moral:—"A gardener wandering round the garden, one day asked, 'Who plucked that flower?' One of his fellow-labourers replied, 'It was The Master plucked it.' The gardener held his peace."

BOOK OF GARDEN PLANS (*A New Beginner*).—We know of none except our "Flower-Garden Plans," price 5*s.*

MR. RIVERS'S PORTRAIT (*Drummond Brothers*).—It was finished and suspended in the Council Room of the Royal Horticultural Society six months ago!

LEAVES OF SEEDLING FUCHSIA (*G. Rudd*).—They are very rich and unique—one crimson with a black centre, and the other yellow with a green centre and crimson nerves.

ECHEVERIA METALLICA (*Lower Norwood*).—We published the mode of propagation in page 279 of our number of the 12th inst.

STOVE (*L. B.*).—We cannot give an opinion of its merits, not knowing anyone who tried it.

PATENT GLASS ORCHARD (*F. R.*).—We know nothing of the structure.

PROBABLE PRICES OF FRUITS (*J. H. C.*).—So much depends upon season and quality, that it is impossible even to guess without the probability of misleading.

CANTUA BUXIFOLIA CULTURE (*W. D. A.*).—We fail to see in what respect you err in regard to your specimen of Cantua buxifolia. It is a plant usually regarded as of easy culture, requires to be grown in a greenhouse, has even been known to stand out the winter in Devonshire with but slight protection, and should be treated to a compost of light loam, fibry peat, and silver sand. As it is a native of the Peruvian Andes, at a pretty high or considerable elevation, it was expected on its introduction into this country to prove quite as hardy and as easily propagated as Fuchsias. Are you sure you do LOT keep it too hot? Your winter temperature may be as low as 45° without any detriment. As to bottom heat you cannot do better.

ROSE DIFFICULTIES (*E. E.*).—"I should like to know whether Roses on the Manetti stock, or those on the Briar, or those on their own roots are the best to grow in made soil?" No one can tell, unless knowing what the made soil is. If your soil is clayey, Briar Roses will do well in it. If it is of a light character, Manetti Roses will do best. If it is light and extra rich, Roses on their own roots will do well. I am often asked, "Which do you prefer, Roses on the Briar, on the Manetti, or on their own roots?" Well, as I am a very high cultivator, I should like all my Roses on their own roots. I buy them on the Manetti stock because they bloom at once, and get on their own roots within two years. They are then double-rooted. When they become strong on their own roots the Manetti roots will probably deteriorate. The roots of the worked Roses being on the surface, injure those of the Manetti stock which are beneath. If your soil is unsuitable to Roses, you must drain it, and mix plenty of decayed dung with it. If it is sandy and you cannot have clay, marl, or loam, procure chalk or lime. If your land is stiff, mix sand or ashes, and use unfermented manure. Half chalk and half clay is "white land;" it is the finest soil. There are only two patches of it in the county of Dorset. Broad Clover never fails on it, nor any other crop. Try and copy it. The trenching your land 3 feet deep and putting 6 inches of stones at the bottom is good management. If you can obtain some pasture clots, and chop them up, and mix them with the soil, they will do good. If you have cow dung mix it with the soil; it is excellent manure for Strawberries and Roses, and never injures anything. It is *the* manure for Dahlias and Hollyhocks. Buy the Roses next-named —Perfection de Lyon, Madame Chirard, E. Morren, Marquise de Castellane, Elisa Boëlle, Elie Morel, Baron Chaurand, Comtesse d'Oxford; and for your south frontage, Rêve d'Or, Noisette, distinct and of great beauty.—W. F. RADCLYFFE.

THIS YEAR'S PEARS.—"*T. G.*" asks, "Have any of your correspondents complained of their fruit, especially Pears, being this year deficient in flavour and in keeping quality? My Pears are exceedingly deficient in both flavour and keeping, or else my taste is much depraved. This is

quite possible, but will not explain why my Pears decay in less than half the ordinary time."

Budding Roses (*J. R. D.*).—Your Briar Roses having been budded where they are to grow permanently, I should not move any so budded to fill up vacancies or failures, but put in fresh Briars, and bud them next year. Never disestablish any Roses doing well. Stocks, either Briar or Manetti, established before budding, have a great advantage over removed Roses. This is one of the reasons of nurserymen's successes at Rose exhibitions. The first six Tea Roses you name are the best up to this time, and the first two are the best of all—Devoniensis, Souvenir d'Elise, Madame Willermoz, Souvenir d' un Ami, and Adam. The following are also good:—Hemer, Rubens, Sombreuil, and President; and for glass culture, Elise Sauvage, Vicomtesse de Cazes, and Madame Bravy. The following are the best of the new Tea Roses, so far as I have seen them—viz., Madame Margottin, Madame Trifle, and Marie Sisley. Marie Sisley is a perfect globe and full, and when it has a roseate hand round the edges of the petals it is a very superior Rose.—W. F. Radclyffe.

Rendle's Plant Protectors (*Jeune Jardinier*).—Nothing more can be said about them except as an advertisement.

Climbers for the South Front of a House (*Amateur*).—Bignonia radicans, Ceanothus grandiflorus, C. azureus, Escallonia macrantha, Magnolia grandiflora, Passiflora cærulea; Roses Cloth of Gold, Maréchal Niel, Sir Joseph Paxton; and Eccremocarpus scaber. Tecoma is the same as Bignonia radicans. Tecoma jasminoides will not succeed against a south wall. To the plants you name you may add Jasminum grandiflorum, Lardizabala biternata, Chimonanthus fragrans, Embothrium coccineum, and Garrya elliptica. The white Wistaria flowers as freely as the lilac one. Lamarque and Solfaterre are first-rate Roses for a wall, so is Climbing Devoniensis. Next to Passiflora cærulea, P. Comte Nesselrode is good, but we question its succeeding on a south wall. It is, however, worth a trial. All the Ipomœas are too tender, and the same remark holds good of Thunbergias. Tropœolum speciosum will succeed.

Planting out Belladonna Lilies (*J. B. B.*).—Plant them out as you propose on the warm border in front of the stove, and give a top-dressing of partially decayed leaves.

Stephanotis floribunda Fruiting (*G. B.*).—It is not unusual for this climber to fruit. Several instances have recently been noted in our pages, and ten years ago we saw plants raised from seeds ripened in this country.

Wistaria sinensis Cuttings (*Idem*).—Put in cuttings of the young shoots under a hand-light, when they are firm, in sandy soil, and keep them moist and shaded. Layers, however, are preferable; every joint of the ripened young shoots will make a plant. When rooted pot and grow them in a warm situation out of doors, encouraging a young shoot, and take off its point at 4 feet. Step the side shoots at three or four leaves as you would those of a pyramid Apple or Pear. The plant sometimes flowers in autumn—in fact, it generally produces some stray blossoms at that season, but the principal flowering takes place late in spring or early in summer.

Flower Garden Planting (*C. T. H., Dorset*).—Unless we edged the whole of the beds, we do not see how we could improve on your planting; but we think that 10 and 11 would be improved by Golden Pyrethrum instead of Cerastium, and then instead of Pyrethrum we would place Cerastium round 14, 15, 16, and 17. We feel sure the garden will look easy and very pretty.

Variegated Mangold Leaves (*J. L.*).—We would save the plant having the yellow and green variegated foliage, and try if the seedlings from it would come true, as then it might be useful in borders of fine-foliaged plants. It is possible that the seedlings may revert to their original green type, and it is also probable that the variegation will remain, just as in the case of Kales.

Gooseberries (*Quis*).—You cannot do better than apply to the nurseryman you name.

Gathering Pears (*Emma Pawle*).—The best time to gather your Winter Crassane Pears is when they will sever easily from the spur by merely lifting the fruit upwards without twisting or wrenching them off. The Winter Crassane ripens uncertainly, and rarely ripens at all. The best way to use them is to stew them.

Not Watering Vines (*A Novice*).—The Vines will not suffer, though the soil on the surface of the border may be dry for a couple of inches or so, as the roots are so far from the surface. You could not keep the Grapes well if the soil is watered now. We do not think that any mode of keeping Grapes quite equals leaving them on the Vine in a dry house, but the bunches keep very well with the shoot inserted in bottles of water, or even into Turnips or Beetroot. The important point is, that the place where they are put must be airy, dry, and free from frost. It is often advisable to make a compromise, and so treat Grapes after Christmas, as whilst they hang the house cannot be used for other purposes.

Erecting a Vinery, &c. (*W. Neck*).—As you have a wall at the north side, we would for early Grapes recommend a lean-to house. For earliness, too, we should prefer bringing the glass roof within 2 or 3 feet of the ground; but as you want to walk all round, you will require the front to be from 5½ to 6 feet in height, and about 4 feet of that to be glass. With Vines planted at the back and in front, a wooden or an open iron trellis would be best for walking on. The sparred shelf for plants might be 2½ feet from the ground in front, and the central stage 3 feet from the ground. A flat stage would do well, but you can have more plants if your stage has a centre and falls to the back and front. If you force early, the bedding plants will have to be removed soon after you begin to force. Such simple houses do most service when the Vines are assisted rather than forced. The depth of 2 feet will do for the Vine border, but as you plant inside, the drainage must be looked to before making the border. A fine will heat such a house, from 20 to 30 feet long, admirably. As to expense, we could not do better than refer you to our advertising columns, where you will see how much a cheap house will cost.

Greenhouse Shelves (*M. G.*).—The proposed alteration of shelves will not interfere with the bedding Geraniums, &c., further than from the lowering of the shelves they will be at a greater distance from the glass, and will, therefore, be more liable to draw. The ammonia from a Mushroom-bed beneath the stage will not injure the plants, nor will the steam arising from the forcing of Rhubarb and Sea-kale, provided the dung be sweet. The Mushroom-bed will give off some heat, and render less fire heat necessary. It is now too late to put in cuttings of Verbenas, except in a brisk heat. You may take up the old roots with balls, pot them, and winter them in the greenhouse. They will afford you a number of cuttings in spring, and these will strike freely in gentle heat, and make good plants by the end of May.

Evaporating-pans on Hot-water Pipes (*J. K.*).—The zinc pans will answer admirably for the purpose, and with care will last many years. In making the base semicircular to clasp the 4-inch iron pipe, there will be a depth of water at each side, and if there be from three-fourths to 1 inch in the centre, it will do for general purposes. Of course, if the depth over the centre is 2 inches it will take a longer time to evaporate the water. If the pans are made to fit the pipes tolerably well, there will be a considerable amount of evaporation by merely setting them on the hot-water pipes. The evaporation will be increased if along the sides, at bottom, and each end there is a coating of white or red lead not overthick. But if you want the greatest amount of evaporation from your pans, you must smear the rounded bottom well over with red lead or thick paint, and then squeeze it firmly down on the pipe when it is rather cool. In the first two cases the air, however small the quantity of it between the hot-water pipe and the trough, acts as a non-conductor. In the third case no air can be left. A clever mechanic would not believe that between the second and third mode there could be much difference, until he saw that the second method took double the time to evaporate a certain quantity of water that the third method did.

Tank-heated House (*An Old Subscriber*).—Will not 6½ feet to the ridge be rather low for a 15-feet-wide span-roofed house? With a 4-feet-wide tank in the centre you will either have little head room, or if the sides of the house are high enough for that, then the roof must be rather flat. With sufficient head room it would not matter if the sides were rather low, as we presume you intend to have a platform all round for plants. We have no objection to the tank-heating, but we do not perceive how a saving in expense is to be managed when good piping can be had for 9*d.* per foot; but that is a matter of opinion. Unless the tank is well made of wood, we do not think that either a cement or an iron tank would be so cheap as having iron pipes with rubble round them for affording bottom heat. The objection to wood is, that it gives out little or no heat from the sides, but only from the slates on the top. If a tank is formed of brick or iron, the sides will radiate heat. In such a case the sides might be 7 inches in height, though the water inside might be no higher than 3 inches, or at most 4 inches. You are quite correct in respect to the mode of connecting the tank with the boiler, but the tank must be level throughout. The tank will answer admirably, but our own opinion is, that pipes would be cheaper, packing round them rubble, and covering the top with fine-washed gravel, with holes or pipes inserted upright to pour water among the rubble when necessary. With the 3-inch pipes round the house besides, there would be no difficulty in keeping up in severe weather a temperature at least 10° higher than from 45° to 50° in winter. With these pipes your tank need not be more than 4½ inches deep. See what is said of having the sides deep. The water would circulate freely enough in both tanks and pipes if, as you propose, the pipes were on a lower level than the tank, but the pipes must be close all round, and at the highest point an air pipe must be inserted, which, if open at the top, must stand a foot higher than the level of the tank. You had better have an opening in the top of the tank, so that by means of a plug you may be able at times to regulate the flow, until the pipes on the lower level get their fair portion of the flow. Sometimes that may be necessary. A small saddle boiler or a small conical one will equally answer your purpose if it be properly set, well used, and a damper be regulated.

House for Plants (*J. P.*).—We have no doubt that the proposed plan will answer generally. Planting out or plunging pots as required will look neater than any stage. The plants will not get weak as in the establishment you refer to, nor will they be disinclined to bloom freely, as the light in your case will be unobstructed, and the glass will be so much nearer the plants. The small boiler inside the house will do, but it would be better if you could feed it from the outside. One pipe round the house, with such a surface of glass exposed, will scarcely keep the frost out in severe weather. We have no objection to the proposed mode of glazing, only we should like some soft non-conducting material between the glass and the iron clips.

Orchard-house Construction (*T. H. T.*).—With trees against the back wall it will be better to have no standards planted there, if the pathway should be a little nearer. You can then have the back wall in fruit to the bottom of the wall. The other arrangements as regards planting and pots will do. The ventilation will not be too much; it will be sufficient if you have a ventilator at each end, say a triangle from 24 to 30 inches wide at the base. It would be advisable to divide the house and heat one part, and for fruit in June it would be advisable to have a couple of pipes in the coldest portion. For your earliest end you may have White Frontignan, Black Hamburgh, Royal Muscadine, and even Muscat Vines. For the late house have Black Hamburgh, Trebbiano, West's St. Peter's, and, if heat is given, Lady Downe's. Of early Peaches have Early Gresse Mignonne, Noblesse, Ballegarde; of Nectarines, Elruge, Hardwicke Seedling, Rivers's Orange, Violette Hâtive, &c.

Nitro-phosphate, &c. (*E. F. W.*).—I get my nitro-phosphate from Mr. Blandford, of the Dorset Nurseries, Blandford. It is the same, I believe, as "blood manure." I use it for Peach and Nectarine trees, as well as Roses, when the trees are heavily cropped. "Steevie" takes up a double handful, drops it into my three-gallon watering-pot, gives it a good stir with a stick, and then pours over the "radius of the roots." One, two, or three gallons according to the requirements of the trees—Roses or wall trees—is poured on the roots. It is an excellent manure and innocuous. Apply it to the Rose trees in April, or at any time they require it. I am not a vinitor, but when Mr. Beck, Mr. Sturt's distinguished gardener, came to see the Roses and wall trees, I told him my two Black Hamburghs (fifty years old, planted outside), thanked "first-rate" every year. He said, "Pluck them up, plant new Vines inside, have an archway for the roots to run out into the outer soil, and then you will have some good Grapes."—W. F. Radclyffe.

Spiders (*A Lady in Cheshire*).—Many spiders live through the winter; in fact, some individuals lead us to the conclusion that their existence may last several years. Of those that hybernate, some continue in the net which they have constructed in the autumn, and others migrate from one spot to another in mild weather, making occasional nets to

secure chance flies, moths, &c. Some take long journeys from their nets, to which they return as winter retreats when the weather is severe. One has been noticed to be absent for several weeks, but it would turn up again, and the only way to explain this is to suppose that while on an excursion, through a change of temperature, it is rendered sluggish for a time, and cannot get home.

Insects (*Ignoramus*).—The white grubs, just like those found in Hazle-nuts, which have destroyed the roots of your Ficus elastica, are the larvæ of a brown beetle of the weevil family, belonging to the genus Otiorhynchus, which in the spring time feed on the young foliage after dark. The only plan to get rid of the grubs is to repot your plants, and burn the old soil.—I. O. W.

Names of Fruit (*J. B., Torquay*).—The Peach with the flesh like a highly-coloured Beetroot, is Sanguinole. (*X. Y.*).—Hunt's Deux Ans. (*Portland House*).—1, Beurré Amande; 5, Dunmore; 7, Beurré Clairgeau; 10, Beurré d'Aremberg; 11, Fondante d'Automne; 12, Beurré Defais; 14, Seckle; 16, Marie Louise; 17, Knight's Monarch; 18, Passe Colmar; 20 and 21, Urbaniste; 22, Bezi d'Esperen. Apple, Cellini. (*W. Miller*).—2, Kentish Codlin; 10, Court pendù-plat; 13, Golden Russet; 22, Coe's Golden Drop. (*R. Martin*).—1, Huyshe's Prince of Wales; 2, Belliesime d'Hiver; 3, Hampden's Bergamot; 4, Beurré Bosc; 6, Belle après Noël. (*Peter Tait*).—1, Margil; 3, Aromatic Russet; 4, Marsh Pippin; 5, Morris's Russet; 6, Herefordshire Pearmain. The Pear is King Edward's. (*W. and H. M. Goulding*).—1, Gendebien; 2, Triomphe de Jodoigne; 3, March Bergamot.

Names of Plants (*S. H.*).—Anemone vitifolia, native of the Himalaya. (*R. L. D.*).—A, Calceolaria chelidonioides, native of Peru and Chili. B, Epilobium montanum, a common wildling. C, Centranthus ruber, the Red Valerian. D, Anemone japonica. (*J. J. S.*)—The Finger-grass, Digitaria sanguinalis, otherwise Panicum sanguinale. (*W. D. A.*).—The Calceolaria is C. chelidonioides. The purple flower is Peristrophe speciosa, more generally known as Justicia speciosa. (*J. C.*).—1, Polypodium Schkuhrii, a variety of P. pectinatum; 2, Adiantum tenerum; 3, Asplenium (Darea) Bellangerii, *alias* Veitchianum. (*W. B.*).—The Anemone we received from you (flower only, not a scrap of other information), and which we named A. pavonina (A. fulgens), we now think may be A. japonica, of which we this week have received a similar specimen from another correspondent. Its blooming at this season in that case would be perfectly consistent. (*A. B.*).—You sent thirty-six specimens.

POULTRY, BEE, AND PIGEON CHRONICLE.

POULTRY EXPERIENCE PURCHASED.—No. 3.

My misfortunes since I commenced poultry-keeping have been so many and so various, I am inclined to believe that the happy people I read of weekly have all the pleasure and profit connected with it, and my unhappy self all the trouble and loss. But for the fact of so many ladies being prizewinners, I should imagine Fortune bestows her favours only on the sterner sex, and refuses the honours to her own.

Let me tell you how I once fondly imagined I could rear Black Spanish, and how I suffered for my presumption. I began by coveting my neighbour's birds of that noble breed, which was very wrong; then I got dissatisfied with my own six good motherly hens, because they were of that very useful but plebeian strain—barndoor. My neighbour did not wish to sell any of his poultry, and I thought I was doomed to the fate of Tantalus on a small scale; however, his gallantry ultimately overruled his selfishness, and he sent me two cockerels and a pullet, the only ones he could spare (they were hatched late, end of July), since I seemed anxious to possess the breed. Though grateful for the concession, I was rather astonished at the chickens, then about eight weeks old, for their first appearance was anything but prepossessing. All the little chickens I had ever seen were at that age comfortably clothed with feathers, but these were quite innocent of anything save a few patches of dirty grey down, and I thought that if "fine feathers do make fine birds," no feathers at all make very ugly ones. Still I hoped they would improve as they grew older, and inherit the grace and majesty of their parents. They grew older and rather bigger certainly, and looked like a kind of cross between a miniature Ostrich and the "Jackdaw of Rheims." The six highly respectable hens resented the presence of the immodest creatures in their run as a personal insult, and speedily ejected them in a most unceremonious manner, so they ran about outside in the garden, which was very bleak and exposed. As the weather for early autumn was very raw and cold, when the poor things saw a little sunshine in the next garden they very naturally flew over to bask in it. My friend next door, however, was very proud of his neat little garden, and he mildly suggested I should keep my chickens at home, a request so very reasonable that the few wing feathers of the "Spaniards" were at once clipped, which, as it was the only protection they had, it was refined cruelty.

The children had named them respectively "Jack," and "Jack's brother" and "sister," and the wretched trio would persist in standing shivering at the back door, till the children, brimming over with pity, let them in "just for one good warm," at the kitchen fire, but their kindness gave poor Jack a most distressing catarrh; something else covered their mouths and throats with what I believe is called canker; the cocks had their tall straight combs frostbitten, their faces became full of sores because I fed them on beefsteak and gave them too much. The six hens persistently refused to let them share their warmly-covered run, by giving them a practical and painful illustration of their fighting propensities, and we all eventually succumbed to this formidable army of misfortunes. One wretched morning in December, Jack and his brother and sister all went a long journey to the happy hunting grounds (return tickets not issued), and it is my firm belief that Fortune is not so blind as she pretends to be, but can just see sufficiently through her bandage to turn her wheel the wrong way when she sees me coming. Now, before I close my letter, if I have not "adorned a tale," let me try to "point a moral." Never attempt to rear birds of the Castilian breed until you know something of their habits and requirements.—J. K. L.

CURE OF ROUP.

When a bird is attacked with the characteristic cough of this malady, or has tenacious mucus about the beak with difficulty of breathing, I place it in a wicker coop in a quiet shed, and put before it a drinking fountain containing about a gill of water with which I have mixed one drop of tincture of aconite. In every instance during three years this treatment has had an effect almost marvellous, for, upon visiting the patient an hour or two afterwards, I have found that the symptoms have vanished. The attack for a day of two is liable to return, yet each time in a lighter form, but continuing the application has in no instance with us failed completely to remove the ailment in about forty-eight hours.

In case the disease should have made so much progress before it is observed that the sufferer is unable to drink, it will be necessary to give the dose. This is easily accomplished by pouring into the throat about a teaspoonful of the medicine as described. Such an instance occurred here during excessive wet weather, when I was absent from one of the houses two days. Upon going to see that all was kept in condition, I found a fine old fellow under one of the perches almost dead from very acute roup. I separated and dosed him immediately. He soon lost all the roupy symptoms, but continued extremely weak, and appeared to be fast sinking from atrophy. A medical friend suggested trying the homœopathic administration of arsenic. His advice was taken, with the best result. This very bird will, we hope, appear at the Crystal Palace Show.

The aconite dilution 3, may be purchased of any homœopathic chemist.—Mrs. Frank Cheshire.

OINTMENT FOR FOWLS' WOUNDS.

The following forms an ointment which I have tried with great success; it heals in a very short time the wounded heads of cocks after they have been fighting. Mix an ounce of oxide of zinc with 2 ozs. of hogs' lard; add, after mixing, a little olive oil, and apply with a feather once or twice a-day.—Digitalis.

Devizes Poultry Show.—As there appears to be some misunderstanding amongst exhibitors as to whether the Poultry and Pigeon Show to be held in Devizes in December is to be open to all, or confined to the county of Wilts, allow me space to say that competition is open to the whole kingdom, or I may say the whole world.—One of the Committee.

[We hope "the whole kingdom" will see this and patronise the Show, for the schedule of prizes is good.—Eds.]

Sale of Mr. James Watts's Poultry.—The poultry of Mr. James Watts, whose lease of Hazelwell Hall, King's Heath, has expired, was sold by auction by Messrs. Lythall & Clarke, on the 11th inst. The bidding was brisk, and high prices were realised. The following are some of the highest prices obtained:—A Dark Brahma cock, the winner of several prizes, £6 5s.; a pair of hens, £10; a pair of pullets, £5. Light Brahmas sold well, one pair of pullets fetching £4 5s., whilst single birds realised £1 15s., £1 6s., and £1. A clear Buff Cochin-China cock, winner of many prizes, fetched £5 5s., a hen £3 10s., and other birds £2 4s., £1 10s., and £1 5s. Silver-spangled Hamburghs and Spanish also fetched good prices. For dark Grey Dorkings £1 8s. and 15s. were given for single birds; Bantams (single) were sold for £2 2s., £1 16s., £1 10s,

and £1 4s. Pigeons also sold well, the highest prices being £4 10s. for a pair of Dentellettes, £2 15s. for a pair of Laced Turbits, £2 12s. for a pair of White African Owls, £1 18s. for a pair of Blue Antwerps, and £1 2s. for a pair of Blue Turbits. Mr. Watts is negociating for a new lease, and does not purpose abandoning poultry-breeding.

SPOILING THE GOOSE EGGS.

"My mother used to think" said Aunt Fanny to a group of youthful listeners, "that in order to have Geese eggs hatch, it was necessary to handle them with the greatest care, and that on no account must they be carried over a stream of running water. She had heard the saying from childhood, and I suppose never stopped to consider whether it was founded on reason or not. One spring, when I was about twelve years old and my brother Joe fourteen, mother resolved to set some Goose eggs. 'Fanny,' she said, 'is getting to be most a young woman, and it is time I was raising some feathers;' though, for the matter of that, she needn't have done it, for I've never needed but one bed so far," continued aunty, in a tone nowise regretful; then recovering the thread of her story, she proceeded.

"One Friday afternoon, at preparatory lecture, mother heard that Aunt Dilly Dunham had Geese eggs to spare; and moreover, that she would exchange them for hens' eggs, one for two. So early the next morning mother started Joe off to make an egg trade with Aunt Dilly. He had to go about a mile and a half on foot. It would never do to ride old Tip, she said, lest the jolting should addle the eggs; 'and mind you go cross-lots, through a corner of the woods, and keep this side of the creek, and then you will not have to cross the bridge near the house at all.' 'Mother, I don't believe it would hurt those eggs a particle if I should carry them over fifty bridges,' said Joe. 'It is well enough to be careful,' answered mother; 'it is getting late in the season, and I don't know where I could get any more if these should fail.' So Joe set off on his errand. He returned about noon, with nine Geese eggs which mother put in a hen's nest, in an old barrel turned down on its side, behind the smoke house. She charged us children to keep away from the nest entirely, but told us that in four weeks she hoped to have a nice flock of goslings. That night, when Joe and I were out in the back pasture after the cows, Joe said to me, 'Fan, mother will never get any goslings from those eggs if her notion is true, for I carried them over that bridge, and the high water was rushing through under there like everything.' 'Why, Joe, how could you disobey mother so?' said I, reproachfully. 'Because I wanted to know for myself whether that was a whim or not; and as for disobeying, I have not,' continued Joe, looking mighty innocent. 'Mother told me to go cross-lots, and I did; but she did not tell me to come back that way, so I came round the road.' 'But you knew what she meant,' said I; but he only laughed and bade me not to tell. The caution was needless, for Joe very well knew I'd never tell of anything that would get him into trouble.

"Now father did not wish to raise Geese (what man ever did?) he said they would spoil more hay and grain than their necks were worth, besides being the peskiest things to have around there ever was. Still he never opposed anything very much that mother wanted to do; but he thought if a little stirring would keep Geese eggs from hatching he would bestow a little attention on these. Accordingly when he and the hired man passed the barrel on their way to work, father would take hold and give the old hen and the eggs a good shaking, mother all the while being in blissful ignorance of these naughty experiments.

"But shaking and running water both proved harmless, for in good time up came the old hen with nine as promising goslings as ever were seen. Mother and I were delighted and stood feeding them, just as father, the hired man, and Joe came in to dinner. I saw a comical look pass between the two men, and I knew by the expression on Joe's face that the truth was coming out. 'Mother,' said he, 'those Geese eggs went twice over Mill creek the day I brought them home—once down by Aunt Dilly's, and then again over the main road.' 'Why Joe!' mother had only time to say, when the hired man spoke up, saying, 'and Mr. Gifford has given them a dozen good shakings in that barrel.'

"Mother looked a little as though she felt herself imposed upon, but she only said, as she went into the house, 'Joe, you are just like your father for all the world.' After that we raised our own Geese eggs, and if we ever wanted to set any, some of us would be sure to say, 'Now father, go and shake them.'"—(*Rural New Yorker.*)

ROSS POULTRY SHOW.

Few first attempts at the establishment of a poultry show have been more successful than that which resulted in the Exhibition at Ross, on the 24th inst., the general quality of the birds being good. As is usual at first shows, there were matters that might have been carried out more satisfactorily, particularly as regards the arrangement by which each exhibitor had to provide his own show pens. This oversight of the present year will be, we hear, remedied on future occasions. The tents were excellent, and admitted of no improvement.

In *Brahmas* all competed together, and they proved a good entry. Light-feathered being first, Dark ones second. In *Cochins*, Partridge-coloured were first, and Buffs second. Of Grey *Dorkings* there was one of the best entries, and, strange to say, of *Game* fowls one of the worst entries in the Show. The adult *Spanish*, as a rule, were not good, but a few good chickens were shown. Black Reds were in both cases the prizetakers in a general Bantam class. A better "Variety class" has rarely been exhibited; and the class for chickens of any variety was unexceptionably good. The *Water Fowls* and *Turkeys* were generally praiseworthy. Most of the *Pigeons* were meritorious, and added considerably to the interest of the meeting. The attention to the management of the birds, and the liberal feeding, were worthy of especial mention. Mr. Treasure, of Ross, exhibited a remarkably good pair of Dark Brahma chickens, but as the rule required two pullets and a cockerel, they could not take a place in the prize list. Very fine weather and a good attendance of visitors marked the Show.

Brahmas.—1, T. A. Dean, Marden. 2, J. H. Watkins, Byford, Hereford.
Cochins.—1, Rev. H. W. Tweed, Bridstow (Partridge). 2, C. Bloodworth, Cheltenham (Buffs). *hc*, W. Morris, Ross.
Dorkings.—1, E. Shaw, Oswestry. 2, J. McConnell, Ewais Harold.
Game.—1, E. Shaw (Brown Reds). 2, A. Armitage, Dadnor (Black Reds).
Hamburghs.—1 and 2, J. McConnell (Silver-spangled and Silver-pencilled). *hc*, C. Bloodworth.
Spanish.—1, R. H. Greaves, Trewaugh. 2, J. McConnell.
Bantams.—1, F. Wilson, Morpeth. 2, T. Roper, Ross. *hc*, T. Roper (2); J. Bloodworth; T. S. Barnett, Walford. *c*, H. Theyer, Walford Court.
Any other Variety (Including Cross-breed).—1, J. F. Mortimer, Rudhall (Crève-Cœur). 2, C. Bloodworth (Silver-spangled Polands). *hc*, J. McConnell (Silver Polands); H. Theyer. *c*, Sir J. R. Carnac, Bart., Wilton Hall (Blue Andalusians); E. Williams, Henllys (Houdans); A. Phillpotts, Trellersdee (Houdans). *Chickens.*—1, J. Bloodworth (White Cochins). 2 and 4, C. Bloodworth (Buff Cochins). 3, T. S. Barnett (Black Spanish). *hc*, J. Bloodworth (White Cochins); T. A. Dean (Light Brahmas) (2); A. Armitage; E. Shaw; E. Williams (Crève-Cœur). *c*, H. W. Barnett (Buff Cochins).
Ducks.—*Rouen or Aylesbury.*—1 and 2, F. Wilson. *hc*, Lt.-Col. W. S. Rooke, Biggleswear House, Rouen; E. Shaw, Oswestry. *c*, H. Theyer. *Any other Variety, including Cross-breeds.*—1, A. Armitage (Wild Ducks). 2, T. S. Barnett (Black East Indian). *hc*, F. J. Kearsey, Glewston (Cross-bred); L. C. Lawson (Brown Decoy).
Geese.—1, J. Loveridge, Daffalnke. 2, T. S. Barnett.
Turkeys.—1, E. Shaw (Cambridge). 2, A. Armitage. *hc*, K. M. Power.

PIGEONS.

Barbs.—1, H. Yardley, Birmingham. *hc*, J. H. Watkins, Byford, Hereford.
Carriers.—1, H. Yardley. *c*, H. Theyer, Walford Court.
Jacobins.—1, H. Yardley. *hc*, T. S. Barnett.
Nuns.—1, T. A. Dean, Marden.
Pouters.—1, H. Yardley. *c*, J. H. Watkins; H. Theyer.
Runts.—1, H. Yardley. *hc*, T. Donne, Ross.
Fantails.—1, H. Yardley. *c*, J. Watkins, Wisteston Court; T. S. Barnett.
Tumblers.—1, H. Yardley. *hc*, T. A. Dean.

Mr. E. Hewitt, of Birmingham, was the Judge.

SCARBOROUGH ORNITHOLOGICAL SOCIETY'S SHOW.

This took place on the 18th and 19th inst. The following is the prize-list:—

Norwich.—*Clear Yellow.*—1 and *hc*, Adams & Athersnch, Coventry. 2, Moore and Wynne, Northampton. *Clear Buff.*—1, Moore & Wynne. 2 and *hc*, Smith and Preen, Coventry.
Norwich.—*Clear Yellow and Buff.*—(Members only).—1, J. Dawes, Scarborough. 2, G. Clark, Scarborough. 3, M. King. *hc*, Waterson & Cross.
Norwich.—*Evenly-marked Yellow.*—1, Barwell & Golby, Northampton. 2 and *hc*, Adams & Athersnch. *Evenly-marked Buff.*—1, Adams & Athersnch. 2, Moore & Wynne. *hc*, G. Gayton, Northampton.
Norwich.—*Ticked and Unevenly-marked Yellow.*—1, Moore & Wynne. 2, Adams & Athersnch. *hc*, G. Gayton. *Ticked Buff.*—1, Barwell & Golby. 2, G. Mead, Scarborough. *hc*, Moore & Wynne.
Norwich (Crested).—1, R. Sutton, Norwich. 2 and *hc*, Moore & Wynne.
Belgian.—1, L. Belk. 2, J. N. Harrison, Belper. *hc*, Stephens & Lsek.
Yorkshire.—*Clear Yellow or Buff.*—1, T. Fawcett, jun., Baildon, Leeds. 2 and *hc*, J. Cooper, Middlesbrough. *Evenly-marked Yellow or Buff.*—1 and *hc*, Stephens & Leek. 2, L. Belk, Dewsbury.
Lizard.—*Golden-spangled.*—1, Smith & Preen, Coventry. 2 and *hc*, R. Ritchie, Darlington. *Silver-spangled.*—1, Smith & Preen. 2, R. Ritchie. *hc*, J. N. Harrison.
Cinnamon.—*Yellow or Buff.*—1, Barwell & Golby, Northampton. 2, E. Stansfield, Bradford. *hc*, T. Irons, Northampton.
Any other Variety.—1, T. Fawcett, jun, 2, M. Jackson, Scarborough. *hc* G. Clark, Scarborough.
Goldfinch Mule.—*Evenly-marked.*—1, Stephens & Leek. 2, E. Stansfield. *hc*, L. Belk. *Dark.*—1, Moore & Wynne. 2, E. Stansfield. *hc*, Stephens & Leek.
Cage of Four Canaries.—1, R. Sutton, Norwich. 2, M. King, Scarborough. *hc*, Adams & Athersnch.
British Bird.—*Any Variety.*—1, J. N. Harrison. 2, M. Jackson (Bullfinch). *hc*, M. King.
Foreign Birds.—*Any Variety.*—1, B. Watson (Parrot). 2, W. Musson (Parrot). *hc*, J. Waterson, East (Parrot).

Judges.—Mr. Joseph Baines, York, and Mr. A. Walton, Whitby.

Bristol Poultry and Pigeon Show.—As usual the prizes are very liberal—in money varying from £3 to 10s., and, in

addition, there are thirty-four silver cups, varying in value from ten to five guinsas.

NORTH ORMESBY CANARY SHOW.

This was held on the 21st inst. in the Assembly Rooms, North Ormesby, when the following awards were made by the Judge, Mr. Calvert, of York.

Belgian.—1, Stephens & Leeke, Middlesbrough. 2, R. Robinson, Middlesbrough. *hc*, P. Rawnsby, Ledget Green, Bradford.

Norwich.—*Clear Jonque.*—1 and 2, Moore & Wynne, Northampton. *hc*, J. Clemison, Darlington. *Clear Buff.*—1 and 2, Moore & Wynne. *hc*, R. Iddison, Darlington. *Evenly-marked Jonque, Buff or Yellow.*—1, Barwell & Golby, Northampton. 2, Moore & Wynne. *hc*, R. Hawman, Middlesbrough.

Norwich (Crested).—1 and *hc*, Moore & Wynne. 2, J. Garbutt, Broughton.

Coppy (Crested). — 1, P. Rawnaby. 2, W. Cotton, Middlesbrough. *hc*, J. Cowper, Middlesbrough.

Lizard.—*Golden-spangled.*—1, M. Holroyd, Great Horton, Bradford. 2 and *hc*, R. Ritchie, Darlington. *Silver-spangled.*—1, P. Rawnsby. 2, R. Ritchie. *hc*, J. N. Harrison, Belper.

Cinnamon.—*Jonque.*—1, S. Tomes, Northampton. 2, T. Irons, Northampton. *hc*, J. N. Harrison. *Buff.*—1. Barwell & Golby. 2, S. Tomes. *hc*, Moore and Wynne. *Variegated Buff or Yellow.* — 1, M. Holroyd. 2, J. Munroe, North Ormesby. *hc*, Stephens & Leek.

Yorkshire.—*Clear Yellow.*—1, J. Rowland, Skelton. 2, W. Munroe. *hc*, J. Garbutt. *Clear Buff.* — 1, J. Baldwin, North Ormesby. 2, R. Rowland. *hc*. Stephens & Leeke. *Even-marked Yellow or Buff.*—1, T. Tenniswood, North Acklam. 2 and *hc*, Stephens & Leeke. *Ticked or Unevenly-marked Yellow or Buff.*—1, T. Fawcett, Baildon, Leeds. 2, Stephens & Leeke. *hc*, E. Graham, Middlesbrough.

Green (Clear).—1, Stephens & Leeke. 2, W. Seargeant, Skelton. *hc*, J. Rowland.

Goldfinch Mule.—*Variegated.* — 1, W. & C. Burniston, Middlesbrough. 2, Stephens & Leeke. *hc*, J. Spence, New Hendon, Sunderland. *Dark.*—1, T. Tenniswood. 2, Moore & Wynne. *hc*, J. Munroe.

Goldfinch Moulted.—1, T. Tenniswood. 2, J. Munroe. *hc*, Stephens and Leeke.

Linnet Mule (Brown).—1, J. Spence. 2 and *hc*, Stephens & Leeke.

Linnet Moulted (Brown).—1, Fairclough & Howe, Middlesbrough. 2, J. Hardy, Skelton. *hc*, W. & C. Burniston.

Any other Variety.—*British Bird.*—1, J. Green. 2, —Bailey. *hc*, E. Graham, Middlesbrough. *Foreign Bird.*—1, J. Bell, North Ormesby. 2 and *hc*, G. Handsom, Middlesbrough.

INTRODUCTION OF YOUNG QUEENS TO COLONIES THAT ARE QUEENLESS.

Some ten years ago I was led to suspect that the ordinary statements of Huber and other eminent apiarians with regard to the antipathy of bees, under all circumstances, to change queens, was incorrect. Eminent writers have supposed that it would not be safe to introduce even a queen cell to a colony until twenty-four hours had elapsed after the old queen had been removed.

In experimenting with Italian bees, shortly after their introduction to this country, I soon ascertained that this was an entire mistake, and that queen cells could be safely introduced, under ordinary circumstances, immediately after the removal of the queen.* This led me to experiment further in the same direction. Supposing that perhaps the hatching of a young queen in the colony might reconcile them at once to her presence, I introduced to queenless colonies cells, the lids of which were being gnawed open by the young queen. In some instances these queens hatched in less than five minutes after the cells were inserted, and I found them to be unmolested, although the hive had been unqueened but a few moments before their introduction.

I now began to suspect that there might be something in the young queens themselves, either in their actions, or in their odour, or their voice, or want of voice, which made the bees indisposed to disturb them. Therefore, after unqueening the hive, I introduced just-hatched queens at once, and found them almost invariably well received. The bees would occasionally seem to manifest some surprise at their presence, and probably, if they could have spoken their feelings in words, would have said inquiringly—"Does your mother know you are out?"

If the queens were too young, they were sometimes dragged out of the hive, just as imperfect bees are removed by workers. I next discovered that in many instances these young queens could be put upon the very comb where the old mother was, and yet be undisturbed by the bees. In order to test this matter more thoroughly, after introducing a just-hatched queen and finding her well received, I would place upon the same comb an unfertile queen several days old. The bees would at once attack her furiously, confine, and speedily destroy her. It would seem, therefore, that under ordinary circumstances young queens which have not yet attained their proper colour, and perhaps the power of piping, may be introduced at once to queenless colonies. I have availed myself of this discovery largely in breeding Italian queens; it being a common practice with me as soon as the queen of a nucleus has laid a suitable number of eggs to test her purity, to cage her, and at once introduce a queen not more than five or six hours old. It may be that it would be safe to introduce queens even a day old, but my practice has been to select for this purpose such as had very recently hatched. When the young queen thus introduced becomes fertile, and has laid a proper number of eggs, I cage her in turn and introduce still another. And thus I am able, with one nucleus, to accomplish in queen-raising as much as is ordinarily done with two or three.

Occasionally I have known the workers to destroy these young queens, if not immediately, still within a few hours after their introduction. I do not, therefore, recommend the practice above described to those who have very few queens, nor would I risk a young queen which I value very highly. But, as under ordinary circumstances the breeder has often more queens than he knows what to do with, he can easily dispose of them in the way above described.

In order, at times, to secure a suitable number of queens for this purpose, I have been accustomed to condense into one colony a very large number of queen cells of about the same age, inspecting the colony about every hour in the day, and removing queens as fast as they hatched, and before they had an opportunity to destroy each other or the other queen cells. These same combs may be returned at night to their proper nuclei.

The expert will know how to avail himself of the plans which I have suggested, and how to modify them to suit his circumstances.—L. L. Langstroth (in *American Bee Journal.*)

* Instead of the circumlocution of saying "removing a queen from a hive, or giving a queen to a hive," I propose to use as more definite terms the words, "unqueening a hive," or "queening a hive."

TO GET HONEY FROM THE COMB.

As this is the time when bee-keepers are taking up weak stocks and taking off surplus boxes, it may be well to give a few hints how to clear honey.

It will be generally understood that virgin honey taken in surplus boxes is most marketable in that form, and is generally considered most palatable eaten in the comb. Still that portion of it which is uncapped is liable to sour and lose its flavour; hence such pieces of comb should have the honey extracted by the honey-extractor, or be broken up and the honey strained ont. It is also necessary to clear honey taken from weak stocks, or any old or queenless stocks that are taken up, as only small portions of the combs are pure enough for table use. In clearing honey, it is well to select all such pieces of comb as are free from brood, and clear it by itself, as the honey will be better than that contained in comb mixed with brood. The comb should then be placed in a cheese cloth and broken up, and the honey allowed to drain off. It is well to have a large dish or cullender, and lay the cloth into that. The dish can then be set over a crock or dish to receive the honey, and set away in the cellar, or some room away from the flies, and the honey allowed to drain off slowly, occasionally turning the comb with a spoon. The honey will be all the better for this slow clearing, as it will contain less small particles of comb and bee-bread. A large dish-pan, with holes punched in the bottom and a rim soldered on 1½ inch deep, is just the kind of cullender required, and is better for all culinary purposes than the old-style cullender. All the coarse and dirty comb, and comb containing brood, may be treated in the same way, though large patches of brood should be cut out and thrown away. After the honey has drained off, the comb may be placed in a tight dish and covered with water; let it stand and soak for a day; then strain the water off, and use it for making vinegar. The honey may be left to candy; or if put on the fire and brought to a scalding heat, and put into fruit jars and sealed, it will not candy, but keep for any length of time.—J. H. Thomas. —(*Canada Globe.*)

OUR LETTER BOX.

Cleaning Fowls for Exhibition (*R. H.*).—Take some warm water and common yellow soap, rub on a piece of flannel, and wipe the dirty feather downwards. After the dirt is removed wash freely with cold water, and dry either before a fire, or by means of a basket full of soft straw. In the winter we prefer the former; in the summer, when the sun is hot, we prefer the latter.

Lump on Brahma Cockerel's Breast (*Ignoramus*).—You do not state the age of the birds. Formations of a similar character are not uncommon along the breastbones of cocks, but we have never met with them so large as you describe. They generally present the appearance of a sac, containing a glutinous transparent fluid. If you have other fowls as good, but similarly visited, then we advise that these two be consigned to the kitchen and others kept. If you cannot do without these, remove the tumours by opening the skin and cutting them off. As a rule there is little or no circulation in them. When you have removed them from the bone sew up both skins separately, and rub the suture with soft

grease. If the fowls are three or four months old, as we suppose, you overfeed. Three times a-day is sufficient.

Scurf on Head of Spanish Cockerel (*E. W. S.*).—Rub the scurfy parts with compound sulphur ointment. You will also do well, while this appearance keeps on, to give occasional doses of castor oil—a tablespoonful twice per week. Lettuces are also very beneficial, especially those going to seed. Be careful not to injure the blood feathers. The injection of a little hot water will cleanse the ears; you may use a syringe for the operation. Your Hondans are suffering from cold. It is curable; the administration of some bread and ale twice per day, and allowing them to drink very little, having no water by them, but only being allowed to sip morning and evening.

Brown-red Game (*H.*).—The Brown Reds of late years have been superior in shape, and style, and feather to the Black Reds. It was very visible at all the large shows last year, and we shall not be surprised to see it again.

Japanese Bantams (*Amateur*).—They must have single combs and clean legs. The combs are very large. The legs are yellow, but they are so short, and the wings are carried so low, that they are not seen. Till lately there was but one breed. That had dark feathers in the tail and wing, and sometimes an odd spot or two about the body. There are now some recently-imported birds that are quite white. Your fowls with disordered eyes and sneezing are suffering from cold. Give them some bread and ale. See that their roosting house is free from draught.

Selecting a Brahma Cockerel (*W. H. H.*).—No. 1 cannot be entertained. A foot with four claws is inadmissible. No. 2 is the best, he has only a few red feathers, and they are not always hereditary. No. 3 will not do at all, his defect is always transmitted to posterity. Yours is not an *embarras de richesses*, but an *embarras de défauts*.

Points in Houdans (*F. P.*).—Houdans should have square bodies, top-knotted heads, ample beards, full breasts, short legs, five toes on each foot, black and white legs. The hens should be black and white without any other colour; the cocks may be permitted to have a few straw-coloured feathers in the hackle and saddle, but no red ones.

Light or Dark Game Fowls (*Black Red*).—We prefer the Light ones, if by such you mean those with the golden hackle. There is no latitude for the cocks, but there is some for the hens. The breed is constantly tampered with. The old cocker will tell you, "It is Squire Potter's strain, but I have mended it a bit, and it's many a day since we lost a main." The cocker looks only to the pit, and knows if he is successful it will be called his strain. Some prize Game breeders have gone so far as to have birds to suit the idiosyncracies of certain judges. The object of many of our large Game exhibitors is to breed a bird to win with, and they make him by a skilful combination. Hence the variety you have in your pens. All will do to exhibit, provided you match them well. You must not put a Dark and a Light bird in the same pen.

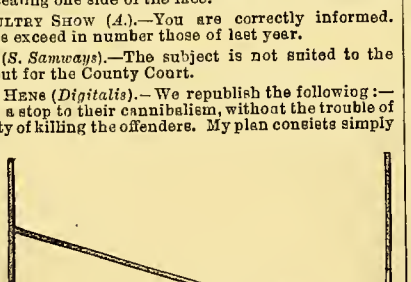
Laying Fowls (*J. A. H.*).—You would have to buy pullets because hens do not lay in the winter. A hundred pullets will cost, one with the other, 4*s.* 6*d.* each. Their cost to keep will depend much on the place where they are kept. If they have nothing but what is given they will cost £1 per week to feed. The number of eggs will depend on the breed of the laying hens. Hens will sit when they have done laying, although there may have been no cock with them. It is, of course, no use to allow them to sit on their own eggs.

Dorking Cockerel Weak-legged (*J. C.*).—Discontinue the Indian meal. Keep to oatmeal, whole barley, and table scraps. The weight is unusual for the age, and we should be disposed to think the bird had been putting on fat instead of making bone and muscle. Fattening food has a tendency to make the comb fall. A good upright comb is a certain sign of vigour, and vigour is very inimical to fattening. If you were to look in a coop of fowls put up to feed, you would see them all sitting in the way you mention, and their large, partly white and partly florid combs hanging down and concealing one side of the face.

Crystal Palace Poultry Show (*A.*).—You are correctly informed. We hear that the entries exceed in number those of last year.

Black-red Bantams (*S. Samways*).—The subject is not suited to the columns of a journal, but for the County Court.

Nests for Cannibal Hens (*Digitalis*).—We republish the following:—"I have completely put a stop to their cannibalism, without the trouble of watching or the necessity of killing the offenders. My plan consists simply in an improved nest or laying box (see accompanying section) with a false bottom, forming an inclined plane, down which the egg rolls, as soon as laid, into a receptacle beneath; and, of course, before the hen can have a chance of pecking, it, the egg is beyond her reach. Neither hay nor straw must be used in the nests,



but if the surfaces of the inclined planes are covered with smooth matting, a piece of old carpet, or sacking, every purpose will be answered. Another advantage of this laying box, is that where several hens use the same nest, the eggs are not soiled by their dirty feet in wet weather.—Typo."

Roup (*J. H.*).—You ask for "a cure for croup," but that is a disease attacking children. There is no certain cure for roup, it being a form of consumption in fowls. The following is an extract from the "Poultry-Keeper's Manual:"—"The symptoms are offensive discharge from the nostrils, froth in the corner of the eyes, and their lids swollen. This is contagious. Cause, exposure to excessive wet and cold. Remedy, wash the head daily, or twice daily, with tepid water. Sulphate of copper, one grain, daily, mixed in oatmeal mashed with ale, and plenty of green food. Separate the fowl from all others. If not better within a week kill the fowl." Mr. Baily also prepares pills for the roup. See a communication to-day on the efficacy of aconite.

Carrier with Cold in His Eyes (*C. H. C.*).—Add a little alum to the water you now use.

Runts at the Crystal Palace Show.—"*A. R. E.*" says, "A few exhibitors of Runts would be glad to be informed whether weight is to be the standard at the coming Show at the Crystal Palace, as at all other good shows, or feather, as at the last two shows held there."

Green Moss (*A Constant Subscriber*).—It is dyed after being thoroughly dried. Soaking first in a solution of indigo, then drying, and afterwards soaking in an infusion of quercitron bark, would probably cause the green colour.

Roots of Groundsel (*Oldaph*).—The soil remaining on the roots is not hurtful to Canaries.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Oct.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg	In.
We. 18	29.910	58.4	52.8	N.	51.2	67.0	47.5	74.0	43.6	—
Th. 19	29.718	59.4	57.5	S.	51.8	62.8	52.9	67.5	50.3	0.140
Fri. 20	29.798	57.8	56.8	S.E.	53.4	59.0	53.0	61.3	53.4	0.061
Sat. 21	30.014	48.3	46.0	S.	52.6	56.3	40.4	59.4	37.7	0.220
Sun. 22	30.319	47.8	45.6	N.W.	51.2	59.4	39.0	92.1	35.2	—
Mo. 23	30.348	40.5	40.5	N.	50.2	59.0	36.0	89.8	31.8	—
Tu. 24	30.272	41.6	41.6	N.E.	49.9	61.8	34.4	76.0	29.1	—
Means	30.057	49.8	49.7		51.9	69.3	43.3	74.3	40.2	0.420

REMARKS.

18th.—Fine in the morning, and continuing so all day; rather dull in the evening.

19th.—Rather dull and sunless; distant lightning between 7 and 8 P.M., with heavy rain, and rain also during the night.

20th.—Close, damp, uncomfortable day, with occasional showers.

21st.—Much colder; dull morning, rain at noon, and frequent showers after.

22nd.—Fine all day, rather foggy in the evening, but fine night.

23rd.—A much brighter day than any during this week.

24th.—Hazy morning and evening, but pleasant during the middle of the day.

The nights of Wednesday and Thursday (as indicated by the minima of the following days) were unusually warm, damp, and muggy, and the air throughout the week has been very damp, being perfectly saturated with vapour for many consecutive hours on several days. Much mist and fog. —G. J. Symons.

COVENT GARDEN MARKET.—October 25.

Business transactions, generally, have been of a favourable character during the week. Importations are not so heavy. Hothouse Grapes and Pines are sufficient for the demand, and some good late Peaches are still to be had, realising fair prices for the season. Cob Nuts and Filberts are plentiful. Large quantities of rough green vegetables, and good Broccoli, are offered in fine condition. Potatoes are much diseased, and there are considerable quantities in the market, which can only be cleared at a very low price.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples	½ sieve	2	0 to	4	0	Mulberries	lb.	0	0 to	0	0
Apricots	doz.	0	0	0	0	Nectarines	doz.	0	0	0	0
Cherries	lb.	0	0	0	0	Oranges	₩100	8	0	20	0
Chestnuts	bushel	0	0	0	0	Peaches	doz.	6	0	12	0
Currants	½ sieve	0	0	0	0	Pears, kitchen	doz.	2	0	0	0
Black	do.	0	0	0	0	dessert	doz.	2	0	4	0
Figs	doz.	0	0	0	0	Pine Apples	lb.	3	0	6	0
Filberts	lb.	0	6	1	0	Plums	½ sieve	3	0	6	0
Cobs	lb.	0	6	1	0	Raspberries	lb.	0	0	0	0
Grapes, Hothouse	lb.	1	0	5	0	Strawberries	lb.	0	0	0	0
Gooseberries	quart	0	0	0	0	Quinces	doz.	1	0	2	0
Lemons	₩100	8	0	12	0	Walnuts	bushel	10	0	25	0
Melons	each	2	0	5	0	ditto	₩100	1	0	3	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	doz.	0	4 to	0	6	Leeks	bunch	0	3 to	0	6
Asparagus	₩100.	0	0	0	0	Lettuce	doz.	0	8	1	0
Beans, Kidney	½ sieve	0	0	3	0	Mushrooms	pottle	1	0	2	0
Broad	bushel	0	0	0	0	Mustard & Cress	punnet	0	2	0	3
Beet, Red	doz.	2	0	3	0	Onions	bushel	3	0	4	0
Broccoli	bundle	0	6	1	0	pickling	quart	0	6	0	8
Brussels Sprouts	½ sieve	2	0	3	0	Parsley	sieve	3	0	4	0
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	9	1	0
Capsicums	₩100	1	6	2	0	Peas	quart	0	0	0	0
Carrots	bunch	0	6	0	0	Potatoes	bushel	1	0	3	0
Cauliflower	doz.	3	0	6	0	Kidney	do.	3	0	5	0
Celery	bundle	1	6	2	0	Radishes	doz. bunches	0	6	1	0
Coleworts	doz. bunches	2	0	4	0	Rhubarb	bundle	0	0	0	0
Cucumbers	each	0	6	1	0	Savoys	doz.	1	0	1	6
pickling	doz.	2	0	3	0	Sea-kale	basket	0	0	0	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	3	0	0
Fennel	bunch	0	3	0	0	Spinach	bushel	2	0	3	0
Garlic	lb.	0	3	0	0	Tomatoes	doz.	2	0	0	0
Herbs	bunch	0	3	0	0	Turnips	bunch	0	3	0	0
Horseradish	bundle	3	0	4	0	Vegetable Marrows	doz.	0	0	0	6

POULTRY MARKET.—October 25.

The close weather is unfavourable for trade, and prices have hardly been maintained during the past week.

	s.	d.		s.	d.		s.	d.		s.	d.
Large Fowls	3	0	to	3	6	Pigeons		0	9	to 0	10
Smaller ditto	2	0		2	6	Rabbits		1	6	1	6
Chickens	1	9		2	0	Wild ditto		0	0	0	10
Geese	6	0		6	6	Hares		2	0	2	6
Ducks	2	0		2	6	Partridges		1	4	1	6
Pheasants	2	6		3	0	Grouse		1	9	2	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 2—8, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
2	Th	Michaelmas Term begins.	54.4	37.3	45.8	19	57 af 6	31 af 4	41 af 7	noon.	19	16 19	306
3	F		53.6	35.9	44.7	19	59 6	29 4	35 8	50 af 0	20	16 19	307
4	S	Length of day, 9h. 27m.	52.1	36.6	44.3	22	0 7	27 4	36 9	29 1	21	16 19	308
5	Sun	22 Sunday after Trinity.	52.9	37.2	45.0	20	2 7	25 4	45 10	0 2	☾	16 18	309
6	M		52.4	36.9	44.7	19	4 7	24 4	56 11	27 2	23	16 15	310
7	Tu	Twilight ends 6.19 P.M.	52.1	36.7	44.4	20	5 7	23 4	morn.	43 2	24	16 12	311
8	W	Meeting of Royal Microscopical Society.	52.0	34.3	43.1	19	7 7	22 4	11 1	8 3	25	16 9	312

From observations taken near London during forty-three years, the average day temperature of the week is 52.8°, and its night temperature 36.4°. The greatest heat was 63°, on the 5th and 6th, 1834; and the lowest cold 20°, on the 5th and 6th, 1868. The greatest fall of rain was 1.02 inch.

VINE-CULTURE UNDER GLASS.

THE subject of Vines and their culture has been repeatedly discussed in these columns by the ablest gardeners in Britain; all the phases of culture have been explained, the arrangement and composition of the borders have been treated of in the most lucid manner, and yet scarcely a week passes in which information is not asked for on some of the details of this important branch of gardening. I purpose, therefore, to offer a few cultural remarks, adding any recent information which I have obtained from my own practice, or seen in that of others.

Borders.—First in order is the border, and it is as well to state that no mysterious composition is required in its formation. It was only lately that a correspondent wished to know whether he could not utilise an old horse in the composition of his Vine border, and whether damaged cases of Australian meat could not be turned to profitable account for the same purpose. Masses of decaying animal or vegetable matter are worse than useless, and quantities of rich manure mixed with the loam do more harm than good in many cases. Nothing is more easy, if manure is required, than to apply it from the surface, and this after all is the natural way. It is a positive fact that the most magnificent Grapes are produced from Vines grown in borders entirely composed of turfy loam, without a particle of manure in any shape. I have a vivid recollection of a range of vineries where the borders were made of the top spit of a field that had been laid down in pasture for two or three years. This soil was dug up and thrown into the space that had been excavated to a distance of 6 feet on each side of the front wall, and the progress of the Vines was wonderful. On examining the border after the Vines had made one year's growth the whole of it was found to be permeated with masses of branching roots in the most healthy condition. The Vines were overcropped at first, and through some other mismanagement they failed, after thriving remarkably well for the first three or four years. Six feet more should have been added to the width of the borders both inside and outside after the third year, but this was not done; however, I saw enough of them to know that under proper management extraordinary results would have been obtained. In borders made with turfy loam it is interesting to watch the rapidity with which the roots spread along the surface after rich top-dressings have been applied.

I will now give another instance of a border made in a different way. In this case there was much preparation, and no expense was spared, the bottom being concreted, and crushed bones with manure added to the loam. The drainage, consisting of brickbats or similar material, was placed over the concrete. The Vines planted in this border grew remarkably well at first, but the Grapes which they produced never finished well, and shanking was common. There was one mistake made to which I wish to draw attention, and that was, although plenty of drainage was placed under the border, no outlet was made to carry away the superfluous water; but even after this was done, although there was an evident improvement, it was clear that a greater mistake had been made in adding too much manure in the first instance. The drainage admitted of an easy remedy, but it was not so easy to correct the other mistake. In many soils it is not necessary to place concrete at the bottom of a Vine border. In the dry gravel subsoil at Loxford Hall I do not find it necessary either to concrete or drain the borders. In a wet clay subsoil it would be necessary to do both.

Preparing and Planting.—Vines are very easily propagated from eyes, and when only a small number is required it is best to plant one eye only in the centre of a 3-inch pot. To obtain fine planting canes the pots should be placed in heat early in March; the temperature of the house should be 55° at night, and a genial bottom heat should be afforded. When the young plants have grown 6 inches high place them in 6-inch pots, using turfy loam enriched with some decayed manure, or, in preference, pulverised bones; plunge the pots again for a few days until the roots reach the sides, when the young Vines are better without bottom heat. As soon as they have tolerably well filled the pots with roots shift them again into 9 or 10-inch pots, and maintain a rather high temperature until the wood is well ripened, when they may be removed to a cool house. They should not be allowed to become dust dry at the roots during winter, as such a degree of dryness in the soil is injurious to them.

The best time to plant-out the Vines is in March, when the young shoots have grown 2 or 3 inches. The plants should be turned out of the pots, and the roots disentangled and spread out on a level surface, covering them with 6 inches of mould. It is not easy to give precise directions as to watering. If the plants as well as the border are in a moist condition I prefer not giving any water for a week after planting, but the house should be kept close, and a moist atmosphere maintained for a few days. I think it an evil to deluge either newly-planted or potted plants with water, as I have repeatedly noticed that they make fresh roots more freely when water is not applied for some time after planting. It is desirable to wait until the young rootlets are formed; the plant is then in a condition to take up water.

A vinery may also be planted with Vines struck from eyes the same season. The plants should be prepared in the way just stated, but the pots should be placed in heat as soon as convenient after the middle of January. The plants will be ready for potting into 9-inch pots by the first week of April, and will be ready for planting-out in the border early in May. Such Vines, if well managed, and if they experience no check, will grow to the top of a 20-feet rafter in the season in which they are planted. A few of them may be grown and fruited in pots, and will make canes of the strongest description. I use 13-inch and 15-inch pots for fruiting them in, draining well, and using sound turfy loam mixed with pulverised bones. This compost should be rammed in rather firmly, and the plants, when growing, should have plenty of light and air, especially when the wood begins to ripen. Such plants

will ripen a crop of fruit on the back wall of a newly-planted vinery or in other parts of the house, always bearing in mind that the fruit will not ripen well in a position where it is not exposed to the light and air. They have also a fine effect if grown as standards, with the head trained to a circular trellis, and the bunches allowed to hang down from the outer edge of the circle. The plants should be in such a position that the fruit may be just above the eye of a person looking at it.

After the young Vines are planted-out in the house, and have started into growth, a stick should be placed to each, as the young shoots are easily damaged, and I ought to state that it is better to train the shoots from the base of the plant, as such always grow strongest. A somewhat moist atmosphere should be maintained in the house; this is preferable to syringing the plants.

Those who intend planting a vinery, and who have not yet obtained the young Vines, should purchase them at once from a respectable nurseryman, and pay the highest price for them; a shilling or two saved in the price of a Vine must be considered a small matter in comparison with having a large number of failures from planting badly-grown canes. Those who rush to the cheapest market for their goods generally pay most in the end. When the plants are sent home they should be kept until planting time in a cool house where frost cannot injure them.

If the Vines are healthy and in good condition, all will start into rapid growth, when one shoot should be trained up at every 2 feet 9 inches, allowing 1 foot 6 inches at each end. There is much difference of opinion amongst practical men with respect to the best method of cutting the young rods at pruning time; some cut them back nearly to the bottom of the rafter, others go to the opposite extreme, and leave the young cane the whole length of the rafter. I prefer leaving from 6 to 9 feet from the bottom of the rafter, according to the strength of the canes. The weaker canes should be shortened most, and if any of them are unusually weak I should cut them close back to the bottom of the rafter; they would then break more strongly the following year. I should also take a crop of from two to three bunches from all canes that had grown to the top of the rafters. The second year each cane would carry about six bunches.

Varieties.—There is much difference of opinion regarding the best varieties to plant. To a certain extent the varieties are a matter of taste, and the Grape Vine is also much influenced by soil and situation. I have lately seen that very fine-flavoured Grape Chasselas Musqué in excellent condition, the bunches and berries very large for the variety, and beautifully ripened, and the same Vines do well every year; yet I have repeatedly seen this sort under apparently far more favourable circumstances, still it was not possible to get a presentable bunch from it. Again, there is Royal Ascot; how often has Mr. Standish shown it in splendid condition, the berries large and perfectly finished in every respect, and the flavour all that could be desired, yet many good Grape-growers fail to grow it creditably. It has done badly with me this year; most of the fruit cracked at the apex of the berries, and, as a consequence, decay soon set in. Mr. Pearson, of Chilwell, who is well known as one of our most successful Grape-growers, brought up a bunch of this, also in bad condition, to one of the meetings at South Kensington; so that we must likewise class this amongst uncertain Grapes. Take Golden Champion as one of the most recent introductions; it is a very champion amongst white Grapes when it can be obtained in good order. It has very much improved with me this year; the berries have not only finished off well, but they have also kept well, and I have bunches hanging now in good condition, although they were ripe in July. It has never grown very strongly with me, but always shows plenty of bunches; on the other hand, many good growers condemn it as utterly worthless, and most of them are agreed that it is an uncertain Grape. I have it grafted on the Black Hamburgh also on the Trentham Black. I will send you a few berries from each to say whether you think they are utterly worthless.

Our opinion is recorded in another column.—Eds.]

Many more Grapes could be mentioned as uncertain. I will name instead a few that will not cause disappointment. For general purposes, and the best of all Grapes, is the Black Hamburgh; every other must give place to this. Madresfield Court Black is said by some to surpass it; it is certainly a grand acquisition. This, with Lady Downe's, I would recommend for a cool house. As two white Grapes for a cool house I would choose White Frontignan and Buckland Sweetwater; the latter should be grafted on Black Hamburgh. Foster's White Seedling is by some thought a better Grape than Buckland Sweetwater, but it seldom acquires a golden colour, and has not such a fine appearance as the other. There are some very fine new white Grapes (that is, as far as one can judge from seeing a bunch and tasting the berries) being sent out by Messrs. Standish, of Ascot, and Mr. John Pearson, of Chilwell, Nottingham. All of them are early varieties, and adapted for cool houses. Ferdinand de Lesseps is the most distinct; it partakes of the blood of that highly-scented variety the Strawberry Grape, and is also perfumed; the berries are oval, of a rich golden colour, and delicious flavour. In Dr. Hogg, another variety raised by Mr. Pearson, and to be sent out by him, the bunch is long and tapering, the berries large, round, and of a rich Muscat or Frontignan flavour. The berries, Mr. Pearson says, are not liable to crack. In Mr. Standish's Ascot Citronelle we have another very early distinct Grape; the bunch and berries are medium-sized, with a very rich piquant flavour, partaking of the Frontignan. For the Muscat house I would plant Alicante and Muscat of Alexandria or Bowood Muscat.

I said nothing about Mrs. Pince's Black Muscat, which, with me, is an exceedingly fine variety, but it is uncertain, so many good growers having failed to produce good fruit from it. I have it grafted on Lady Downe's, but it does not colour so well on that variety as it does on its own roots. In the Muscat house on its own roots it has coloured pretty well, and carries a crop of fine bunches weighing from 2 to 3 lbs. each. One fault with Mrs. Pince is that the berries are apt to shrivel long before those of Lady Downe's or Alicante.—J. Douglas.

NEW ROSES FOR 1872.

The circumstances under which France was placed twelve months ago were undoubtedly the cause of the unusually small number of new Roses that were received from that country for the season 1870-71, the number being thirteen—three Remontant Hybrids and ten Tea-scented. Of these, six Tea-scented kinds were raised by Ducher, four Tea-scented and one Remontant by Levet, one Remontant by Guillot père, and the other by Schwartz. None of these are yet sufficiently well known to enable one to pronounce a decided judgment on their merits, and as yet but little notice has been taken of them in these pages. While the depression of French horticulture consequent upon the gigantic struggle brought to a close last spring, excited genuine sympathy among all classes here, in one department, at least, a negative kind of relief, so to speak, was felt by the Rose amateurs, and probably by the professional growers also, owing to the absence of the host of new Roses previously offered every year to delight and perplex, to interest and disappoint. Now the terrible storm has passed away, our sincerest wishes are that our French neighbours generally, and the horticultural portion of them in particular, may speedily recover their former vigour. A prominent sign of efforts being made to bring about returning prosperity is to be found in the announcement of new Roses for 1872 just received from Paris—their name is legion. To attempt at this early period to form any just estimate of what they are from the brief and somewhat formal descriptions attached to them would be but a waste of time and space. Any real improvement upon what we already possess we shall gladly accept; but it is too much to be feared the good is accompanied by so much that is worthless, that to pick it out from the multitude of subjects offered for choice must at best prove a perplexing and even wearisome task. To sum up, the announcements to the present time contain the names of fifteen Tea-scented Roses, one Remontant Moss, one Hybrid not Remontant, one Bourbon, and fifty Remontant Hybrids—in all sixty-eight. By placing before our Rose friends the list in its entirety, they will be able to analyse its contents and judge for themselves. The numerals prefixed are for convenience of reference.

TEA-SCENTED.

1. *Blanqui.*—Vigorous, very free-blooming. Flowers large, full, and symmetrical; pure white.

2. *Comte de Grivel.*—Vigorous and free-blooming. Flowers large, full, and well formed; straw yellow changing to white. Seedling from Canari.

3. *Comte Taverna.*—Very vigorous. Flowers large, very full, and well formed; yellow with brighter centre. Seedling from Louise de Savoie.

4. *Comtesse de Nadaillac.*—Vigorous and floriferous. Flowers large, full, and globular; bright vivid rose upon a copper apricot yellow ground.

5. *Henry Lecoq.*—Vigorous. Flowers medium, very full, with long swollen buds; deep rose.

6. *La Jonquille.*—Moderately vigorous. Flowers medium sized, not quite full; jonquil yellow, the most yellow variety of this section. Seedling from Lamarque.

7. *Le Nankin.*—Very vigorous. Flowers large, very full, and well formed; copper yellow with brighter centre.

8. *Louis Gigot.*—Very vigorous. Flowers very large, very full, well formed; pure white when first expanded, afterwards mottled white and rose. Very curious!

9. *Ma Capucine.*—Vigorous and free-blooming. Flowers medium-sized and semi-double; beautiful nasturtium (capucine) yellow, a new colour. Seedling from Ophirie.

10. *Madame Camille.*—Very vigorous and free-blooming. Flowers large, full, and well formed; soft aurora-like rose with whitish shading.

11. *Madame Céline Berthod.*—Vigorous and free-blooming. Flowers large, full, and well formed; sulphur yellow, very brilliant.

12. *Madame Jules Margottin.*—Vigorous and free-blooming. Flowers large, full, and well formed; beautiful soft rose with yellow *onglets*, deep red centre.

13. *Marie Van Houtte.*—Very vigorous. Flowers large, full, and well formed; yellowish white, striped and edged with bright rose.

14. *Perfection de Mont Plaisir.*—Vigorous, almost thornless, very floriferous. Flowers medium, full, and well formed; beautiful canary yellow.

15. *Souvenir de Paul Neron.*—Vigorous, very floriferous. Flowers large, full, well formed; salmon yellow edged with rose. Seedling from Ophirie.

REMONTANT MOSS ROSE.

16. *Madame Soupert.*—Very vigorous. Flowers medium, full, like a rosette; bright cerise or cherry red. Freely remontant and very mossy.

HYBRID ROSE NOT REMONTANT.

17. *Catherine Bonnard.*—Very vigorous. Flowers large, full, and well formed; beautiful dazzling rose carmine, very striking. Seedling from Madame Domage.

REMONTANT HYBRIDS.

18. *Abbé Bramerel.*—Vigorous. Flowers very large, full, and well formed; brilliant crimson red shaded with purplish brown, deep and velvety.

19. *André Dunant.*—Very vigorous. Flowers large, full, and well formed; very fresh soft rose, suffused silvery white. Seedling from Victor Verdier.

20. *Antonine Verdier.*—Very vigorous. Flowers large, full, and well formed; bright carmine rose. The flowers are almost always solitary; the buds are well formed, and will be sought after for bouquets.

21. *Auguste Rigotard.*—Vigorous. Flowers large, full, and well formed; cherry red suffused with white.

22. *Baron de Bonstetten.*—Very vigorous. Flowers very large and full; crimson red, blackish and velvety. Superior to M. Boncenne.

23. *Baronne Louise Uxkull.*—Vigorous and free-flowering. Flowers very large, full, and well formed; magnificent brilliant carmine rose; very fragrant.

24. *Baronne de Prailly.*—Very vigorous. Flowers very large and very full, globular; vivid red, shaded. Seedling from Victor Verdier.

25. *Bouquet Rose.*—Very vigorous, blooming in panicles. Flowers medium, full, and well formed; bright rose cerise.

26. *Coquette Normande.*—Vigorous. Flowers medium-sized, full, and globular, well formed; silvery and shaded vivid rose. Seedling from Jean Goujon.

27. *Docteur de Chalus.*—Vigorous. Flowers large, full, abundant, and well formed; reddish scarlet, centre velvety, reverse of petals rose pink.

28. *Docteur Lemée.*—Vigorous. Flowers large, full, and well formed; velvety purple shaded blackish.

29. *Etienne Levet.*—Vigorous, almost thornless, very free-blooming. Flowers large, full, and well formed; beautiful carmine red. Seedling from Victor Verdier.

30. *François Michelon.*—Vigorous and free-blooming. Flowers large and full, shape of the Cabbage or Provence Rose; beautiful deep rose, reverse of petals silvery. A seedling from Rose de la Reine.

31. *Jacques Plantier.*—Vigorous. Flowers large, full, and well formed, imbricated; flesh-coloured rose.

32. *Jeanne Gros.*—Vigorous. Flowers very large, full, and well formed; beautiful satin rose.

33. *Le Havre.*—Vigorous. Flowers large, full, and well formed; beautiful brilliant vermilion, finely coloured, very constant.

34. *L'Espérance.*—Vigorous. Large, full, and well formed; bright cerise carmine.

35. *Louis Charlin.*—Vigorous. Flowers very large and full; vivid rose with red centre.

36. *Louis Corble.*—Vigorous and free-blooming. Large, full, and well formed; beautiful cerise rose, shaded vivid carmine.

37. *Madame Bellon.*—Moderately vigorous. Flowers large, full, and lasting; beautiful soft rose.

38. *Madame Chaté.*—Vigorous. Flowers large, full, and well formed; "cerise métallique satiné de blanc."

39. *Madame Hippolyte Jamain.*—Very vigorous. Flowers very large and full, expanding well; white, slightly tinged with rose.

40. *Madame de Parrieu.*—Very vigorous. Flowers large, full, globular, well formed; beautiful vivid rose, shaded carmine. Seedling from Anna de Diesbach.

41. *Madame de Ridder.*—Very vigorous. Flowers large, full, and well formed; vivid amaranth red. Very floriferous.

42. *Madame de St. Puigent.*—Very vigorous and free-blooming. Flowers medium, full, and well formed; blood red flame colour with velvety slaty gloss. Seedling from Catherine Guillot.

43. *Madame George Schwartz.*—Very vigorous. Flowers large, full, and well formed; beautiful Hydrangea colour, changing to glittering rose.

44. *Madame Guillot de Montfavet.*—Vigorous. Flowers large, full, globular, and well formed; glittering white. Seedling from Duchess of Sutherland.

45. *Madame Lefebvre Bernard.*—Vigorous, almost thornless, very free blooming. Flowers very large, full, and imbricated; beautiful vivid rose marked with white. Seedling from Souvenir de la Reine d'Angleterre.

46. *Madame Livia Frege.*—Very vigorous. Flowers large, full, and well formed; soft rose, shaded violet, with silvery gloss. Seedling from Souvenir de la Reine d'Angleterre.

47. *Madame Renard.*—Very vigorous. Flowers large, full, and globular; brilliant salmon rose. Seedling from Jules Margottin.

48. *Mdlle. Marie Gonod.*—Very vigorous. Flowers large, full, and lasting; pure white. Seedling from Madame Laffay.

49. *Malfilâtre.*—Very vigorous. Flowers very large, full, globular, and rosette-shaped; deep red. Seedling from Jean Touvais.

50. *Marquise de Chambon.*—Vigorous. Flowers medium-sized, full, and well formed; beautiful salmon rose with deeper centre.

51. *Maxime de Larocheterie.*—Very vigorous. Flowers large and full; fine red and blackish purple, velvety, superb. Seedling from Léon des Combats.

52. *Monsieur Cordier.*—Very vigorous. Flowers very large and full; fine brilliant red. Seedling from Géant des Batailles.

53. *Œillet Fantaisie.*—Vigorous and free-blooming. Flowers medium-sized, full, and well formed; vivid rose purplish violet, each petal striped and marked with white like a Pink.

54. *Pierre Izambart.*—Very vigorous. Flowers large and full, with petals gracefully wrinkled; velvety crimson red, outside deep dull red. Seedling from Triomphe de l'Exposition.

55. *Prince Stirbey.*—Vigorous. Flowers large, full; bright flesh-coloured rose.

56. *Richard Wallace.*—Very vigorous. Flowers very large, full, and well formed; fine vivid rose, slightly tinged with white.

57. *Rosa Bonheur.*—Vigorous. Large, full, and well formed; beautiful vivid carmine rose.

58. *Sylvia.*—Vigorous. Large, full, and well formed; beautiful reddish purple with fiery lustre.

59. *Souvenir de Bellanger.*—Very vigorous. Flowers medium-sized, full; bright purple, outside vivid fiery red.

60. *Souvenir de Julie Gonod.*—Very vigorous. Flowers large, full, and well formed; very fine glossy satin rose.

61. *Souvenir de l'Exposition de Darmstadt.*—Very vigorous. Flowers large, full, and well formed; velvety and blackish, shaded with deep violet and blood red.

62. *Souvenir de Docteur Daviers.*—Very vigorous. Flowers medium-sized, full, and globular; deep velvety red.

63. *Souvenir de Général Douai.*—Vigorous. Flowers large, almost full, and globular; fine vivid rose.

64. *Thérésa.*—Vigorous. Large, full, and symmetrical; fine bright silvery rose.

65. *Vaucanson.*—Hybrid Noisette. Vigorous. Flowers medium-sized, full, and globular; vinous rose.

66. *Vicomte Douglas.*—Vigorous. Flowers medium-sized, full, and symmetrical; vivid red. Seedling from Duchess of Norfolk.

67. *Victor Verne.*—Very vigorous. Large, full, and symmetrical; bright currant red.

BOURBON ROSE.

68. *Amédée de Langlois.*—Vigorous. Flowers large, full, and lasting; fine deep reddish purple. Very free-blooming.

Under reserve I would suggest that Nos. 22 and 61 may prove worth a trial, both being of colours desirable as exhibition Roses. The long name of the latter might be abbreviated to the last word of it. I have rendered *se tenant bien* by "lasting," meaning the duration of the individual flower being longer than the usual average; it is often rendered "erect" in the Rose catalogues, which I think is not its signification.—A. H. Kent.

PROLONGING THE STRAWBERRY SEASON.

Anything which tends to instruct us as to the best mode of prolonging the Strawberry season is a boon to all interested in gardening matters. Even some of the old "blackbirds" among us will be very grateful to Mr. Lee for further information as to the system he pursues in order to secure a fair crop of well-developed Strawberries "every season." Here, in Herts, we have some Keens' Seedlings, forced early last spring, and turned out of pots in May, flowering and fruiting, some nice ripe Strawberries being gathered from time to time. But do not let us mislead the public; this is more to be attributed to

the mildness of the last few weeks than to anything new in Strawberry culture. However, let me ask, What is considered a fair length for the Strawberry season? How many months out of the twelve is it possible for gardeners, who force fruits of all kinds, or nearly so, to supply their employers daily with Strawberries? I may add that I succeeded in sending Strawberries (not including Alpines), five months out of the twelve for dessert this year, 1871.—An Old Blackbird, *Moor Park.*

PEAS FOR SUCCESSION.—No. 2.

Peas for Small Gardens.—By small gardens I do not mean those of very limited extent, but such as are of small area for the number and variety of vegetables which must be produced. In all gardens of less than half an acre I would not grow a Pea exceeding 4 feet in height; in those of a quarter of an acre or less, none that exceeded 3 feet; and under an eighth of an acre, none but the most dwarf. The tall varieties, if they do not shade more than the ground on which they grow, take up too much room, prevent a free circulation of air, and have a bad appearance in a space that must be devoted to dwarf subjects.

Dillistone's Early, or Dickson's First and Best.—3 feet. Sow November 10th and March 5th.

Little Gem.—2 feet. Sow November 10th on a warm or south border; March 5th and 20th; April 5th and 20th; May 5th and 20th; June 5th and 20th; July 5th and 15th.

Burbridge's Eclipse.—2½ to 3 feet. Sow March 5th and 20th; April 5th and 20th.

Princess Royal.—2½ to 3 feet. Sow March 5th and 20th; April 5th and 20th; May 5th.

Premier.—3½ feet. Sow April 20th; May 5th and 20th; June 5th and 20th.

Veitch's Perfection.—3 feet. Sow May 5th and 20th; June 5th and 20th.

Yorkshire Hero.—3 to 4 feet. Sow May 20th; June 5th and 20th; July 5th.

Dwarf Branching Waterloo.—3 feet. Sow June 5th and 20th; July 5th.

The two Peas most desirable in the above list are Little Gem and Dwarf Branching for a small garden. From sowings of Little Gem on November 10th, March 5th and 20th, April 5th and 20th, May 5th and 20th, June 5th and 20th, and July 5th; and of Dwarf Branching, commencing March 20th, and continued on the dates named for Little Gem, and made simultaneously up to July 5th, a good supply and succession of Peas may be calculated upon from the early part of June until production be stopped by cold weather. A pint of the two sorts named being put in at a time, ten sowings of Little Gem and eight of Dwarf Branching, or nine quarts will be required—a sufficient quantity for one-eighth of an acre. The quantity of seed may seem large, but as a rule, more, comparatively, is required for a small than a large garden.

The following table will show the times of sowing the above varieties:—

Sorts.	Colour.	Height.	Nov.	March.	April.	May.	June.	July.
	*	ft.						
Dillistone's Early, or Dickson's First and Best	w.	3	*10	*5	....	....	....	..
Princess Royal (Maclean)	w.m.	2½ to 3	..	*5, *20	*5, *20	*5	....	..
Little Gem (Maclean)	g.w.	2	*10	*5, *20	5, 20	5, 20	5, 20	*5, *15
Premier (Maclean)	g.w.	3½	..	....	*20	5, 20	*5, *20	..
Veitch's Perfection	g.w.	....	..	....	....	5, 20	5, 20	..
Yorkshire Hero (Dixon's)	g.w.	3 to 4	..	....	....	*20	5, 20	5
Dwarf Branching Waterloo	g.m.	3	..	....	....	....	*5, *20	*5
Burbridge's Eclipse	b.m.	2½ to 3	..	5, 20	*5, 20	....	....	..

* w., White; w.m., White Marrow; g.w., Green Wrinkled; b.m., Blue Marrow.

The sowings marked with an asterisk (*), will be ample for a garden of from half to three-quarters of an acre, and the whole for a garden of 1 to 1½ acre. The demand of one family for Peas may vary considerably from that of another, but I have found that a dish of Peas daily has been needed if it could be had, whilst with most it is a necessity. The varieties and sowings are calculated for affording the earliest, latest, and a constant succession, and I ought to say that the sowings for a small garden are proportionately more instead of less, as some might conclude, than for a large garden, which is owing to the sowing of dwarfer kinds; for though we may have more rows on a given space, and obtain as good a supply, yet for three rows of Little Gem at 1½ foot to 2 feet apart, we require three times the seed that we require for a row of Ne Plus Ultra at 7 feet.

Before sowing, all my Peas are red-leaded, making them wet with water, and then dusting with red lead, and stirring-up so as to redden them all over. If the ground be dry water the drills previous to sowing. Steeping Peas before sowing I do not practise. It is, perhaps, a good plan, but sowing in moist soil is better, and if "steeped" seed is sown in dry ground and no water is given, the vitality is impaired if not lost. With sowing on turves, and in pots in a frame, and afterwards planting out, I have had no success, and I do not advise the practice.

After the Peas come into flower they cannot have too much water, nor too frequent supplies of weak liquid manure if the weather is dry, and the soil cannot be too rich and too deep, nor can too much room be given.—G. Abbey.

BEDDING PLANTS IN 1871.—No. 2.

In continuing my remarks on Zonal Pelargoniums, I shall begin first with the crimson or dark scarlets. Of these the darkest I have yet tried is Crimson King (Henderson). It is of a beautiful colour, which affords a very good contrast to the foliage, but I am obliged to confess I am disappointed with it, as it has not proved a sufficiently free bloomer. I agree with Mr. Luckhurst, that in point of habit it is all that can be desired, the foliage covering the plants well, and the flower-stalks stiff and just above the foliage. I am in hopes it will bloom better from old plants.

Next in point of colour is Glory of Waltham (W. Paul). It has not proved so effective with me as I have seen it elsewhere. The leaves are plain, and I think it an advantage in all the crimson and scarlet sections to have little or no zone. I do not know whether there is any difference between Waltham Nosegay and Glory of Waltham; they have always seemed to me so nearly alike that I have not tried the two.

With regard to the next, Waltham Seedling (Beaton), I can only repeat what I have stated before, that it is one of the most valuable bedders we have, very free-blooming and constant, with very good flower-stalks, and it stands the wind and weather better than most Geraniums.

Bayard (Pearson), has again been very good, in size of truss superior to the latter, not so deep a crimson, but a brighter colour. It does not stand bad weather so well, as the footstalks of the trusses are longer, and the habit of the plant more straggling, but it is decidedly one of the most effective bedders we have.

R. K. Bowley (Downie, Laird, & Laing), which obtained a first-class certificate at Chiswick, grows with me too straggling. It is of much the same colour as Bayard, rather darker, and is not in my opinion nearly so good.

Vesta (Paul).—This is one of Mr. W. Paul's best; very free-blooming, with a dwarf habit. Very nearly the same colour as Glory of Waltham, and superior to it. It had a first-class certificate at Chiswick, and is quite worthy of the character given to it. I do not, however, think it has so good a truss, or carries the truss so well as Waltham Seedling.

Thomas Speed (Pearson), a dull crimson, has not come up to the expectations I had formed of it, as it has not bloomed with me this year nearly so well as last.

Bonfire (Paul)—This is very fine in point of colour, very bright crimson, with a good truss and habit. This is the first season I have tried it, and it seems to have a good constitution.

The next I name is a deep red, neither crimson nor scarlet—Duke of Devonshire (Pearson). With me this year it made one of the finest beds I ever saw. The size of the trusses is enormous, and they are very freely produced; its fault is that it has too long a flower-stalk.

Douglas Pearson, much the same in colour, though not so bright as Bayard, is, I think, a better bedder, because its habit is more compact, and the trusses stand up above the foliage better.

W. Thomson (Pearson) is also very good. I believe Mr. Pearson prefers it to Douglas Pearson, but with me the pips in the trusses are more crowded, and do not stand the weather so well.

Milton and Jupiter (Pearson), both shades of deep red, are not so good as Duke of Devonshire, Bayard, or Douglas Pearson, and not sufficiently distinct to make it worth while growing all of them.

All the above are in the crimson or dark scarlet section, and besides them I name some others of which I have not had quite enough to bed separately, as Sunshine (Laing), very pro-

mising, fine colour, and free-blooming; Star of Fire (Laing), a very bright dark scarlet of about the same colour as Bonfire, a very good truss, and dwarf habit, likely, I think, to be a great acquisition; and Rainbow (Paul), fine truss, rather too strong a habit, but it would be very good for large beds, and I can recommend it to those who prefer plain leaves. Another of Mr. Paul's, very distinct in colour, is Claude Lorraine, a magenta crimson; it has been highly spoken of by many, but I have not given it a sufficient trial yet. I must also say much the same of Robinson Crusoe, Chief Justice, Amethyst, Caractacus (all Paul's); they have all grown rather too much with me this year, to enable me to report properly about them.

I next take the scarlet section.

Lady Constance Grosvenor (Turner), is too well known to need any remark, it is decidedly one of the very best.

Cybister (Carter), I have decided to cast, as too straggling both in habit and petal.

Multiflora.—A good dwarf habit, and free-blooming.

Sobieski.—One of the very best; good truss, and carried well above the foliage, nice compact habit.

Rev. J. Woolley (Pearson).—Fine colour, and a very fine pot plant, but not quite free-blooming enough.

Vesuvius.—This disappointed me very much early in the season, but improved so greatly afterwards as to make me alter my opinion, and not cast it as I had at first intended. The trusses are not sufficiently large, and I do not like it so much as many others.

Much of the same colour are W. Underwood (Pearson), very good early in the season, but the habit is not sufficiently branching; Glorious, most uncertain, anything but glorious in bad weather; Roi d'Italie, flower-truss too small, with a bad constitution, only good for very fine seasons.

Grand Duke (Smith).—This is one of the very finest bedders; truss very large, habit good, free-blooming, and very constant. It is more of a light red than scarlet, and I can strongly recommend it to anyone; it is a strong grower, but not coarse.

Godfrey, much of the same shade of colour, is very good, but rather too long in the footstalk; it is, however, a very pleasing bright colour.

Kentish Hero I do not like either for its leaf or its flower, and I have decided to cast it.

Glow is a very good late-season variety, fine truss, and very circular flowers. I was disappointed with it early in the season, but it improved, as Vesuvius did, so much that I shall grow it again.

King of the Nosegays, light red, seems to have too delicate a constitution for bad weather.

Mrs. Laing is still a good variety, but well known.

I find that I have omitted among the dark crimsons two very promising varieties raised by Mr. Laing (Downie, Laird, and Laing)—viz., Moor of Venice and George Peabody; also a very good light scarlet, nearly the colour of Roi d'Italie, Phœbus, which I expect will turn out very well.

Lady Hawley (Downie & Co.), has grown too strongly with me this year, but is a fine pot plant.

I will take the cerise-coloured ones in my next communication, and will only add now some of the light crimson section which it is difficult to classify, as the well-known Lord Palmerston, which I still think one of the very best bedders, though it will not stand the treatment which Mr. A. H. Kent tested it with.

Le Grand is very uncertain, as a rule not free-blooming enough, very fine at times. An undoubtedly good pot plant.

Eclat (Smith), has a very large truss, but is too coarse except for large beds.

Masterpiece is all foliage and no flower.

David Garrick (Bell & Thorpe), is in the way of Eclat, but not so coarse, and a finer flower.

I conclude now by saying if anyone wishes to have my remarks on the warmer treatment of Geraniums in the winter confirmed, let him go to Mr. Pearson's, of Chilwell, during the winter, and, as I stated last year, many gardeners would do much better to use their late vineries for bedding plants rather than cold pits. If the temperature of the house is not kept above 45° it will not unduly excite the Vines, and very little fire heat will be needed.—C. P. Peach.

YORKSHIRE HERO POTATO.

That so many kinds of Potatoes should be named recently in the Journal as good, and no mention made of the best, is remarkable. I have this year grown in a light rich soil Rivers's Royal Ashleaf, Hogg's Coldstream, Lapstone, Daintree's Seedling, Wheeler's Milky White, Almond's First Early, and Yorkshire Hero, but the last-named is infinitely superior this year to any of the rest. In 1870 all were better than this year in flavour and mealiness, except Yorkshire Hero, which is as good this year as last.

I find Early Rose really an early Potato and a good cropper, all the tubers being ripe long before the disease came. I should say it is a good Potato to sell, as many retail buyers do not seem to know a good-flavoured Potato from a tasteless one.

I last year was imprudent enough to recommend good sorts of Potatoes to my friends, but, as so few can cook a Potato, my advice gratis met with the usual amount of appreciation. I have seen the attempt nearly succeed to spoil a Yorkshire Hero in the cooking, but it requires ingenuity.—Yam.

GOLDEN CHAMPION GRAPE.

We have received from Mr. Douglas, gardener to F. Whitbourne, Esq., of Loxford Hall, Essex, specimens of the Golden Champion Grape, with the following note in reference to a criticism on this Grape which recently appeared in the pages of a contemporary:—"The smaller specimens are from a Vine grafted on Black Hamburgh, and the others from one on Trentham Black. This Grape has done well with me in the present year, and both Mr. and Mrs. Whitbourne think highly of it, and have preferred it to Buckland Sweetwater." And well they might! The berries from the Vine grafted on Trentham Black were of a fine golden colour, clear, and without the slightest trace of spot, perfectly ripe, firm in flesh, excellent in flavour, and 1⅝ inch long by 1¼ inch broad. The Committee that would ignore such a Grape submitted to them would justly expose themselves to well-merited censure.

REVIEW OF THE VEGETABLE SEASON.

Although this, perhaps, has been one of the worst fruit seasons on record, we may deem ourselves fortunate in having a first-rate supply of all kinds of vegetables, and, with the exception of Potatoes, all of good quality.

To begin with the most important—namely, Peas. Laxton on the whole takes the lead with that excellent variety Alpha, which, sown successionally, is the best of Peas for all seasons; nevertheless, Carter's Imperial Wonder is certainly the most sugary of all Peas of my acquaintance. The following six varieties of Peas I consider the best—three early and three late—viz, Sutton's Ringleader [Dillistone's Early], Little Gem, and Laxton's Alpha for early kinds, or the latter for late; Carter's Imperial Wonder, Laxton's Quality, and Laxton's Supreme, a truly fine Pea for late crops and show purposes.

Among Potatoes I know of nothing like Early Coldstream, not one tuber having here been diseased, and it being fine both for use and for production, but selection is required in order to keep up a true stock. Royal Ashleaf and Myatt's are both good early varieties, and kidney-shaped Potatoes are preferred for the dining table. For a late-keeping variety Lapstone heads the list here. The American Potatoes have all been tried and all found wanting. Among new varieties Paterson's Bovinia is the most promising. Carter's Main Crop is perhaps the handsomest of all Potatoes, but lacks flavour; still, I shall try it again. The Marchioness of Lorne, another of Paterson's sent here for trial, is also particularly handsome, but I cannot afford to taste it this season.

Of Cauliflowers and Broccoli I find Walcheren the very best, giving us ample supplies from June to November, making three sowings—viz., in the second week of March, the second week of May for hand-lights, and the third week of August. We are now cutting heads of 3 inches in diameter, and others a foot across for secondary purposes, and of good quality. This is succeeded by Snow's, which keeps up a supply by protection with fern until February, when we have Sutton's White Sprouting and Osborn's Winter White, but for the latest of all nothing is so good nor so hardy as Eclipse (Cattell's).

Among Savoys I find nothing so valuable as Little Pixie. Planted out 16 inches plant from plant, the ground is literally covered with small but delicious heads of from 1½ to 2 lbs. each. I shall advise all my gardening friends to grow this Savoy largely.

The most useful vegetable just now is White or Sea-kale Beet grown in well-trenched rich ground. The leafstalks are nearly a quarter of an inch thick, and as white as snow. It is a great favourite with the cook.

For general purposes nothing surpasses Cole's Celeries, White and Red. Sandringham is also good, but in my opinion not equal to Cole's in quality.

Of Beans we have a capital variety in Carter's Champion, an extraordinary cropper of good quality.

Among the many varieties of Cabbages—the best of all green vegetables if ready in May—Barr's Little Pixie stands at the head. It is planted on a south border at 12 inches apart; all the plants are of one size.—R. Gilbert, *Burghley*.

ROYAL HORTICULTURAL SOCIETY.

November 1st.

For such an ungenial day, with the wind east and a slight dash of north in it, there was a fair show. Of the principal subjects for which prizes were offered in the floral and fruit departments—namely, Chrysanthemums and out-door Grapes, neither the number nor the quality of the exhibitions was up to the mark of past years—a circumstance entirely attributable to the lateness of the season. For Chrysanthemums the Show was quite a fortnight too early, while out-door Grapes, even near London, have, except under the most favourable circumstances, not ripened at all.

Of six large-flowering Chrysanthemums only two collections were shown—one from Mr. Goddard, gardener to F. C. Little, Esq., Cambridge Villa, Cambridge Park, Twickenham, and one from Mr. Rowe, gardener to Mrs. Lewis, Roehampton. The former were trained to single stems, branching into a narrow candelabrum-shaped head, but not hollow in the centre. Aurenm multiflornm, yellow; Princess Marie, lilac; and Mrs. G. Rundle, white, were very well bloomed; of the others James Salter and Duc de Conegliano are both very ornamental for conservatory decoration. Mr. Rowe's plants were the usual bush specimens, very healthy and well grown. Mrs. G. Rundle, Prince of Wales, and Gloria Mundi were very well bloomed. Mr. Rowe had the first prize, Mr. Goddard being second.

Of six Pompons, Mr. Rowe sent fine plants of White and Golden Cedo Nulli, and Salamon; the others were not fully out. Mr. Goddard sent plants trained on flat trellises, of which Madame Pépin, Lilac Cedo Nulli, and Aigle d'Or were in good bloom. Mr. Rowe was first, Mr. Goddard second.

The only stand of twenty-four cut blooms came from Mr. Rowe, gardener to Mrs. Lewis, Roehampton, and included very good blooms of Mrs. George Rundle, Prince Alfred, Lady Talfourd, Rev. J. Dix, Guernsey Nugget, Mr. Brunlees, and Bronze Jardin des Plantes. For these a first prize was given, and a like award was made to the same exhibitor for a stand of twelve, in which the varieties named were the best. Mr. Forsyth, of Stoke Newington, exhibited a stand not for competition.

Of decorative berried plants only two collections of nine were shown. That which took the first place came from Mr. George, gardener to Miss Nicholson, Putney Heath, and consisted of Solanum ciliatum, Cotoneaster microphylla, a green-leaved Aucuba with green fruit, an Orange, and a very good plant of Ardisia crenulata. Mr. Rowe, who was second, had nicely fruited plants of Ardisia crenulata, Cotoneaster, Skimmia japonica, yellow and red Capsicums, a Solanum, and two Aucubas.

Prizes were offered both by the Society and Messrs. Carter & Co. for the best collections of Potatoes. Mr. Dean, seedsman, Ealing, was first for the Society's prizes with a very clean well-grown collection of thirty-six kinds, among which were several of Mr. Fenn's seedlings, as Onwards, Rector of Woodstock, Woodstock Kidney, and Bountiful. Mr. Lumsden, gardener to the Right Hon. R. C. Nisbet Hamilton, Bloxholm Hall, Sleaford, was second with fifty-one dishes, among which there were many finely grown tubers. Mr. Garland, Killerton Gardens, and an exhibitor whose name did not appear, also sent collections.

For the prizes offered by Messrs. Carter & Co. several excellent collections were shown. The best came from Mr. D. Lumsden, Bloxholm Hall, and consisted of fifty-one dishes. The second prize went to Mr. C. Ross, gardener to C. Eyre, Esq., Welford Park, Newbury, and comprised twenty-three dishes of large tubers. The best dish of Main Crop Potato, for which Messrs. Carter also offered a prize, came from Mr. Frisby, gardener to H. Chaplin, Esq., Blankney Hall, Sleaford.

For the best dishes of out-door Grapes grown against a wall without any protection, liberal prizes were offered by the Rev. George Kemp. Hitherto these prizes have been the means of bringing together a very interesting display; but this year, from the coldness of the summer and autumn, the number of exhibitors was very restricted, and but one kind was shown—Royal Muscadine, in every instance under the name of Sweetwater. Of this, well known as one of the best, if not the best, of out-door Grapes both for hardiness and flavour, Mr. Norris, Francis Court, Broadclyst, Exeter, had the largest and best-flavoured bunches. Second came Mr. Tranter, Upper Assenden, Henley-on-Thames. Mr. Hepper, gardener to C. C. Ledward, Esq., The Elms, Acton, also exhibited.

Of six dishes of dessert Pears there were numerous exhibitors, and some of the fruit were remarkably fine. The first prize went to Mr. Fowle, gardener to Sir H. St. John Mildmay, Bart., Dogmersfield, for Conseiller de la Cour and Benrré Clairgean, very fine, both from bush trees on the Quince stock; Hacon's Incomparable from a wall, Pitmaston Duchess and Flemish Beauty from a wall, and Duchesse d'Angouleme from a bush tree; all of these were large. The second prize went to Mr. Garland, Killerton, for extraordinarily large fruit of Gansel's, Benrré Bachelier, Maréchal de la Cour, Benrré Clairgean, Doyenné du Comice, and Van Mons Léon Leclerc. Third came Mr. J. Stephenson, gardener to F. C. Barker, Esq., Leigh Hill, Essex, with Grand Soleil, Urbaniste, Huyshe's Victoria, Benrré Diel, Glou Morçeau, and Marie Louise.

Fruit Committee.—G. F. Wilson, Esq., F.R.S., in the chair. Mr. Johnstone, gardener to the Earl of Strathmore, Glamis Castle, Forfarshire, sent three handsome bunches of Muscat of Alexandria Grapes, weighing 10 lbs. 6 ozs. They were of beautiful colour, and were so much admired the Committee awarded a special certificate. Mr. Johnstone in his communication stated that he had two hundred bunches equally good. Mr. Johnstone also sent a bunch of a Grape called the Oakley Park, resembling the Morocco, but certainly different. It had a pleasant sweet flavour, and from the thickness of the skin and the firmness of the flesh, appeared as if it would be a useful late Grape. Mr. Wells, Southend, Essex, exhibited two baskets of Grapes grown in ground vineries; one of them, being the Muscat Hamburgh in excellent condition, large bunches, perfectly ripe, and of good flavour, received a special certificate. Rev. W. B. Caparn, Draycot, Weston-super-Mare, sent two bunches of Black Hamburgh Grapes, from Rendle's ground vinery, which were small and unripe. Mr. William Tubb, Regent's Park, sent some bunches of Syrian Grape.

Mr. H. Rose, gardener to Her Majesty, Frogmore, sent three splendid fruit of Smooth-leaved Cayenne Pines weighing 22½ lbs., cut from plants grown from rootless suckers planted September 20th, 1870. A special certificate was unanimously awarded to them. Mr. Sage, gardener to Earl Brownlow, Ashridge Park, exhibited a very large bunch of Musa Cavendishii, weighing 46 lbs., which was awarded a special certificate. Mr. Jacques, gardener to J. C. P. Cunliffe, Esq., Hooley House, Coulsdon, sent two good large fruits of Musa sapientum, from a bunch containing sixty-two fruits, averaging 1 lb. each, cut from a plant one year and four months old. They were awarded a special certificate.

Mr. Gardner, gardener to Col. Astley, Elsham Hall, near Brigg, sent fine specimens of Coe's Golden Drop, Coe's Late Red, excellent in flavour, and Guthrie's Late Green, very good; but of Coe's Golden Drop, though the fruit was beautiful, the flavour was past. Mr. C. Ross, gardener to C. Eyre, Esq., Welford Park, Newbury, sent a dish of well-grown Reine Claude de Bavay, but the flavour was affected by the material used in packing. Mr. Sidney Ford, gardener to W. E. Hubbard, Esq., sent a dish of St. Martin's Quetsche, a fine, late, yellow Plum of excellent flavour, also a collection of other fruits, consisting of eight species of Cratægus, two of Crabs, Winter Bonvie Pear, Red Currants, and Morello Cherries. The Committee awarded the collection a special certificate.

Mr. Essington, Ribbesford House, Bewdley, exhibited a dish of Autumn Josephine Pear, a seedling raised from Joséphine de Malines, but the fruit was past its best. Mr. Essington also sent another seedling, which the Committee requested might be sent again next season. Mr. W. Thompson, Clements, Ilford, sent dishes of Louise Bonne of Jersey, Benrré Ronge, and Doyenné du Comice. The latter was delicious. Mr. Powell, the Royal Gardens, Frogmore, sent fruit of a seedling Pear, called Premier, raised by himself. The fruit was from an open standard. The Committee desired to see it again. Mr. Penny, gardener to Sir C. D. Crosley, Sunningdale Park, sent a dish of well-kept Winter Greening Apple, misnamed Stunner Pippin. Mr. Jonathan Gavett, Daventry, sent a fine fruit of Gloria Mundi Apple, grown in California, and measuring 14½ inches in circumference. This fruit was taken from a tree three years old, bearing a crop equal to four or five barrels. The tree was sustained by irrigation during the dry season. The Committee awarded it a special certificate. Mr. C. Brown, gardener to D. P. Grenfell, Esq., Taplow, sent a collection of Apples grown on horizontal cordon trees, planted in November, 1869, but they were not remarkable for quality.

Mr. Chaff, gardener to Alfred Smee, Esq., F.R.S., Carshalton, exhibited a collection of twelve varieties of Apples, superior in quality and flavour, to which a special certificate was awarded. Mr. W. Earley sent a seedling Tomato, called Earley's Defiance, obtained as a cross between Red Italian and Orangefield, with the following communication—

"It would be a difficult task to exhibit upon your table all the merits of a first-class hybrid Tomato. As round Tomatoes possess more flesh and less seeds than ill-shapen ones, I claim roundness and exterior smoothness as an especial feature in this variety. It ripens earlier than Orangefield, and is so prolific that it carries efficiently five or six clusters of fruit upon each shoot; an example denuded of an earlier cluster or two I show you. So quickly does it form fruit and ripen them off, that it is injurious to the plants to pinch the shoots in, as is ordinarily practised. The examples exhibited are a part of the produce of a 9-inch pot, one of a row which stood across an open border, the single pot carrying and ripening 42 lbs. weight of fruit similar to those shown."

Mr. Charles Ross, The Gardens, Welford Park, Newbury, sent fruit of the "Sweet Pepper," a handsome red Capsicum without the biting flavour. Mr. Spary, Charley, near Lewes, sent specimens of a variegated Parsley; and Mr. Gilbert, the Gardens, Burghley House, Stamford, three Telegraph Cucumbers and three seedlings, but the Com-

mittee gave the preference to Telegraph. Mr. Cross, gardener to Sir H. Goldsmid, Bart., Rendcombe Park, Cirencester, sent specimens of Walcheren and Veitch's Autumn Giant Cauliflower.

Messrs. Carter & Co., exhibited a collection of twelve varieties of Onions, and sixty sorts of Potatoes, some Beet, Carrots, and Drumhead Cabbages, all of which were meritorious examples of their different kinds, and to which a special certificate was awarded. Mr. Lidgard, of Hammersmith, exhibited five varieties of Celery of large size and excellent quality, to which a special certificate was awarded.

Floral Committee.—W. Marshall, Esq., in the chair. The subjects on which the Committee had to decide were very limited in number, and those which merited special notice were but few. A special certificate was given to Messrs. Standish & Co., of Ascot, for a collection of Gladiolus, the result of hybridising Brenchleyensis and Gandavensis varieties, and probably others, with G. cruentus. The spikes were not so many-flowered as in the ordinary varieties, nor was the form so good, but the colours were very striking and novel, and the lateness of blooming remarkable. Whether the latter was a consequence of the corms being young, or the effect of hybridisation, we are unable to say; at all events there is every prospect that the varieties thus originated will give rise to fresh varieties in this beautiful flower, as well as a prolongation of its flowering period. Messrs. Standish & Co. also exhibited their late-flowering Lily of the Valley along with a pot of the ordinary kind. While the leaves of the former were all withered, those of the latter still preserved their freshness. Mr. Chaff, gardener to A. Smee, Esq., sent a specimen of Pteris scaberula, nearly 4 feet in diameter, in perfect health, and beautifully furnished. This had been grown in the hardy fernery in the open air since the 5th of last June. A special certificate was given. A like award was made to Messrs. E. G. Henderson & Son, Wellington Nurseries, St. John's Wood, for a charming collection of Sedums, Saxifrages, and other alpine plants in small pots. Sedum acre elegans, a neat little creamy green variety, received a first-class certificate. Messrs. Henderson also sent Bouvardia Davisoni, a white-flowered variety obtained between longiflora and Hogarth, and stated to be valuable for winter flowering; likewise Salvia angustifolia, not a new plant, but one of which the blue flowers might be a welcome addition in our greenhouses.

Mr. Green, gardener to W. Wilson Saunders, Esq., had first-class certificates for Billbergia chlorosticta, a new Brazilian species with brown leaves mottled with green, and Lomatophyllum Saundersii, with long, narrow, channelled, light green, rose-toothed leaves. Mr. Kemmery contributed a number of fine cut spikes of Cattleyas, a very large flower of Miltonia Morelliana, Odontoglossum Alexandræ, and other Orchids. From Messrs. E. G. Henderson came a curious black Fungus, Xylaxia polymorpha; and from Mr. Chapman, Gloucester, his Multum-in-parvo plant and flower protector, for placing round florists' flowers. These are perforated zinc openings in the sides of the boxes to admit air, and the whole can be readily taken to pieces.

THE ONION GRUB.

The destruction of the Onion crop by the maggot is a preventible disaster, but I believe not a curable one.

When the young plant attains to the production of two leaves, on a fine sunny day the Onion saw-fly deposits one or more eggs between the leaves. The grub is soon hatched, and finds its way down the stem to the root, which it destroys.

Now for the preventive. In the stage previously mentioned, if you go over the beds with a flour-dredger charged with flowers of sulphur, dredging the beds twice or thrice during three weeks, the saw-fly will not invade them. I have used this means for the last twenty years, and while my neighbours have suffered severely, my Onions have been exempt from this plague.—Joseph Burgess.

NAMES OF PLANTS.

As an example of the modification and perversion which names undergo as they are handed down from generation to generation, we may cite the familiar Sweet William of our gardens, a plant originally so called from the French *œillet*, a little eye, in allusion to its bright star-like flowers with their darker central spot of colour; the original meaning being lost and the pronunciation of the word slightly distorted, soon led to its being termed Willy, and thence the transition to Sweet William. In the same way the word Asparagus, originally derived from a Greek wood signifying to tear, many of the species being armed with sharp spines, being meaningless to the great majority of those who heard it, soon from the desire of the uneducated to modify an unknown word into one familiar to them, became the, in reality, much more meaningless word "Sparrow-grass;" while in conclusion, not to needlessly multiply examples, the plant we term Samphire was originally, from its love of the seashore, dedicated to St. Peter, the fisherman of Galilee, and is still known amongst the French as St. Pierre, and by the Italians as the Herba di San Pietro. As an example of the name of a plant becoming obscure from a custom connected with it becoming obsolete, I may just mention the Ground Ivy, which from its use at one time in brewing as a means of gilling, or as we should now term it fermenting, was known as Gill-run-by-ground, a name now meaningless. A few names arise from a certain sense of humour on the part of those who first started them: thus hemp, from its use in providing the halter, is in some old books called Gallows Grass, while others call it Neck Weed, and this grim humour changes into contempt in the names Dog's Violet, Dog's Mercury, and Dog's Orach, the prefix, as in the names Hog Fennel, Swine's Cress, and Horse Mint, implying worthlessness; even the beautiful wild Rose of our hedges shares this opprobrium, and that very widely, being not only Dog Rose in English, but the *Rose de chien* of the French, and the *hundrose* in Germany. —(*Marlborough College Magazine.*)

SUCCESSION POTATOES.

I am exceedingly obliged to you for naming the Potatoes for me. With regard to changing the sort, I am anxious not to do so, as it is a first-rate cropper on our soil, and of good quality for the table. I have tried several varieties, but not one will compare with this. If you could suggest a good variety I should be much obliged. I have lately tried the Red-skinned Flourball, but it is not fit for the table, although it crops well, the flavour being very rank and earthy. I always grow the old Ashleaf to commence with, followed up with the Fortyfold and the variety I forwarded to you [Douglas's Irish Kidney?] for winter and spring use. I do not care to have a number of varieties, but endeavour to grow the best individual variety that suits the seasons—viz., summer, autumn, and winter, the three sorts named above following in this order, and they certainly suit our soil better than any others I have tried.—W. J., *Shepherdswell.*

[To people of large income wine of foreign vintage and choice brand at a guinea a-bottle would not be an object of consideration, whilst to others a bottle of home-made wine at one-twentieth of the cost would prove both convenient and enjoyable. It is just so with Potatoes. A large landholder would probably be indifferent so long as he obtained quality, whether he grew an expensive sort or no—not so the possessor of a garden, or a mere quarter-of-an-acre man. Persons of the latter class are generally compelled to take into consideration both the quality and the economy of the form of a Potato.

Now the old Scotch Rock, and, say, Douglas's Irish Kidney, are first-rate sorts to eat, large and deep-eyed, the peeling which a cook-maid will cut off, diminishing the tubers into neat rhomboids of wasteful diameter; and if for the parlour table, she must still further destroy their outlines by deeply scooping out the eyes, so that they may not appear there when cooked. The old Cobbler's Lapstone Kidney, or Almond's Yorkshire Hero, or Paterson's Victoria, or Paterson's Alexandria, go one-third further with the same weight of crop. The kitchen-maid looks more kindly upon them, because she can peel them more quickly when pressed for time—and she generally is very much so at the Potato-peeling time of the day—and with no temptation to waste. The latter sorts are withal quite as good croppers and keepers, and better in flavour than "W. J.'s" Irish sort, and they are kinds which in his soil I would strongly recommend him to try. Paterson's Alexandria is a Potato of first-class quality, and I do not think it has been sufficiently recommended. It is, however, a tuber of colour, which is one reason, I suppose—for colour is not admired in the Potato markets as a rule. By all means keep to the Ashleafs and the old Fortyfolds; but even with these you should exchange your seed of them every two or three years for that from the county of Middlesex, or the farther north the better.—Robert Fenn.]

PORTRAITS OF PLANTS, FLOWERS, and FRUITS.

Bomarea chontalensis (Bomsres of Chontales Mountains). *Nat. ord.*, Amaryllideæ. *Linn.*, Hexandria Monogynia.—A native of Nicaragua, where it grows at a height of from 2000 to 2500 feet above the level of the sea. It is nearly allied to B. edulis, the tubers of which are eaten by the natives of St. Domingo in place of Potatoes. Its flowers are rose red, and it is a good stove climber.—(*Bot. Mag.*, *t.* 5927.)

Xiphion filifolium (Thread-like leaved Xiphion). *Nat. ord.*, Irideæ. *Linn.*, Triandria Monogynia.—Discovered by Boissier in the south of Spain. Flowers generally one on each plant, and of a violet purple colour.—(*Ibid.*, *t.* 5928.)

Epidendrum Pseudepidendrum (Epidendrum False-Epidendrum). *Nat. ord.*, Orchideæ. *Linn.*, Gynandria Monandria.—A parasitic plant, growing on a species of Ficus in the northern part of the Cordilleras of New Grenada. The sepals and petals are bright green, and the lip and upper parts of the column orange vermilion.—(*Ibid.*, *t.* 5929.)

Echidnopsis cereiformis (Cereus-like Echidnopsie). *Nat. ord.*, Asclepiadeæ. *Linn.*, Icosandria Monogynia.—Belongs to the tribe Stapelia, and is often known by the name Stapelia cylindrica. Its original home has never been discovered. Flourishes at Kew in a warm succulent house, and blooms from June to October. Flowers bright yellow, produced on cylindrical eight-grooved stems.—(*Ibid.*, *t.* 5930.)

Arisæma curvatum (Curved Arisæma). *Nat. ord.*, Aroideæ. *Linn.*, Monœcia Polyandria.—A common plant in the Himalayas and in some other parts of India. Its tuberous roots are employed like those of the Arum maculatum for food, but are previously deprived of their deleterious properties by washing. Spathe of a brownish purple colour outside, green inside; spadix long, tapering and curved; fruit a mass of fleshy red berries.—(*Ibid.*, *t.* 5931.)

Rose—*Princess Beatrice*.—"It is a full-sized, regularly-shaped, globular flower, perfectly double; the colour a deep but delicate shade of pink, with a clear blush margin; the petals are beautifully rounded, and of great substance, so that the durability of the flower is unexceptionably great. Flowers produced under glass in March last remained in condition a fortnight, and in the open ground in June and July they lasted twice the time of any other Rose.

"The flower in character and outline resembles Alfred Colomb, although differing widely in colour from that admirable variety. The growth is more like that of Victor Verdier, the vigorous shoots producing large, bright, handsome foliage. One great quality which must not be overlooked, is that it flowers as freely in September and October as in the summer months. It has received a first-class certificate from the Royal Horticultural Society."—(*Florist and Pomologist*, 3 s., iv., 217.)

SEASONABLE HINTS.

At no period of the year is there a greater temptation to relax one's efforts in the trim keeping of a garden than now, when the lengthening nights and the paling leaves denote the approach of winter. The season of growth is past, repose or decay takes the place of the vigour of vegetable life, and gusty autumnal winds scatter the falling leaves on all sides. The tendency of autumn is to impart an air of neglect, and more especially to those gardens where deciduous trees abound, so that unless great care is taken a dreary untidiness prevails, and all the pleasures of the garden seem to have departed with the bright days of summer. This is not right; autumn has its own peculiar attractions, and care should be taken that they do not lose any of their beauty or enjoyment through carelessness or neglect.

Amongst the more important work to be done now lawns especially require close attention. The excessive moisture, resulting from dewy nights, lies thickly on the turf, and wormcasts abound; the roller must, therefore, be set in constant use. In all gardens, besides the heavy iron roller, there should be a light roller, just heavy enough to pass briskly over a lawn to disperse dew and press down wormcasts, so that an active man can pass over a large area of turf in a short time. Lawns much seen can be rolled daily, after any stray leaves or other unsightly objects have been removed. The grass-edgings should also be constantly clipped, the walks well weeded, swept, raked and rolled, and flower borders kept neat and trim by removing all decaying leaves or plants as they occur. It is well to prolong the summer display in the flower beds as long as possible, but when "sere and yellow leaves" predominate, the beds should be cleared of their occupants, and the soil either turned up to the sweetening influence of winter, or planted with suitable winter plants.

I know it is a difficult matter to do all this as well and as promptly as one wishes; but apart from its being a matter of duty, it is worthy of our best efforts at a season of the year when the high keeping and exquisite neatness of a well-ordered garden are rendered all the more conspicuous and attractive by their contrast with the daily increasing wildness of Nature's garb. Nor do these remarks apply only to the flower garden and shrubbery, but they bear with equal force upon the kitchen garden and glass houses. Neatness should ever form a leading feature of kitchen-garden management. No spent crops or useless plants should disfigure the beds, or be suffered to needlessly exhaust the soil; the place for these is the rubbish-heap, where they may decay into manure, and the soil, instead of lying sodden and inert, is cast roughly up to become mellow and sweet by spring.

At the decline of the year it is very gratifying to look back upon a successful season, but its failures should be carefully remembered, and measures taken to guide our future efforts. A glance through the daily entries of the garden journal, which every gardener should keep, may now remind us of any blanks among the collection or selection of plants, fruit trees, or shrubs. It is well to do this annually, principally with the view of at once replacing a valuable variety of any species, and also because vacant places, wherever they occur, point to a scarcity of supply, besides implying carelessness and neglect.

All persons would like to attain perfection in what they do, many strive for it with more or less earnestness of purpose: hence the closer an object resulting from skill and application approaches perfection the more generally is it admired. It is by bringing such principles as these to bear upon every action of one's life that even a bed of Cabbage or Lettuce may be made to present so much excellence as to excite a feeling of admiration. Let it not be thought that this view of so simple a matter is at all overstrained. "Whatever is worth doing at all is worth doing well," is the maxim upon which my theme is founded, and it is the mainspring of all earnest efforts, however humble may be the object sought after. Autumn, then, is by no means a time of repose in gardens, much may be done now for another season; in reality the gardener's new year begins with the fall of the leaf—his measures now are productive of no immediate result, they are rather adopted and executed for the benefit of the crops of another season, and the glowing masses of floral beauty or the free succulent growth of vegetables of another summer will alike owe much of their excellence to the careful forethought of the cultivator at this period of the year.—Edward Luckhurst.

MARKET GARDENING.

(*Concluded from page* 323.)

The Bedfordshire District lies in Biggleswade, Sandy, and adjoining parishes. The soil is a sandy or gravelly loam, of excellent quality when not too light or thin, resting on sharp gravel, sand, or sandstone rock. The river Ivel, formerly navigable, runs through the district, joining the Ouse at Tempsford. Water is generally found at a depth of 16 feet. In order to shelter a level tract, rows of lofty Elms, trimmed into excessive ugliness, are allowed to disfigure the country in every direction. The same object might perhaps be attained, with agreement among proprietors, by the planting of fast-growing timber at salient points to break the currents of wind, and the neighbourhood might be ornamented as well as protected by such means without injury to the crops.

The crops grown include a considerable breadth of corn, Turnip, Kohl-Rabi, and Onion seeds, and a few Carrots and Parsnips. Scarcely any Peas are grown, and none of the "fancy crops," such as flowers and culinary herbs. The main crops are Potatoes and Onions, both for pickling and for "lofting"—*i.e.*, storing in airy lofts constructed for the purpose, with louvre boards for ventilation. A large portion of the produce is sent to the manufacturing districts. It is common to sell largely to the dealers or agents who visit Bedfordshire after the middle of June for the purpose of buying the growing crops of Potatoes, which are lifted and marketed under their direction during the following three months before the Scotch supply has commenced. This intervention of middlemen seems to be practically necessary, in order to regulate and distribute the daily supply of vegetables at the various distant markets.

The succession of crops is not regular. It is observed that Turnip seed is a good, and Potatoes a bad preparation for Wheat, and that Onions ought not to be taken from the same ground oftener than once in five years. A common rotation is:—1, Onions; 2, Turnip seed or Potatoes; 3, Wheat; followed by such crops as Onion seed (after Potatoes), Cucumbers, Carrots, or Parsnips. The most important crop is Onions, which receive enormous dressings of manure, and sometimes yield a handsome return. The method of cultivation is the same as at Barking—one ploughing, 6 inches in depth, and the manure harrowed in with the seed; 50 tons of dung per acre are sometimes applied, costing 8*s.* per ton at the railway, and 10*s.* when spread in the field. Small dressings of guano are

occasionally used, but in the case of Onions intended for "lofting," forcing manures must be applied cautiously, as they induce a luxuriant growth; and as bulbs which have been grown too rapidly do not keep satisfactorily, the grower loses the chance of selling his crop at £11 per ton in March! The cost of hoeing is £5 for the season.

Turnip seed or Potatoes follow Onions, with a dressing of guano for the former and of soot for the latter. Turnip seed is grown for seedsmen who supply the farmer with stock seed, which is drilled at 24 inches apart, or the plants are transplanted from a seed-bed in November. One ploughing suffices for this crop. The land is ploughed in autumn for Potatoes and again in spring, and the sets are planted with a dibble at the second ploughing. In the case of early Potatoes a wide furrow of 9 inches or 10 inches is given, and the sets are placed in alternate furrows. Late Potatoes are planted in every third furrow of 8 inches or 9 inches.

A few other particulars may be briefly noticed. Early Potatoes (which are not earthed), and Scarlet Runners are planted in alternate rows, the latter occupying the whole space between the rows (3 feet or 3½ feet) after the removal of the Potatoes. A large breadth of Cucumbers is grown. They are manured with perhaps 40 tons of dung per acre, planted thickly in rows, sheltered at 6-feet intervals by rows of Rye or Onion seed. Some growers sow many acres with this crop. Onion seed is also grown at 2-feet intervals, and is sometimes supported by stakes and string, but more generally by earthing-up.

General Remarks.—The preparation of the land for Onions indicates that they prefer a solid surface. In the Essex district a ploughing is given before Christmas, a large quantity of short dung is spread on the land during frost, and is well knocked with a fork; it is afterwards harrowed in with the seed. If dung be ploughed in, and especially if it be covered deeply, it is observed that the plant does not get hold of it until late in the season, and a rampant habit is induced at the end of June, when the Onion ought to be bulbing. The consequences of ploughing in dung would perhaps be less injurious on old garden ground, which is full of manure. Lisbon Onions for salade are sown in August or early in September.

Pickling Onions require the same cultivation and excessive manuring. They are sown very thickly, and are bleached by casting mould over them a short time before the crop is secured. The process of brining and skinning the crop for one large grower, employs about four hundred women working in sheds. Dung, which is usually placed in large heaps 5 feet high and frequently 10 yards wide, is turned twice for Onions.

Peas are not profitable in the field garden district. An occasional piece of early Peas is sown in November, to be followed by some such crop as Broccoli, which may be planted as soon as the Peas are off. After hoeing, the Peas are moulded up, and the haulm is laid to check over-luxuriance.

Broccoli and Cauliflowers are largely grown on the strong, deep fruit-bearing soil of Enfield, a spot which is famous for the tribe, and has given a name to one of the varieties of Cabbage. The cultivation of Cauliflowers and of Walcheren Broccoli has been noticed in connection with a garden in Bermondsey. The latter are usually planted after Potatoes or Cabbages at the end of June or early in July, and are cut from September to December. Market gardeners also provide a crop of Broccoli to cut early in spring, sowing the Sprouted, Winter White, and other kinds to plant early in September after Potatoes, &c. A heavy coat of dung is turned in with a deep furrow, on deep soil, by three horses, or dug in when the occupation is small. The earliest are sold in time to sow Carrots or Onions. Other varieties follow during the spring and summer.

Lettuce.—Without plenty of manure and garden cultivation Lettuces run to seed quickly. Hammersmith has given a name to one variety, and they are confined in great measure to neighbourhoods where the gardens are small. The Brown Cos is sown in November for early use; this and the White and better, but less hardy varieties, are sown in succession from February till June. The chief demand in London is at the end of May, and during June and July. Early sowings are made in seed-beds, later sowings may be made in drills without transplanting.

With respect to the weight of crops, which is the chief point of agricultural interest, garden crops are generally removed before they are mature, and they are planted thickly with that object. It is not the weight, but the number of bunches, that yields a large return. Prices vary so much that no precise estimates on the subject can be given, although one of my informants lent me his books containing exact accounts of monthly sales for several years. I can report a sale of early Potatoes (3 tons per acre) at £11 per ton, on a Saturday in the third week in June; on the Monday the price was £9 per ton, and it soon fell one-half. Cabbages when very plentiful are sometimes sold at 4*d.* a-dozen, they ought to fetch 9*d.*, and it is very satisfactory to the grower when they sell at 1*s.* a-dozen. Three hundred dozen bunches of Carrots per acre, including "chumps" or rough Carrots, sold to stable-keepers, are a very large crop; 2*s.* 6*d.* per dozen is a satisfactory price. This year Carrots are considered to sell well at 3*s.* A bunch contains from 50 Carrots, early in the season, to 25 when they are larger, 20 tons of Belgian Carrots, are considered a good crop; 40*s.* a ton is a common price at the stables in London. A crop of Parsnips generally weighs considerably more; the price of the finest roots varies from 1*s.* to 1*s.* 6*d.* per score of 22.

A good crop of "Collards" is 200 dozen bunches. It varies between 50 and 350 dozen, and the smaller crop may pay best, reducing the land but little, and selling perhaps at a high price, with comparatively small deductions for the cost of labour and marketing. One hundred and fifty bushels of Peas are a large crop, and £15 on the ground is a very great price, which is sometimes paid by dealers for a crop that would yield 8 quarters of threshed Peas; 2*s.* 6*d.* and 3*s.* per bushel are common prices in Covent Garden, up to 8*s.* for the first early Peas, or for "blues" when they come first to market, "whites" being then worth but little. A crop of Onions, I believe, weighs about half as much as a crop of Swedes in the Eastern Counties, where 20 tons of Swedes are a great crop, and from 10 to 15 tons are common crops; price from 5*s.* to 9*s.* per cwt. Prices are affected by a variety of circumstances which cannot be foreseen. A blight in the early Potatoes would raise the price of Carrots and other competitive vegetables. Cabbages were selling this year at 1*s.* a-dozen on June 14th, because there were few Peas or Potatoes in market. Each gardening district has its innings, which terminates suddenly; for example, any district which is earlier than another has possession of the market so long as the advantage lasts. During a fortnight last spring immense quantities of Cabbages were sent from Essex to the great manufacturing towns in the north.

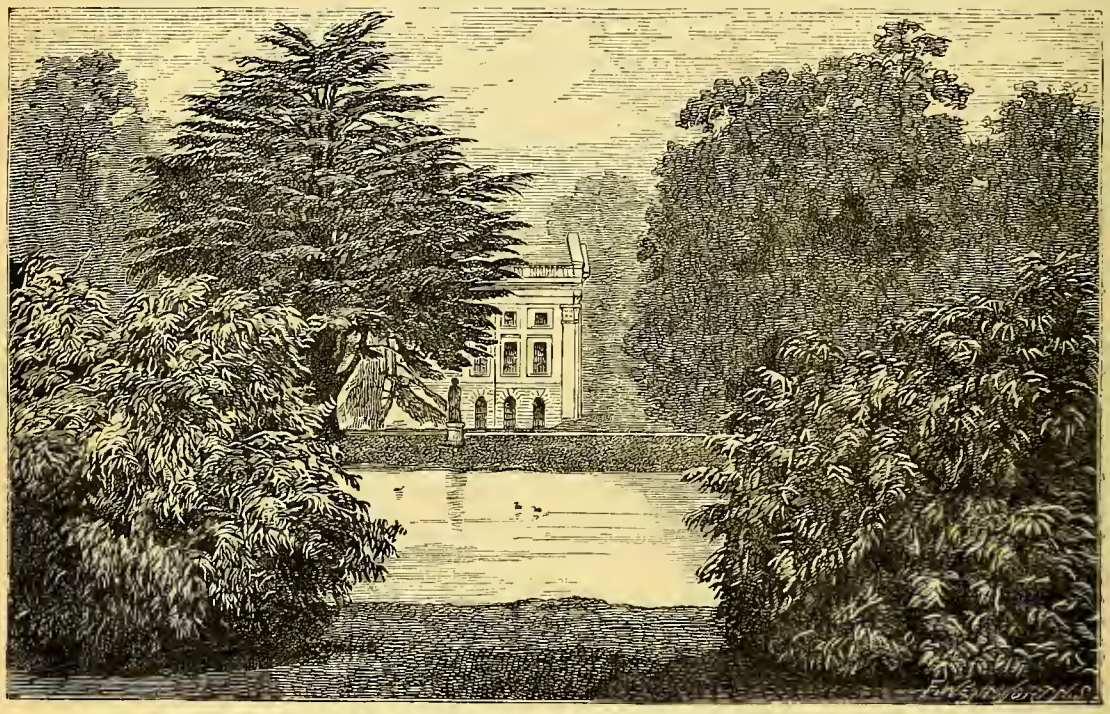
Lisbon sends the earliest Potatoes to London, the French coast and Scilly Islands follow, then Jersey, Guernsey, Cornwall, and Holland; and by the middle of June, these distant but early districts are driven out of the market, by the arrival of supplies from Essex, &c. Red Cabbages have been sold at 160*s.* per ton early in the season, and at 25*s.* per ton a fortnight afterwards; or at from 1*s.* to 4*s.* per dozen.—H. Evershed (in *Royal Agricultural Society's Journal.*)

MOOR PARK.

This residence of Lord Ebury is remarkable for its historical associations as well as for its sylvan beauty. It is situated near the southern extremity of the county of Herts, and adjoins the village of Rickmansworth, to which there is a branch from the main line of the North-Western Railway at Watford. The visitor, after alighting at the first-named village and crossing the river Colne, arrives in a very short time at one of the lowest points of the park. The first glance is sufficient to impress upon him the certainty that he is entering a domain to which the term Park has with all propriety been applied for many generations. In all directions he sees the beautiful sward studded with Oaks and other trees of all ages and conditions; some that might be almost contemporary with the Crusades, stunted and stag-headed, yet of immense girth, and each grand in all the characteristics of a weather-beaten and venerable tree; others not so old by a century or two, some of which might excite the cupidity of the timber merchant; and others still younger, promising to maintain that park-like character of the place for centuries to come. Nature has lent her aid towards perfecting all this; for instead of the simple level or uniform incline, here we have a succession of bold hills and valleys, all that the lover of park scenery could wish for without difficulty of access. These necessitate, however, a certain amount of curve in the carriage road to avoid inconvenient gradients, which is effected without rendering the road tortuous or unmeaning, and after a drive of nearly a mile, passing by on the way many noble trees close to the carriage road, the mansion is approached. It is a large and portly-looking stone building, the carriage front consisting of a portico of Corinthian columns, and presenting a front of some 180 feet or more, but owing to the character of the ground, the opposite side, which looks out upon an Italian garden, is one storey higher, the ground declining to that extent in the middle of the mansion. The site is

a little way up one of those valleys by which the whole of the park is divided, and this one opening to the north admits a fine view over the district, extending far in that direction, and which holds some other parks scarcely less important than the one in which we at present are. On the three other sides of the mansion the ground rises gently at first, and then more rapidly; in fact, the whole park, which consists of upwards of 600 acres, is a continued succession of hill and dale. Our legitimate endeavour must be to describe the dressed part of the grounds in detail, and first of all we may observe that these come properly under three divisions—the Italian garden adjoining the mansion; the upper pleasure ground, detached from the last and lying within a ring fence; and the kitchen garden proper, with its glazed structures, constituting the useful portion, which last-named is in another part of the park.

We shall commence with the Italian garden. This may be called the flower garden proper, and it adjoins the mansion on the opposite side of the carriage entrance. There seems to be some uncertainty as to the date of its formation, but it is said to be the work of one of the few lucky South Sea stockholders, who held this place in the early part of the last century, and did much to embellish it in various ways. The design of the beds is simple and good in its simplicity, the space allowed for paths is ample, and the beds are of proper size, contrasting favourably with some of the contracted beds of the present day, too often not larger than a pocket-handkerchief. The principal garden is in three compartments, with vases, sun dial, and fountains appropriately placed, and the whole surrounded by broad gravel walks. An ornamental balustrading serves to divide this from the park. The flower garden extends the whole length of the mansion for about 180 feet, and about the same in depth, but the dressed grounds stretch considerably further in a westerly direction, the front wall of the flower garden being carried on in a straight line some distance in that direction, and then returned at right angles. There is a terrace walk on the north-west side 20 feet wide, and not less than 600 feet.



Moor Park.

long, which is partly planted with choice Pinuses and other shrubs, and also contains that indispensable adjunct now-a-days—a croquet ground, with a summer-house and the other attendants of a mansion of pretension. The whole at the time of our visit was in the best possible order; the flower beds were gay with their various occupants, the turf was clean and trim, and the trees and shrubs were models of good culture. One of its compartments was enclosed with a fine hedge of Sweet Briar—a shrub not half so much employed as it ought to be.

The next important feature of the place is the old or upper pleasure ground. This detached portion of the grounds includes upwards of 25 acres, with a gameproof fence around, and occupies the summit and part of the sides of one of those eminences so numerous in the park. A straight walk, some 200 yards in length, leads to it from the house, and it is entered by flights of steps diverging right and left after the first landing, the whole presenting imposing specimens of masonry and sculpture, and among these a temple in imitation of the Acropolis of Athens.

The two walks that diverge at these steps take an easy and agreeable curve all round, but sufficiently far from the outer fence to prevent its being perceived, while other walks intersect in various places, the whole being in that easy natural style so truly English in all its parts. We ought in the first instance to have stated that the bordering to the fence on the inner side of this enclosure is mostly of hardy native trees, intermixed with shrubs of similar growth, while the interior is more open, having extensive glades of turf with broad masses of Rhododendrons, choice specimens of Pinuses, and plants of a like kind, but flower beds are very properly excluded. A fine piece of water was introduced here, a rustic summer-house there, while the temple mentioned looked well when viewed from the mansion and other parts.

The laying-out of this garden is due to one whom even every schoolboy who reads voyages and travels holds in honour—the much-respected Lord Anson, so celebrated for his voyage round the world and subsequent adventures. That he should devote himself to embellishing his country seat is as worthy of commendation, perhaps, as some of his other exploits, and that he should name the temple he there built "The Temple of the Winds," is not remarkable in one who had so often experienced their caprices.

The same noble proprietor was in other ways a great patron of gardening. Some think that it was he who introduced the Moor Park Apricot from eastern lands, and it is said the original tree lived on until 1840, when it died.

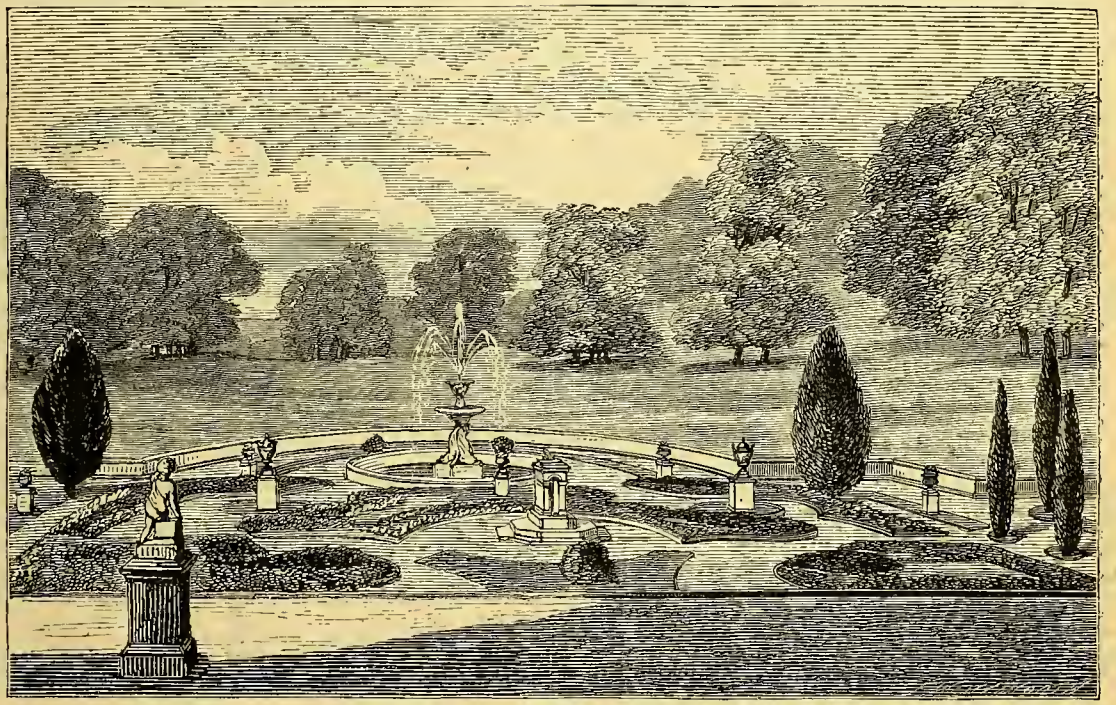
[The Moor Park Apricot is said by some to have been introduced by Lord Anson and planted at Moor Park. By others its introduction is ascribed to Sir Thomas More, who in the beginning of last century is also said to have planted it at Moor Park. A third account is that Sir John Temple introduced it. Which of these is correct it is impossible now to determine, but it was not till the close of the last century that this Apricot attained a general cultivation. It was not in the Brompton Park catalogue before 1784, when it is mentioned under the name of "Temple Apricot." In 1788 it is first called "Moor Park." In 1784 it was cultivated in that nursery to the extent of three rows, or about 300 plants; but in 1797 to the extent of thirty-five rows, or 3500 plants. The Moor Park is undoubtedly of French origin; it is either a seminal variety of the Abricot Pêche—not the Abricot Pêche of Duhamel, which is our White Masculine—but the Abricot Pêche of Bretonnerie and Roger Schabol, or is identical with it. Our own opinion is that it is identical with it. It is said to have originated in Piedmont as a seedling from the Alberge. It is not mentioned in the "Jardinier Français" of 1653, nor in any of the editions of De Quintinye. Switzer speaks of "a very large kind of Apricock that was cultivated at Woolhampton, Berkshire, as big as a Peach, and it is there called the French Apricock." This was in all proba-

ility the Moor Park, but neither Hitt nor Miller notice it in any editions of their works. The earliest record of it, except by Switzer, is to be met with in Roger Schabol.—Eds.]

At a short distance from the entrance is one of the most remarkable Spruce Firs I ever saw, and said to be one of the oldest in England. Mr. D. Cunningham, the able gardener at Moor Park, seems to think it might have been in existence at the time when the ill-fated Duke of Monmouth, to whom Moor Park belonged, met his tragic fate on Tower Hill. Tradition relates that at that time his widowed Duchess had all the Oaks in the park beheaded also, and had this tree been subjected to the same treatment as the Oaks, it is not unlikely that it would assume the form it now has, which is certainly a peculiar one. The bole of the tree, if it can be called one, is scarcely 3 feet high where it divides into three portions, each of them being a perfect tree of itself, uniformly clothed with branches, and towering up to a great height, symmetrically formed, with the branches interlacing where they meet. Two branches from them have touched the ground, taken root, and are rising up in rivalry of their parents. The whole group is most interesting, not the least remarkable feature being the formidable network the naked roots present on the surface. I had not the opportunity of measuring any of the specimens, but the main trunk must be upwards of 20 feet in circumference. The soil is dry and sandy, the Rhododendron seeming to grow freely in it, and there is every probability of its outliving many generations of the human race.

Near to it are two very fine Weymouth Pines, amongst the largest of their species. The roots of these trees also have raised themselves upon the surface, and present a huge network of serpent-like folds.

A little further on we found a fine Douglas Fir, and in another place a still finer Taxodium sempervirens, about 40 feet high. It is seldom we meet with this species in such good form. Picea Pinaspo was also good, though probably not so high as the Taxodium by 10 feet, yet a noble symmetrical tree. There was also an excellent Arancaria imbricata, which had evidently escaped the hard winter of 1866-67, for it was healthy and vigorous. Near to a piece of ornamental water was growing a fine specimen of the Golden Larch, well coloured, and contrasting favourably with the large masses of Rhodo-



Italian Garden at Moor Park.

dendrons not far from it, some of which almost touched the water. Libocedrus chilensis, a Conifer not by any means often met with in good condition, was here well represented everywhere. Cryptomeria japonica was also in good condition, being upwards of 25 feet high, and well furnished from the bottom upwards, with many other trees which I had not the opportunity of taking notice of. We must not forget the fine examples of the two most important of all Conifers, for they have been tried longest, and have stood the ordeal well, and they are the good old Scotch Fir and Cedar of Lebanon. Fine specimens of both graced the grounds in several places, and were probably amongst the first selection of trees planted there, while there seem to have followed others, including Cedrus Deodara and some more Conifers. It must not be supposed that they are crowded together in a confused manner; on the contrary, there is ample space for each, with large open glades of neatly-mown grass between, which in some places undulate irregularly, and at others are nearly level. The whole stands high, which no doubt accounts for the healthiness of the trees. The ground being dry enabled them to ripen their wood well in the autumn, and the outer belt of common trees gave that shelter to the inner ones so much wanted by trees and shrubs from other climates.

Having endeavoured to place before the reader a rough outline of the "Old Pleasure Ground," as it is termed, we will now diverge and make a few remarks on the horticultural show that was being held there at the time of my visit. It is called "The Rickmansworth Cottagers' Horticultural Exhibition," but the productions sent from the many gentlemen's gardens around formed by far the most attractive features of the Show, as well as occupied the greater space. It must not, however, be supposed that we disparage the cottagers' produce; on the contrary, much of it was as good in its way as could be desired, but such plants as Alocasias, Crotons, Allamandas, Caladiums, and Pines, Grapes, and Peaches, are not usually met with in cottagers' gardens, and they were present in great abundance. A large tent 150 feet long by 30 feet wide, with a stage in the centre and narrow shelf on each side, was filled with productions from gentlemen's gardens, and an excellent pair of pot Vines were formed into a pleasing-looking arch, spanning the centre stage at the entrance end. They were, we believe, Foster's Seedling, bearing a white Grape, and having a dozen good bunches evenly distributed over them. We believe they came from Mr. Brush, gardener to Sir H. Campbell, who exhibited other plants besides these; in fact, the exhibitors of plants and fruit were so numerous that we did not attempt to count them, but the gardeners of the Earls of Essex and Clarendon, Lords Ebury and Chesham, Sir H. H. Campbell, Bart., E. Majoribanks, D. Norton, R. Pryor, J. King, W. Jones Lloyd, W. H. Smith, D. Carnegie, and W. McMurray, Esqrs., were all contributors, as well as many others. There were other tents, in which bouquets, devices in flowers for the table, &c., were set forth, in most cases, I believe, the work of ladies; some were very neat, others novel, and one combined both these qualities. This was a design in imitation of a beam and scales, the beam and suspending strings of the scales being covered with moss and light creepers, while fruit occupied one scale and flowers the other. It is easy to guess which side went down, showing, as no doubt the designer intended it should, the superiority of fruit over flowers.

The cottagers' tent contained excellent examples of vegetables, but the competition in fruits was not so keen as it might have been, a matter which Lord Ebury in his address to the exhibitors alluded to. He addressed them on one of those sweet spots which seem almost to have been made for the purpose—a good-sized open space of close-shaven turf, surrounded by shrubs and trees, with a rustic summer-house at one side. His subject was Cottage Gardens and their Management, and the influence they have on the habits of all who

take an interest in them. His lordship spoke of the number of competitors in the present instance, there being upwards of 130, about the same as last year; also of the small quantity of fruit shown, and expressed his opinion that in all cases where a Plum or an Apricot could be planted with advantage against the walls of a cottage it ought to be done, as the return from such trees was often very considerable, and even said he would take care to have this done against such of his cottages as afforded space for them. After some further remarks of a like kind his lordship said he hoped the successful competitors would not regard their winnings as being of less value than on two former occasions, when they were handed to them by a Princess and a Prime Minister, and that a lady whom many of them knew had kindly consented to give the prizes. These consisted mostly of money, but one, a bible, given, we believe, by a lady in the neighbourhood, seemed very appropriate, as did some garden tools and other things.

The above digression on the subject of a horticultural show must not prevent us making mention of the kitchen garden and forcing houses. We are not sure whether the site is entirely a fresh one; be that as it may, the kitchen garden now is a short distance from the mansion, and concealed from it by the high growth between. It is, nevertheless, still in the park, and conveniently placed for shelter, quality of soil, and the other points that constitute a good garden. A hurried run through it enabled us to see that it was well cropped with vegetables, and the trees against the walls, and those grown as open standards, had a good crop of fruit on them for the season. The walls of the garden enclose upwards of four acres, and amongst other things we noticed some fine Keens' Seedling Strawberries, ripe and of fair size on August 16th. We had made up our mind to inquire for these, as in Mr. Cunningham's collection at the show there were dishes of these Strawberries and other fruits. Mr. Cunningham told us they were from some of those plants earliest forced, that were turned out as soon as the weather allowed, and which were then bearing well. He said he never was without Strawberries from the end of February up to that time. In the houses the earliest Peaches had been gathered in May, but there were later ones that were just then ripe, and more to follow, and the same might be said of Grapes. Some of these which had been planted about four years were just in their prime, and the whole betokened the best of management. The condition of the flower garden and old pleasure ground reflected the greatest credit on Mr. Cunningham, who in additiou to his many other duties, had much to do with the arrangement for the show. Lord Ebury considerately provided a dinner at the mansion for the gardeners who had brought plants to the show, where upwards of thirty sat down. Mr. Fleming, of Cliveden, was the Vice-Chairman; and Mr. Frost, from Dropmore, Mr. Wood, from Lord Ravensworth's, with others from a distance, were also present, making altogether an extraordinary meeting of the craft.

This notice of Moor Park would be incomplete without an outline of its history, for it is connected with many great events, and many great personages of bygone times.

Although never a Royal palace, it has on more than one occasion been the abode of one or more of our monarchs, and has changed owners as often, perhaps, as most large mansions. Nevertheless, with one exception, each of the many proprietors has done well by it. The fine timber trees that ornament the park have been allowed to stand, so that they now present the venerable aspect so much coveted. It has been the scene of events alluded to by Shakespeare, as well as furnished heroes and heroines for Sir Walter Scott and Bulwer-Lytton, so the ground can with all propriety be called classic; but our task is with dry facts, and to them we must adhere. The earliest record of the manor of "The More," tells of its being given to the Abbey of St. Alban's, by Offa, King of Mercia, more than eleven hundred years since, as an atonement for a cruel and treacherous murder he had committed, in putting to death the young sovereign of another state at the wedding feast of his own daughter. We then lose sight of Moor Park for several centuries, and it next appears leased from the Abbey at a penny a-year. But no residence of importance at Moor Park is noted till the beginning of that disastrous period of English history known as the "Wars of the Roses," when it became the property of Archbishop Nevill, a younger brother to the warlike and powerful Earls of Warwick and Montacute. The Archbishop appears to have been temporising and deceitful, actuated, perhaps, by anxiety to protect his great wealth. He it was who built the first mansion here, and history records that when Edward IV. was once his guest, an attendant whispered in the King's ear that some unfair play was meditated, and the King stole out of the house at night, and fled to Windsor. Soon after this the King himself, having given offence to the great Earl, was obliged to fly the kingdom, but returning soon after he fought the great and decisive battle of Barnet, in which the two Earls fell. The Archbishop soon after this was deposed from his high clerical position, and also from that of the Lord Chancellorship. The next occupant of Moor Park was one who had also fought at Barnet on the same side as the Nevills—the Earl of Oxford, who, after many changes of fortune, was eventually restored to his rights for the aid he rendered Henry VII. at Bosworth. He died in 1513, when Moor Park passed into the hands of another prelate and chancellor, one not more scrupulous than the former one, and whose end was somewhat of a like kind. Cardinal Wolsey who here, as at Hampton Court, lived most sumptuously, entertained Henry VIII. and his Queen, Catherine of Arragon, for a whole month, with all the pageantry which he knew so well how to display. Wolsey fell, and Moor Park then becoming Crown property, the Earl of Bedford was appointed ranger. The capricious Henry again paid the place a visit for three weeks, but this time accompanied by his fifth Queen, Catherine Howard. We next read of Queen Elizabeth granting the manor to another member of the Russell family for £120 a-year, and of an Earl and Countess of Bedford residing here at the time of the accession of James I. The Countess was an intimate friend of the Queen of that monarch, and one of the few who retired from Court at her death with an honourable reputation. This Earl is remembered as "the good Earl of Bedford," and he and the Countess must have been amongst the earliest patrons of gardening in this country, as Sir William Temple says, in 1655, that the garden at Moor Park, which the Countess laid out, exceeded in size and excellence all others he knew. It was sold about that time to the Earl of Pembroke, a literary nobleman, from whom it descended to another Earl of Pembroke, to whom the title of Montgomery was also added. Of him little is known, but history retains the tart reply of his wife some years after, made to a minister of Charles II., who wished to nominate a candidate for the borough of Appleby. "I have been bullied by an usurper and neglected by a Court, but I will not be dictated to by a subject. Your man sha'n't stand.—Anne of Dorset, Pembroke, and Montgomery."

Her husband alienated the house from the manor in 1632 to Rob. Cary, Earl of Monmouth, as "all that the great house or lodge lately built, wherein the Earl and Countess of Bedford lately dwelt; also all that new garden adjoining to the said house eastward, lately made by the said Earl of Pembroke; and that other garden with a bowling-green thereunto adjoining."

The next occupant of Moor Park was the Earl of Monmouth, either the descendant of the Sir Robert Carey who rode from London to Edinburgh in three days to announce the death of Queen Elizabeth to James I., or the veritable equestrian himself. He and his lady were entrusted with the bringing-up of the young prince, afterwards Charles I. The Earl of Monmouth died in 1639, when Moor Park passed into the hands of the Duke of Ormond, who sold it in 1660 to the unfortunate Duke of Monmouth, illegitimate son of Charles II. After his execution on Tower Hill his widowed duchess is popularly believed to have had all the trees in the park beheaded, but it is doubtful if they underwent any such operation, for certainly at the present time the old trees present the usual features.

Moor Park was again sold in 1720, and this time to a commoner—Mr. Styles, one of the few lucky speculators who gained wealth by the notorious South Sea scheme. He appears to have completely rebuilt the mansion, which formerly was a brick structure but is now encased with stone. An Italian architect was employed, and also artists to paint the ceilings, and it is said a sum of £150,000 was expended on the house and garden, a large sum at that day. Mr. Styles died in 1739, and the next possessor of Moor Park was Lord Anson, the circumnavigator, who, notwithstanding the many ups and downs he had encountered, appears to have been a man quite as well fitted to adorn a quiet country home as the turmoils of a naval life. Notwithstanding the many adventures at sea, narrow escapes, and almost miraculous successes, yet he had learned so little of worldly wisdom that it was jocularly said of him that "he had been round the world but had never been in it." He had, which was better, a fondness for gardening, and planned and executed the old pleasure ground as described, in which he was assisted by "Capability Brown." He also made the Temple of the Winds and the other features there, including the piece of ornamental water, a feat not accomplished without difficulty on a dry hill. It is said that during the time he held possession of Moor Park he spent the sum of £80,000 in embellishing it.

His successor sold it to Sir Laurence Dundas, who sumptuously entertained George IV. when Prince of Wales on several occasions. He is said to have removed to London some of the tapestry that decorated the rooms, but that loss was trifling when compared to that inflicted on Moor Park by its next occupant, a Mr. Rous, an East Indian merchant, who bought it of Sir L. Dundas. He was guilty of some most unpardonable sins against good taste in pulling down part of the mansion and spoiling it in other ways, but fortunately he spared the timber.

We next find it sold to a Mr. Williams, who, with his successor, held Moor Park the first twenty-five years of the present century, when a pressure on some bank with which he was connected induced him to sell it, and it was then bought by the father of its present noble proprietor, the first Marquis of Westminster. From him it passed to Lord Ebury, who, we hope, may long continue its possessor, as it well deserves to be presided over by one who can so thoroughly appreciate its beauties.—J. Robson.

NEW BOOK.

Culture of the Chrysanthemum as practised in the Temple Gardens, with a List of the Varieties. By J. Newton, *Gardener to the Honourable Society of the Middle Temple.*

This is a thoroughly practical little work, and our readers will find the results of the author's experience in its pages relative to soil, propagation, culture, insects, and varieties. We will not extract from those pages, but will select this introductory note.

"The red and white Roses, the badges of the houses of York and

Lancaster, are said to have had their origin in the Temple Garden, in the course of an animated conversation, approaching to a brawl, which took place on this spot between the Earls of Somerset, Suffolk, and Warwick; Richard Plantagenet, Vernon, and another lawyer. Plantagenet plucks a white Rose, and Somerset a red one, and Warwich thus prophesies:—

'This brawl to-day,
Grown to this faction, in the Temple Garden,
Shall send, between the red Rose and the white,
A thousand souls to death and deadly night.'
—*First Part of Henry VI.*, Act ii. Sc. 4.

"The Temple Garden was then famed for its Roses, as it is now for its Chrysanthemums. The old Sycamore tree, which died in 1847, supposed by some to have been planted by Sir Matthew Hale in 1659, and by others previous to the reign of Henry VIII., stands on the site of the old Thames wall, on which it originally grew. But by whomsoever planted, it was growing where it now stands in the reign of James II., and under its shade Dr. Johnson and Oliver Goldsmith frequently sat."

COLOUR AND ODOUR IN CONNECTION WITH FLOWERS AND THEIR FERTILISERS.

Professor Frederico Delpino, in his notes to a discourse of Dr. E. Müller's on "Fertilisation by Insects," translated in the *American Naturalist*, says:—The relations of colours and odours which occur between flowers and their fertilisers may to many appear a chimerical product of the imagination. But after a long series of observations I can assert that, however unexpected and surprising they may be, they are yet undeniable and real. It is believed by many that the æsthetic sense belongs only to the human race. Nothing is more erroneous. The sense of music alone, however much it has been perfected in birds through sexual selection, is beyond comparison more perfect in man. In the sense of taste and smell man is, by a singular coincidence, like bees and butterflies. Sweet things please our young not less than bees, and the ancient poets designated with the same word—nectar—the food of the gods and the honey of bees. By a no less singular coincidence the odours which allure bees and butterflies allure us too, and those which repel us repel bees. The graveolent flower of Rue, which is so excessively disagreeable to us, although visited by flies, repels bees and Lepidoptera, although it produces honey. As to the æsthetic sense of colours and form, then, if we speak the plain truth, man is inferior to many living things.

Passing in review the most beautiful forms, and those adorned with the most attractive colours, we have on one side flowers, and on the other their fertilisers—that is, birds, flies, humming-birds, Nectarinæ, Lepidoptera, Bombylii, Syrphidæ, and some Cetoniæ. The most beautiful forms and brilliant tints in the world are without question those of the humming-birds. They visit the most splendid and beautiful flowers on the earth; and the reason why the magnificent flowers of the tropical zone do not enter our climate, is certainly correlative to the causes which exclude from temperate and cold countries the humming-birds and gorgeous Lepidoptera which are peculiar to warm regions. But not all flowers are beautiful; there are some which have livid and repulsive colours. Nor do all flowers emit a pleasant odour, since some have a fetid smell, or one like that of decaying animal matter.

All the flowers which have this (those, *e g.*, of Arum Dracunculus, of the Stapeliæ, of some American Aristolochiæ, of the Rafflesiæ, Sapriæ, Brugmansiæ, Sapranthus, &c.), have without exception livid colours, and, like the skins of some serpents, are speckled with dark purple and yellowish black spots. Now all these flowers are fertilised exclusively by the flies which feed upon dead animals (Sarcophaga carnaria, Musca vomitoria, and the like). The flowers of the Ceropegiæ, one Aristolochia, Asarum, and Ambrosinia Bassii are fecundated exclusively by gnats (Phora, Ceratopogon, Cecydomia, Oscinis, &c.). All these have a generally livid tint, speckled or striped with dark purplish spots, and a putrid odour, for the most part like that of urine.

These few instances suffice to give an idea of the wonderful relations which occur between flowers and their fertilising agents with reference to colours and odours.—(*English Mechanic and World of Science.*)

WORK FOR THE WEEK.

KITCHEN GARDEN.

In this department proceed with such operations as draining where required, laying Box edgings, gravelling walks, and trenching and surface-stirring all spare ground. Stir the soil amongst *Cauliflower* plants under hand-glasses. Attend to the earthing of *Celery* when dry. Take advantage of the first dry weather for lifting *Beetroot*, *Carrots*, and *Parsnips*. Let them be taken up in the early part of the day, and spread on the surface of the ground till afternoon, when they may be removed to the storing room, and there spread out again till they are quite dry, after which they may be stored in dry sand. Remove the decaying leaves from *Broccoli*, *Brussels Sprouts*, and all other growing crops, carrying them at once to a piece of ground where they can be trenched into the soil, sprinkling them first with quicklime to destroy the snails and slugs with which they swarm at present, as well as to hasten decomposition. Constant attention will be necessary for some time to preserve plantations of *Lettuces* from slugs. Continue to keep every part of the garden as neat and orderly as the time of the year will allow.

FRUIT GARDEN.

Now that the summer work is fairly at an end, it is time to provide against an inordinate pressure in spring, for any arrears of autumn and winter work will prove a great hindrance at that busy period. Having in previous notices referred to planting and trenching, I will make a few practical remarks on pruning. The habits of fruit trees vary, more especially in regard to the manner of forming and exhibiting their buds; thus, there is no difficulty in distinguishing the fruit-bearing portions of the Apple, or of bush fruit in general, whilst in the Apricot and the Filbert at this period they are somewhat obscure. Even in Pears, more especially such as the Passe Colmar, the Seckle, the Marie Louise, and some others, it is difficult to prune with safety in the early part of winter. For these reasons, therefore, prune bush fruit the moment you can find time. Follow closely with the Cherries, Plums, and Apples, and towards Christmas lay by the knife until the early part of February, when the Filberts will be blossoming; then, after a slight thinning of the crowded and inside spray, male catkins may be brought, if requisite, and suspended among the branches. The Apricots will by that time give unequivocal signs by which to know the true blossom-buds; these, then, may immediately receive their pruning. The Peach and Nectarine will succeed the Apricot, and may be followed by the Pear, and, lastly, by the Fig. In pruning bush fruit, thin liberally. Let no two branches in the Black Currant and Gooseberry touch when finally thinned; they seldom require shortening, but an equal and judicious thinning is everything here. In pruning Apples the thinning of the branches or old wood should be the first step, but caution must be exercised. Mr. Knight, of Downton Castle, was greatly averse to cutting out large limbs unless a severe necessity existed. His authority is too great to be passed over easily, more especially as he lived most of his time in a cider district. In thinning the young wood of espaliers, remember that the first point is to secure a continuance of leading shoots to form a compact tree, and the second to secure a free admission of light to all parts of the tree. The same remarks will apply to the pruning of all the rough espalier or dwarf standards of the kitchen garden, be they of what kind they may. Raspberries may now be planted and pruned. Prepare ground for new plantations of Currants and Gooseberries. Cuttings of favourite sorts of Gooseberries may now be made and planted in beds manured with leaf mould and sand; the latter will aid their rooting, and the former will hasten their growth.

FLOWER GARDEN.

The Dahlias must be marked or numbered forthwith if not already done. The beds should now be looked carefully over, to see if there be any plants of choice character which cannot be suffered to become frosted; such may be taken up, potted, and removed to the frames. Delicate seedlings should have protection provided, and the choice and tender Roses may in the course of a week or two have a coating of cinders and ashes a couple of inches thick, among their stems. Let all bulb-planting be completed immediately. Evergreen and shrub-planting may now be performed with every prospect of success. Not a day should be lost, now that the weather has become more settled, in making up Pink beds; so much improvement has taken place of late years amongst these flowers that amateurs, unless they have added to their collections regularly, will find themselves apparently a century behindhand. Dahlias are still blooming in many places, but rather miserably; as soon as the tops are blackened with frost take them up, for they are apt to start at the crown, cut them off about a foot long, and place them in such a manner that the sap which exudes may not run into the hollow stems; should it do so, decay will probably be the consequence. Small pieces of zinc or lead attached to copper wire are best to mark them with, or the zinc

may be stamped with a number corresponding with the name in the book. Plant offsets of Tulips, arrange the best bed definitely previous to planting when the soil is sufficiently dry, the sooner the better. Take every opportunity of removing from the flower garden any remaining plants which it is desirable to keep for next season. Half-hardy plants and shrubs will likewise require some protection on frosty nights. Among the best protectors for this purpose are conical and pyramidal baskets made roughly with common Osiers; they admit air, but in severe frost should be thatched very slightly either with Fern, dry leaves, or the light spray from Yew or Spruce Fir. In this form they are not unsightly, and are cheaply made. As the beds are cleared proceed to fill them in one or other of the methods noticed in former calendars. If planted in the mixed style keep the shrubs in the centre of the beds, and the bulbs and low herbaceous plants to the sides and edges, where they will easily catch the eye, and prove more attractive. The bulbs, &c., should be correctly labelled, that they may not be disturbed in subsequent cleaning. To carry out this plan effectively a reserve garden is indispensable, so as to remove the plants to it in the spring, as well as for propagating and preparing them for winter.

GREENHOUSE AND CONSERVATORY.

The conservatory should be made as attractive as possible, as it will now become in some respects the only place where flowering plants can be inspected with comfort in unfavourable weather. Let the work of watering and changing the plants be done early in the day, that the effects of the watering and syringing may be removed, and an agreeable dryness pervade the house, before it is visited by the family. No pains must likewise be spared to keep the house gay by introducing plants in succession as they come into bloom, including a portion of the stove plants which have been grown expressly for this purpose. A little gentle forcing will bring the different varieties of Epiphyllum truncatum in bloom, and with the addition of Chrysanthemums, late Fuchsias, Pelargoniums, Pancratiums, Amaryllis, Mignonette, Neapolitan Violets, &c., a tolerably gay appearance may be maintained until the time when forced plants will be more generally available. Fires will be necessary, not so much for keeping up the temperature, unless during frost, as for the purpose of promoting a medium state of dryness in the internal air, so as to render the house enjoyable in all weathers. Some of the most useful plants for house decoration during winter and spring when subjected to gentle forcing are the different kinds of Rhododendrons, Azaleas, Kalmias, &c., usually termed American plants. As these have now perfected their buds, plants well furnished with buds can easily be selected for the purpose. Without naming each particular kind suitable, it may be remarked that many of the hybrid scarlet Rhododendrons, which owing to their earliness rarely bloom in perfection out of doors, are the best for early forcing, coming into bloom with but little trouble. After selecting the plants from the nursery have them potted in peat, in as small pots as the roots can be placed; they may then be watered and set in a pit or empty vinery to be brought forward as required, beginning with them very gently in a moist heat, and increasing the heat as they advance towards blooming.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Cabbages.—As the heavy rains had beaten the ground we ran the points of a four-pronged fork between the rows, so as to leave the surface rough and open, choosing a dry day for the purpose. A fork or a Dutch hoe is the best tool for this work, as there is then no trampling on the ground after stirring it. After a damp night we scattered a light dusting of wood ashes, lime, and soot over the plants—just enough to prevent the snails and slugs from feeding on them, and not enough to impede the action of the leaves. The plants, though smaller than usual at this season, so as to be safe from frost, are healthy and growing well. Some grass mice nibbled a few, but several we caught, and round the quarter we beat a narrow space level and firm with the back of a spade, poured a cordon of tar over it, and that neither mice nor rats care to touch, so long as the tar remains moist enough to taint their fur. Notwithstanding the care in preparing the ground, we lost a few plants from grubs at the roots; and once there they can be destroyed in no other way than by examining the roots and catching and killing. We have, however, been troubled with very few this season. When slugs threatened to do damage we have several times run a cordon of lime and salt between the rows, but at a good distance from the young plants. The small quantity of salt under these circumstances did good as a manure, and if the weather was at all dry, it and the lime together prevented a snail passing. Next to picking up snails and slugs nothing annoys them so much as frequent surface-stirring. On the whole, we never saw less of slugs and snails than during this past season; and even caterpillars, that did great damage around us, troubled us but little. As soon as possible we shall prick-out a lot of small Cabbage plants in a bed, as when thus treated they make far better plants in every way in the spring than when left in the seed bed all the winter.

Cauliflowers.—Veitch's Late Cauliflower promises to be a very fine late kind, with leaves more upright than spreading. We shall have a quantity of rough hay and clean litter to put over the latest heads in case sharp frost should come on suddenly, but we hardly expect it just yet. This variety seems to be quite as hardy as the Walcheren. If we had a place which we could keep free from vermin and now cover with glass, we would take up a number of plants of this and other kinds with small heads at present, as when taken up with balls the heads would swell well, and be quite fresh when cut. Thus treated we have had nice Cauliflower throughout the winter, the plants being carefully protected from frost. When Cauliflower heads are nearly at their best at the end of October, we have kept them a long time by cutting them off close to the ground, removing the whole of the leaves, except two or three of the small ones over the head, and then packing the stems in rather damp earth or sand, with dry sand on the surface, in an airy shed where there was little light, and from which frost could be excluded. When such heads are placed for an hour in cold clean water they become quite firm and crisp. We have taken up and suspended the plants in sheds, planted them thickly in open sheds and in the open air, so that they could be easily covered when frost came; but of late years our great drawback has been keeping them from being spoiled by four-footed enemies. We have had scores of fine heads of Broccoli and Cauliflower thus cared for destroyed apparently only for mischief, as, on close examination, the left and cut-off parts would suit so well as to show that hardly anything had been eaten.

Young Cauliflower plants placed under hand-lights have not as yet been touched, partly owing to the surfacing of rough road drift sand, from which the finer particles had been excluded. It is very difficult for a mollusc to get over such material.

Lettuces and *Endive* planted on banks for spring supply have also had the surface of the soil between them gently broken, and this was more especially necessary as the surface had been beaten smooth at planting time, so that the small plants should be more secure. We have not noticed one plant that has given way. The rough surface will also keep off frost better than one which is smooth. This simple fact finds its way slowly among many of our readers. One of the things that convinced us many years ago was noticing that one round pit of Potatoes which we had helped to cover was frosted when opened after a severe winter, and another had the Potatoes sound, and this, too, we helped to cover. Both pits belonged to mechanics, and for the time very intelligent men. The Potatoes in each case were placed on a level surface, so as to form a cone, and were covered with straw. A space of 18 inches was then marked out round the heap, and beyond that a trench was dug all round, affording the earth to cover the heap, the soil being all over, except at the base, fully 15 inches thick. In one pit, as we put on each layer of soil we trod it rather firmly from the straw to the outside, and when finished we beat it firmly all over, so that the outside presented a smooth shining surface, to throw the rain off, as its owner said. The second pit was covered in the same way, but, except for the first layer or two, there was no treading, and when finished there was no patting of the outside. The rough exterior and the less solid soil arrested free radiation. We have often noticed since that in general, as respects a raised mound, a smooth surface absorbs more moisture than a rough more open one. We say in general, because in a regular downpour of rain the smooth surface will have the advantage, but it will be different during the drizzling rains that usually mark our winters. A few inches of rough litter on the outside of the first pit would have kept all safe. Pea and bean haulm, or a few tree leaves, are for this purpose very useful to cottagers who must keep their Potatoes out of doors.

Potatoes.—What few we have left from the garden have kept very well, and, so far as we can learn, those that followed the

advice given to cut down and remove the haulm as soon as affected, have suffered little in comparison with those who let matters take their chance. We noticed a quantity of Potatoes the other day that were raised from a field in the dry weather, and the bad ones that were seen were left. They looked then as housed a clean sample, but the other day they appeared as if they had come out of a mud hole; so many had become diseased and rotten as to make those look bad that remained sound. When such things are apprehended it is well to keep the Potatoes in thin layers, and, if much space cannot be given, to mix the layers liberally with dry earth and charcoal refuse. Though there has been a great outcry as to the extent of the disease, our conviction is that as yet it is rather made the most of; but as we are never sure in cold wet summers, and especially rich ground, it will be wise for all having but a small space of ground to plant chiefly early short-topped kinds. During the summer we heard glowing accounts of a magnificent new kind; the owner said the stems were then 4 feet in length. We have since been told that he has not had a sound Potato from the late giant-growing kind. The owner could not have appropriated above a few poles to Potatoes, and how much more prudent it would have been for him to have grown two or three rows of a good early kind instead of one row of this giant late one, all late kinds being more liable to disease than early ones.

Rhubarb, *Asparagus*, and *Sea-kale*.—Cleaned the most of these, and especially the latter, as the mice had begun on their crowns. We should have done something in regard to forcing some or all of these if we had had more tree leaves to afford a little heat. Besides these purposes we want slight hotbeds now for many purposes, and when we are short of material we must make the most of it.

FRUIT DEPARTMENT.

We mulched bush fruit trees, which have borne fairly, though not so well as last year. A heavy mulching given now generally disappears during the summer, but it encourage surface-rooting and an abundant production of fruit buds. Commenced pruning and cleaning in our early Peach house, which after this will be filled with boxes of bedding plants, at present under various kinds of protection. We have been obliged to keep plants in our earliest vineries, but hope to relieve them before long. The latest vinery we keep as dry as possible, with few plants in it. A little firing and air should be given during the day, and a little air all night. As yet we have had no damping, though the rain finds its way in at some places in the sides of the sashes. We cleared out a bed of ripening Melons, thinking they would complete their ripening as well in a warm place, and we thus set some lights at liberty. In the orchard house our last Peaches were used on October 24th, and there is nothing eatable in it, except a few Plums.

ORNAMENTAL DEPARTMENT.

With the exception of prominent places, we wait until the bulk of the leaves come down, unless we want them to help to give us some heat. We lately mentioned placing two cuttings of the white-leaved Centaurea in a small pot with a piece of slate between them, and setting them in a cold pit. These, after standing a fortnight, were plunged to the rim in a quickly-made hotbed, and in another fortnight or three weeks were well rooted, and will stand wherever they will not be too damp nor too cold. A later lot of cuttings, passing through the same cool process, were plunged in a similar bed the other day, and will, no doubt, strike as well. We have taken up a few fine bushy plants of Ageratums and Calceolarias, put them for early blooming in large pots, and plunged these in a mild bottom heat, whilst the tops are kept cool. Free flowering in winter and early in spring will depend on fresh active roots being quickly made after potting. The more tender variegated Geraniums, put in small pots separately, received similar treatment, as we wished to retain at least a portion of the foliage. The fresh roots soon reach the edges of the pots under these conditions. We have frequently told how to keep the various Scarlets in the smallest compass without any such help. Late cuttings have also been the better of such assistance, so that they may root before the days become shorter and darker. Verbenas we have not grown largely lately; we wish to grow them a little more, but the beds were so full of bloom buds that we could scarcely get what we considered fair cuttings early, and are putting in a number in small pots now, and these would do no good without a mild sweet heat beneath them. Of Calceolaria cuttings we have put in a fair portion in a cold pit in fresh soil, lightened with road drift, and covered with drift sand sifted fine. We place them 1 inch apart in rows 2 inches row from row, and even when put in so thickly they take up a large space. Potting, regulating, and general routine has been the same as in previous notices.—R. F.

TRADE CATALOGUES RECEIVED.

Kelway & Son, Langport, Somerset.—*Catalogue of Gladioli.*

F. & A. Dickson & Sons, 106, Eastgate Street, and Upton Nurseries, Chester.—*Descriptive Catalogue of Roses and Hollyhocks.*

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Books (*G. B. C.*).—If you enclose five postage stamps with your address and order "Flower Gardening," you can have it free by post from our office, as you also can "Greenhouses," for seven stamps. Do not despise them because cheap. (*Ignoramus*).—We know of no books such as you name. There is no special art of procuring variegated plants known to the Chinese. Brent's little volume on "The Canary," contains drawings uncoloured of the varieties. You can have it post free from our office if you enclose nineteen postage stamps with your address. (*G. H. C.*).—"Wild Flowers" are published in shilling monthly parts containing eight coloured portraits of our native flowers. You can have a part free by post if you enclose 1*s.* 1*d.* with your address. (*Molestus*).—The "Cottage Gardeners' Dictionary" will suit you.

Market-Gardening (*E. H. G.*).—We regret that we cannot give you the information you seek. The notes were extracted from the last number of the Royal Agricultural Society's Journal. A letter directed to Mr. W. W. Glenny, Market Gardener, Barking, Essex, would reach him.

Twelve Dessert Apples (*An Amateur*).—The following will ripen in succession during the autumn and winter:—Blenheim Pippin, Court of Wick, Margil, Cockle Pippin, Nonpareil, Pitmaston Nonpareil, Sturmer Pippin, Wyken Pippin, Claygate Pearmain, Cornish Gilliflower, Court-Pendû-Plat, and Pine-Apple Russet.

Seedling Apple (*T. B. Mosley*).—Your seedling Apple from the Blenheim Pippin is good, but not so much so as many other varieties already in cultivation.

President Strawberry (*W. E.*).—It is an excellent variety for forcing or an early crop out of doors, and a good market kind.

Strawberry Black Bess (*J. T.*).—We never heard of a variety so named. As you speak so very highly of it, we will have it tasted if you send us a few plants.

Trees and Shrubs not Thriving (*J. W. M.*).—We think the cause of the plants not thriving is the bad preparation of the ground, and the dry character of the stony subsoil. We should have trenched the ground deeply, and have kept down all weeds for at least three years. In ground which is well prepared trees will make as much progress in three years as they would do in six years in that which is not in good order for planting. Clear the ground of the Couch Grass as you propose, and fill-up the blanks with Berberis Aquifolium, double-flowering Furze, oval-leaved Privet, tree Box, common Yew and Laurel, Snowberry, Weigela, Lilac, and Sweet Briar. The Rhododendrons will not thrive in such a soil, neither will the Birch and Poplar. Keep down all weeds for the next three years. If the situation be sheltered add Laurustinus (the black-leaved would be sure to thrive), and the Red-berried Elder.

Vegetables (*Amateur Gardener*).—Varieties of *Broccoli* to come into use in October and November are Early White Cape, Grange's Cauliflower, and Walcheren, sowing in the third week of May. Those to come in during February and March are Backhouse's Winter White Protecting, Veitch's Spring White, and Dilcock's Bride, sowing in the third week of April; these to come into use in May and June are Cattell's Eclipse, Emperor, and Lauder's Goshen Late White, sowing at the same time as the last. *Cauliflowers* for October and November are Walcheren, Stadtholder, and Veitch's Autumn Giant, sowing in the third week in May, but we do not know of any to come in in February and March. For May and June, Early London and Walcheren, sowing in the third week of August, and in October pricking out under hand-glasses or frames, and planting out in April. You say nothing of the supply for August and September, but we advise for this purpose an early sowing in March on a gentle hotbed, pricking-off when large enough, and hardening-off when ready. Sow out of doors early in April, and again at the close of the month; also from the 20th to the 24th of May, sow Dwarf Erfurt, Asiatic, and Stadtholder. For *Celery* to come in during October and November, sow Sandringham Dwarf White, and Ivery's Nonsuch in the first week of March; for February and March sow two weeks later, and for a later supply in the first week of April, employing the varieties above named. *Onions*, White Spanish, Reading, Brown Spanish, Deptford, Brown Globe, and James's Keeping; and for late keeping, Blood Red, sowing as early in March as the ground is in good working order; and sow Tripoli the second week in August, transplanting in spring. *Cabbages*.—Sow Atkins's Matchless, Cattell's Reliance, and Wheeler's Imperial in the first week of July; and in the first week of August, Battersea, Nonpareil Improved, Enfield Market, and Red Dutch. *Beet*.—Sow Dell's Crimson at the end of April. *Potatoes*.—Early, Myatt's Prolific; second early, Lapstone and Early Oxford; late, Victoria and Red-skinned Flourball, plant early in March, the end of March, and beginning of April. *Carrots*, for a small early crop on a warm border and light soil, sow at the end of March Early Short Horn; in the second week of April sow James's Intermediate Scarlet, Altringham, and Red Surrey, taking up early in November, and storing in sand in a cool shed. *Turnips*.—Sow Early Snowball and Six-weeks at the beginning of April, and every three weeks up to the first week of August, adding Orange Jelly after April. You will find Peas fully treated of in another page.—G. A.

Seedums cæruleum and dasyphyllum from Seed (*A Constant Subscriber*).—The former is an annual, but the latter is an herbaceous perennial. It would be best to sow both in spring as the season is so far advanced, using very sandy loam and lime rubbish, raising it well in the centre of the pots, and shading so as to lessen the necessity for very frequent waterings.

KEEPING GRAPES ON VINES (*F. F.*).—See page 326 To keep Grapes late on Vines, the house must be dry and secure from frost. If cut and kept with the ends of the shoots in roots, or bottles of water, with the hole of the bottle stuffed up, they must be kept in a dry cool place, but free from frost.

SOIL FOR VINES (*A Subscriber*).—The soil being full of wireworms we would have it sifted through a fine-meshed sieve, the rough remaining in the sieve burnt, and then remixed with that which had passed through the sieve. Salt added to the soil will not kill the wireworms.

ROOT-PRUNING (*J. M. K.*).—The tap-root of the Pear tree should be cut through.

CYCLAMEN TREATMENT (*L. B.*).—You do not say what kind it is. Place them in pots twice the diameter of the corms, draining the pots well, and using a compost of two parts turfy loam, one part leaf soil, and one part peat, with a free admixture of sharp sand and charcoal. Pot so that the corms may be just covered with soil. Place the pots in the sunniest window you have, and do not water more than to keep the soil moist, but when the leaves appear water more freely.

CYANOPHYLLUM MAGNIFICUM IN WINTER (*C. M.*).—Give it as little water as it is possible to do without allowing the leaves to flag or become limp, and maintain a moderate amount of moisture. It only loses the old leaves in winter. A temperature of from 55° to 60° at night, and 65° to 75° by day, is sufficient, affording moderate ventilation.

CUCUMBER AND MELON FOR EARLY AND LATE FORCING (*Idem*).—For early or late winter or summer crops we have found Cox's Volunteer Cucumber excellent, also Telegraph, and Masters's Prolific. If you want two, have the first and last, or if one, the first, but all are excellent. A good Melon for an early crop is Malvern Hall, and for a general crop Cox's Golden Gem and Heckfield Hybrid. This season, however, we cultivated many varieties, and Beechwood was the best.

LASIANDRA MACRANTHA CULTURE (*An Old Subscriber*).—This plant in a young state is not free-flowering, though of very free growth, but when 3 or 4 feet high it produces from the terminal shoots a profusion of fine saucer-shaped flowers, of a violet-blue colour. It requires to be grown in a warm greenhouse or cool stove, should have a light airy position, and ought never to be watered until the soil becomes dry; then before the eaves or growing shoots flag give a thorough supply. Pot it in March, and give another moderate shift in June, using a compost of two parts loam, with one-third of sandy peat, draining well. To form a well-furnished plant stop the shoots in March, or if needful, cut-in the plant, and again stop early in July. Libonia floribunda is not a stove but a greenhouse plant.

PLANTING FRUIT TREES ON MOUNDS (*A Cottage Gardener*).—The height of the mounds must be regulated by the state of the soil. In a very wet and heavy soil, with a subsoil of a similar character, mounds a yard high are not too much, whilst if the soil is not wet nor heavy, planting on the surface is sufficient, covering the roots with soil so as to raise a mound of about 12 or 15 inches. The mound should fall outwards three times the length of the height, so if the mound is 1 foot high it will run out at 3 feet all round. The junction of the stock and graft should not be covered with soil, but all below it. The roots should be covered 3 inches deep. Stable litter two weeks old will answer perfectly for mulching the trees. The spirit lamp will not do any harm in a frame if kept burning all night during frosty weather, but may be a means of safety from frost.

FERNS FOR CONSERVATORY RECESS (*Crypto*).—We presume the recess will have the same temperature as the conservatory, or be safe from frost. To have the water trickling over the stones is not desirable as regards culture, but to produce a cool, moist, and pretty effect, you may introduce water; but it must be conveyed in a cemented channel, so that it may not run over the soil on the ledges and crevices of the rockwork. You may have miniature waterfall streams, or dripping rocks, but the water should be kept clear of the soil for the plants, for few Ferns thrive with the soil sodden by constant stagnant moisture. The following will suit:—Acrophorus hispidus; Adiantum assimile, A. cuneatum, A. setulosum; Anemia flexuosa; Asplenium bulbiferum, A. flabellifolium, A. Veitchianum, A. monanthemum, A. fœniculaceum, A. dimorphum; Blechnum australe, Cheilanthes elegans, Davallia canariensis, D. dissecta; Doodia Dives, Doryopteris palmata, Lastrea glahella, Lomaria Herminieri, Nephrolepis tuberosa, Niphobolus rupestris, N. lingua corymbifera, Platycerium alcicorne, Platyloma rotundifolia, Pteris serrulata cristata, P. cretica albo-lineata; and of Lycopods, Salaginellas apoda, denticulata variegata, formosa, and Wildenovi.

AMARYLLIS CULTURE IN A COOL HOUSE (*Novice*).—We presume by a cool house you mean a cool stove. If so, place them on a shelf near the glass until February, giving no water; then repot, and place them in a hotbed or the warmest part of the stove, and water as the growth advances, giving abundant supplies of moisture whilst they are making fresh growth, and when this is complete keep them less moist and afford all the light you can command. If you place them in a hotbed remove them as soon as they have well started into growth, gradually withdrawing them from the hotbed so as not to cause a check. The principle on which you are to decide the character of the soil required for plants we cannot explain, but the "Cottage Gardeners' Dictionary" states the soil required for the plants enumerated.

VARIOUS (*R. G. I.*).—There is no objection to your heating the small stove and vinery with a flue for each, and a separate fireplace and furnace, provided the flues are sound, and the atmospheric moisture you want is obtained from the floor and from evaporating-basins placed on the flue, and not from sprinkling the flue itself. In the stove at any rate we would have 6 feet of the flue next the furnace brick-on-bed, instead of brick-on-edge, and strong tiles for covering, or oven bricks for that distance. The only objection against flues is allowing them to become foul from not cleaning them often enough, as they are then apt to take fire, or slight explosions will occur, which will be apt so to disturb the flue as to allow of the escape of dangerous gases into the house. For small places there is no cheaper mode of heating than by a good built flue. For an early vinery you would need as substantial a flue, but for a late one a flue brick-on-edge would do, say 2 feet from the furnace. For all small places hot water would be more expensive, but it would be safer and more cleanly, and one small boiler costing about 70s. would heat both houses. For the stove you would need about 90 feet of piping 4 inches in diameter, and you would need nearly as much for the Grapes, to come in, say, in August. If you wanted it much earlier, say May and June, you would need from 20 to 40 more feet of piping. A doorway from one house to another would be a great convenience and advantage, as you might often move plants from one place to the other without taking them out of doors. The border will be all right if there is a drain to take away what may collect beneath the rough rubble. The turf stacked-up will do, so will the turning, if you keep it dry, and so will the mode of filling the border, but filling half the border at first would be best. The woollen rags used should be chopped small, other rags and paper we would care nothing about. When thoroughly decomposed they are of little value, and before they are decomposed, like rank manure and carrion, they do more harm than good. A little fowls' manure with feathers may be used, but it is so strong that it is safest used moderately as a surface-dressing. As to proportions, to ten parts of your good pasture loam add two of old lime rubbish or plaster, one of charred wood, one of horse droppings sweet and dried, three hundredweight of broken bones that have been boiled, and one hundredweight of horn shavings if you can obtain them, with a moderate quantity, say one hundredweight, of chopped rags, as you seem to have them. These may be mixed and turned over before using them, but must not be sodden. If you wanted the Vines in the new house chiefly to be late kinds, we would recommend Trebbiano, Lady Downe's, and Kempsey's Alicante. If, however, you wish the house to alternate with the other, then we would choose similar sorts, as Hamburghs, Muscats, &c. You may treat the Vines as you say, using each vinery as a greenhouse every alternate year in winter, giving the other a complete rest; but in no vinery will any injury result from keeping plants in it after the Grapes are cut, if the temperature from artificial heat be not above 45°. For the Sweetwater, the Golden Champion we should think would do, but a Sweetwater ripened well is still a fine Grape. 21-oz., or fourths, will answer, but thirds will be better. If you bed on putty, you must also place putty above the glass. Beard's system requires no putty, and grooves do not require it. These have been described.

WINTERING GERANIUMS IN BOXES IN A CELLAR (*E. W.*).—It is suitable for those which have been planted out. When taken up they should be set for a few days in a shed, then stripped of all the leaves, sparing none, and afterwards placed in boxes, covering the roots well with dry sand. Do not cut the plants down but leave them entire, minus the leaves, and give no water from the present time up to March. They may be kept well in the dark dry cellar, if frost be excluded. In March take them from the cellar, pot them, and place them in a frame or hotbed, giving no water, but using moist soil. When they have made fresh roots and are growing freely, water copiously. They will be good for planting out in May.

ERECTING AN ORCHARD HOUSE (*Inquirer*).—If you had a wall we would say have a lean-to, as 60 feet by 16, would be a good house, divided in the middle so that you could have one compartment earlier than the other. Where there is no wall the span-roof with low walls at the sides, and a gable end to the north, would be the best. If, then, your house were 20 feet wide, you could have a 3-feet bed all round, a pathway 3 feet wide, and a bed of 8 feet in the centre.

WINTERING PLANTS IN A FRAME (*R V.*).—Mussett's portable hot-water apparatus would suit, with a tube to carry off the products of combustion, and so would Joyce's, or any other small stove, but not without a pipe going through the roof to carry off the smoke, however little. A pipe 2 inches in diameter would do. We have always considered that iron stoves should have their fire-box lined with fire-brick. If an iron stove ever becomes nearly red hot, all plants near it will suffer. Hence we should prefer a brick or cement stove, when it could be used. If the frame were near the house, two or three two-gallon bottles filled with hot water would do unless on the coldest nights. The difficulty in all such modes is, that in the case of frames you must lift a glass to get at a stove. In a small house with the same glass, you could open a little door and go in and light either a fire or lamp.

WATER RATS (*R. G.*).—We know of no mode of destroying them wholesale but by poison. Gas tar poured into their holes ejects them, but only causes them to change their residence.

PREPARING BONES FOR MANURE (*Hampshire Highlander*).—The least troublesome mode for you is to have the bones broken into small pieces by a hammer, and lay them in tiers, alternating with caustic potash in a sugar-hogshead. After a while they will be easily crumbled.

AMERICAN BLIGHT DESTROYING (*Gardener*.—Dress the trees now with paraffin oil, applying it with a brush to every part of the branches and shoots, and in summer syringe forcibly with water from an engine, and on its first re-appearance with a solution of 2 ozs. of soft soap, to a gallon of water.

MUSSEL SCALE ON APPLE TREES (*C.*).—Your Apple trees are infested by the mussel scale, an insect the presence of which always indicates want of vigour and health in the tree, caused by poverty of the soil or injury to the roots. The way to remedy this is to cut-in the branches, removing all those shoots that are affected, dress the whole tree with Gishurst compound, 4 ozs. dissolved in a gallon of water, and applied with a stout rough brush. Uncover the roots, and replace the soil taken out by good loam in which well-rotted stable manure has been incorporated, and with such treatment your trees will recover. The pyramidal trees you refer to had better be pruned judiciously, so as not to induce the production of too much wood, by merely removing those shoots that assume too great vigour.

NAMES OF FRUITS (*J. M. Dublin*).—Pitmaston Nonpareil. (*A. H. M., Cambridge*).—It is Baronne de Mello, one of the finest October and November Pears. (*J. Walsh*).—It is impossible to name Grapes from so small portions of a bunch. The white one is some of the forms of Chasselas Musqué. (*W. K., Angmering*).—Your Grape is Pinean Noir, or Black Burgundy. (*A. M. R.*).—No. 1, Beurré d'Aremberg; 2, Seckle; 3, Easter Beurré; 4, Beurré Clairgean; 5, Easter Beurré; 6, Seckle. (*A. S.*).—1, Monsiegneur Affre; 2, Van Mons Léon Leclerc.

NAMES OF PLANTS (*H. C. K.*).—Viburnum Opulus, the Gueldres Rose. Propagated by layers or cuttings in the autumn, in sandy soil, and a shady border, where they ought to remain two years unmoved. (*S. E. W.*). Salvia Horminum, very ornamental. Native of the south of Europe and the east, and especially frequent in Greece, Asia Minor, and Syria. (*W. H. M.*).—Either Lastrea dilatata (the Broad Fern), or its close ally, L. Fœniseccii, the Hay-scented Fern, probably the latter. (*Inquirer*).—Selaginella Kraussiana (S. hortensis of gardens), and Clitoria Ternatea, a common plant in Southern India. (*R. C., Buxted Park*).—The Honeysuckle is Lonicera chinensis. As to the Fern, you are quite wrong. It

is without doubt the Hay-scented Fern, Lastrea Fœnisecii, and in very good character. (*Linda*).—Cineraria maritima, otherwise Senecio Cineraria. Native of the shores of the Mediterranean. (*Tom Brown*).—Nephrodium molle and Adiantum tenerum.

POULTRY, BEE, AND PIGEON CHRONICLE.

LIGHT BRAHMAS.

But for a fortnight's absence from home I should have endeavoured earlier to make a few remarks upon the complaint of Mr. James Long—that Light Brahmas do not get their due from committees and judges. It is generally known that I have devoted much study and attention to Brahmas for many years, and my more personal friends also know that only my unfortunate "city" surrounndings tie me at present to the Dark variety. My preference would be for the Light, and if I ever have the pleasure of a country run I hope to keep them. Nevertheless, I cannot agree with Mr. Long's complaint; he puts the saddle on the wrong horse altogether, and the failure to win prizes and cups is not owing to any undue partiality of the judges for Dark birds, but because birds have not been shown good enough to win.

The simple fact is that Light Brahmas have lately very much deteriorated. I fear my plain statement will draw a hornet's nest about my ears, but I have studied the Brahma fowl long and closely, and make it advisedly. They have fallen off in colour, leg-feather, shape, and size. So far from judges being against them, I have heard the admittedly best judge we have, not in conversation with me, but independently, express his regret that such "miserable" Light Brahmas were shown; and on one occasion both he and his colleague observed that the hens were regularly "duck-shaped." Looking at the class, I saw at once how singularly appropriate the criticism was, the "Aylesbury" type of body being most conspicuous, and the exquisite neatness of the true Brahma shape completely gone. That there are exceptions I of course do not deny, and during the last twelve months several cocks especially have been shown of the true shape and colour, but mostly small in size. I may mention the two winning Birmingham cockerels of last year for instance, which were also good in leg-feather, for the purpose of rebutting Mr. Long's imputation that the judges go by size chiefly. It is rather singular, if his remarks are to be considered as shared by Light Brahma breeders generally, that while both these awards were evidently made in favour of colour and proportion as compared with mere size, I never heard any complaint made by those disappointed on the ground that the winning birds were so small! Further still, when at Plymouth I gave the cup (open there) to the Light birds in preference to the Dark, showing that Light can win sometimes. Mr. James Long, both verbally and in this Journal, was the first to complain, stating to me that the Darks (a very large but badly-shaped pen) ought to have won, and in these columns that the cup bird was far inferior to another, larger indeed in size, but much worse, both in true Brahma shape and colour.

It is not, then, that the judges have discouraged the Light Brahmas, but that the Light Brahmas have "discouraged" the judges. Let them be shown correct in shape, good in colour, and well feathered, even if not large, and they will win. Not many weeks ago I remember seeing it remarked in one of the reports that they had beaten the Darks in fair fight. But they can also be bred large, and whatever can make Mr. Long say as he does, that to increase the size "cannot be done," I am at a loss to conceive. Let Light breeders select their stock better, and keep their chickens at home to grow instead of sending them to the early shows, and they will soon improve. I do not know why it is, but while the best Dark Brahmas are usually kept back till matured, the Lights seem mostly to be early shown, and this I am sure is one cause of the deterioration, though want of knowledge in breeding and rearing does more. At all events, if there is any difference in the two breeds, I should say that decidedly the Light breed can be bred the larger. To my certain knowledge, there are several cocks now in the United States nearly 17 lbs. in weight; and one lately dead made a footprint 6¼ inches long. In hens 10 lbs. is a common weight there, and 12 lbs. not so very rare. In fact the best Light Brahmas now to be had must be sought in America, where they are both larger and better in quality than here; and there, if I sought a strain for myself, would I select my stock. It might be thought that the American climate is the cause of the difference, but if so the Darks also would be superior, whereas our Yankee friends' Dark birds cannot as yet compare with Light ones. We had even in England far larger Light birds a few years since than now, and they can be bred again to equal and even surpass their Dark rivals.

I lay stress on these things, because the *ad misericordiam* style of argument always injures a breed. A good fowl, as the Light Brahma is, if bred good enough, will command success, and the bare idea that petting or artificial "encouragement" is needed, is likely to stop all real effort in the right direction. Let our exhibiting friends leave off this and "get to work," and they will earn their just reward. The reference to prizes given "by supporters" is not just. If birds are not good enough to win on equal terms, which Light Brahmas lately have certainly not been, any extra "support" must of course, and rightly, come from private admirers; but the little real good, or rather the real harm, done by such artificial treatment, is seen by the small results produced by the "special" prizes thus given at Southampton and other places. They bring larger entries, but they do not bring pens to surpass, rarely indeed to equal the Darks. Perseverance in fair and honest competition can alone do this. I may here mention that by the liberality of a member of the Committee, the Lights will at Bristol have four cups (one to every class), against only two for the Darks. There surely is a fair chance for our friends, let us see what the result will be. I for one shall truly rejoice if my real favourites come fairly to the front in size and quality, but mere number of entries I care little for.

I would give some practical help where possible, and hence I remark on the general want of leg-feather in Light birds. Their breeders have not used equal judgment with the Dark fanciers in employing vulture hocks to restore it, which is very easily done with little bad result. There are various kinds of hocked cocks. There may be a moderate hock with very heavy leg-feather, and heavy hocks with only moderate feather. The latter class of bird has been often used by Light breeders, but is useless. But further, there may be heavy leg-feather, but it may spring perpendicularly, and hence not "tell" as it ought to do. Such a bird also will work little improvement in a badly-feathered strain. But select a few fine, long-backed, barely-feathered hens, and mate them with a cock very short and broad in the back, very high and broad in saddle, and with a good strong vulture hock, but with leg-feather under which stands well out in a horizontal direction. Cut his hocks neatly round with a pair of shears (not plucking them, as the feathers would soon grow again), and you will have at least three-fourths beautifully feathered birds, with just the hocks a good judge wishes to see. I say "Cut off the hocks" advisedly, having found it make a marked difference to the progeny; but I mean, of course, for breeding solely. Indeed, a cut hock is instantly detected by the most inexperienced judge, but I do not wish to be misunderstood as to the object of the proceeding.—L. Wright.

EXHIBITION GRIEVANCES.

I see in the Journal of the 26th ult. a short notice of the schedule of the Bristol Poultry and Pigeon Show, and the words, "As usual the prizes are very liberal;" but it seems that you have quite passed unnoticed the extreme liberality (on the part of those who intend to pay them) of the entrance fees. I had intended sending a pen or two, but as I find that I must first subscribe £1 to entitle me to the privilege of paying 6*s.* per pen in addition—*i.e.*, £1 6*s.* for one pen, or £1 12*s.* for two, and so on, I beg to decline; and I fancy that the competition for the liberal prizes will be confined to those who can enter twelve or thirteen pens, when the £1 subscription will be sufficiently distributed to bring the price of each entry down to the old amount—7*s.* 6*d.*, I think. There has lately been something said of the ability of large dealers and breeders to monopolise the prizes; if anything is calculated to encourage it it is such a rate of entry as this, where the exhibitors of two or three pens are utterly discouraged, and yet they are the real supporters of our shows.

I may mention at the present time another growing mistake, as I think, in the conduct of poultry shows—viz., the Secretary entering his own birds for exhibition and competition, the latter being the objectionable part. At a show to which I have for several years sent some pens, I was last year beaten by the Secretary, who carried off cup and second prizes, whilst my birds came next with a very high commendation. I do not question the fairness of the award, as I have sufficient confidence in the Judge, but in entering I had not counted on the Secretary as a competitor. This year I entered none, nor do I

intend doing so again, as it is evident that the fact of officials, who are present at the judging, being also exhibitors, must destroy confidence. I remember seeing after judging had commenced an exhibitor's bird taken by his owner from his travelling basket, where he had been overlooked by the officials, and penned, and immediately awarded first prize. Had the Secretary been an exhibitor in that class, what would have been said, or at least thought? I certainly think that a Secretary ought to abstain from exhibiting, nor even allow his son or daughter to enter his birds for his own particular show; and I think the majority of exhibitors will agree with me.—E. S. T.

POULTRY AND PIGEON CLUB.

The number of poultry and Pigeon shows which are now annually held, with the proposed new ones, the large amount of capital invested in birds, and the valuable prizes offered for competition, have created such an extended interest in poultry amongst all classes of society, that the time now seems to have arrived for the formation of a poultry and Pigeon club. Such a society seems to me to be very much needed. 1st, For starting new shows in fresh places, and co-operating and advising with existing committees. 2nd, To amalgamate many existing small local shows into one large influential show, and to arrange the dates of others, so as to prevent more than one being held on the same day as is now the case, often to the ruin of one, or possibly both. 3rd, To expose all shows started by unknown and irresponsible persons. 4th, It would be able to discuss and state the standard of excellence of many varieties in which it is now undecided and left for the decision of the judges, also to criticise the judges' awards.

Such an institution as the one proposed would be for the protection of exhibitors and breeders. As it is certain that next month there will be a great number of exhibitors and fanciers in London attending the Crystal Palace Show, it would be an excellent time to hold a meeting for the purpose of considering the subject, and for getting at the opinions of those who are likely to be interested in the formation of such a society. Could not some of our ardent fanciers be induced to take the initiative?—J.

IPSWICH POULTRY AND PIGEON SHOW.

This meeting, held on the 26th and 27th of October, was a marked success. The general excellence of the poultry was freely admitted, and we cannot but observe that the three Selling classes were very well filled with pens which would have taken a good position in the majority of prize lists, and remunerated any dealer for a visit to Ipswich to claim them. We regretted to find, as at last year's meeting, that a large number of pens arrived some hours after the Judge had commenced his duties, and, strange to say, in some cases portions consigned by the same owners, had been safely to hand on the previous day. It appears that although, to meet all possible contingencies, the Judges were delayed to 1 P.M., not less than thirty pens were then unoccupied. We may add that all the pens in the three very heavy Selling classes were filled, and we believe this was the first time a special Selling class has been appointed for Bantams.

The *Game* fowls were throughout a grand collection; and although Mr. Matthews, of Stowmarket, secured most of the premiums, he did so in a generally close competition. A rather unusual occurrence took place in this division of the Show, Mr. Matthews taking the silver cup for Game, all varieties or sexes being eligible, with a wonderfully well-shown Black Red *hen*. On the *Dorking* chickens it was evident that no common amount of attention had been bestowed, but there were a few cases of humped backs and other malformations that ought never to be admissible in a prize show pen. Although in former years Ipswich shows have been noted for the best of *Spanish* fowls, at the late meeting the collection of this variety was poor and meagre in the extreme. In the Variety class seldom has there been so close a run, a silver cup offered as first prize bringing together birds of the highest perfection. Silver-spangled *Polands*, and such a pen of *Malays* as are rarely to be seen at any show, were the prizetakers.

The *Ducks* exhibited, both Aylesbury and Rouens, proved a marvellously good class, Mr. Fowler, of Aylesbury, taking first and very highly commended, and Lady Gwydyr the second prize. The three pens, fortunately being side by side, proved a great attraction to all visitors.

Lady Gwydyr's success with both Buff *Cochins* and Dark *Brahmas* was well deserved, the birds being of first-rate quality and shown in admirable condition. Mr. Jeffries, the indefatigable Secretary, sent in several pens of very carefully selected Black Red Game *Bantams*, and maintained his reputation as a breeder of this popular variety.

The *Pigeons*, though not so numerous as in some previous years, were generally of very excellent character, more especially the Carriers, Fantails, and Variety class.

The Show was not only well supported by visitors, but we also hear is patronage has considerably increased.

Cochins.—1, Henry Lingwood, Needham Market. 2, J. Taylor, Sutton, Isle of Ely. *Chickens.*—1, 2, and Cup, Lady Gwydyr, Stoke Park, Ipswich. *vhc*, Henry Lingwood. *hc*, W. G. Ransom, Stowmarket; J. K. Fowler, Aylesbury. *c*, G. Lamb, Wolverhampton.

Brahma Pootra.—*Dark.—Chickens.*—1 and 2, Lady Gwydyr. *hc*, J. Hill, Brentwood; W. G. Ransom; J. K. Fowler. *Light.*—1, Withheld. 2, H. Dowsett, Pleshey, Chelmsford. *Chickens.*—1, M. Leno, Markyate Street. 2, H. Dowsett. *vhc*, Mrs. A. Williamson, Queenborough Hall, Leicester. *hc*, Dr. Campbell, Brentwood (2); W. T. Storer.

Dorkings.—1, J. Frost, Parham, Wickham Market. 2, Henry Lingwood. *Chickens*—1 and Cup, Henry Lingwood. 2, G. H. Greenhill, Ashford, Kent. *vhc*, J. O. Fison; O. E. Cresswell. *hc*, F. Parlett, Great Baddow; J. Drake, Ongar.

Game.—*Cockerel.*—1 and 2, S. Matthew, Stowmarket. *vhc*, H. E. Martin, Sculthorpe, Fakenham. *hc*, W. Kitson, Ipswich; W. Rayner, Ipswich. *c*, W. H. L. Clare, Twycross, Atherstone. *Hen or Pullet.*—1, Cup, and *vhc*, S. Matthew. 2, W. Rayner. *hc*, H. E. Martin.

Spanish.—*Chickens.*—1, J. F. Sillietoe. 2, Rev. T. P. Platten, Bildeston, Suffolk.

Hamburghs.—*Golden and Silver-pencilled.*—1 and *hc*, W. K. Tickner, Ipswich. 2, A. Cole, Long Sutton. *Golden and Silver-spangled.*—1 and Cup, T. Blakeman, Tettenhall, Wolverhampton. 2, J. B. Bly, Lowestoft. *vhc*, C. Plimley, Whitmore, Bearnes, Wolverhampton. *hc*, W. K. Tickner; Rev. F. Tearle; T. Dean, Keighley.

Bantams.—*Game.*—1, Cup, and 2, Miss E. H. Jeffries. *hc*, H. L. Cocksedge, Drinkstone House, Bury St. Edmonds; Hon. Mrs. Paget, Hoxne, Scole. *c*, T. Barker; W. Adams, St. Clements, Ipswich. *Any other Variety.*—1, M. Leno (Sebrights). 2, S. S. Mossop, Long Sutton. *hc*, Rev. F. Tearle (White and Black); T. J. Miller, jun. (White booted); J. Bloodworth, Cheltenham (White). *Selling Class.*—1, Cup, and 2, Miss E. H. Jeffries (Black Red). *hc*, T. Barker, Hill-End, Burnley (Game); J. Bloodworth (Black). *c*, Rev. T. C. Hose (Duckwing).

Crève Cœurs, Houdans, and La Flèche.—1 and Cup, J. K. Fowler. 2, W. Tippler (Houdans). *vhc*, J. J. Malden, Biggleswade (Crève-Cœurs); W. Dring, Faversham (Crève Cœur). *hc*, W. Burrows (La Flèche); C. H. Smith, Radcliffe-on-Trent (Crève-Cœurs). *c*, W. Burrows, Diss (Houdans).

Any other Variety.—1, H. Pickles, jun., Earby (Polands). *c*, Rev. N. J. Ridley, Newbury (Malay). *vhc*, W. Cutlack, jun., Littleport (Black Hamburghs); J. Berners, Woolverstone Park, Ipswich (Geese); W. Kensey, Gosbeck, Ipswich (Turkeys).

Ducks.—*Rouen and Aylesbury.*—1, J. K. Fowler. 2, Lady Gwydyr. *vhc*, H. B. Smith, Broughton, Preston; T. F. Upsher; J. K. Fowler. *c*, G. W. Greenhill, Ashford, Kent; J. Drake. *Any other Variety.*—1, S. & R. Ashton, Mottram. 2 and *vhc*, M. Leno (Whistling and Carolina). *hc*, H. B. Smith.

Selling Class.—1, W. Rayner, Ipswich (Brown Game). 2, H. Payne, Stowmarket (Buff Cochins). *vhc*, J. J. Malden, Biggleswade (Crève-Cœurs); W. Kitson, Ipswich (Black Red Game); Master W. M. Shaw, Rougham Rectory; T. Woollard; W. Rayner, Ipswich (Black Game); Miss E. J. N. Hawker (Silkies). *hc*, A. Cole, Long Sutton (Cochins); F. Parlett (Coloured Dorking); J. Dutton, Ipswich (Buff Cochin). *c*, Rev. W. F. Dixon, Oby Rectory, Norwich (White Cochin); H. Dowsett (Dorkings); Rev. F. Tearle, Gazeley Vicarage, Newmarket (Silver-spangled Hamburghs). *Cock, Cockerel, or Drake.*—1, Dr. Campbell (Light Brahma). 2, Master W. M. Shaw (Aylesbury). *hc*, J. J. Malden, Biggleswade (Crève-Cœur); A. Cole (Cochin); T. F. Upsher, Sutton, Ely (Rouen Drake); W. Rayner (Brown Red); H. Dowsett (Dorking). *c*, W. K. Tickner (Hamburgh); W. Tippler (Houdan); W. Speakman, Doddington Park, Nantwich (Hamburgh).

PIGEONS.

Carriers.—*Young.*—1 and 2, A. W. Wreo, Lowestoft. *vhc*, W. Lumb, Brotherod Hall, Rochdale. *hc*, H. Yardley, Birmingham. *c*, A. Cole.

Tumblers.—1, W. Lumb. 2, H Yardley.

Fantails.—1, J. Walker, Newark. 2, J. T. Cater. *vhc*, J. F. Loversidge, Newark; J. Walker. *hc*, J. F. Loversidge; O. E. Cresswell, Early Wood, Bagshot; H. Yardley.

Trumpeters.—1, C. Norman, Westerfield. 2, R. Elliott, Ipswich. *vhc*, H. Yardley.

Any other Variety.—1, H. Yardley. 2, W. Goddard, Stanhope St., London (Ice). *vhc*, Miss E. M. Buckel, Ipswich (Priests); O. E. Cresswell (Turbits). *hc*, W. Goddard (Blue Owls); H. Laver, Colchester (Runts); W. Lumb (Priests). *c*, F. Harwood, jun., Colchester (Antwerps); H. Laver (Pouters); F. Graham, Birkenhead (Nuns).

Selling Class.—1, C. Norman (Black Trumpeters). 2, W. Lumb (Turbits). *hc*, G. W. Bales, Ipswich (Pouters); T. Cater, Colchester (Yellow Magpies). *c*, F. Harwood, jun. (Pouters); G. W. Bales (Carriers).

CAGE BIRDS.

Canary.—*Clear*—1, T. Fenn, Ipswich. 2 J. Frost, Parham. *hc*, J. Frost; Cockle & Watson, Terrington, St. John's, Lynn. *c*, Cockle & Watson. *Mottled.*—1 and *hc*, Cockle & Watson. 2, T. Fenn. *Crested.*—1, Cockle & Watson. 2, J. Frost. *hc*, T. Fenn; Cockle & Watson.

Any other Variety.—1, Rev. T. C. Hose, Roydon Rectory, Diss (King Parrot). 2, G. W. Bales (Java Sparrows). *hc*, T. Fenn (Gold Lizard); Cockle & Watson (Lizard).

Selling Class.—1 and 2, T. Fenn (Norwich). *hc*, H. T. Frere, Burston Rectory, Diss (Lizard). *c*, Cockle & Watson.

The Judge was Mr. E. Hewitt, of Sparkbrook, near Birmingham.

DERBY BANTAM AND CANARY SHOW.

The fourteenth annual Exhibition of Canaries and other Cage Birds was held in the Lecture Hall, Wardwick, Derby, on the 28th and 30th of October. The following prizes were awarded:—

Bantams.—1 and Extra 1, J. Eaton, Farnsfield, Southwell. 2, F. Sale. *hc*, F. Sale; H. Shumach, Southwell; J. Eaton.

YOUNG BIRDS.

Belgian.—*Clear Yellow.*—1, J. Close, Derby. *Clear Buff.*—1, J. Close. *Marked Yellow*—1, H. Hutchinson, Derby. *Marked Buff.*—1, J. Close. *Variegated Yellow.*—1, John Clarke, Derby. *Variegated Buff.*—1, J. Close.

Norwich.—*Clear Yellow.*—1, R. Henson, Derby. 2, S. Burton, Derby. 3, J. Prosser. 4, John Clarke. 5, C. Wood, Derby. *hc*, E. Orme, Derby. *c*, A. Knight, Derby. *Clear Buff.*—1, R. Henson. 2, W. Sherwin, Derby. 3, J. G. Edge, Derby. 4, H. Johnson, Derby. 5, C. Wood. *hc*, S. Burton. *c*, J. Bennett, Derby.

Norwich.—*Marked Yellow.*—1, R. Henson. 2, J. Prosser, Derby. 3, H. Adams, Derby. 4, W. Sherwin. 5, John Clarke. *hc*, E. Orme. *c*, A. Ufton, Derby. *Marked Buff.*—1, E. Orme. 2, R. Henson. 3, H. Adams. 4, C. Merriu, Spondon. 5, C. Wood. *hc*, J. Bennett. *c*, J. G. Edge.

Norwich.—*Variegated Yellow.*—1, John Clarke. 2, E. Orme. 3, R. Henson. 4, J. Bennett. 5, James Clarke. *hc*, A. Knight. *c*, J. Marshall, Derby. *Variegated Buff.*—1, R. Henson. 2, S. Cholerton. 3, A. Ufton. 4, E. Orme. 5, W. Sherwin. *hc*, J. Marshall. *c*, A. Knight.

Norwich.—*Evenly-variegated Crested Buff.*—1, John Clarke. 2, H. Johnson. 3, J. G. Edge. *hc*, T. Clarke. *Any other Variety of Crested Yellow.*—1, W. Sherwin. 2, R. Henson. 3, H. Johnson. *hc*, S. Carrington, Chaddesden Siding. *c*, J. Prosser. *Any other Variety of Crested Buff.*—1, S. Burton. 2, J. Bryan. 3, H. Hutchinson. *hc*, A. Knight.

NORWICH (Green).—*Yellow.*—1, R. Henson. 2, J. Bennett. 3, C. Marson *Buff.*—1, E. Orme. 2, H. Hutchinson.

LIZARD.—*Golden-spangled.*—1, W. Sherwin. 2, A. Ufton. 3, S. Cholerton. *Silver-spangled.*—1, S. Bunting. 2, A. Ufton. 3, H. Macconnell, Derby. *hc*, W. Sherwin.

CINNAMON.—*Jonque.*—1, E. Coke. 2, S. Bunting. *Mealy.*—1, W. Sherwin. 2, S. Bunting. 3, H. Hutchinson. *Variegated or Marked Jonque.*—1, E. Coke. 2, H. Hutchinson. 3, S. Bunting. *c*, A. Knight. *Variegated or Marked Mealy.*—1, E. Coke. 2, S. Bunting. 3, A. Knight.

GOLDFINCH MULE.—*Jonque.*—1, J. Durance. *Mealy.*—1, W. Sherwin. *Dark Jonque.*—1, R. Nash. 2, H. Hutchinson. 3, W. Sherwin.

LINNET MULE.—1, S. Bunting. 2, H. Hutchinson. 3, S. Smith.

MULE (Any other variety).—1, J. Durance.

OPEN CLASSES.

NORWICH.—*Clear Yellow.*—1 and 2, E. Orme, Derby. *hc*, W. Walter, Winchester. *c*, J. Audley, Leicester. *Clear Buff.*—1, R. Hanson. 2, W. Walter. *hc*, J. Marshall. *c*, W. Meakin.

NORWICH.—*Marked Yellow.*—1, E. Orme. 2, G. Fisher. *hc*, Prosser & Wood. *c*, W. Walter. *Marked Buff.*—1, G. Fisher. 2, E. Orme. *hc*, D. Audley. *c*, W. Doyle.

NORWICH.—*Variegated Yellow.*—1, W. Jerram, Nottingham. 2, S. Tomes, Northampton. *c*, R. Whitaker, Darley. *Variegated Buff.*—1, W. Meakin. 2, W. Walter. *hc*, J. Stokes. *c*, W. Doyle, Nottingham.

NORWICH.—*Yellow Crested.*—1, T. Keys. 2, W. Sherwin. *hc*, Prosser and Wood. *c*, J. Mann, Burton-on-Trent. *Buff Crested.*—1, W. Meakin. 2 and *c*, J. Hurrell, Bishopwearmouth. *hc*, J. Bennett.

BELGIAN.—*Clear Yellow.*—1, J. N. Harrison, Belper. 2 and *hc*, J. Turner, Birmingham. *Clear Buff.*—1, T. Dove, Sutton-in-Ashfield. 2 and *hc*, J. Turner. *c*, J. Close.

BELGIAN.—*Marked or Variegated Yellow.*—1, J. Turner. 2, J. N. Harrison. *hc*, J. Close. *Marked or Variegated Buff.*—1, T. Dove. 2, J. Turner. *hc*, J. Close.

LIZARD.—*Silver-spangled.*—1, J. N. Harrison. 2, S. Bunting.

GOLDFINCH MULE.—*Jonque.*—1, S. Bunting. 2, E. Stansfield, Bradford. *hc*, J. N. Harrison. *Mealy.*—1, W. Smith, Birmingham. 2, A. Wortley. *hc*, E. Stanfield.

GOLDFINCH.—1, J. N. Harrison. 2, T. Keys. *hc*, S. Bunting.

LINNET.—1, J. N. Harrison. 2, S. Bunting. *hc*, T. Keys.

JUDGES.—*Canaries:* Mr. G. Moore, Northampton, Mr. E. Bemrose, Mr. G. Goodwin. *Bantams:* Mr. G. A. Crewe, Etwall.

MIDDLESBROUGH ORNITHOLOGICAL SHOW.

THIS took place on the 27th and 28th of October, the place of exhibition being the Town Hall, Middlesbrough.

BELGIAN.—*Clear Yellow.*—1, W. Bulmer, Stockton. 2, Stephens & Leeke, Middlesbrough. 3 and *hc*, R. Robinson, Middlesbrough. *c*, J. Calvert. *Clear Buff.*—1, R. Robinson. 2, W. Bulmer. 3, T. Fawcett, Baildon, Leeds. *hc*, W. Appleton, Marton. *c*, J. N. Harrison, Belper. *Ticked or Variegated.*—1 and 2, R. Robinson. 3 and *hc*, W. Needler. *c*, P. Rawnsley, Ledget Green, Bradford.

NORWICH.—*Clear Yellow.*—1 and 2, Adams & Athersuch, Spon End, Coventry. 3, J. Clemison, Darlington. *hc* and *c*, Moore & Wynne, Northampton. *Clear Buff.*—1, Wallace & Beloe, Bide Hill, Berwick-on-Tweed. 2, Moore & Wynne. 3 and *hc*, Adams & Athersuch. *c*, Smith & Preen, Coventry.

NORWICH.—*Evenly-marked Yellow.*—1 and 2, Adams & Athersuch. 3, Moore and Wynne. *hc*, R. Hawman, Middlesbrough. *c*, C. Greenwood, Scarborough. *Evenly-marked Buff.*—1 and 3, Adams & Athersuch. 2 and *c*, Wallace & Beloe. *hc*, W. & C. Burniston, Middlesbrough.

NORWICH.—*Ticked or Unevenly-marked Yellow.*—1, R. Simpson. 2, J. W. Frankland, Whitby. 3, Moore & Wynne. *hc*, Adams & Athersuch. *c*, Wallace and Beloe. *Ticked or Unevenly-marked Buff.*—1, Imhoff & Chapman, Coventry. 2, Adams & Athersuch. 3, J. Clemison. *hc* & *c*, Moore & Wynne.

NORWICH CREST.—1, M. King. 2, S. Tomes, Northampton. 3, Wallace and Beloe. *hc*, W. Bulmer. *c*, Moore & Wynne.

COPPY CREST.—1, Stephens & Leeke. 2 and 3, W. Cotton, Middlesbrough. *hc*, P. Rawnsley. *c*, L. Belk, Dewsbury.

LIZARD.—*Golden-spangled.*—1 and 2, Smith & Preen. 3, J. Taylor, Middlesbrough. *hc*, M. Holroyd, Great Horton. *c*, R. Ritchie. *Silver-spangled.*—1 and 2, Smith & Preen. 3, *hc*, and *c*, R. Ritchie, Darlington. *Gold or Silver-spangled, with Broken Cap.*—1, J. Calvert, Middlesbrough. 2, Fairclough & Howe, Middlesbrough. 3 and *c*, R. Ritchie. *hc*, M. Burton.

CINNAMON.—*Jonque.*—1, G. Gayton, Northampton. 2, Wallace & Beloe. 3, S. Tomes. *hc*, Moore & Wynne. *c*, J. N. Harrison. *Buff.*—1, R. Simpson, Whitby. 2, S. Tomes. 3, G. Cox, Northampton. *hc*, Moore & Wynne. *c*, Wallace and Beloe. *Buff or Yellow Variegated.*—1, T. Craggs, Stockton. 2, M. Holroyd, Stevens & Leeke *hc*, Moore & Wynne. *c*, L. Belk.

YORKSHIRE.—*Clear Yellow.*—1, T. Fawcett. 2, P. Rawnsley. 3, W. & C. Burniston, Middlesbrough. *hc*, J. Cooper, Middlesbrough. *c*, J. Rowland, Skelton. *Clear Buff.*—1, J. Baldwin. 2, J. Garbutt, Yarm. 3, J. Greenfield. *hc*, J. Cooper. *c*, T. Fawcett.

YORKSHIRE.—*Evenly-marked Yellow.*—1, R. Hawman. 2 and 3, Stevens and Leeke. *hc*, T. Tenniswood, Middlesbrough. *c*, P. Rawnsley. *Evenly-marked Buff.*—1, R. Hawman, Middlesbrough. 2 and *hc*, Stevens & Leeke. 3, L. Belk. *c*, R. Robinson. *Ticked or Unevenly-marked.*—1, L. Belk. 2 and 3, J. Garbutt. *hc*, J. Rowland. *c*, E. Graham, Middlesbrough.

GREEN.—*Clear.*—1, W. Sergeant, Skelton. 2 and 3, Stevens & Leeke. *hc*, W. Lawson, Skelton, Marske-by-the Sea. *c*, J. Rowland.

GOLDFINCH MULE.—*Evenly-marked.*—1, Stevens & Leeke. 2, L. Belk. 3, W. Needler, Hull. *hc*, J. Spence, New Hendon, Sunderland. *c*, P. Rawnsley. *Dark.*—1, Moore & Wynne. 2, T. Tenniswood. 3 and *hc*, Stevens & Leeke. *c*, J. Taylor.

LINNET MULE.—*Variegated.*—1, J. Spence. 2 and 3, Stevens & Leeke. *hc*, W. Chalk. *Dark.*—1, W. & C. Burniston. 2, W. Nichol. 3, J. Harris, *hc*, J. Clasby, South Stockton. *c*, J. Spence.

GOLDFINCH MOULTED.—1, J. N. Harrison. 2, T. Allenby, Crossgate, Durham. 3, T. Tenniswood. *hc*, J. Davenay, Walker Fonld, Knareshorough. *c*, Stevens and Leeke.

BROWN LINNET MOULTED.—1, W. Carrick, Middlesbrough. 2, W. Nichol, Middlesbrough. 3, R. Robinson. *hc*, T. Neilson, Stockton. *c*, J. N. Harrison.

ANY OTHER VARIETY OF BRITISH BIRD.—1, W. & C. Burniston. 2, R. Robinson. 3, E. Graham. *hc*, G. Cox, Northampton. *c*, G. Smith, Middlesbrough.

SELLING CLASS.—1, G. Garbutt, Broughton. 2, Wallace & Beloe. 3, W. & C. Burniston. *hc*, W. Hutton, Baildon, Leeds. *c*, Fairclough & Howe, Middlesbrough.

JUDGE.—Mr. T. Clark, Sunderland.

LARGE TURKEYS AND TURKEY BREEDING.

A PASSION for extra size is one of the weaknesses of the American mind. In the decisions given at our fairs, weight is not only an important item, but the one thing needful. In a scale of one hundred points weight would be the equivalent of fifty, in the minds of most judges. It is the big swine, the big pumpkin, and the largest fat ox that take the premium. Economy of fattening, or the process of production, is seldom inquired after.

The same bad taste is likely to affect the decisions in our poultry shows, unless the managers insist upon a more wholesome standard. A large, well-developed bird of maximum size is desirable; a monster is not, for any conceivable purpose, except to excite wonder and draw the crowd. We raise poultry chiefly for the table. What the producer wants in his stock is good quality of flesh, early maturity, and capacity to make the most flesh out of a given amount of food. A Turkey weighing 15 lbs. is just as good for the table as one weighing 30; and most housekeepers would prefer them under 12 lbs. In most markets the lighter weights would bring the higher price. It is only in the region of large hotels and boarding-houses that the very large birds bring an extra price. For what object, then, do we want large breeding birds, and how large do we want them? It takes about three years for a Turkey to attain his largest weight. If at twelve months a gobbler reach 30 lbs. live weight, at two years he would reach 35, and at three years 40, or a little more. But it is rare to get a male bird above 40 lbs., and then it is generally by some process of stuffing that destroys his stamina and ofttimes his life. This weight is excelled sometimes; but about the time one thinks he is almost sure of a forty-five pounder, the prodigy sickens and dies.

It may be assumed, then, that 40 lbs. is about the limit to which a vigorous Turkey cock may be safely carried, and from half to two-thirds of that weight is the last safe limit for the hens. With breeders of this size, and a little under, we should get large strong chicks, that will economise food, and mature earlier than the offspring of common-sized birds. No bird yields more quickly to treatment than the Turkey. The influence of a large-sized gobbler in a flock is immediately visible in the increased size of the chicks. The introduction of wild blood increases the hardiness of the young, a larger proportion of the eggs will hatch, and a much larger number of young will be likely to grow up. With a little painstaking it is quite easy to breed to any desired shade of plumage.—(*American Agriculturist.*)

CAMBRIDGE POULTRY SHOW.—This is well worthy of the attention of exhibitors, for besides the prizes there are twelve pieces of plate to be won, five of which are for Pigeons, and one for Rabbits. We regret that the Committee commit the error of having the Dorking prizes for "any variety." What chance have the White against the Coloured?

A GOSSIP ABOUT BEES IN NEW ZEALAND.

I FANCY I am beginning to advance a little in apiarian lore. For the last fourteen years I have never been without a good stock of bees, and I am happy to state that I keep gaining considerable knowledge about them from year to year by only paying them a very moderate amount of attention.

Bees here have few enemies, mice being those only of which I have any knowledge; nor have I ever discovered any disease amongst my stock, which consists generally of three swarms annually from each hive. I attribute this part of my success to allowing nature, with very little assistance from art, to have its own way. I also find that a free circulation of air all round each hive is as important for the sanitary condition of the bees as for that of the cottage here. Occasionally with me two casts will unite of their own accord when swarming. This occurred this season, and I have had to provide them a house in proportion.

When we harvest our honey annually we make several large casks of mead for use in-doors through the winter. Some of the beeswax has already been sent for disposal to England by one of our merchants. I find the best-provided stocks for the winter are the greatest robbers of their neighbours. When this happens I generally use a blockade all round the hive to prevent further depredations. The thieves then, finding they cannot obtain admission, cease in a few days to be troublesome, and leave the weaker swarm alone. Early and late seasons have a great deal to do with swarming here. Our bees have some very severe weather to contend with occasionally during the spring months, but they are never short of food all the winter if they dare leave the hive in the middle of the day to procure it—gorse hedges, broom, &c., in full flower for them to work at. I find the best way is, if practicable, wherever the swarm settles—for it is generally in a warm, sheltered, sunny place—to hive the bees on the spot, which invariably seems to suit them with me after the wedding trip or excursion is over. We hive our bees in boxes, which I place on the ground. If

put in a bee-house they would sometimes stand a good chance of being blown over, for I presume you have little idea in England what windy weather is like in this boisterous country.

I attribute my success to using large boxes for housing my bees. I consider giving the bees a large house to work in is doing them good service. I think bee-keepers at home cannot form any conception of the quantity of honey harvested in Canterbury alone annually. I notice that my bees work very little during the extremely hot weather which we experience, but remain outside their houses night and day by the thousand, fanning each other with their wings; at the same time, from the heat, the honey is running out of the comb like water. In hot weather I now take the precaution to shade them from the piercing rays of the sun with some spray. To finish my gossip about my management of bees, I usually place during the winter months a large board on the top of my bee-boxes quite flat. This board is much larger than the box, to prevent the dripping from our heavy rains, which occasionally last for three days at a time.

Can any of our learned bee-masters at home tell me when the queen bee deposits the first egg, and when she deposits the last egg? Anything I have written I do not think new. They are only notes of my fourteen-years experience with bees in Canterbury, New Zealand.—WILLIAM SWALE.

OUR LETTER BOX.

BRAHMA CHICKENS (*Medicus*).—The weight of your birds is good, and they will hold their own in competition. The twisted flight is a disqualification. It is useless to exhibit any bird having it. The white in the tail is quite immaterial. The vulture hock is a very serious fault. The brown on the wings may be passed over. If you have one cockerel—and you surely should have one out of six—without any twist in the flight, and without vulture hock, you may show him safely. Pullets seldom have twisted flights; they are subject to vulture hocks, but as you do not mention them we hope they will be exhibited satisfactorily. Their weights are good.

BANTAM COCKERELS DYING (*A Subscriber*).—There is something about the place that is injurious, if not poisonous, to the fowls. There is every appearance of poison. Tar water is often beneficial to fowls, but tar itself is very injurious, and has much the effect on the throat of a bird that a large dose of birdlime would on that of a human being. It prevents from swallowing, and the neck is kept stretched out to diminish, if possible, the discomfort of such a state of things. The reason why only one bird gets it is, there is only enough for one. We know no cure.

WHITE COCHINS VULTURE-HOCKED (*H. E. P.*).—Vulture hocks are so common among White Cochins, that if they were always a disqualification many classes would afford no competition. Where they are shown against birds free from this defect, those having it are disqualified. The committee of a show make the most advantageous terms they can for the carriage of birds to and fro. So far, however, from paying the expense of their going to and fro, it is always a stipulation that carriage shall in all cases be paid by the exhibitor. The only exception is where birds are sold; they are returned at the expense of the purchaser. There is no expense incurred by an exhibitor while his birds are at the show.

POULTRY FOOD (*W. C. D.*).—We advise you to give up the boiled potatoes, and to supply the liver sparingly. Give them plenty of green food.

BREEDING DUCKWING GAME (*R. P.*).—As a rule the manufacturers of Game fowls do not publish their prescriptions. In all poultry-making the manipulator is only guided by the fact that he must seek a bird possessing in excess that which his fowls lack. The commonest cross is with a Black Red to get brilliancy of colour. Your best plan will be to buy a sitting of eggs from some well-known prizetaker. Mr. Baily, of Mount Street, is a very large importer of Antwerps, we advise you to apply to him.

NON-CLOSING OF BEAK (*Brown Red*).—Wash the cockerel's mouth with alum and water. Remove any part of the excrescence that will come away with your nail, and then use caustic to it freely.

PREVENTING FLYING (*T. E. K.*).—Tie the flight feathers together with a piece of wire. As you may be in doubt as to what constitutes the flight, we will call it the first eight feathers of the wing.

GROUND OATS (*B. H.*).—By ground oats we mean the whole of the corn, husk and all, ground up so fine that it will mix like flour. We do not wonder your fowls did not like the ordinary ground oats; when mixed they have the appearance of chaff wetted up together. In Sussex, and in some parts of Surray, they have stones dressed on purpose, and the consequence is the whole of the corn is pulverised, and mixed into a rough dough; there is no occasion to sift anything. All animals like it—pigs, cows, horses, and poultry thrive upon it. It should not be mixed with barley or any other meal. It should be slaked with cold water. Fowls like whole Indian corn better than the meal made by grinding it. It is bad to make a pot-pourri of all your food, because you then tie your hands, and put a change of diet out of your power.

FOWLS SUDDENLY SNEEZING (*W. F.*).—Yours is not an uncommon case. Driving rain and cold winds often affect a whole yard. You need not be afraid of your dietary being too exciting. Bran and sharps are not high feeding, and may counteract the effect of the barley and Indian meal. You need not be uneasy about them. Let them have their liberty, and give them stale bread steeped in strong ale till the attack has passed. Discontinue the bran and sharps.

WARMING A PIGEON-LOFT (*Yorkshire*).—We do not approve of warming a loft by fires of any kind. Almond Tumblers, the most chilly of all Pigeons save African Owls, have lived and prospered in Canada. The damp may best be cured by good drainage; covering up damp only increases it. Secure a well-drained place, good walls, and well-fitting doors, you need fear nothing. It is not cold, but damp and draughts that injure Pigeons. The temperature you name is not a bad one.

RABBIT NETS (*W. Sheppard*).—We know of no makers, most countryman know how to make them. The dealers in birds, &c., in St. Martin's Lane, could probably supply you.

TORTOISE MANAGEMENT (*H. Nutt*).—They live upon lettuce leaves, sow-thistle and other succulent vegetable produce. If there is a heap of leaves in the garden your tortoise will bury itself in that heap; if not, bring it in-doors and place it in a cool cellar or cupboard, covered, but not wrapped up, by a piece of carpet. It will remain torpid until spring.

GRAPE JAM.—I think it is not generally known that excellent jam can be made from unripe grapes. At this time of year, vines in unfavourable positions are displaying numerous bunches of grapes that have no chance of ripening, and it is a pity to let them be wasted. The jam should be made like that from any other fruit. A pound of grapes to three-quarters of a pound of sugar. If well boiled the jam will become firm when cold, with a flavour very like guava jelly.—E. D.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

DATE. 1871. Oct.	9 A.M. Barometer at 32° and Sea Level.	Hygrometer. Dry.	Hygrometer. Wet.	Direction of Wind.	Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	Shade Temperature. Min.	Radiation Temperature. In sun.	Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg	in.
We. 25	30.351	48.8	47.5	N.W.	48.2	54.8	36.4	34.0	25.2	—
Th. 26	30.337	51.2	41.2	Calm.	48.2	52.7	34.8	55.5	31.9	—
Fri. 27	30.057	53.7	61.9	S.	48.6	58.2	40.5	70.0	40.6	—
Sat. 28	29.837	61.4	49.5	S.S.E.	49.4	65.4	47.0	93.3	42.2	—
Sun. 29	29.593	48.9	44.7	S.E.	49.3	67.6	49.6	80.9	39.0	—
Mo. 30	29.616	50.2	48.4	N.E.	49.4	61.8	47.1	55.0	43.2	0.050
Tu. 31	29.766	50.5	49 0	S.E.	49.4	56.6	45.8	91.3	43.9	—
Means	29.937	49.3	47.5		49.1	65.3	42.0	74.3	39.3	0.050

REMARKS.

25th.—A very fine day; though rather foggy at night.

26th.—Very foggy all day; clearing off towards night.

27th.—Warmer and clearer, a tolerably fine day, but rather oppressive; and very slight rain occasionally; fine night.

28th.—Fair day, but only fitful sunshine, the air warm and much clearer than it has been lately.

29th.—A very beautiful day, warm, clear, and bright.

30th.—Fine till noon, then dull and slight rain soon after, and occasionally during the remainder of the day.

31st.—A very similar day, being fine in morning; and dull in the after part.

A damp autumnal week, with frequent mist and fog, but only a sprinkle of rain. A similar remark applies to the whole month of October, which has had less rain than usual, and yet has been one of the dampest for many years.—G. J. SYMONS.

COVENT GARDEN MARKET.—NOVEMBER 1.

AMONG the general trade there has been a fair attendance during the past week, and prices remain much the same. Continental goods of first-class quality are barely sufficient for the demand, but last quotations have been the rule, and while the weather remains open we shall not expect much advance. Potato trade heavy, with large stocks.

FRUIT.

	s.	d.		s.	d.		s.	d.		s.	d.
Apples	½ sieve	2	0 to	4	0	Mulberries	lb.	0	0 to	0	0
Apricots	doz.	0	0	0	0	Nectarines	doz.	0	0	0	0
Cherries	lb.	0	0	0	0	Oranges	₱100	8	0	20	0
Chestnuts	bushel	10	0	20	0	Peaches	doz.	6	0	12	0
Currants	½ sieve	0	0	0	0	Pears, kitchen	doz.	2	0	0	0
Black	do.	0	0	0	0	dessert	doz.	2	0	4	0
Figs	doz.	0	0	0	0	Pine Apples	lb.	3	0	5	0
Filberts	lb.	0	6	1	0	Plums	½ sieve	3	0	5	0
Cobs	lb.	0	6	1	0	Raspberries	lb.	0	0	0	0
Grapes, Hothouse	lb.	1	0	6	0	Strawberries	lb.	0	0	0	0
Gooseberries	quart	0	0	0	0	Quinces	doz.	1	0	2	0
Lemons	₱100	8	0	12	0	Walnuts	bushel	10	0	26	0
Melons	each	2	0	5	0	ditto	₱100	1	0	3	0

VEGETABLES.

	s.	d.		s.	d.		s.	d.		s.	d.
Artichokes	doz.	0	4 to	0	8	Leeks	bunch	0	3 to	0	6
Asparagus	₱100.	0	0	0	0	Lettuce	doz.	0	6	1	0
Beans, Kidney	½ sieve	0	0	3	0	Mushrooms	pottle	1	0	2	0
Broad	bushel	0	0	0	0	Mustard & Cress	punnet	0	2	0	3
Beet, Red	doz.	2	0	3	0	Onions	bushel	2	0	4	0
Broccoli	bundle	0	6	1	0	pickling	quart	0	6	0	8
Brussels Sprouts	½ sieve	2	0	3	0	Parsley	sieve	2	0	4	0
Cabbage	doz.	1	0	2	0	Parsnips	doz.	0	3	1	0
Capsicums	₱100	1	6	2	0	Peas	quart	0	0	0	0
Carrots	bunch	0	6	0	0	Potatoes	bushel	1	6	3	0
Cauliflower	doz.	3	0	6	0	Kidney	do.	3	0	5	0
Celery	bundle	1	6	2	0	Radishes	doz. bunches	0	6	1	0
Coleworts	doz. bunches	2	0	4	0	Rhubarb	bundle	0	0	0	0
Cucumbers	each	0	6	1	0	Savoys	doz.	1	0	1	6
pickling	doz.	2	0	3	0	Sea-kale	basket	3	6	5	0
Endive	doz.	2	0	0	0	Shallots	lb.	0	6	0	0
Fennel	bunch	0	3	0	0	Spinach	bushel	2	0	3	0
Garlic	lb.	0	3	0	0	Tomatoes	doz.	2	0	0	0
Herbs	bunch	0	3	0	0	Turnips	bunch	0	5	0	8
Horseradish	bundle	3	0	4	0	Vegetable Marrows	doz.	0	0	0	0

POULTRY MARKET.—NOVEMBER 1.

THERE is a slight improvement in trade, and, if the weather were cooler, there would be in price. We may, however, look for it.

	s.	d.		s.	d.		s.	d.		s.	d.
Large Fowls	3	0 to	3	3		Pigeons	0	8 to	0	9	
Smaller ditto	2	0	2	6		Rabbits	1	5	1	6	
Chickens	1	9	2	0		Wild ditto	0	9	0	10	
Geese	6	0	7	0		Hares	3	0	3	6	
Ducks	2	0	2	6		Partridges	1	6,	1	9	
Pheasants	2	6	3	0		Grouse	1	9	2	0	

WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 9—15, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years. Days.	Sun Rises. m. h.	Sun Sets. m. h.	Moon Rises. m. h.	Moon Sets. m. h.	Moon's Age. Days.	Clock after Sun. m. s.	Day of Year.
9	Th	Prince of Wales Born, 1841.	50.5	33.8	42.2	16	9 af 7	20 af 4	26 af 2	25 af 3	26	16 4	313
10	F		50.4	34.0	42.2	24	10 7	19 4	45 S	44 3	27	15 58	314
11	S	Martinmas.	50 2	34 2	42.2	15	12 7	17 4	7 5	3 4	28	15 52	315
12	Sun	23 Sunday after Trinity.	50.2	33.8	42.0	17	14 7	16 4	34 6	25 4	●	15 45	316
13	M		49.9	35.2	42.6	22	16 7	14 4	0 8	55 4	1	15 36	317
14	Tu	Stoke Newington Chrysanthemum Show.	48.5	33.8	41.2	21	18 7	12 4	18 9	32 5	2	15 27	318
15	W		49.0	34.8	41.9	19	19 7	11 4	47 10	12 6	3	15 17	319

From observations taken near London during forty-three years, the average day temperature of the week is 49.8°, and its night temperature 34.2°. The greatest heat was 68°, on the 12th, 1841; and the lowest cold 18°, on the 15th, 1868. The greatest fall of rain was 1.24 inch.

THE GLADIOLUS IN 1871.

IT is said of the peculiar crop of this county (Kent) that it tries a farmer's patience more than any other, and that you can never calculate on your Hops until you have the money in your pocket. What Hops are to the Kentish farmer, the Gladiolus is to the gardener who cultivates it—the most uncertain, the most provoking of all his pets. Meeting my old friend and neighbour Mr E. Banks, of Sholden, the other day, I said, "Well, what about the Gladiolus this year?" His reply was, "I am almost sick and tired of them; again the disease has attacked mine, and I have lost very many of my best sorts, and yet I cannot give them up." My own experience is of the same character, and they really do try one's patience. Evidently, too, from Mr. Douglas's notes, he and others have experienced a like result, while my old friend Souchet affirms the same. The flower, therefore, must have powerful attractions if, in spite of all this uncertainty, it retains, as it does, its popularity.

The disease is a mysterious thing, and is, as far as I can judge, very analogous to that which attacks the Potato. It attacks the Gladiolus at particular stages of growth, and is independent of all kinds of soils and methods of culture. A plant will grow well all through the season, will throw up a good spike of bloom, and even after that will be struck with the disease. The foliage will turn yellow, and when the corm is taken up it is all over black spots, which speedily spread, until it all perishes by a species of dry rot. I had bulbs from which I cut blooms for the Metropolitan Floral Show on August 31st, and yet after that the bulbs perished. That cultivation has nothing to do with the disease I am sure from the fact that, in the same bed and of the same varieties, some have perished and others not; thus, I had five bulbs of Adolphe Brongniart (imported bulbs); of these four were sound, one horribly diseased. I had two bulbs of Horace Vernet, the same thing took place; but what is more singular still, I had bulbs from whence two shoots came, and of course two bulbs were formed; one of these was perfectly sound, the other gone. The idea entertained by some—amongst others, Mr. Douglas—that the best blooms were to be obtained from imported bulbs, I do not find to be borne out by fact. I had it tested this year, having planted of some varieties bulbs that I had grown myself, others that were imported, and, again, others that were grown from "spawn" by Mr. Banks, and I could not see that there was any noticeable difference in them. The theory that this disease is to be attributed to the high breeding of the varieties, or, rather, to the breeding in-and-in, will not, I think, hold good. I have had Brenchleyensis this year attacked by it, and such old flowers as Penelope, while Meyerbeer and Madame Furtado have been free. If it be a disease analogous to the Potato disease, we know that theory did not account for it; for the Potatoes raised from the seed of wild ones were affected by it, and the commonest and roughest varieties also suffered. I know of no remedy that can be suggested for the Gladiolus disease, and I fear that growers must be contented to take their chance. There are, however, I think, two things to be avoided in cultivation—not to allow any fresh manure to come into contact with the bulbs, and not to allow them to suffer from want of water, if the season be dry.

Complaint has been made as to the number of varieties sent out of late years by M. Souchet, and I think it is a pity that he should have deviated from his original plan of sending out six or eight each season, but it is to be remembered that he is honest in the matter; he has his three or four classes arranged according to price, and evidently leads growers to the inference that the best are to be found amongst the four or five high-priced ones. As I have before said, he does not trust to his own judgment in the matter: two or three of those best acquainted with the flower assist him in classifying and arranging the new varieties. Mr. Douglas says only about 25 per cent. are good. Well, that is about what he puts the high-priced at, though sometimes, indeed, it is different; for example, Nestor, which he places in the lowest class, will, I think, be grown extensively as the best yellow we have; while Pericles, one of the dearest of last year, I think, will not hold its position, and has not any claim to the place assigned to it. This excessive supply of new varieties of flowers is not confined to the Gladiolus or to France, as the catalogues testify. Much has been said about the English varieties of Gladiolus, but it is a noticeable fact, that, unless in the stands of the raisers, we never see any varieties but Souchet's; why I do not pretend to say, but the fact remains.

In answer to many inquiries as to the best varieties of last season, and the probabilities of the present, I am inclined to place at the head of last year Horace Vernet, flowers of brilliant colour and large size, with a good spike. Sir J. Franklin is a remarkable flower for its novelty of colour; the spike is hardly sufficiently long. Talisman is another novel flower, but I fear of delicate habit; and the same, from what I have experienced and heard from others, must be said of Phidias. Edith Dombrain I have seen very beautiful, although my own spikes of it were not large; it is one of those varieties that do not rapidly increase. Souchet told me it was raised ten years ago, but he had not been able to increase it sufficiently to put it in commerce until last season. Primatice comes next; while, I think, many will like Nestor. Van Spandouck, although brilliant in colour, is not a first-class flower. Amongst others are some which are exceedingly pretty and ornamental, and that years ago would have passed muster, but are not equal to one's idea of first-rate flowers. Of the flowers of 1869 Orphée is, I think, decidedly the best; Armide is fine; Delicatissima very pleasing in its novel shade of colour; Rosea Perfecta often very pretty and useful; and Rosa Bonheur very fine and vigorous. Robert Fortune is also very fine at times.

When I was at Fontainebleau at the end of August the greater portion of M. Souchet's flowers were out of bloom and, indeed, the great bulk of his collection is now grown at Montereau, the soil there being much more suitable for it

than that of Fontainebleau; consequently I did not see many of his new varieties. One I did see, which struck me as being very fine—Phœbus, very brilliant in colour, and with a fine spike. Beatrix will also, if I mistake not, be an addition to our white flowers, which La Candeur of 1869 certainly was not; while Madame Desportes, our very finest white, seems to be of a very delicate constitution. I have lost this season all I had of it, and Mr. Banks tells me he has great difficulty in keeping it.

As several have asked for my opinion of the older varieties, I here give the result of my observations, regarding them in the light of flowers that I should wish to set up in a stand, possessing most of the qualities required in exhibition flowers:

Adolphe Brongniart	Impératrice Eugénie	Maréchal Vaillant
Adanson	James Veitch	Marie Dumortier
Armide	Lacépède	Marie Stuart
Delicatissimum	Lady Franklin	Meyerbeer
Dr. Lindley	Legouvé	Michel Ange
Etendard	Le Titien	Molière
Eugène Scribe	Madame Desportes	Princess Marie de Cambridge
Eurydice	Madame Dombrain	Reine Victoria
Fulton	Madame Furtado	Sir William Hooker
Homère	Shakespeare	Virgile
Schiller	Ulysse	
Thomas Methven	Madame Vilmorin	

The judgment of French growers must differ from ours in some way, for I find amongst others Bernard de Jussieu described in the most glowing terms as a remarkable plant, and Semiramis declared to be without a rival. Now, neither of these is in my opinion a show flower; yet when I saw Semiramis first at Souchet's I thought it truly unrivalled, and never was I more disappointed than when it bloomed with me. All who have bloomed it seem to agree in their opinion of its demerits. The above is the result of my experience; and if there be anything which I have omitted that my correspondents have desired to know about, I shall be glad to supply the omission.—D., *Deal*.

FRUIT TREE PLANTING AND CULTURE.

If in the following notes a tendency to repeat former statements is observable in some instances, it is because experience has shown them to be sound, and that the principles they embody are highly important and very necessary to success in fruit-tree culture.

Too much stress can hardly be laid upon the importance of securing a thoroughly prepared station for a fruit tree before planting it, but first of all the necessary drainage of the land should be attended to. Nothing can be more annoying than to be unable to take advantage of a few days' favourable weather for planting, owing to many of the holes being full of water, which there is no prospect of getting rid of for some time to come. When it can be done, the stations should all be made before there is much danger of rain. The trees should be ordered early in October, so as to secure good plants, and be had from the nursery early in November. Never suffer the packages to remain a moment longer than is necessary in the hands of those to whom they are entrusted, during their transit from the nursery to the garden, but secure them as quickly as possible. Unpack, examine, and check off each tree, passing it on for planting or laying-in at once. Of course it is in every way more advantageous if the trees can be planted as they arrive from the nursery, but when this cannot be done the roots of the trees should be laid-in in soil temporarily, ready for planting upon the first favourable opportunity, which must be carefully watched for and taken advantage of. Mulching, staking, and naming should closely follow the planting, or, to be more correct, a label bearing the name should be found on the station when the tree is taken to be planted, for, to save time, the position of each tree should be decided upon before the planting begins. In addition to labelling the trees, a ground plan of the garden or orchard should be made, and the position of each fruit tree marked upon it with its name, as then no confusion can arise from the loss of labels.

Some time ago in a paper on this subject I strongly advocated the heading-back of young fruit trees at the time of planting. The soundness of my remarks was questioned by some at the time, but I am glad to say that a more extended practice and close observation since then, have confirmed the truth of what I then advanced. I know it requires some confidence and a thorough knowledge of fruit-tree culture to prompt one to cut a fine young tree of 5 or 6 feet in height, with a bushy head of stout vigorous wood, down to a mere bare stump at the time of planting, but I think the result need never be feared if the tree is healthy, planted in a thoroughly prepared station, and cared for as it ought to be. I have hitherto advocated the planting of "maiden" trees, but experience has taught me that it is far better to plant larger trees which have already undergone a year or two of training in a good nursery. When such trees are received from the nursery, each must be pruned as it may appear to require. No set rule can fairly be applied to a number of trees. Take, for instance, a number of such trees as a respectable nurseryman will send out as fine, vigorous, selected pyramids; the majority of them will be tolerably well furnished with shoots from the base upwards. The pruning of such trees consists simply in thinning and shortening the young wood. But there will also be some healthy enough and in full but misplaced vigour, that must at once be shorn of all their beauty by shortening the stems to about 18 inches from the base. Of a number of Apple, Pear, Plum, and Cherry trees, the stems of which were then nearly an inch in diameter, so pruned when planted last autumn, not one has failed to make a fine growth, averaging about eight fully-developed shoots a yard long upon each plant. One, a New Hawthornden Apple, has twelve stout shoots, each from 3 to 4 feet long. In doing this I consider I have laid the foundations of some handsome pyramids, for it is well known how highly important it is to secure and afterwards maintain an equal distribution of vigour in a fruit tree, and it is almost entirely owing to this principle not being fully recognised or practised, that they so frequently assume an appearance totally void of symmetry, and not nearly so productive as a well-trained handsome tree. I would not advocate symmetry at the expense of utility, nor need I do so, for the two things are so thoroughly compatible that they can invariably be united, whatever may be the variety so treated. It is well to allude to this, as I have noticed in several instances a tendency to carry the pinching and dwarfing of such trees to a hurtful excess. It is well ever to practise and advocate a vigorous use of the pruning knife, but such practice must always be tempered with judgment and prudence, and due care must be taken that the full free flow of sap is not interfered with.

Let it not be supposed by beginners that after a fruit tree is planted no further care is required. It must be closely watched as the buds swell in spring, especially in such a one as we experienced this year, when blight and caterpillars abounded. I have no faith in the sensational fruiting of newly-planted fruit trees; rather let us strive to promote the greatest possible vigour both in root and branch, taking care to guard every shoot from being broken by strong wind, and only checking the too-vigorous growth of the highest branches by pinching. Thus the first year is altogether devoted to establishing the tree in its permanent position; then in following seasons, as the tree gains size and strength, its fruiting properties may be suffered gradually to develope until it becomes one of the most useful and attractive objects in a garden.—Edward Luckhurst.

SEDUM FABARIA OR SPECTABILE.

I quite agree with all that Mr. Record has said (see page 254) concerning this Sedum as a bedding plant. When visiting the well-arranged flower garden at Hampton Court in September last, I was highly gratified to notice the pre-eminent position it occupies there, planted in masses, in the large, square, old Dutch style of beds, where it is seen to the greatest advantage—so much so, that those who may only have seen single plants can form but a remote idea of its true merits. Apart from the little skill required to grow it at any season of the year, and the small amount of labour involved in securing from it a beautiful display of autumn flowers, it offers the advantages of growing and blooming well under large spreading Yew trees, where we often see some of the choicest succulents dwindling. For such places nothing is more suitable than Sedum spectabile. Its glow of rosy purple flowers harmonises well with the dark Yews, and affords an amount of colour not to be obtained from other sources. Its lateness in flowering I consider no objection, as even when not in flower it has an excellent effect. Though there are many other Sedums of good quality, this may be considered the best for bedding where not classed with some of the stronger subjects. In my opinion it is too tall for its place on the rockwork at Battersea, for which some of the dwarfer species are better adapted. I believe Mr. Donald has bedded-out Sedum Fabaria at Hampton Court in former years with the same satisfactory results.—J. M.

Sedum Fabaria forms a good addition to our bedding plants here, and I consider it is a very useful and beautiful autumn-

flowering plant. It is perfectly hardy at this place, though we lift it in spring and divide it for redistribution in other mixtures. It would remain in one place for several years like any other herbaceous plant. It is essentially an amateurs' plant, and is well suited for those who have limited accommodation under glass for rearing the more tender flowers. Where bedding-out, as it is here, is looked upon more in autumn than summer, the value of this Sedum is even greater than elsewhere. I join Mr. Record and Mr. Robson in recommending such a good and useful plant to public notice.—H. Knight, *Floors Gardens.*

FORCING VEGETABLES.—No. 2.

THE KIDNEY BEAN.

This delicious vegetable may be very successfully forced in hothouses, and on hotbeds under pits and frames. In some large establishments the supply is kept up all the year round by following the out-door crops with those grown in pits and frames, and then by succeeding crops grown in pots and boxes, so that at Christmas and the New Year dishes of it can be placed upon the table. The Kidney Bean, however, is not so easily forced as the Potato, although a crop may be depended on when proper attention is paid to its culture. To keep a regular supply of several dishes a-week during winter, considerable space ought to be set apart for the culture of Kidney Beans, and if they can be allowed a house to themselves so much the better. When cultivated among other things, as very many gardeners are compelled to grow it, the Kidney Bean becomes an agent for the breeding of red spider, its greatest enemy, which attacks at once every other plant associated with it. Unwearied attention, therefore, must at all times be directed to check the appearance of that great pest; and, again, the treatment necessary for the successful culture of the Kidney Bean is not of such a kind that other plants may be submitted to it for any length of time without injury.

Taking first late forcing, which continues from September up to Christmas, beginning when it is no longer safe to plant them out-doors, the protection of a frame or pit with glass and without bottom heat will answer very well for the first two or three crops. In other respects the treatment given to these crops is so similar to that of those out-doors, that very little need be said about them, beyond reminding those who intend to cultivate the Kidney Bean at this season, that it enjoys a good, rich, open soil with plenty of drainage and moisture, requiring at the same time a l the heat the sun affords at this time of the year. For the crops planted in October, November, and onwards, bottom heat will be needed in some form or other, and I believe it has been a subject of discussion among gardeners whether it is better to provide that bottom heat by making-up a hotbed of manure and planting the Beans upon it, or by growing the plants in pots and placing them in some highly-heated structure, such as a Pine stove. For my own part I would give the preference to pot culture both for late-autumn and early-forced crops, but circumstances will often be found to limit the practice of one rule alone, and both have to be tried.

I think there is not a doubt that for a series of sowings the planting-out system would yield the most produce, and the Beans would be well grown out. Pot culture, I believe, is mostly practised in the winter months, being more convenient, since at that time of year, as light is deficient, they can be elevated, and if heat should decline the pots are moveable. The plants have a less vigorous growth, but the crop is often quite as heavy as when planted out. However, if grown on the planting-out system, I should advise a bottom heat of 60°, a top heat of from 70° to 80°, and a so.l made up of equal proportions of loam and manure, but not laid on the bed more than 9 inches deep. Instead of planting the Beans in the bed at first, they ought to be raised in pans or boxes and afterwards planted out; this checks a too-vigorous growth, and does not injure the crops, but I believe it promotes an earlier maturity. There is one advantage that a planted-out crop has over one grown in pots—it is not so liable to the attacks of red spider from having a more uninterrupted rooting space; but, when in bloom, the setting of the crop is a more difficult operation; it not being possible to give the Beans a free circulation of air, for, generally speaking, the places used for this sort of forcing are very small and are planted closely, the usual distance being 3 inches in the row, and 1 foot between each row. A circulation of air through the whole, therefore, is a thing to be accomplished if possible when the Beans are first planted out. No water should be given them at first, and not much at any time until they show signs of growing, otherwise whole rows of the plants will damp-off at the collar, but afterwards water of the same temperature as that of the house must be given in plenty, more especially after the crop is set; they should not then be allowed to become dry either at root or branch.

I believe autumn forcing of the Kidney Bean is not often practised, at any rate it is not thought so much of as early forcing by some. A dish of Beans for Christmas or New Year's-day is generally what gardeners are called upon to do, and to that I will direct my remarks. For Christmas the Beans should be planted six weeks before the time, or even more than that, for while approaching the shortest day everything grows very slowly. I cannot advise any better plan than that of planting the Beans in pans or boxes laid in so that they do not touch each other. When they are about 3 inches high, or just before they begin to make a shoot from the seed leaves, they should be transferred to the pots, using 12-sized pots, and putting five plants in a pot—that is, four round the sides and one in the centre. The same sort of soil should be used as for those planted out, only it should be warmed in the house before use, and in potting should not be pressed too firm, nor should the pots be filled full. My plan, and I have found it answer well, is to top-dress the Beans with rotten manure after they have been staked, which should be done as soon as they are started well in the pots. For this purpose I lay by all the worn-out birch brooms, and every twig of birch makes an excellent stake for each plant, doing without being tied if placed outside of the plant; and the only thing required to be attended to afterwards is plenty of light and heat—the same as for those planted out. They should be kept dry overhead when in bloom, but well syringed and watered at the roots, not allowing them to become too dry at any time during their growth. After the first crop is well established in pots the second crop should be sown; when the first crop is fit to gather the second should be just coming into bloom, and other crops should be coming on in proper succession.

The sorts often grown for forcing—all good in their way, such as Fulmer's Forcing and Newington Wonder—bear well, and are of a dwarf habit, but the pods are very small. I have tried most of those suitable for forcing, and have fixed upon the China or Robin's Egg as the best of all. It is certainly a better cropper than any other I know, and a very sure one, as it is not at all delicate in constitution.

With regard to the seed, I advise the use of that one year old in preference to that grown during the present year. The former is well matured and ripened by time, and, consequently, does not grow so vigorously, which makes it more suitable for pot culture, but the latter when sown in pans rots very much instead of coming up, and the plants I find also damp off after being potted much more than the others; this, I think, is purely from the want of age. For pot culture the plants should be placed as near the glass as possible, and in the hottest part of the house if grown among plants; and if grown in a structure by themselves, it is hardly possible to give them too much heat provided it is associated with plenty of moisture Thomas Record.

THE LAMB FERN.

The history of the Lamb Fern (Cibotium Barometz) is curious, as affording a striking instance of how our unquestioning forefathers accounted scarcely anything too marvellous for belief, provided it came to them from the ends of the earth, and of the way in which travellers' tales, in course of time, came to be proverbial for the unsubstantial nature of their foundations. In those days—two hundred years ago—something of a sensation was created in this country by the discoveries of certain travellers in Eastern Tartary. What they discovered was not a mare's nest, but whole flocks of sheep growing in the plains, rooted to the ground by their four legs, instead of roaming about at their own sweet will. So far they were vegetables, otherwise they were clothed with the finest Thibetan wool of a cream-white colour, and their mutton was made up of flesh and blood, and, we may suppose, of suet, like other civilised sheep. Like Sam Weller's vision, however, their range of pasture being limited, except in the case of some well-situated, long-necked individuals, the proportion of suet to skin and bone would of necessity be but small. So long as the herbage within their reach lasted they grew and fattened; when it was all done, they died and withered away. Then the Tartars gathered the wool, left the carcase for the wolves, sowed another

crop, and, no doubt, kept up a regular succession. Such was the system of Mongol sheep-farming two centuries ago. The little nucleus of truth around which all this nonsense clustered was simply this—like most of the Polypodiaceæ, C. Barometz, as an auxiliary means of propagating and spreading itself, sends out numerous rhizomes or creeping stems. These sometimes assume strange fantastic forms, among which may easily be traced those of sheep or lambs; no doubt that, in their native soil and climate, they will also attain to something of a sheep-like size, and their being covered with a thick coat of wool almost completes the resemblance. A good stretch of the imagination would do the rest, and invest them with legs, and horns, and everything else which a decent sheep requires. I have had a young plant of this Fern for some time, but nothing lamb-like has yet made its appearance. It has handsome bipinnated erect-growing fronds, and requires a stove temperature.—R. D. Taylor.

SELECT PEARS.

To the two excellent Pears which "T. R." brings to notice I beg to add another—namely, Fortunée Boisselot, also of Nantes origin. I have fruited it in a pot, and have some very fine fruit, quite as large as the contour of it in the "Dictionnaire de Pomologie." Being a late Pear—February in France, April here probably—it will prove of the three the most valuable. We had fruit of Souvenir du Congrès last year of above a pound weight each. Like one of its parents, Williams's Bon Chrêtien, it does not keep long, but it is nevertheless an acquisition to the September supply. I have not yet fruited the Beurré de l'Assomption, though we have it with several other new Pears, and hope it will prove a useful one. A French friend has written of it to me in high terms, also very highly of the Fortunée Boisselot as being a fine-flavoured Pear.—H. Knight, *Floors Gardens.*

ASPARAGUS CULTURE.

The Asparagus is a hardy plant, and yet when the buds at the base of the shoots are near the surface they sometimes suffer considerably from frost. This might have been one of the reasons of Asparagus being grown in beds, and of the regular manuring and earthing-up being performed before winter—a plan which was almost indispensable, when, instead of Asparagus all green, it was deemed essential to send to table 6 or more inches of stem blanched like Sea-kale, with from 1½ to 2 inches of green top on the surface. If I had plenty of ground I think I would again revert to the bed-system of culture. It has its advantages, for you can do the plants greater justice during the summer, and Asparagus may thus be grown in a quarter much in the same way as Onions or Parsnips. The spaces between the beds are also useful for such summer crops as Cauliflowers.

For various reasons, and more especially for making the most of a small extent of ground, I have for some time grown Asparagus in rows 2 feet apart. On first planting these rows the plants were placed on little elevated ridges, as the ground is rather stiff. In course of time, in consequence of the successive surfacings of rotten dung, the ridges are lost sight of, and the plants appear almost on a level. In this way I have had plenty of good shoots with but little trouble. All my experience points to the simple fact, that to encourage the growth of Asparagus, there is nothing like summer manuring and summer manure-watering.

Why do I mention this? Simply that many with small gardens, who have hitherto looked upon Asparagus as beyond their reach, may see that they could have good gatherings from rows that would singly take up little more space than a row of good Cabbages or a couple of rows of Carrots. Many a thriving tradesman is deterred from thinking of Asparagus on account of the deep trenching, the endless amount of manure, the necessary drainage, and the care required to manage even a small bed of Asparagus; but were the conviction spread, that with moderately loosened and enriched soil Asparagus would do remarkably well with a surface-mulching or manuring, its culture in small gardens would be increased twentyfold, and many an invalid would be refreshed by the dainty dish that at present is felt to be out of reach.

There is not the slightest necessity for trenching and putting in bones and other kinds of manure 3 feet deep. The Asparagus, on the whole, is more of a surface than a deep rooter. A depth of 2 feet, or 20 inches at least, of well-stirred soil would be helpful in the way of drainage; and if no more than 15 or 20 inches of good staple could be procured, then plant in beds, or in rows a little elevated, so as by degrees to increase the depth of the good soil. As a row might suit many of your readers having small gardens, I would advise them not to be too particular in digging down manure too far from the surface. Have some mellow, rotten dung mixed with the soil at from 6 to 9 inches from the surface; mark out the place for the row; spread the roots well out upon it, and be careful not to allow the fine fibres to become dry after taking up the plants for planting. After watering the roots raise about 5 inches of soil over them, sloping it both ways. Mulch with rotten dung; and mulch or give manure water in dry summer weather. As regards mulching in summer, the Asparagus may have anything from rotten dung to short grass; and plenty of house sewage, not too strong, should likewise be given. This, and not deep trenching and deep manuring, is the easiest plan of obtaining good-sized, crisp, sweet Asparagus. There are thousands of your readers who could give a little manure to a row of Asparagus in autumn, and more manure by a sprinkling of salt in summer, who never could take the trouble of making an Asparagus bed in the old-fashioned way.

With regard to the plants either for rows or beds, the easiest plan is to sow the seeds not too thickly, and thin the plants out to 6 inches apart. I have tried that plan, and very successfully, but under the best treatment a gathering can hardly be expected in less than three years from the time of sowing, and it would hardly be economical for those with but little ground to have it occupied all that time without obtaining remunerative produce. Besides, though I have tried with fair success sowing where the plants were to produce, I prefer transplanting plants from one to two years from the seed. In the latter way, by sowing rather thickly, a small space will hold a large number of plants, and then when we transplant fair returns are obtained in the second year, and the ground is, therefore, made the most of.

Transplanting may be performed every month from the present time to spring, but on the whole spring planting is preferable—just when the young shoots are from 1½ to 3 inches in length; but in either case the roots are carefully spread out, damped, covered, and then mulched. Only let the idea prevail that surface-mulching with rotten dung and a little salt in summer are of more importance than deep trenching, and many an artisan's and tradesman's table will be graced with Asparagus in its season.

As regards kinds, I may be wrong, but my opinion, based on practice, is that there is only one kind, I might almost say one variety of Asparagus, and that differences in appearance are less owing to seed or variety than to the mode of culture and variations of soil. Asparagus might be made passable in the stiffest hungriest soil, but that produced in a deep, rich, light loam could not easily be equalled. Hence in very stiff clayey loams burning a part of the clay, elevating the beds and rows, and lightening the soil with rotten leaf-mulching and lime rubbish, will be of great advantage.

Before cutting down a part of the Asparagus here, a quantity of seed was gathered, and then the tops were thrown into a heap to be burnt or charred. As showing the peculiarities of the season, many of the berries of the Asparagus were greenish-brown instead of ripe and bright red. I resorted to burning the tops rather unwillingly, as when cut before the feathery foliage falls, they make a good protection and light withal. The seed, however, which is left in such cases so drops, and grows afterwards, as often to render Asparagus a troublesome weed.

Forcing.—It is necessary to cut down early the Asparagus which is to be forced early, and if we had plenty of ground and little glass, I should like to have Asparagus from November until it came in from the open ground. For obtaining the earliest before Christmas, no mode is better than the old, though wasteful plan, of taking the roots up and packing them closely on a mild hotbed, with a covering of 2 or 3 inches of sandy loam and leaf mould. For such early forcing an old bed is often chosen. I much prefer, for all forcing, a piece from which the cutting in spring was early stopped, so that growth and ripening were early completed. With such materials, even for a fair-sized establishment, I have been satisfied with one or two lights of a frame at a time, generally using one at first, and in a fortnight or three weeks afterwards taking to the second. There is no better plan for obtaining early Asparagus in the late months of the year, nor, indeed, at any time, so far as the supply is concerned; but the waste of old, good plants

is something serious, and accounts for the high price that Asparagus must ever bring in the winter and early spring months. Hence the importance of having beds of Asparagus heated by hot water, or by fermenting material, where the plants remain without lifting or thus destroying them. Beds thus heated will yield well when forced every alternate year. It is to me always a matter of regret to see destroyed, by lifting and forcing in a frame, those fine roots, which, if left in the ground, would have done service for years, for they are of no further use after having been forced. I think heat beneath the roots adds to the vigour of the shoots, and plenty of light makes them nice and green and crisp, but any place where there is a heat of from 50° to 60° will bring Asparagus on well. I have even forced the shoots to push in a dark place, cut them when they were 6 or 7 inches long, then set their base in damp moss, and exposed them to light for several days under glass, but even then the heads were probably not quite so crisp as those grown in a slight hotbed and exposed to light as they grew.

For the sake of beginners, I may state that when the roots are thus taken to a hotbed the bottom heat should never be above from 75° to 80°; that if there is the least danger of the heat being more the roots should merely be left on the surface, and be slightly covered after watering, and then 2 or 3 inches more covering should be put on as the heat declines. The details of these matters are of primary importance to the inexperienced. For an early Asparagus bed, then, I seldom use a hotbed all of fresh materials, but select an old hotbed which has been used for Cucumbers or Melons. The soil is taken off, also the most decayed part of the dung; that which is not quite rotten is stirred, mixed with hot tree leaves or other fermenting material, and 2 inches or so of the rotten dung placed on the surface. On this are packed the numerous spreading roots, taking care not to let them get dry, putting in the first row as close as it is possible to do without the buds touching. A little leaf mould and sandy loam is scattered on the long roots, then the next row of roots is placed over them with the buds on a level with the first row. In this way a large number of roots can be packed in the space of a single light of 6 feet by 4. When all the roots are packed in, a sprinkling of light soil is thrown over them, and water is given at a temperature of about 65°, so that the fibres of the long roots may have no check. When sure that there is the proper heat, add a couple of inches or so of covering, for, where green shoots are preferred, covering for blanching is quite unnecessary.

Though the above is one of the simplest modes of forcing, yet, as already indicated, any mode will do where a little heat can be given. An old friend of mine was excessively fond of Asparagus, especially when it could not be obtained easily. He had a small greenhouse heated by a flue, and as the stokehole was small, it was always warmer than the greenhouse. He used wooden boxes a foot across and 10 inches deep. In these the roots of Asparagus were packed thickly as above, watered, and set near the stove in the stokehole, and the boxes covered lightly. When the Asparagus was about 4 inches long the covering was removed, and ere long the box was removed to the warmest part of the greenhouse, where the shoots soon became green enough for use. A few boxes kept up a good succession.

Some consider that Asparagus in the winter and early spring months cannot have too much air in order that it may be tender and healthful. Hence it is not uncommon to see the tender shoots exposed to a keen frosty north-easter after they have been forced into growth, instead of having just enough of air to keep them safe while surrounding them with a rather moist warm atmosphere. In the latter case the heads will be full, crisp, and sweet; in the former case they will be too much like so many hard-dried twigs, giving little pleasure to the eater, and doing as little credit to the grower and the cook.—R. Fish.

GRAPES RIPENING IN GROUND VINERIES.

I noticed a week or so ago that a correspondent, writing on ground vineries, stated he thought Grapes so grown would not ripen this year, and quoted those of Mr. Rivers, at Sawbridgeworth, as an instance. I think it well, therefore, to make known that I have thoroughly ripened the following—viz., Golden Champion, Early Golden Frontignan, Frankenthal, Morris's Hamburgh, Trentham Black, Foster's White Seedling, General Della Marmora, La Bruxelloise, the Muscat Hamburgh, and Fintindo. Many competent judges have tested the Grapes, and pronounced them excellent both in flavour and colour. Unfortunately I made a mistake in the day, and cut my last to show at the Royal Horticultural Society, for Wednesday, the 25th of October, instead of November 1st, as I ought to have done, otherwise I should have had the pleasure of exhibiting several varieties, all of which were grown under Rivett's ground vinery, old pattern, with the slight alteration of substituting iron hooks for putty. I should here mention that my Grapes are much later this year, and also that I for one am quite satisfied with the Grapes so grown, taking all things into consideration. In fact, some of mine have far surpassed others that I have seen, even this year, that have been grown in large houses.—Harrison Weir, *Weirleigh, Kent.*

POTATO CULTURE IN LINCOLNSHIRE.

Extensive tracts of land are devoted to Potato cultivation in this county, and the crop may therefore be considered a staple production. It affects the interests of many cultivators of the soil, and has a direct bearing on the food supply of large towns, which annually depend on extensive consignments from the Lincolnshire Potato fields, which are generally credited with furnishing produce of the best quality. At the first glance it may seem a little strange that not only the largest crops but the best samples of such crops are grown on the lowest land in the county, and this means the lowest land in the kingdom.

In the higher heath and cliff lands, which have generally a limestone base, the quality of the Potatoes cannot be surpassed, but on account of the shallowness of the soil the crop is not generally sufficiently productive to be cultivated specially and extensively. In the Fens the Potato is largely grown, and in dry seasons heavy crops are obtained, but at the best these are only of second-rate quality. The soil in the fen districts is a mass of black vegetable mould resting on clay; in wet weather it is pasty, and in dry weather it is blown about like clouds of soot. In such soil it is obvious that the appearance of the tubers will not be prepossessing, and owing to an almost total absence of calcareous matter, the quality is not of a high order. Still in favourable seasons it is fair, and as the crops are often large the Potato is extensively cultivated, simply because it pays as well as anything else. But it is on land lower than the fens where the largest breadths are planted and from which heavier crops are drawn, while the quality is fully equal if not superior to that of the best samples from the high lands in the kingdom. But how lower than the fens, which are only a few inches above the sea level? Well, hundreds of acres of the finest Potato land in the kingdom are really some 7 or 8 feet below the tidal level of the Trent, which flows through the Potato district. What a triumph of engineering skill is exhibited by the Isle of Axholme, the north-western division of the county! Once a morass, worthless except for fishing and fowling, and subject to the inundations of the Trent, Ouse, and Don; now the richest, most fertile, and productive land in the county, enjoying and meriting the name of the "garden of Lincolnshire." If ever merit and enterprise were acknowledged and rewarded it was when Charles I., 250 years ago, conferred the honour of knighthood on old Vermuden the Dutch drainer, who in about five years rescued above 180,000 acres of land, made it secure against tidal inroads, and laid the foundation of the complete system of draining and warping which has resulted in the present high state of fertility. Fifty thousand acres of this land belong to Lincolnshire, and that area is cropped almost exclusively with Potatoes, Wheat, and Flax. Far as the eye can reach, in a district level as the sea, beneath which it once lay, hardly anything can be seen but Potatoes with the alternate patches of corn. For miles it is the same—no variation, but one monotonous expanse of the Englishman's and Irishman's staff of life.

The long-continued adaptability of this warped land for Potato culture is probably owing to the large quantity of gypsum with which the isle abounds, supplying the two principal inorganic elements of which the tuber and haulm together are constituted—viz., lime and sulphuric acid. The gypsum also no doubt acts beneficially by its power of fixing ammonia and keeping it in store for the use of the crop. The land is highly manured, principally with night soil and town refuse; and it has long been the practice, when taking a boatload of Potatoes to the large towns, to load back with manure, a plan which is worthy of more general adoption. In addition to this practice artificial manures of all kinds are largely used, guano, however, greatly preponderating, as it has proved itself the most valuable for the purpose.

In planting, plenty of room is afforded, nearly 3 feet being allowed between the rows, and the sets are placed 14 or 15 inches apart. The rows are well earthed-up, a practice rendered especially necessary owing to the naturally cool moist soil of the district. Besides, earthing greatly facilitates the taking-up of the crops, which, being extensive, is a question of some moment. Earthing Potatoes, like other practices, must be modified by circumstances. It may be right in one place and wrong in another. In the district of which I am writing it is a necessity, while in the garden here it is a fallacy, the soil being light, deep, and dry. To plant shallow and earth-up high is doing the garden an injustice, as I can obtain far heavier crops by planting early and deep and earthing-up very lightly. General principles may be laid down, but to be successful the details must be carried out according to locality, soil, and circumstances.

To resume. The Potato crops in garden, heath, fen, and isle are poor. It is a question if there is much over half the quantity of good marketable tubers in the county that was last year produced. In the first place, the gross bulk of the crop is light; secondly, the disease is very extensive; and thirdly, the tubers, which are sound, are far below the usual standard in quality. This is directly traceable to an unpropitious season. When we find that in six months—April to September inclusive—nearly 16½ inches of rain have fallen, and the total yearly mean little exceeds 20 inches, we need not go further. The best part of the crops are the early garden varieties. Their principal growing month, May, was fine. Those who took their crop up before July 20th had a fair harvest. It was about this time the disease came and spread rapidly. My practice of taking up for seed while the tops are quite green and the skins slipping off by the touch has again stood me in good stead. Of those which I thus lifted not one tuber has become diseased, while of the few left for daily digging nearly half became bad. I have adopted this practice for fourteen years, and always with the same good result. The first period of disease, which was so disastrous to the earlies, left the late ones almost uninjured. The earlies were approaching maturity, and the foliage was unable to carry off the excessive moisture taken up by the roots, while the late kinds in vigorous growth were able successfully to elaborate the sap. I can account for their escape by no other theory. The 17th of August was a fatal day to the late crops. On that day an inch of rain fell in half an hour, and the germs of disease were established. The wet September completed their ruin. At the close of the month five days brought nearly 3 inches of rain, upwards of 1½ inch falling in one day. They could not stand this, and the Lincolnshire crop was lost.

As to kinds, Rocks and Regents are mainly relied on, with Paterson's Victoria close in their wake. This variety has come rapidly into favour, and last year bid fair to supplant its popular rivals. This year, however, it is very much diseased, and will in consequence lose prestige. It is in quality by far the best of the three, and this fact may redeem its character. Of course in a Potato country there are many fanciers, and nearly every sort home and foreign is tried and compared. The American kinds as a rule are found wanting in quality. Mr. Frisby, a first-rate grower, says Peach Blow is the best of the lot. My crop of Early Rose averaged 20 lbs. per square yard, with next to no disease. This is equivalent to nearly 7000 stones, or above 43 tons per acre. If its quality were but equal to its productiveness we should be under a debt of gratitude to brother Jonathan, but I for one cannot subscribe to a testimonial to him yet. Bovinia is by no means equal to our expectations. The Red-skinned Flourball is regarded with much favour, and bids fair to establish itself as a standard variety. It is a heavy cropper, very little diseased, and fair in quality. A kind called The Queen's is this year quite first-class. It is a good cropper, unsurpassed in quality, and not one tuber diseased. This and Flourball, growing amongst about twenty varieties, were remarkable for the strength of their constitution. When the tops of all the rest were blackened by disease the two kinds just referred to remained green and vigorous. The Queen's, I should say, is a strain of the Victoria, and a valuable one.

What I still find to be a desideratum is a heavy-cropping variety of first-rate quality, to come into use immediately after the Ashleafs, and carry us on to the late field varieties. I have tried many varieties to this end, and at present Ashtop Fluke comes the nearest to my requirements. This I intend to increase, and get rid of half a score others. As earlies for garden cultivation Rivers's Royal and Carter's Champion are both first-rate, the former being the best in a light soil, the latter in a strong one. But it is not of much use to enumerate varieties. Those which succeed in one place will not do so well in another. I have tried many kinds with the view of selecting the half-dozen best adapted to my particular soil, and have nearly attained my object. I recommend the plan to others as the most practical and useful.—J. W., *Lincoln.*

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 21.

Chilling were some of the nights of the last month, and these, together with occasional morning fogs, serve to remind us that we must prepare for winter. But the majority of the insect tribes need not the warnings of October, for they have already retired from view. Very few of those that hybernate in the larval or imago states linger on until now, but usually quit their food, or cease their flight ere September departs. Some tarry, however, and fly, in a very languid style, about the yet remaining garden flowers, or hover around the green Ivy blossoms, about which the bees, I perceive, are particularly busy. I behold them, and resolve forthwith that they shall not escape; they also shall appear in the dire catalogue, let the apiarians say what they will in their favour; for are not bees, at least in some seasons, amongst the predatory insects of our gardens?

A very large number of authors, writing for young and old, have agreed to give bees such excellent characters, that there is some danger of these "industrious insects" becoming a little vain, from the quantum of eulogy which they receive. Very diligent the workers undoubtedly are, yet the same thing might be said of many other species of the same class, whose merits scarcely anybody will take the trouble to inquire into. "Careful of their young, and almost affectionate towards them." Very likely, but so are a host of insect parents besides, who "do good by stealth, and blush to find it fame!" No; give bees—and I am in this connection speaking particularly of the social, not of the solitary species—their due eulogium; still it must be added that they can be cruel and quarrelsome, and also, upon occasion, turn robbers and thieves. As a rule, we have not much reason to complain of the injuries our fruit receives from these insects, but should their usual supplies of honey fail them, they will attack it quite as eagerly as any wasp or bluebottle can. Thus, in 1866, when in many places the season for honey-gathering was an unusually short one, it has been noted that the bees visited the fruit with eagerness, and did much more harm than the wasps. An observer, who watched them repeatedly while thus engaged, gave it as his opinion that they did not turn the sugar they thus obtained into honey, nor did they carry it to their homes; so that it would appear they sought the fruit from economical motives, that they might spare their store of honey. In Belgium, in the same year, it was reported that few wasps were seen, and the bees came in their stead. In the preceding year a West Sussex man noted, that though Plums and fruit generally were plentiful, July and August passed and scarcely a wasp was to be seen, but just as the wall fruit began to ripen it became the resort of troops of bees. The wall fruit failing them, they took to the Pears, and settled so often on the fallen ones that it was dangerous for children to go and pick them up; for the bees were noticed to be in a weakly and unhealthy condition, and, like human invalids, they became irritable and unpleasant in their tempers. Yet there were plenty of flowers that season, but the bees would not visit them; the conjectured reason being, that they contained little or no honey and pollen, with exceptions, of course. Going back a little further still, we find that a correspondent of a scientific journal states with regard to Scotland, during a season when the flowers had ripened with greater rapidity than usual, the bees were left suddenly destitute. "They, in consequence, attacked Plums and Apricots in such numbers that sometimes eighteen or twenty [?] bees would be found in one Plum. They effected their entrance by a small hole, only large enough to admit one at a time, and gradually cleared out the pulp until nothing was left but the skin. So artistically did they carry on their operations that, till examined, the Plum or Apricot with the bees within had all the appearance of sound and juicy fruit. On being shaken out the bees were helpless and feeble, and most of them probably died from the effects of their rich and unaccustomed food." This narrative may be slightly coloured, and the conclusion as to the decease of the depredators I certainly doubt, yet the facts are given *bonâ fide*, and corroborate other statements of a similar nature.

But there is another trick which bees put into practice at times, which leads the flower gardener to regard them with disfavour. When a bee comes to a flower, and finds that either from the length of the tube or from the closing of the lip it cannot obtain the honey, the bee goes off elsewhere. No, not always. It may do so, if it is in the prime of the flower season, but when honey is getting difficult to obtain the bee does not give it up. Instead of that, it ingeniously bores a hole in the right position to enable it to rifle the flower of its treasure. Several species of Fuchsia have been noticed as particularly the objects of attack. Some years ago nearly every blossom of Fuchsia elegans in some gardens exhibited these holes, which were a puzzle to the non-observant. Bees have also reached, in a similar way, the nectaries of the species of Delphinium, Aquilegia, &c.

Some of the wild solitary bees disfigure our garden shrubs, though they do them no positive injury. The most conspicuous offenders are those belonging to what are popularly called the Upholsterers, from the fact that their cells are very carefully and curiously lined, usually with leaves, occasionally with other materials. The Rose-leaf Cutter (Megachile centuncularis of Latreille) uses by preference the leaves of the Rose, Birch, and Mountain Ash, cutting out circular pieces with wonderful ingenuity. The nests contain a varying number of cells, and they are placed in a beaten path, or in the cavities of walls, sometimes in rotten wood. Other species frequent the Pear, the Elder, and various trees for the same purpose. On the banks of the Thames, near Kew, in 1865, I was surprised to find how extensively some bee of this division had been at work upon a long Privet hedge; in fact, I was led at first to suppose that some caterpillars had been devouring the leaves, until an examination of the character of the incisions proved that they had been made by bees. Some of the Upholsterer bees employ, instead of leaves, the petals of flowers. Anthocope Papaveris delights to deck her nest with the bright petals of the Corn Poppy.

There yet remain in the gardens, as well as in the fields and woods, a few external-feeding caterpillars, mostly, it may be assumed, of rather a melancholic turn; they almost seem to feel themselves out of place as they walk amongst the withered leaves and fading flowers, and prefer to retreat to the kitchen garden, where, even in autumn, there remains abundant provision for them. The juvenile caterpillars of the Angleshades Moth (Phlogophora meticulosa), are to be discovered now, and as the perfect insect, which appears in September and October, continues about for some time, we may possibly find both moth and caterpillar at once. The Angleshades Moth not unfrequently enters our rooms, being attracted thither by the lights. In its attitude of repose it has a peculiar appearance, the wings being folded and forming a roof, so that when resting upon the ground I have known the insect passed over even by an entomological eye, it having a resemblance to a bit of crumpled paper.

Phlogophora meticulosa.

The egg of the Angleshades is laid upon various plants. I have found it on the garden varieties of Chrysanthemum. By means of a moderate magnifying power, we perceive that it is channelled and dotted, the markings being regularly arranged, and giving to it, as Rennie observes, a likeness to a sea-egg in miniature. The caterpillar is a very general feeder; in the flower beds it attacks many species; besides the Chrysanthemum, it is partial to the Hollyhock and Primulaceous plants. In the winter it is more frequently found in the kitchen garden, feeding whenever the weather is tolerably mild upon the Cabbages and Lettuces; in fact, I do not believe it is ever entirely torpid. A dissection of this caterpillar shows that it has the vital organs well surrounded with fat, and its insensibility to cold may be thus explained. It is remarkably smooth and velvety, of an apple-green, occasionally brown, in both cases having indistinct whitish dots and white lines; the head is small, giving to it somewhat of a leech-like aspect. If alarmed the Angleshades caterpillar drops from its food, rolling itself into a ring more or less complete. It is rather inclined to shun the daylight, so that by examining different plants with a lantern after sunset these and other caterpillars will be discovered, the existence of which, it may be, the gardener had little idea of. He may have noticed the drooping leaves which they had nibbled during their night excursions, and removing these the next morning, has, perhaps, been inclined to think that "the slugs" had been the chief offenders.

These caterpillars attain their maturity in the month of April; eating pretty considerably of the early-spring growth, and then descending to the ground, they spin a cocoon of a slight texture on the surface. Many of the pupæ are fortunately killed by the spade. The first brood of the moth is on the wing in May and June, and there is generally, at least, a second brood of the caterpillars in the summer, producing the autumn moths. I have found the species commonly on the banks of the Thames, where the caterpillars feed on Groundsel and Docks.—J. R. S. C.

Megachile centuncularis.

d, Head of larva protruding from case *b*; *c*, narrow part of case formed of leaves.

APPLE AND PEAR TREE STOCKS.

Near Ilford there is one of the most beautiful orchards of pyramidal fruit trees one can wish to see. It is under the management of Mr. Green, a very intelligent student of nature, and a great lover of fruit culture, though not a gardener in the strict sense of the word. Amongst the many rows of very fine-shaped trees Mr. Green pointed out to me three or four of the following kinds—viz., Louise Bonne of Jersey and Beurré d'Amanlis Pears, and Sturmer Pippin Apple.

In growth these trees had apparently remained stationary for the last few years, the general stock so far exceeding them in height as to be about five times their size. These dwarfed specimens annually bore a crop of remarkably fine fruit, even in seasons when their more robust associates were barren. The cause is the stock, which is quite distinct from all surrounding ones, which foster stronger growths, and its distinctive marks are a very rough bark and a perfect freedom from suckers. As regards the Pears I would ask, Are seedling Quince stocks ever employed, or are the stocks invariably transplanted suckers? If seedling Quince stocks are occasionally

used, then there is an explanation of these rough-barked specimens. I state the facts to induce others to offer us an opinion upon the facts referred to.—W. E.

THE VICTORIA RASPBERRY.

Having paid a visit to a friend the other day, I was much astonished to see such a large crop of the finest Raspberries. To all who do not grow this noble autumn fruit I would say, Make a plantation at once. A piece of ground well trenched and manured, and planted with canes 3 feet apart each way, will make a good plantation.

My friend told me that he had gathered fruit from them three times a-week for tarts for the family. He has been able to gather fruit from them until the end of November in other years, and I have no doubt he will do the same again this year.

When other fruit for tarts is so scarce at this late time of the year, nothing is more acceptable than this fine fruit for a gentleman's table.—T. C. G.

BEDDING PLANTS IN 1871.—No. 3.

In continuing the list of the flowering section of Zonals, we come next to the cerise, and cerise shaded with violet or lilac.

The first I name, and the best, is Violet Hill (Henderson), which is still, in my opinion, the type of a bedding Geranium. I have, however, so often spoken in its praise that I need not add more at present. It is very dwarf in its habit and compact, and some persons have not succeeded with it from not giving it a sufficiently liberal treatment. The first bed in good bloom with me this year was planted with it, and never on any one day during the season could it be said that any other bed of Geraniums in the garden was superior to it.

Amy Hogg (Beaton), cerise, shaded with violet. This still keeps up its character as a free-flowering kind. The footstalk is rather too long, so that it does not stand wet very well.

Dr. Hogg (Beaton), cerise, with more violet than the last. This is a most striking kind in dull weather and in the autumn months. It does not seem to stand sun well, as on hot sunny days the petals shed very freely, and it is apt to run to seed. It is very free-blooming, but the habit is rather straggling. It would be very effective planted in a shady situation.

Duchess of Sutherland (Turner), rose cerise, is of a very pleasing but rather dull shade of colour; very free-flowering, but the flowers do not stand wet weather well.

Lady Kirkland (Laing).—This is one of the very best; large truss, and free-blooming. It has too long a footstalk, but is, in my opinion, decidedly an improvement on Duchess of Sutherland.

Arthur Pearson (Pearson).—Very like Amy Hogg, but a rounder flower and stiffer in the footstalk, and this year it was decidedly better than Amy Hogg.

Duchess (Beaton).—Too coarse and strong a habit. A good pot plant.

Charles Dickens (Bell & Thorpe).—Cerise, with a very glowing tint of violet in it; a very striking flower, with large truss and good habit. This is one of the most promising Geraniums sent out lately, and, I think, likely to become a popular favourite. It won the first prize at Kensington this year for a single hybrid Nosegay, and well deserved the award.

J. J. Lowe (Pearson), rose-coloured. A good pot plant, but not good as a bedder.

Lawrence Heywood.—This is something like Lady Kirkland, with a finer individual bloom, but not so large a truss, and with me it did not flower so freely. It is, however, an undeniably good pot plant.

Indian Yellow (Beaton).—This is a well-known free-flowering kind, of a peculiar shade of colour—cerise, with a shade of orange. There is no Geranium more constant in its blooming, and no garden should be without it.

Grace Holmes.—Somewhat more orange than the last; free-blooming, and of a dwarf habit, but the flowers are too similar in form to the old Spread Eagle.

Comet (W. Paul).—A strong-growing orange, with a large truss; very free-blooming in autumn in pots, and would be very good as a bedder in large beds.

Fame (W. Paul).—Something similar to the above, but I have not sufficiently proved it.

I next turn to the pink and lilac section. The first I shall name is Rose Rendatler. This still keeps up its high character with me. Large truss, free-blooming. A light rose pink, and a very telling colour, especially in dull days. Two opposite match beds in my garden this year were planted one with Rose Rendatler, and the other with Blue Bell, and it was curious to notice how much further Rose Rendatler could be seen than Blue Bell, and also how much better the effect was in combination with other colours.

Maid of Kent.—This is like Rose Rendatler in point of habit, but a deeper shade of pink and a finer colour, one that I can strongly recommend, and about which I can thoroughly endorse Mr. Luckhurst's opinion.

Blue Bell (W. Paul).—Bluish pink, a good pot plant, but not in my opinion a good bedder.

Countess of Rosslyn (Downie, Laird, & Laing).—Soft rosy pink, with dwarf habit; has been very good this year with me.

Christine Nosegay.—Soft pink, dwarf habit. This has not succeeded with me, and it was curious to remark, after the first severe morning frost, out of thirty different kinds in one bank this sort was killed, while very few of the others were injured.

Rose Perfection.—Light pink, pretty flower, but not free-blooming enough.

Ne Plus Ultra.—Like Rose Rendatler, a good pot plant, but not so good as Rose Rendatler for bedding purposes.

Beauty of Lee.—A good bright pink, not sufficiently proved by me.

Pink Queen (Downie, Laird, & Laing).—A very beautiful pink, especially in the autumn. It did not bloom freely early in the year, but I think it will succeed better another year, as I had continued to propagate from it too late in the spring.

Dante (W. Paul).—A good pink, not sufficiently proved with me.

Penelope (W. Paul).—Somewhat like the above, but a stronger grower.

Hydranges.—A beautiful flower, but not free-blooming enough out of doors; likely to be a good pot plant.

These are all the pinks which I have tried out of doors this year, as I have long since discarded Christine, as it always ran to seed, and had a very small inferior truss.

Of white kinds I think The Bride the best. I have also a very good dwarf white, sent me by Mr. Aldred. Madame Vaucher, White Tom Thumb, and White Perfection are to all intents identical—in fact, Madame Vaucher comes so truly from seed that it might almost be raised and sent out from seed as Madame Vaucher, and a great many white varieties sent out are nearly all the same.

I have omitted one or two among the scarlets and crimsons, notably Jean Sisley and Charlie Casbon. Jean Sisley has been very much puffed; it is a very fine round flower, and is a brilliant-coloured scarlet with a white eye, but I do not think it will make a good bedder, though it will certainly be a good pot plant. Charlie Casbon, a dwarf crimson, is in my mind much more promising; it is more free-blooming, larger, and looser in the truss, and stands weather better.

I will finish these remarks on bedding Geraniums with the Bronzes, Tricolors, and others; I will conclude now by saying that the pick of those I have named are Bayard, Waltham Seedling, Duke of Devonshire, Grand Duke, Lady Kirkland, Violet Hill, Rose Rendatler, Charles Dickens, Maid of Kent, Vesta, Lady Constance Grosvenor, and Sobieski.—C. P. Peach.

ALL THE GRAPES POSSIBLE.

I have a Black Hamburgh Grape Vine, which I intend shall bear in a 15-inch pot. It is about 10 feet long, and I wish it to bear all the Grapes that it will next year. Ought I to cut it back? If so, how far? I know that by letting it fruit so much I shall spoil it, but I do not mind that, as I only want it for one year.—A. H.

[In your case we would take a foot off the end of the Vine, top-dress the surface of the soil with rich material, place three or four sticks in the pot, and bend the cane or shoot round them. This will cause the buds to break more regularly, and you can thin out if you like; for if all the buds break, and they have been well ripened, more Grapes show than the pot Vine can bring to perfection with the best treatment.]

THE ONION GRUB.

My own practice, which has been successful, is to get some gas lime from the purifiers of the gasworks, thoroughly dry it, and sow a thin sprinkling over the Onion beds as soon as the young Onions make their appearance, and then give a second

dusting of the same sort when they have attained the thickness of a crow's quill. I found if I deferred the first dusting too long I did not save my crop.—T. G.

SEEDLING FUCHSIAS.

The two seedling Fuchsias of which I send blooms are extremely useful to us at this season. The drop is very large before it expands, and this renders them valuable for cut flowers in the same way as most of the Begonias are. I think it would be well if raisers of Fuchsias were to look more to the sepals in their improvements. The red Fuchsia has very dark leaves, and altogether it is a desirable plant even in foliage. I raised a large number last year, and the two sent were all that I thought worth keeping.—H. K.

[We much admire the red-sepalled variety, which must be very ornamental as a conservatory plant. The kind with pale sepals, though not a florist's flower, also appears to be very desirable for furnishing cut flowers and for vases.—Eds.]

STRAWBERRY WONDERFUL.

It may interest you to see different varieties of Strawberries bearing in the autumn. I have forwarded a small dish of Wonderful gathered this afternoon (Nov. 2nd), from a six-year-old bed in a very exposed situation, within half a mile of, and nearly on a level with, the highest land in the county. I think the merit of this variety is not so well understood as it deserves to be. With me it has been first-rate; for the last twelve years it has never failed to bear a good crop, except in 1867, when the frost killed nine-tenths of the blossom on the 21st and 22nd of May.

I have tried Wonderful in a rich heavy soil, and it will not do except in a very hot dry season, but on my light sandy soil it appears to be quite at home. It is of small growth, and is the heaviest cropper that I can find. When it first began to show signs of bearing in the autumn of 1862, just after we had finished gathering dry weather set in, and the plants all became as brown as they could be; they remained so for four weeks, then came rain, and they cheered up and soon began to blossom, which they did very freely. I quite expected it would injure them for the next year's crop, but it did not in the least, for that season we gathered 520 quarts from nine poles of ground. This quite established it in my estimation as worthy of cultivation, and it has never disappointed me.—Isaac Crick, *Haughton Park Gardens, Ampthill.*

[The Strawberries sent were of the first quality in size, colour, and flavour. This testimony to the merits of Wonderful in a light sandy soil, on the highest land in the county, where "it appears quite at home," is very valuable, and will be acceptable to those of our readers who have difficulty in getting a crop of Strawberries on such soils.—Eds.]

COVENT GARDEN SALESMEN.

Cornick v. Black.—This was an action brought at the Westminster County Court, on October 24th, by Samuel C. C. Cornick, market gardener, Mill Hill, Hendon, against John Black, fruit salesman at Covent Garden Market, to recover a sum of money he had kept back to his own use from the plaintiff out of sales of goods. The plaintiff first took some Grapes to the defendant as far back as April 23rd, 1869, and made an agreement for his fruit to be sold on commission at seven and a half per cent. The defendant was to return to the plaintiff the exact amount he made of every item, with the exception of deducting his commission. We cannot report the case fully, but the defendant consented to a verdict against him. It was proved that the defendant had not made true accounts, and a verdict was entered for plaintiff for 12s. 3*d.*, and 11s. costs, the plaintiff having to pay all his other expenses. The amount claimed was £12 15*s.*

MESSRS. CARTER & CO.'S POTATOES AT SOUTH KENSINGTON.—Nov. 1st.

There are some good people who have been clamorous for what they called in most euphonious langnage a Potato tournament. Well, they have had their wish, and in not as euphonious language I would say, "Much good may it do them." Potatoes were there of all shapes —kidney, round, pebble; of all colours—white, rosy, red, black; of all possible names—Premiers, Regents, Prizetakers, Champions, and I know not what; and yet who was one bit the wiser as to their quality or their productiveness—the two points which, above all others, Potato-growers and eaters want to know? And so it must be; for the task of tasting all these varieties is an idea from which even the most determined "tater-eater" might well recoil. As the names of the prizewinners have already been recorded, I shall say nothing with regard to their collections; but this I will say, That if any one of them can produce a better Potato for a gentleman's table than the Lapstone, I will eat a dish of it, peels and all.

But a most interesting collection for those who wished to know the appearance and names of the best (aye, and worst too) varieties grown, was that of Messrs. Carter, of Holborn, who had arranged very neatly in small mahogany trays a collection of nearly sixty varieties, and who had, moreover, given an impetus to Potato-growers by offering special prizes for collections of the "noble tuber." It may be interesting, then, to give the names of their exhibits in two tables, the Kidneys and the Rounds, afterwards giving such special notes as may seem necessary, in the former classing all Potatoes which are not round, and yet not true kidney-shaped, such as Paterson's Victoria, &c.

KIDNEY.	ROUND.
1. Gloucestershire Kidney.	29. Dunnett's Early Round.
2. Carter's Ashtop Fluke.	30. Fortyfold.
3. Norfolk Champion.	31. Miniature Dwarf.
4. Paterson's Victoria.	32. Scotch Regents.
5. Early Rose.	33. Climax
6. Wood's Seedling.	34. American Red.
7. Webb's Kidney.	35. Goldfinder.
8. Common Fluke.	36 Walker's Regent.
9. Early Giant Kings.	37. Sovereign of England.
10. Belgian Kidney.	38. Dalmahoys.
11. Myatt's Prolific.	39. Early Goodrich.
12. Belvoir Kidney.	40. Peerless.
13. Old Ashleaf.	41. The Queen.
14. Cornish Kidney.	*41. Scotch Dons.
15. King of the Potatoes.	42. Paterson's Regent.
16. Cook's Kidney.	43. Princess's Favourite.
17. Negro.	44. Striped Don.
18. King of the Earlies.	45. Early Shaw.
19. Milky White.	46. Regents.
20. Torquay Lapstone.	47. White Rock.
21. Jackson's Improved Ashleaf.	48. Carter's Champion.
22. American Flukes.	49. York Regent.
23. Cambridgeshire Kidney.	50. Red-skinned Flourball.
24. Pheasant-eye.	51. Carter's Main Crop.
25. Green's Late Kidney.	52. American White.
26. Prince Imperial.	53. Bovinia (cattle).
27. Rivers' Royal Ashleaf.	
28. Red Ashleaf.	
*28. Prince of Wales.	

Of many of these I have already expressed my opinion; there are a few more to be noted. Carter's Main Crop (51) is the handsomest red Potato I have ever seen; smooth as a cricket-ball, and without the least hollowness of eye—no waste whatever. As to its flavour I know nothing, but for appearance it is first-rate. The Princess's Favourite (No. 43) is a Danish tuber, a small round, and is so called because it is the favourite of our much-beloved Princess of Wales, who says that none of our English Potatoes are waxy enough for her. Prince Imperial (No. 26) is a long red kidney, imported from France, and said by many who have tried it to be very good. Striped Don (No. 44) is a curious-looking tuber, white, with red bands across it, but whether this in any way alters the character of the tuber I know not. The Regents were fine; and whether, after all, we have a better round Potato than a good Regent is questionable. As to Paterson's Victoria, I cannot alter my opinion of it. I dined the other day with a friend, an enthusiastic gardener, who pursues his hobby in the midst of great difficulties in London, and he had some of them, grown by a well-known lover and raiser of flowers, and cooked, not in my fashion, but peeled first, and there was still that twang about them I have always detected, as if partially frosted—an unpleasant sweetness. On the following day I dined at a restaurant, where we were served with Regents, and they were so good that I began to think I must withdraw what I had said about kidney Potatoes being the only fit ones to eat. The Dalmahoys are a kind of earlier Regent, and, as I have said, very good indeed. Carter's Ashtop Fluke (No. 2) is a handsome-looking Potato, and as I was looking at it a gardener said to me that he had grown it and found it to be both prolific and good. The Queen (41) is a seedling from Paterson's Victoria, somewhat more round than that variety, and said to be an improvement upon it. Miniature Dwarf (31) is stated to be a very excellent variety for forcing. Early Giant Kings (9) is a fine-looking kind, and stated to be a valuable variety.

We have now, I hope, had enough of Potato exhibitions. They have served the purpose of letting those who are interested see the many varieties. When anything better is produced, would it not be well to send it to the Fruit Committee (as has been done, I believe, before), and to let it be cooked? But I am myself sceptical of getting anything better than those varieties which we already possess. *Nous verrons.*—D., *Deal.*

THE GREAT VINERY AT CHISWICK.

Is there any gardener in the British Isles who has not heard something of Chiswick and its celebrated vinery? None, I think. Still it is only through the gardening periodicals that numbers of the reading public are made acquainted with places and things which are of interest, and I have therefore no doubt

that many gardeners will be interested in the accompanying sketches of the great vinery at Chiswick, and will be able to form some idea of what it is like without going to see it.

It was built in the year 1840 by Messrs. Bailey, of 272, Holborn, and is in form something like a boat bottom uppermost. The length is 200 feet, the breadth 25 feet, the height 30 feet. It is built of iron, having fifteen large iron girders on each side, fastened together at top with bolts and screws. Ventilation is secured by a continuous lantern at the top with 1-foot aperture, and fourteen double sets of shutters on each side.

This vinery, as it exists now, is merely a part of what was to have been an immense conservatory and winter garden, but the design, which was to be completed by degrees, was never carried out. We have consequently but one wing of a great building, of which the centre and the other wing are absent. The part that was finished was planted with a fine collection of trees and shrubs requiring protection and some warmth. These grew and flourished till the year 1857, when, many of them becoming too large for the place, a change was necessary; accordingly it was decided to convert the conservatory into a vinery, and this idea was ably carried out the following year by the then superintendent, Mr. McEwen. Almost every obtainable variety of Grape received a place, half the number altogether inside, and the other half outside. These all grew, flourished,

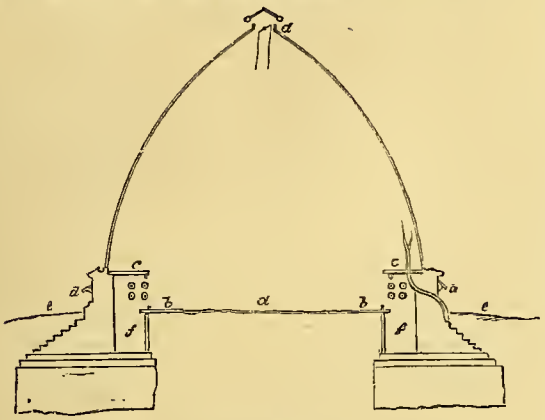
The large Vinery at Chiswick.

and proved a complete success. This state of things continued till a few years since, when, after several changes, Mr. Barron, the present able superintendent, took into consideration the great number of worthless varieties that were receiving the same care and attention as the rest and not affording good results. He gradually weeded out all the worthless kinds, and replaced them with branches from the really good varieties, thereby practising the extension system and short-spur system on the same Vine.

This was well, yet still there was something else. It was considered—not without cause—that the inside Vines did not succeed better than those planted outside—hardly so well, and at the same time involved a great amount of labour in watering, &c., which the outside Vines did not require. There was therefore something to be done. What was it? It was to abolish completely the inside border, Vines and all. This was done two years ago, and again recourse was had to the extension system to fill up vacancies. Any sorts which it was desirable to preserve were grafted on healthy shoots of good varieties, like Frankenthal, and the original stone path was uncovered all the way round and the centre nicely gravelled, at once giving a clean and finished appearance. This extension of branches required something more than the 6-feet border that had previously existed if it was to prove successful for any length of time. The border was therefore extended to more than double its original width with good substantial loam, &c.; and the path that was on a level with the top of the border was taken to the bottom beyond the 15-feet width, and thus all was compact. Nobly have the Vines repaid for the care and improvement. This year they have made splendid wood, some leaders

being upwards of 20 feet long and as thick as one's thumb; and the fruit has been, and is, very fine and of the first quality. No fire is used except in damp weather to prevent decay and a little while the bunches are colouring, but with plenty of air, and that is the reason why the Grapes are like Damsons.

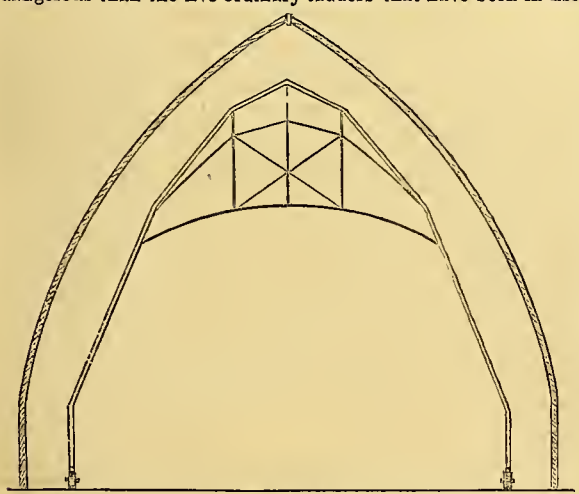
In winter the house is used for Camellias, Oranges, and other half-hardy trees and plants in pots and tubs, from which it is merely necessary to keep the frost, and this is easily done by means of two large boilers, which will efficiently heat the four rows of 4-inch piping carried down each side and one end. Directly under the pipes on each side are tanks running the whole length of the house; these receive all the water from the house. The accompanying sectional sketch will give a little idea of the form and arrangement inside.



Section of large Vinery.

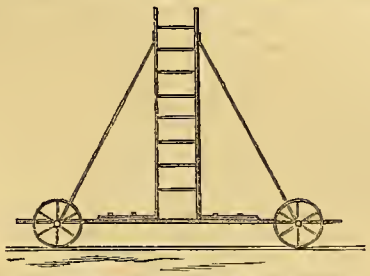
a, Gravel. *c*, *c*, Stone table. *e*, *e*, Vine border
b, *b*, Stone path. *d*, *d*, Ventilators. *f*, *f*, Tanks.

A want has long been felt for something easier and less dangerous than the five ordinary ladders that have been in use



Section of Ladder.—Height from gravel to platform 19 feet.

till the commencement of the present season. This want has



Base of Ladder.—Length 8 feet 6 inches.

at last been supplied by an elegant light wrought-iron ladder on wheels, in form like the house itself. A distance of 3 feet is allowed from it to the glass up the sides, gradually rounding off to 6 feet from the exact centre of the house, where it is furnished with a platform, giving ease and comfort in the working, and at the same time diminishing the labour nearly one-third. The wheels run against an iron ledge.

There are now eighty-three Vines in all growing in the outside borders, some of them with two, three, or more rods. The number of varieties has been reduced to twenty-six, some of which are grafted on the older plants. The varieties grown are Frankenthal, Black Hamburgh, Black Prince, Mill Hill Hamburgh, Dutch Hamburgh, Aramon, Muscat noir de Jura, West's St. Peter's, Muscat Hamburgh, Lady Downe's, Alicante, Black Tokay, Black Monukka, Espiran, Barbarossa or Gros Guillaume, Madresfield Court Muscat, Mrs. Pince's Muscat, Royal Ascot, Muscat of Alexandria, Chasselas de Fontainebleau, Golden Hamburgh, Chaouch, White Nice, Denbies Trebbiano, Buckland Sweetwater, and Raisin de Calabre.—W. S.

A GARDENER'S HOLIDAY.—No. 2.

On my way to the north I stayed for a day or two at Newcastle, and, of course, the first and most natural inquiry for a gardener to make was for the best gardens in the neighbourhood, but I found that gardening was not carried on with much spirit. There are two or three small places well kept, within a short distance of the town, and Sir W. Armstrong, whose private house is about two miles and a half from Newcastle, has had the grounds adjoining his residence at Jesmond laid out with much taste. There are here ranges of hothouses, numerous but very inconveniently placed, and likely to give the gardener a good deal of extra trouble in attending to them. The exotic fernery is of a somewhat original construction, but the roof is too low, so that some noble tree Ferns have not space enough to develope their fronds. The internal arrangement of this house consists of artificial rockwork, disposed in a very effective and natural manner. Of course, in a house of this description nearly all the plants are planted out; even a bell-glass is not admitted to protect such choice subjects as Todea pellucida and superba. The Killarney Fern was thriving in a shady position sheltered by projecting rockwork. Specimens of the best cultivated species were planted out in crevices and under projections of artificial rock; others were festooned overhead.

Crossing the public road from Jesmond, we come to Jesmond Dean. This also belongs to Sir W. Armstrong, and is open to the inhabitants of Newcastle. It is an extensive ravine through which a brook winds, on each side of which is a broad walk running along the base of the somewhat precipitous banks. It is very wild in places, and in keeping with the surroundings. Patches of native Heath and of American plants have been introduced; and in conspicuous positions, sheltered by surrounding rocks, some choice coniferous trees have been planted. It happened to be a wet day when I visited here, but under more favourable circumstances Jesmond and Jesmond Dean are well worthy of a visit.

From Newcastle it is half an hour by railway to Tynemouth, where there is nothing of interest to the practical gardener, For the botanist, however, there are specimens. A day spent in walking from Tynemouth to the Marsden rock and back, would be one never to be forgotten. Starting to walk from the mouth of the river on the south side, we come to extensive quarries whence the Tyne Commissioners are taking stone to build large piers on each side of the river. Near the edge of the quarries, and growing abundantly, is the Burnet Rose, Rosa spinosissima; farther along the coast and on the top of the rocks is to be found Genista tinctoria, Thalictrum majus, and a white variety of the common Bell-flower, Campanula rotundifolia alba, also the white and yellow Melilot, Spergularia marina, and abundant in moist shady positions is the common Scurvy Grass. Following the coast for three or four miles we come to Marsden rock, celebrated (when the coast guard were less effective than it is now), as being the best place on the coast for unloading brandy, tobacco, and other contraband goods, which were landed high and dry under a huge projecting rock. A circular hole yet remains, cut through at least 20 feet of solid rock, through which the packages were passed, as the readiest means of landing them on the top of the rocks. Here the botanist will find Betonica officinalis; the Black Horehound, Ballota nigra; also Euphorbia exigua, and Helminthia echioides. Other uncommon wild flowers are likewise to be found in the neighbourhood, such as the Salvia verbenacea, the wild Sage or Clary, and Diplotaxis tenuifolia, at Tynemouth Castle;

near Hartley, the rare Night-flowering Catchfly, Silene noctiflora, as well as Ranunculus arvensis. Between Sunderland and Marsden, on the roadside, is found the rather uncommon Sium nodiflorum and Inula dysenterica, the Fleabane, said to be a cure for dysentery. North from Tynemouth, and apparently indigenous, is the common Parsley, and the rare Bushy Red Mint, Mentha gentilis, at Monkseaton. Other rare native wild flowers which may be found at South Shields are Pyrethrum maritimum, Sea Feverfew, and Senebiera Coronopus, the common Wart-Cress. The district is rich in botanical specimens, and by visiting it at different seasons no doubt many more could be gathered.

The above notes and description are, perhaps, very uninteresting to many practical readers of this Journal. Young gardeners, in the majority of instances, do not study our native wild flowers; many of them think it beneath their notice, and of no practical benefit to do so. On the other hand, I think much good is to be derived from the study of botany, as exemplified in the collecting and naming of our native wild flowers. I have traversed hundreds of miles in search of specimens in my spare hours, mostly after six o'clock at night, and I can look back as I examine my dried specimens to many long and joyous rambles over hill and dale both in England and Scotland. Young gardeners would add very much to their useful stock of knowledge and improve their intellectual faculties if, instead of wasting their time in playing cards and dominoes, or in other and perhaps more questionable amusements, they would invest in Hooker's "Botany," or Withering's "British Plants," by Macgillivray, and begin to study the habits of the native wild flowers, which are "wasting their sweetness" in wild and luxuriant profusion around them. I could have spent my holiday at North Shields and Tynemouth, and gone home satisfied. I left reluctantly and went on to Kelso, about ninety miles further north, where I found the corn crops quite ten days in advance. I was very sorry both to see and hear of the alarming and wide-spread attack of the Potato crop, the disease in some cases being fatal to as much as 75 per cent. of the crop. There are some well-managed gardens in the neighbourhood of Kelso, and also the nurseries of Messrs. Stuart and Mein, where the best spikes of Gladioli that have ever been seen in Scotland are produced. At the time of my visit the stand which was awarded first prize at Edinburgh on the following day was being arranged.—J. Douglas.

PROTECTING THE BLOSSOMS OF FRUIT TREES.

During the severe frost last winter, I found considerable difficulty to fix upon some plan that would effectually serve for the above purpose. I had previously seen the efficacy of various kinds of covering; but of all those known to me, the best seemed to be one similar to that which I now mean to give a description of, and which may be designated the hay net.

I mentioned what I wanted to one of the most intelligent men employed in the garden, and he then told me that the wall trees here years ago used to be protected by a similar covering; and on inquiry I found that he knew how to proceed in the matter. Without any delay we made preparations for getting a lot of nets made, and the first thing that we required was a frame in which to make them. This we soon procured, which I can compare to an old-fashioned wooden bedstead without the cross-beams in the area. In addition it had a few wooden pins round it for holding the nets, as will be seen afterwards. The size of the frame was 11 feet long by 5 feet broad, and about 3 feet high, which was thought the most convenient. When the frame was procured, hay-ropes were made, for that material was ready at hand, and fixed upon it. We soon got a lot of nets made in one of the garden sheds, where the men were not exposed to the severe weather.

In getting the ropes laid upon the frame for making our nets, the first one was laid round the edge outside the pins for a margin; the next was placed diagonally, from one corner to the other; then others were laid in the same direction as the latter, at about 5 inches apart, till the space on both sides was filled up. Then, again, from the opposite angle was laid another diagonal, taken in and out between the others already fixed, after the fashion of wicker-work. A corresponding number of ropes were worked in on each side of the latter till the net was framed out. All the ends of these ropes were fixed to the margin in due course, and when a tie with tar cord was given at each crossing of the ropes, the net was ready for use.

We made as many nets in this way as protected about 150 yards of wall; and the rate we made them at was about one net per day for each man.

As the season advanced, and as soon as the first blossom began to expand, we put on our first set of nets. That was of course upon the Apricots; and in order to get them protected, the first part of our work was to place a lot of poles, and fix them, one every 5 feet, at an angle of about 65° to the wall; these were to answer the width of the nets, as will be understood, to keep them properly off the wall; behind, the poles were fixed; then we got on our nets, which we tied breadthwise to the topmost wire of the trellis, just under the coping. All that was now required was a wooden pin, put in to keep the two lower corners of the nets together, which were not kept in position by the poles, and the covering was complete.

We had all our Peaches and Apricots covered in this way, excepting one wall of the latter, and that we had protected by a double ply of herring nets and another of hexagon netting together. This we tried for comparison with the hay nets. What of the results of these two modes of covering? From the trees that were protected by the herring nets we have scarcely had a crop; whereas from those that were covered by the hay nets we have gathered an abundant crop; and we thinned as many fruit off them as would have made six good crops. These results speak for themselves, and show the superiority of the one mode of covering over the other.

On all favourable occasions, when we thought that we could render any assistance to the blossoms to insure their fertility, we lifted the nets up and doubled them back upon the top of the wall; and at all times when there might be some danger from frost they were let down again and pinned as before. These nets will be found to husband warmth considerably—at least they break the cold winds in a great degree—and they admit much more light than a person would at first imagine.

To conclude these notes, I can only say that I know of no better covering for wall trees—excepting glass—than the hay net; and I should advise all those who require to put up a temporary protection, and who have not already proved its efficacy, to give the plan a trial.—Robert Mackellar (in *The Gardener*).

MR. WILLIAM BAXTER.

On November 1st Mr. William Baxter, for upwards of thirty years Curator of the Botanic Garden, Oxford, died in the eighty-fourth year of his age. From the length of his years and his long retirement from active life, he was almost unknown to the present generation of horticulturists, but he was one who did good service in his day both to gardening and British botany. On the latter subject he published a large and useful work. He was appointed Curator of the Oxford Botanic Garden in 1813, from which office he retired twenty years ago in favour of his son, a worthy successor. During his curatorship, in conjunction with Dr. Daubeny many improvements were effected by him in the arrangement of the garden, and these have been added to by the present holder of the office. Indeed, the Baxters, father and son, are closely bound up with the history of the Oxford garden, the oldest botanic garden in the kingdom. (For a history of this see vol. xix., page 124.) It was in Cryptogamic botany that Mr. Baxter more particularly delighted, and his knowledge of Mosses and Fungi was very extensive. He was elected an Associate of the Linnean Society as long ago as 1817. Of his private character we need say nothing, for we wrote to Mr. Weaver, gardener to the Warden of Winchester College, and no better eulogium on Mr. Baxter will be recorded than is in this extract from Mr. Weaver's letter—

"I was with Mr. Baxter seven years. He was one of the most even-tempered of men, and ever ready to give information to anyone with great pleasure. He was the most modest and the most unassuming of men, and ever the same man. He was also one of the most abstemious of men. His garden assistants used to say that he never drank a gallon of stimulant liquor from one year's end to another, and was never known to go out into company, but was always at his books, specimens, and other duties of the garden. You could not ask him anything about the name of a Moss, Lichen, or anything in the way of vegetation but what he was ready and pleased to give the required information; indeed there was nothing that came amiss to him in the way of natural history generally. He was never known to take an idle walk, but was always on duty wherever he went in search of knowledge, whether to the fields, the woods, or to the different libraries. I wish I were able to give you a good history of my once good, kind master."

Royal Horticultural Society.—The following additional privilege is to be accorded in 1872, to the Fellows of this Society—viz., To receive gratis two non-transferable season

tickets for the International Exhibitions, admitting their owners at all times that the Exhibition is open to the public. Fellows taking advantage of their right to purchase two-guinea transferable tickets, are informed that each ticket purchased for £2 2*s*. carries with it a free ticket for the Exhibition, but that the name of the person nominated to have the use of such ticket must be given at the time of issue.

TEMPORARY HOTBEDS.

These are very useful for sheltering plants taken up from the flower garden, for striking late cuttings, and for forcing Asparagus, Rhubarb, and Sea-kale. It is expensive to make even a slight hotbed if long dung must be purchased, but where a little littery dung can be obtained, together with mowings from the lawn and fallen tree leaves, there is little difficulty in finding sufficient material. A mixture of grass, leaves, and litter will afford a good lasting heat, the grass contributing to the regular slow decomposition of the straw. When thrown together for a few days I often use the mixture at once, and just as often after it has had one turning; but in the case of all such temporary beds we want to get the heat under something, and not allow it to be spent in heating the general atmosphere. A bed of the above description, from 18 to 24 inches deep, would be apt to kill whatever was put on it if growing freely. For many purposes, therefore, I am quite satisfied if I can put from 15 to 24 inches of this hot rank mixture near the bottom of a bed, and above it from 6 to 12 inches of the half-rotten dung and leaves, similar to the above at first before being thoroughly sweetened. In this roots and pots can at once be set with safety, and the required amount of heat be obtained. After the first season, when one has an old bed to go to, there is no difficulty in following up this system. The safety consists in the surfacing with the half-decomposed material, which heats, and retains the heat given to it, whilst all unwholesome steam is absorbed by the under layers. For slight hotbeds, if the heat declines, you have only to take off the surface, stir up the fresh material, and add a little more (which will act like fresh fuel with a breeze), and cover again.

I have had to make hotbeds after turning and re-turning dung until it became sweet, but then it was much reduced in bulk. For many years I have wasted the fermenting heat but little, using it even with a fiery heat, and regulating the heat by a covering of partly decomposed sweet material from an old bed. A far more continuous heat is secured in this way than using material so turned and decomposed that it sinks so firmly together that air cannot enter to keep up the combustion; and in fact, if the air could enter there is nothing to waste—in other words to fire or give out heat. To make the most of the heat from fermenting animal and vegetable matter there must be a sufficient amount of moisture, and air, as well as warmth in the air, to support what we may call a slow regular combustion, or heat from decomposition. For example, a week or so ago the Cucumbers were taken out from four lights of framing over a hotbed made in February, and the plants turned out in March. The sides of the bed were well decayed, and perfectly suitable for top-dressing Strawberries, Asparagus, or flower beds. This portion and all the old surfacing were removed, but there was a fine cone in the centre still retaining heat, and eminently fitted for being mixed with fresh material, and surfacing beds to help on late cuttings.

This is only one instance of many in which it may be seen that such a rough way of making a bed is not only by far the most economical as regards material, but also the best mode for securing a lasting heat. When fermenting material was so turned and decomposed before being made into a bed, a bed, if made in February and taken out in October, if not lined would have had little heat left, and could have been cut out with a spade like so many slices of cheese. For an old bed a spade would have been almost useless for the centre, a fork was necessary to move it, and a goodly portion, therefore, after all these months, was in the best condition for use again.

When I used to see more of the doings of amateurs than I have seen lately, I was vexed at the sight of heaps of tan and fresh tree leaves sweetening until they were half rotten before being considered fit for a hotbed. When tan is brought from the yard fresh and wet, it is well to throw it in a heap in order that the superfluous moisture may drain away, and when it begins to heat well the sooner it is used the better. To allow it to heat until it become black is wasteful. I hardly know an instance of the most tender plant being injured by the fumes of hot tan, however fresh. Such care is even less necessary with tree leaves. When placed in a heap they soon heat if they are moist enough, and the vapour given off by tree leaves alone is harmless. Hence their usefulness for mild hotbeds when used by themselves, or as a surfacing from 9 to 12 inches thick over other fermenting materials, less safe and sweet in the vapours they emit.—R. Fish.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Make all possible speed while the weather continues favourable in cleaning and opening the surface of the soil. The atmosphere can then circulate in the soil, and keep it in a healthy condition for succeeding crops. This is also the best known means for the eradication of destructive insects and their larvæ. Watch for every favourable opportunity of hoeing, forking, and ridge-trenching, and do not allow weeds and vermin to rob you of your produce. It is not the quantity of manure that always produces the most abundant crops, but it is the judicious manner in which it is applied that will insure the greatest success. It is now time to lift all *Cauliflowers* showing heads, taking them up carefully with balls of earth and packing them closely by the heels in beds, and having some clean straw ready to cover them in case of frost. All the late Grange's and Snow's *Broccoli*, for the winter supply, may be treated in the same way. Spring Broccoli may be laid down in the rows where they have grown, and when planted in very wide rows they may be well earthed up to the leaves, when no danger need be feared from the most severe winters. As *Globe Artichokes* require protection in the winter months, clear away all the old stalks and dead leaves, and apply some rough litter around the roots. Sow *Peas* and Mazagan *Beans*, which succeed best on slightly raised ridges, the rows to be made on the side least exposed. As winter is at hand *Jerusalem Artichokes*, *Beet*, *Carrots*, *Scorzonera*, and *Salsafy*, ought to be stored in the vegetable shed on layers of clean sand. Cut the tops off neatly and closely, as their growing afterwards deteriorates the quality of the root. The forcing of *Sea-kale* and *Rhubarb* must now be attended to, and where there is a good stock of strong roots a supply of them will be easily kept up. Where there is room to spare in the Mushroom-house this forms a very suitable and convenient place for forcing them. The roots should be placed on a slight bed of warm dung, filling up the spaces between them with old tan, or the soil and manure mixed from an old Mushroom bed, giving a good watering to wash it in amongst the roots. The bottom heat should not be allowed to exceed 70°, as too much heat is not favourable to securing strong growth, and except for the first crop it may be dispensed with altogether. Take advantage of wet days for making fresh *Mushroom-beds*, and clearing out those that are spent; also, collect and prepare droppings for forming fresh beds, by spreading them in a shed, and turning them every day until they are sufficiently dried to prevent excessive fermentation after putting up. Plant *Shallots* on raised beds, and put plenty of charcoal or soot in the soil; they will escape the maggot better by early planting.

FRUIT GARDEN.

I would suggest the present as the most favourable time for lifting and root-pruning such fruit trees as are growing too luxuriantly to produce fruit; and as the autumn is the season generally fixed upon for making new borders or renovating old ones, I take the present opportunity of reminding those now about planting fruit trees of the danger everywhere apparent of making borders too deep as well as too rich. The border should not be deep—18 inches will be ample. The soil should be maiden loam of moderate consistency; no dung whatever should be used, and the roots should be prevented from passing below the border by a considerable depth of rubble or rough paving stones placed hollow. This border should dip from the wall so as to throw off surface rains, and expose it better to the sun. I would also make the border 4 feet in width at first, and extend it afterwards as required.

FLOWER GARDEN.

Choice plants in borders intended to be protected for the winter by slightly covering their roots, should be seen to at once. Moss, where it can be obtained in thick flakes, is by no means a bad protecting material; but unless it can be procured in pieces of considerable thickness, it is not so efficient or useful as spent tan, coal ashes, or half-decayed leaves. Also see to getting Fuchsias and such plants as are usually protected during the winter by covering secured against frost before it is

too late. Dry fern is an excellent material for covering the stems, &c., of plants that require a slight protection in winter, and is, doubtless, the least objectionable as regards colour of anything at command; but it is not easily procured in many neighbourhoods, and, probably, the best substitute is straw that has been exposed to the weather sufficiently long to darken its colour. Choice sorts of Hollyhocks, of which there is not a sufficient stock, should be taken up, potted, and placed under glass. These cannot with safety be trusted to the rigours of a severe winter, and plants taken up, potted now, and wintered in a cool house will be exceedingly useful for furnishing cuttings, and these, if obtained early in spring, will make excellent plants for next season. When alterations are in hand, push them forward with all possible dispatch while the weather continues favourable for out-door operations. Be very careful to secure plants against wind, especially large plants, which should never be left until they are properly staked or otherwise made fast, for when this is put off it frequently happens that the roots get injured through the tops being rocked about by the wind. Get any projected alterations among the shrubberies or herbaceous borders done in readiness for cleaning up as soon as the leaves are down; also let ground intended to be planted with Dahlias and Hollyhocks next season be deeply trenched and ridged up, so as to expose the soil as much as possible to the weather, putting in plenty of rotten manure, more especially where the Hollyhocks are to stand, for these require a deep rich soil. It should be our constant aim to make our gardens look as pretty and lively as possible, and this can be done with comparatively little trouble or expense, after the first outlay, by filling the beds at this season of the year with dwarf specimens of shrubs—that is, those beds which are not planted with bulbs or sown with hardy annuals. As many employers have an objection to see large masses of beds lying bare six or seven months out of the twelve, I think this objection could be easily removed by filling up the beds near the residence with Laurustinus, Aucuba japonica, green and variegated Holly, Arbutus, Berberis (evergreen), Rhododendron, and Box. Those at a greater distance might be filled with Portugal and common Laurel, Arbor-Vitæ, Phillyrea, &c., filling each bed with one distinct kind. In removing them from their winter to their summer quarters, plant them in prepared beds in the reserve garden, and by regularly pruning back the summer growth of some, and pinching off the ends of shoots of others, compact dwarf shrubs will be obtained, in readiness for another winter.

GREENHOUSE AND CONSERVATORY.

The summer-flowering twiners, which usually get unsightly at this season, should be cut back somewhat freely, as should any others that will bear that kind of treatment. The slight shade which they afford in the summer to plants underneath them, it need scarcely be stated, is not now required. Give air freely on all favourable occasions, but guard against damp by using gentle fires. Let pot specimens in bloom be frequently re-arranged, so as to make the most of them, for the finest plants become too familiar to be interesting when allowed to remain too long in one place.

COLD PITS.

If not already done, get straw shutters, or whatever else it may be intended to use for coverings for these, repaired and put in readiness for use without delay. Straw shutters if well made are somewhat expensive in the first instance, but they are considered by many to be the most efficient of any kind of covering in use, and, taking into consideration the time they last, they are perhaps as cheap as any. Expose the stock here freely to air on every favourable opportunity, so as to check growth and get the wood firm, in which state the plants will be less liable to suffer from the confinement which may soon be necessary than if kept close, with too much warmth and moisture. Very little water will be required at the roots, but look over the stock every few days. Withhold water until it is absolutely necessary, and then give a moderate soaking, the only safe method of watering at this season.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

We have placed Rhubarb and Sea-kale in the Mushroom house, where it will soon come on. Sea-kale out of doors we have cleaned, and covered the crowns to keep them from vermin; a little salt sprinkled round but not on the crowns, will keep slugs, &c., at bay. At this season and earlier we often place Sea-kale roots thickly in pots and boxes, instead of putting them at once in a dark place in the Mushroom house. By the former plan we can move the pots or boxes if they come in irregularly.

Globe Artichokes and Convolvulus.—Unfortunately the White Bindweed has somehow sprung up, and every small portion of root will grow if let alone. We have commenced forking over the ground carefully, and taking out every visible piece of the white roots before we dung the beds, preparatory to placing a little litter round the stools. This we think necessary to make all safe. They are hardy enough in common winters, but are likely to be killed in a very severe one, when the heads may be missed. As respects the Bindweed, frequent hoeing is necessary to eradicate it, but this must be done before the shoots are 2 inches long. By thus depriving the plant of its organs of respiration and elaboration the root ceases to exist. We found one of the best remedies for this was matting the ground above it. A piece of ground used in spring sent up shoots of the Bindweed by June, so we resolved to let it lie fallow for two or three months. By the middle of July the ground was covered with strong wreaths of the climber; then the short grass from the lawn was brought in every day and placed over the ground until it was 5 or 6 inches in thickness. No shoots ever came through it. The grass remained on the ground until November, and then on digging over not a live root was to be found. We fear the seeds often came from the rubbish heap used as manure. There are so many accounts of the difficulty of getting rid of it, that the above may be interesting.

We took up our younger Carrots, Beetroot, and Salsafy; the older Carrots were housed more than a month ago. It is a mistake to keep them in the ground until they begin to form fresh fibres, and also to let them remain too long when worms and other vermin disfigure them. We also took up some Turnips to prevent their growing larger and spongy. We likewise stirred the ground amongst all growing crops.

FRUIT DEPARTMENT.

Had our Raspberries cleaned and tied; the canes are strong, but not so well ripened as we wish to see them. Rough-pruned a number of bush trees, and went along the Strawberry rows, packing some of the dressing previously applied close to the plants and buds, and leaving a little ridge between. Even this slight elevation does much to protect them from the most cutting winds. Collected litter to throw over the pots of Strawberries out of doors if a sharp frosty night should come, as roots in pots are much more easily injured than those in the ground, or if the pots are plunged.

ORNAMENTAL DEPARTMENT.

No weather could be better for transplanting. Most plants are still fresh, and carry plenty of bloom in the flower garden. The Coleus ceased to be ornamental ten days ago; Iresine Lindeni has only begun to drop its leaves, and therefore for combination purposes, owing to its hardiness, it will suit better than the Coleus, and cost much less trouble, as it is of little use turning out small plants of Coleus. We shall take up a number of plants which we wish to keep before the frosty nights come, and these we shall be sure to have before long.

We generally pack a number of *Geraniums* and other plants thickly together in a heap, and then cover them at night with litter until we can find time to look them over. In answer to some inquiries, we may say that we depend chiefly for Scarlet Geraniums on small cuttings taken off in September, and kept thickly in boxes all the winter, but we generally take up a few of the strong old plants from the beds. These we usually treat in three ways. First we pot some of the best plants separately, using as small pots as the roots can be crammed into, take nothing off the plants but some of the larger leaves, water, and place the pots in a mild bottom heat, with the tops cool. These soon become well-established plants. Others we deprive of all the larger leaves and the rather soft points of the shoots, and pack the roots rather thickly in boxes. The third plan is to cut or snag-in the head all round 6 or 7 inches from the ground, so that the head may resemble a double deer's antlers in miniature—not a leaf is left. The cut ends are generally dipped in powdered lime, and then the roots are packed as firmly as they can be squeezed together in boxes or large pots, the snagged stems only being exposed. The plants are well watered, and when settled a surfacing of the driest earth is put on, and the plants will be safe all the winter wherever frost does not reach them. Light is of little importance until the heads begin to break in spring. This is by far the best plan for those who have little room and wish to make a flower

garden gay, as such plants generally flower well. A 12-inch pot will contain from twelve to eighteen large plants if they are pruned-in as above. Of course such storages will yield no gratification in winter. For these there must be little pruning, and a little help at the roots; even water at from 80° to 90° will help the free fresh rooting.

The chief work of the week has been looking after bulbs, potting, and fresh-surfacing plants; giving a little fresh rich dressing to Euphorbias, Justicias, Begonias, &c.; and dividing and potting Mosses and Ferns.—R. F.

TO CORRESPONDENTS.

*** We request that no one will write privately to any of the correspondents of the "Journal of Horticulture, Cottage Gardener, and Country Gentleman." By doing so they are subjected to unjustifiable trouble and expense. All communications should therefore be addressed *solely to The Editors of the Journal of Horticulture, &c.*, 171, *Fleet Street, London, E.C.*

We also request that correspondents will not mix up on the same sheet questions relating to Gardening and those on Poultry and Bee subjects, if they expect to get them answered promptly and conveniently, but write them on separate communications. Also never to send more than two or three questions at once.

N.B.—Many questions must remain unanswered until next week.

Books (*J. C. K.*).—Thompson's "Gardener's Assistant," "Cottage Gardeners' Dictionary," Johnson's "Science and Practice of Gardening."

Horticultural Directory (*T. Clapham*).—There will be an edition of the "Horticultural Directory" for 1872.

Newton's "Chrysanthemum" (*J. W.*).—Messrs. Bradbury & Evans; price sixpence, we believe.

Various (*D. M.*).—We do not know anything about the dictionary you mention. Write to its publishers. "The Botanical Magazine" has such coloured plates and descriptions as you mention. The Blechnum brasiliense would suffer from want of heat, but we cannot be sure without knowing how you cultivate it.

Agaricus proceaus (*J. T. O.*).—Take up the spawn and place it in leaf mould.

Wheeled Hoe (*J. W. K.*).—We have no doubt this tool, described on page 323, is to be purchased. Why not write to Mr. W. W. Glenny, enclosing a directed stamped envelope for a reply?

Nurserymen Sending Trees not Ordered (*J. H. B.*).—We need not lash nurserymen who venture to do this, for the remedy is in the purchaser's own power. Send back the trees, and the nurseryman, having to pay the carriage, will not repeat the unwarrantable practice.

Fungus (*G. S.*).—Your Fungus is a common and delicious variety of Agaricus campestris. The true A. Georgei is a white-spored Agaric without a ring, which comes up only (about St. George's day) in the spring. The Horse Mushroom (Agaricus arvensis) is frequently referred to as A. Georgii. It is often difficult to distinguish it from the true Mushroom, and it is almost as good for the table.

Climbers not Thriving (*Novice*).—We think the most likely cause of the climbers not thriving against your house is the raised bank or terrace, which is undoubtedly dry, and may be rendered more so by a projecting roof, such as many houses have, and which is wholly unsuitable for climbers. If there is not a roof of this kind, we would take out the soil to a distance of a yard from the building and 2 feet deep, and fill up with rich loam, the top 2 or 3 inches from a pasture being preferred. This soil should be chopped up in rather small pieces, adding one-third of leaf soil or well-decayed manure, some lime rubbish, or one-sixth of sharp sand. Put in the soil rather firmly, and elevate it from 6 to 9 inches above the surrounding level. You will have a border a yard wide, which we would keep as a flower border for a time, and that will enable you to manure the climbers in autumn, to water them in summer, and when they are well established you can turf-up. Wistaria sinensis and Magnolia grandiflora ought to succeed on the south aspect; and if you have room add Jasminum grandiflorum, Ceanothus azureus, C. floribundus, Escallonia macrantha, and Garrya elliptica. On the east have Cydonia japonica, Jasminum nudiflorum, and Cotoneaster microphylla. Crataegus Pyracantha ought to thrive, and Virginian Creeper will be sure to succeed, but we should not like to plant it until we had given the others a good trial. The copse you are stubbing-up, and which you intend to sow down for pasture, should be well worked and cleaned, and do not sow until the beginning of April, when you may put in a light crop of Oats or Barley.

Growing Bulbs in Pots for Beds (*Violet*).—You may grow in pots all the bulbs and roots which you name—namely, Hyacinths, Tulips, Anemones, Ranunculus, Jonquils, Narcissus, and Crocuses, sinking the pots below the rims. There will be no necessity to pot the Hyacinths and Crocuses, and we should leave them and the Narcissus in the ground. When so treated they do better than in any other way. Take them up every second or third year, remove the offsets, and replant. Put three Ranunculuses in a 6-inch pot, one Anemone in a 4½-inch pot, and two Jonquils in a 4½-inch pot. You may sink the pots at the required place, and when the flowering is over, you can then remove them, and again plunge them in an open situation until the growth is complete. The Tulips may be potted singly in 4½-inch pots, and the pots plunged, taking up after flowering. The roots will come over the pot-rims, therefore the rims should be covered about an inch. You can put in the bedding plants between the rows of Hyacinths, &c.

Transparent Crab (*F. P.*).—The fruit makes an excellent Apple jam.

Dwarf and Runner Kidney Beans Forwarding in Heat (*F. R.*).—They may be sown rather thickly in boxes or pans, grown in a frame, hardened well off, and transplanted, after the weather has become warm, to a sheltered situation. Thus treated they will come in earlier than those sown in the open ground, but the produce is not so great. Peas for the first early crop may be treated in the same way, but it is well to sow them in pots or on narrow strips of reversed turf, and plant out with the ball or turf entire. Keep the plants from becoming drawn, and harden well off before planting out, affording a slight protection for a few days after planting out.

Walnut Tree not Thriving (*S. R.*).—We should allow the hayband to remain during the winter, and renew it in spring; if kept moist it would materially assist the flow of the sap. We would mix some old lime rubbish with the soil about the roots, and then give the top-dressing of manure as you propose, leaving it on throughout the summer.

Scorzonera and Sandringham Cabbage Management (*A Reader*).—Take up the roots now, cut off the tops half an inch above the crown, and store the roots in sand in a shed or cellar. They may be boiled like Parsnips, and, served with white sauce, are by many much esteemed. For next year's supply you must sow seeds about the middle of April. The tops of Sandringham Sprouting Cabbage should not be cut off until about February, and then they will produce a number of fine sprouts throughout the spring. You may cut the tops now, and the sprouts will come forward more quickly. The name of the flower is Colchicum autumnale.

Exterminating Thistles (*W. M.*).—Drain the land thoroughly not less than 3 feet 6 inches deep, and with a spud—one that drops in the hole some salt on its withdrawal—grub them up at the close of May or early in June, and again in August.

Plants for Trelliswork (*H. M. S.*).—There are very few evergreen climbers that are suitable for trellises in garden—indeed, there are none but the Ivies; Cotoneaster microphylla will, however, do. For the avenue, Poa nemoralis sempervirens and Festuca duriuscula are the most suitable. We could not say what, but consider most Mosses would grow well, there being stone and moisture. Mosses (with the exception of Selaginellae) are not included in the category of cultivated plants.

Hyacinths for Exhibition in March (*Old Subscriber*).—Pot them now in 6 inch pots, drain well, using a compost of two parts medium-textured loam, one part old cow dung or well-decayed manure, half a part of charcoal in pieces about the size of a pea, and half a part of silver sand. Place them in a cool house or cold frame, and if in a cool house they will do beneath the stage or shelves, just covered over with cocoa-nut refuse. Being in a moist state they will not require any water, but the soil must be kept moist. There they may remain a month, and should then be placed on a shelf near the glass, with a temperature of not more than 40° from fire heat, and this should be continued up to the close of January, when they should have 45° from fire heat, and with 5° more for a few weeks they will come in at the time required. Weak liquid manure may be given after the spike is clear of the leaves.

Wintering Geraniums (*Somerset*).—A two-light frame is not suitable, as, if frost be kept out, the plants suffer from damp The shelves over the dresser, we think, will be too warm, and warmth without light is ruinous. It is, however, far better than a cold frame. The late cuttings would have been better without the hothed. Harden and dry them off, and keep them safe from frost in the lightest place you have. Take up the old plants; do not cut them back, but remove most of the leaves, and keep them dry and safe from frost The stable loft is of no use unless you can keep frost from the plants, then it would answer very well for the old plants. You can pack them in boxes in dry soil, not water them until spring, potting and placing them in a hotbed about March.

Strawberries in Shallow Soil (*J. W. L.*).—Just loosen the soil between the rows, mulch at once with well-decayed manure, and cover with some of the littery portion. We would advise mulching the newly-planted Strawberries. It will keep the roots all right for the winter.

Tacsonia splendens and Brachysema Drummondi (*Idem*).—They have scarlet flowers. The Tacsonia flowers in summer, and the Brachysema from March to May. Keep the former dry in winter, and top-dress the whole of the border in February with rich compost. The plant will put out side shoots another season, and the Brachysema you may stop. The Habrothamnus elegans has deep rose or red flowers, produced in autumn and spring. Water freely in summer, and give liquid manure occasionally.

Plants for North Porch (*A Subscriber*).—The Escallonia requires a south aspect. We know of nothing that would answer but Cotoneaster microphylla or the Ivies; Rægner's is very suitable.

Removing Paint from Glass (*C. E. W. C.*).—It will peel off in time, or may be removed with cloths dipped in a hot solution of soft soap, 8 ozs. to the gallon, kept on until they are cool. Then clean the glass with spirits of turpentine and dry clothe. The paintere ought to have removed it after the rain.

Fruit Trees (*F. J.*).—It is easy to a practised eye to tell a Pear on the Quince from one on the Pear stock, and if you know one you will be able to tell the other easily, but we can only tell you that the bark of the Pear stock is much more smooth than that of the Quince, and the stock generally of an even thickness with the graft or scion, whilst of the Quince the bark is often rough or knotted, and the stock generally smaller than the scion. The best way to keep trees after they are received, if the weather is not frosty, is in the soil until they can be planted; but in frosty weather they are best left in the packages, covering them well with straw until the frost is past. To guard against damp your best plan is to give air whenever you safely can, tilting the lights so as to throw off the rain. We do not think there would be much use for the lime. In collecting leaves for leaf soil pile them in a heap, leave them for six months, then turn them over, and again in three months. They will decompose more quickly then if they were not turned. The top 2 or 3 inches of an old pasture where the soil is a good rich rather light loam, laid up grass side downwards for six months and then chopped up, adding a fourth of rotten manure, or a third of leaf soil, forms an excellent compost for bedding plants.

Stove (*Churchill*).—We think your large flue ought to be ample for all the heat you require; but if you want more heat at the coldest end, a stove of iron lined with fire-brick would suit your purpose, and an

Arnott's brick stove still better, but with such a flue round the house we should consider any stove quite unnecessary.

HEATING WITH HOT WATER (*A. B. C.*).—We should deceive you if we said you could heat your new house, which you say is 10 feet below the top of the boiler. If it had been all that higher, it would have been different. The same sort of boiler, or a conical or saddle-back, or even a flue, would do for the new orchard house, as you do not want much heat. We have no faith in the present boiler doing the work, owing to the level.

HEATING A GREENHOUSE (*G. A. H.*).—We can hardly see how a gas stove placed in your dwelling house, supplied with a boiler and pipes, should allow gas fumes to escape among your plants. These things, however, all require care and management. We have no faith in the close stoves you allude to, in whatever way the fuel is prepared. Amongst plants in large open halls the matter is quite different, but such a stove would do well enough if lined with fire-brick inside, and if even a 2-inch pipe were used to carry off the products of combustion through the roof. A small iron stove, say a foot or 15 inches square, lined with fire-brick at the fireplace, would be the simplest for such a house, but a little care is wanted to avoid dust inside the house, by damping the ashes before taking them out of the stove. If in such small houses a stove of this description could be placed close to a wall, or a brick stove 2 feet square and 30 inches high should be so placed as to be fed and attended to from the outside, all dust and smoke when lighting would be avoided. An evaporating-pan on the top would give moisture enough. For all such small houses nothing will equal a small stove for economy. We judge it will require about one-third of the fuel of a furnace and flue, and from one-sixth to one-eighth of what would be wanted by hot water.

GRAPES (*A. B.*).—Your Black Hamburghs are producing abortive berries, and this is, doubtless, caused by the roots being in a border which is "very damp, low, and cold." The only remedy is to drain the border, and renew the soil if it has become sodden. Vines will do with any quantity of water so long as it is not stagnant.

PRUNING PEACH TREES, &c. (*I. H. S.*).—All superfluous shoots should be removed from your Peach trees in summer, and the other young shoots which will carry the fruit next year should be trained in to the wall. This will expose the fruit to the influence of the sun, and it will not only be more highly coloured, but of better quality. It is not the black ant which is the cause of blight on your orchard-house trees, but the aphis, which is most effectually destroyed by fumigating with tobacco smoke. Washing the trees with a solution of Gishurst compound, 8 ozs. to the gallon, will also destroy them.

FRUIT TREES FOR A SOUTH WALL (*Glevum*).—We would not occupy a south wall with a Morello Cherry, as this tree succeeds well on a wall with a north aspect, or planted in the open ground as pyramids. Plant a Moorpark Apricot and a Marie Louise Pear. You can purchase standard-trained trees with clean stems of 6 feet in the nurseries; plant them at once.

PLANTING A VINERY (*A Subscriber*).—Plant Mill Hill Hamburgh by all means; it colours well, the berries are large, round, and equal in quality to Black Hamburgh. Inarch Golden Champion on Black Hamburgh. When well grown it is the best white Grape for a cool house. We would substitute Madresfield Court Black Muscat for Mrs. Pince.

LIST OF FRUIT TREES (*T.*).—A wall facing the east is not a good position for Peach and Nectarine trees. You do not say how many varieties you require. *Peaches.*—Early York, Royal George, Stirling Castle, and Violette Hâtive. *Nectarines.*—Rivers's Orange, Elruge, Violette Hâtive, and Pine Apple. *Pears.*—Jargonelle, Madame Treyve, Marie Louise, Beurré Hardy, Gansel's Bergamot, Beurré Bosc, Glou Morçeau, Easter Beurré, and Bergamotte Esperen. *Gooseberries.*—Golden Drop, Green Gage, Pitmaston Green Gage, Red Champagne or Ironmonger (of Scotland), Yellow Champagne, Whitesmith, Broom Girl, Crown Bob, and Warrington. *Currants.*—White Dutch, Knight's Early Red, Red Dutch, and Victoria. *Raspberries.*—Red Antwerp, Fastolf, and Yellow Antwerp.

INARCHING VINES (*B. W. Stannus*).—Black Alicante is a magnificent Grape. We would graft or inarch it on Canon Hall. Mrs. Pince's Black Muscat has not the Muscat flavour fully developed under all circumstances, though we have it very fine this year. It is a good Grape, but like your Canon Hall, uncertain.

PEACHES AND CAMELLIAS UNDER VINES (*A Young Essayist*).—We do not think Peach trees in pots will succeed in such a position. If you wish to give them a trial, get the trees as near the glass as possible, and train your Vine rods up at a distance of 5 feet apart. Camellias would do pretty well in the shade, but we think it would be more profitable as well as more satisfactory if you were to sacrifice the Peach trees.

UTILISING A LARGE HOUSE (*X. Y. Z.*).—For such a house so wide and lofty, and 320 feet long, we would advise heating—not a tenth, but a fifth, or a third, as the heated portion will be the most valuable. In this we would plant Vines, and have tables for plants and shelves for Strawberries or Dwarf Kidney Beans. Part next this, a cool house, we would plant with Vines of the hardier kinds, as Black Hamburgh and Royal Muscadine, and part with Peaches and Nectarines. The floor of these houses might be covered with vegetables in winter, as Cauliflowers, Endive, Lettuces, or great quantities of Violets, Wallflowers, and hardy Primroses if in demand. We think such a house would pay best if enough of iron piping were used to keep out frost in severe weather. For the part heated, for a 40-feet-wide house, 15 feet at the centre, and 8 feet at the sides, four pipes, as you propose, round two sides and one end, will answer if you do not commence forcing until towards February. The house may be filled with flowering plants all the winter, but until the extra heat is given to the Vines the temperature should not exceed 45° by fire heat.

SMALL GREENHOUSE (*E. C., Oakham*).—Under the circumstances a lean-to house would be the most economical, and with ventilators at the top of the back wall, all the roof might be fixed. A small saddle-back or conical boiler would answer, and the 4-inch pipes along the front and round each end would be sufficient. For such a house, 24 feet by 12, we would prefer a small flue beneath the pathway, and the top of the flue would form part of the pathway. With a half span or hip at the back, you would have a loftier house and more command of light, but you would need more heat. A couple of ventilators in the hip, with an opening at each end under the apex, would do. If you decide on a lean-to, and desire more height, you may raise the wall from 9 to 12 inches, and place 6-inch board ventilators most of the way. These, being on pivots, would be easily managed.

HEATING A VINERY AND GREENHOUSE (*T.*).—Your simplest plan would have been to have heated the two houses by a boiler placed behind where the two houses meet. By sinking the boiler sufficiently you could bring the flow and return pipe beneath the pathway, and then raise it in the house. A T-flow pipe would enable you to take a flow pipe into each house, joined then to the number of pipes you might think proper, by syphon joints. A socket valve on each of these flow pipes would enable you to regulate the heat in the vinery and the greenhouse at will, and to give heat to one and keep the heat from the other as desirable. In the position you propose for your boiler at the end of the range you must heat the vinery before you can heat the greenhouse at any time, and you must have the circulation complete in the vinery. Having secured that circulation you could take one pipe joined to a two-pipe syphon, with a valve to regulate the circulation, in the greenhouse. Were we obliged to have the boiler where you propose, we would have two flow pipes from the boiler, one in the usual way for the vinery, and the other a 1 or 2-inch strong pipe passing through the vinery, with a valve or tap, and joined to the flow pipes in the other house by cap joints. All the returns would join.

LILIUM AURATUM TREATMENT (*W. M.*).—As it is now in a resting state it should have no more water than will be sufficient to keep the soil moist, and if not already potted we should pot it at once. Turn the plant out of the pot, and remove as much soil as you can without injuring the roots. As the bulbs are small, 7-inch pots will be sufficiently large. Drain them well, and use a compost of two parts light turfy loam, one part sandy peat, and one part leaf soil or old cow dung, with a free admixture of sharp sand. Pot so that the crown of the bulb may be about an inch below the rim of the pot, and when the plant has made a shoot a few inches high top-dress with rich compost. Keep the plants safe from frost, and the soil only just moist, but when the plant is growing freely and flowering water copiously. It cannot have too light or airy a position.

VARIEGATED HOLLY (*E. Woollen*).—We have seen others with marbled leaves, but when propagated from and cultivated in other soils and seasons, the variegation gradually departed. If yours remains permanent it will be a desirable variety.

EMIGRATION (*A Gardener*).—We cannot venture to advise you. Some of our readers may be able to answer your query—"Which is the best part of Australia for a gardener to emigrate to?"

VEGETABLE MOULD FOR POTTING (*Groombridge*).—The mould from decomposed vegetable matter as Pea haulm, Cabbage stalks, &c., mixed with lime is good to mix with other materials as a compost for potting, but it must be thoroughly decomposed. We prefer leaf soil.

HARDINESS OF RICHARDIA (CALLA) ÆTHIOPICA, DICKSONIA, AND ALSOPHILA (*A Subscriber*).—The Richardia thrives in a tank in the greenhouse, but it should have abundance of light. Place some loam in the tank, and put a few stones over the roots. It does better with us as a pot plant, and without aquatic treatment. Dicksonia antarctica and squarrosa, and Alsophila australis, succeed in a house from which frost is excluded.

CACTUSES NOT FLOWERING (*J. F. B.*).—The cause of these not flowering is no doubt the want of light, and the distance from the glass. We would advise you to have them potted, and after being established a year we would turn them out of doors early in July in front of a south wall, and not house them until the close of September. Keep them dry during the winter, but not so much so as to cause the stems to shrivel. We think they will flower in the following April. For growing beneath Vines you might have Camellias, Azaleas, and variegated-leaved Begonias; indeed you might succeed with most greenhouse softwooded plants, placing them out of doors in summer.

NAMES OF FRUITS (*J. Taylor*).—1, Flower of Kent; 2, Cellini; 3, Barcelona Pearmain; 4, Red Wine; 5, Nonpareil; 7, Carel's Seedling; 10, Tower of Glamis; 11, Northern Greening; 12, Pearson's Plate; 13, Achan; 14, Dunmore. (*Mrs. Miller*).—The large Pear is Beurré Clairgeau, and the two smaller ones White Doyenné.

NAMES OF PLANTS (*C. F.*).—We succeed in identifying your leaves. No. 1 belongs to Baubinia purpurea, *L.*, a well-known and widely distributed plant in India; No. 2, a young spray of Eucalyptus obliqua, *L'Her.*, one of the Stringy-bark trees of Australian colonists, abundant in Victoria and Tasmania, but not, as you suppose, a native of New Zealand. (*Camjee*).—The Strawberry Spinach, Blitum virgatum, native of India, Persia, and the East. (*J. B.*).—Hibiscus rosa-sinensis, var. grandiflorus. (*Centurion*).—In all probability your plant is Calandrinia umbellata, but we are not absolutely certain. We have no doubt as to the genus, but your specimen is scarcely sufficient to make sure of the species. (*G. Davies*).—1, Nephrolepis exaltata; 2, Polypodium cambricum; 3, A variety of Polystichum aculeatum; 4, Adiantum hispidulum; 5, Selaginella Braunisna (S. pubescens of gardens); 6, Pteris crenata; 7, Microlepis novæ-zelandiæ. (*A. E. A.*).—Your Fern is quite correctly named Hypolepis repens. You certainly must afford it protection against cold, as it is a native of the tropics. (*G. McA.*).—Your Fern is, without a doubt, the Hymenophyllum tunbridgense. You appear to have thought it to be H. Wilsoni, otherwise H. unilaterale, which it is not; both are scarce, the latter the more so. (*M. H.*).—2, Salvia verticillata. The Stachye (No. 1) is Stachys recta, *L.*, native of central Europe. (*G. B.*).—1, Is Asclepias curassavica, *L.* Wild in the West Indies, but very generally cultivated as a garden plant all over the civilised world. Known in Jamaica as Wild Ipecacuanha, in other places as Swallow-wort. 2, Is Gomphocarpus fruticosus, *R. Br.*, from the Cape of Good Hope; also known as Asclepias fruticosa, or A. salicifolia. Both are among the oldest and best known of stove plants, but may be placed in a greenhouse when in bloom. (*T. B. W.*).—Your Ferns are—1, Pteris flabellata; 2, Nephrodium aparsum; 3, Onychium japonicum; 4, Litobrochia pedata; 5, Cheilanthes lendigera; 6, Polypodium vulgare. The Lycopods are—1, Selaginella Martensii; 2, S. Brauniana (S. pubescens); 3, S. Krausiana (S. borteneis). (*C. M. Major*).—Your Fern is Blechnum occidentale. As to Polypodium dilitatum of Lilbmann, it is a synonym of Nephrodium effusum. See Hooker "Synopsis Filicum," 287. (*W. B. B.*).—The Canary Grass, Phalaris canariensis, *L.* (*J. W. B.*).—Common Sparrey, Spergula arvensis. (*An Old Subscriber*).—The Spindle Tree, Euonymus europæus. (*O. W.*).—1, Cuphea platycentra; 2, Helichrysum bracteatum,

the common "Everlasting" of garden borders; 3, Senecio Cineraria, or Cineraria maritima; 4, Agathæa cœlestis. (*H. W. E.*).—Campanula Lœflingii, native of Spain.

POULTRY, BEE, AND PIGEON CHRONICLE.

LIGHT BRAHMAS.

As an enthusiastic admirer of this beautiful breed, I beg to be allowed one or two remarks on Mr. Wright's very interesting paper in last week's Journal. I am, comparatively, only a young beginner as a Light Brahma breeder, and write in the hope of gaining information. Having attended with tolerable regularity many of the leading shows, I certainly am somewhat surprised to find that Mr. Wright thinks that shape and colour can win against size. I am assuming that by "colour," is chiefly meant the clear black-striped neck and saddle hackle, as described in his book, "The Brahma Fowl."

Of late I have begun to think that his description in that book must be totally erroneous, for I have constantly seen prizes awarded to cocks without a vestige of marking on the saddle, and with a neck hackle that can only be appropriately described as "muddy." For example, at the late Cheltenham Show a pair of Light Brahma chickens, of almost perfect shape and markings according to Mr. Wright's standard, were merely commended, while the prizes went to birds with almost white hackles, but very superior in size. In fact, my experience so far shows that style and markings have no chance whatever against size. On what other grounds, I would ask, are three-fifths of all the Light Brahma prizes awarded to Mr. Pares's birds than their being of superior size? No one could maintain that they excel in style or colour. I quite agree with Mr. Wright that the case of the winning cockerels at Birmingham last year was an exception, but, unlike him, I have heard the award most bitterly complained of, on the ground that the prize birds were so small; and if my memory does not deceive me, your own reporter mentioned that in his opinion one at least of Mr. Pares's cockerels should have been in the first or second place. I think I am right in saying that the Birmingham first-prize cockerel was afterwards exhibited at Spalding, and merely commended in a small class, the prizes, as usual, going to size.

Now, are we to breed for striped hackle or for size? I, for one, should be glad to know. So far as my personal predilections go I entirely agree with Mr. Wright's standard of markings, and am disposed to think that many first-prize birds I have seen with nearly white hackles are as deserving of disqualification as if they had white legs, but evidently the Judges think differently.

Next, as to absolute size. I held my breath when I came to Mr. Wright's statement of cocks of 17 lbs., and hens of 12 lbs. We certainly are a long way behind our American brethren. Might I ask through your columns the purchaser of the American birds shown last year at Birmingham (which, I suppose, may be accepted as fair specimens, or they would hardly have been sent over, and which gained, I believe, the third prize), to let us know what their weight is now? I do trust that some of these American monsters may be about starting for the Crystal Palace or Birmingham Shows, and may I be there to see.—Outis.

ENTRANCE FEES.

The charge for entries ought to be no more than as follows:—5*s.* where there are £4, £2, and £1 prizes; 4*s.* where the prizes are £3, £1 10*s.*, and 10*s.*; 3*s.* where the prizes are £2, £1, and 10*s.*; and 2*s.* 6*d.* where the prizes are 30*s.* 15*s.*, and 10*s.* I cannot say anything against the Crystal Palace Show, as the Committee are giving so many cups—their entry fees are about right, had they no subscriptions.—John Cockroft.

DERBY CANARY SHOW.

The Show of October 28th and 30th was the largest ever yet held at Derby, and the birds, for quality and for beauty of plumage, could not well have been excelled. The Committee deserve great credit for the arrangements, every visitor being able to see well, and any bird which one wished to single out could be found at once.

In the classes for birds hatched this year, limited to members of the Society, there were 160 entries. As a class the Yellows were much better in colour than last year. In Buffs we did not notice any great change. The silver cup was won by Mr. R. Henson with fifteen points. Very seldom does one breeder exhibit so many good birds, taking out of six classes four first prizes, one second, and one third. No. 24 was the pet of the Show, and will, we are sure, before the season is over, win more laurels. Class 12 (Variegated Buff Norwich), was good throughout, the even marking showing much consideration and very careful breeding. There was a decided improvement both in the quantity and quality of the Crested birds as compared with former years. We were sorry to see that the Belgian and Lizard fancy does not seem to flourish in Derby.

Last year the Society decided on having classes open to all England, and from the success they then met with these prizes were again offered, and the result has far exceeded all expectations, 102 Norwich being entered, also several entries of Belgians, Mules, and Lizards; and the Committee intend still further to extend their sphere of operations in these classes.

Of Bantams there were twenty-nine entries; the prizewinners were perfect in every respect. We are of opinion that a poultry show might be successful in connection with this Society.

The weather was unfortunately very unfavourable, but we are informed the receipts were quite equal to expectation, and we hope another year this Society will receive more support at the hands of the fancy. We published last week the names of the Judges and the list of awards.

SOUTHAMPTON POULTRY, PIGEON, AND BIRD SHOW.

For eleven successive years this Show has held a very high position in public opinion, the Committee always paying the utmost attention to any suggestion likely to add to its attractions. At Southampton there are classes not only for exhibition poultry, but also for fowls ready dressed for table. Another prominent feature of this year's meeting has been the excellent collection of Canaries and other song birds combined with classes for foreign birds in great variety and of resplendent plumage. Consequently all visitors, whether strictly poultry-breeders or otherwise, could readily pass many hours in a pleasing and very instructive inspection. This year, by a greatly improved arrangement, the Exhibition was held in a central part of the town, and, had the weather been at all favourable, no doubt the receipts would have been proportionably increased. The large space available permitted of a far better display throughout than in former years, and in respect to the *Geese*, of which there was a truly magnificent collection, it is questionable whether they were not more comfortably situated than at their respective homesteads; certainly it has never been our lot to visit any show where the accommodation for these birds was at all comparable to that afforded at Southampton. The Auction Repository, in which the Show was held, has one other great advantage in nearly the whole of the roof being glass, so that the amount of light varies only to a trifling extent throughout. At a time like the present, when poultry shows are held in such rapid succession, and, in too many cases, in defiance of all risks, nearly simultaneously, a great deficiency in the number of entries generally ensues; nevertheless, at Southampton the entries were as numerous as in former years. *Spanish* were a very small class, as, unfortunately, seems to be the case at every show during this autumn, but the prize pens were much admired. Grey *Dorkings* were decidedly the strong feature of the Show, and here Mr. Martin, of Claines, secured the ten-guinea silver cup, the gift of Peter Merrick Hoare, Esq., M.P. for Southampton. It is worthy of note that both of Mr. Martin's pens were rosy-combed, of magnificent size, and in capital feather. It may not be amiss here to note that the truly objectionable feature of open wirework for the backs of the pens began to tell most unfavourably, for such were the massive proportions of the cup male bird, that at every movement the tail feathers were more or less rubbed to pieces by continued entanglement in the wirework behind, and not a few other large fowls were equally injured. The ten-guinea silver cup, given by Mrs. Merrick Hoare for the best pen of *Game* fowls, was secured by a grand pen of Brown Reds belonging to Mr. Julian, of Hull, and, strange to say, it was the only entry made by their owner against a very heavy competition. *Cochins* were mostly good, but, as a whole, they were scarcely in full condition. *Brahmas* were quite a feature of this exhibition, and Mrs. Williamson's Light-coloured chickens, if well cared for, are certain to find a position in many other prize lists. Of *French* fowls the display was excellent, and Game *Bantams* were also a very prominent class. In the Variety class for Bantams Silver-laced Sebrights stood first, and a very well-shown pen of Cuckoo Bantams second. Among the *Waterfowls*, a pen of Sebastopol Geese, several pens of Buenos Ayrean, Carolina, and Whistling Ducks were well worthy of notice.

Spanish.—1, H. Brown, Putney Heath. 2, Mrs. Allsopp, Hindlip Hall Worcester. *c*, J. F. Siletoe, Penfields, Wolverhampton.

Dorkings.—1 and Cup, J. Martin, Claines, Worcester. 2, J. Smith, Shilling lee Park, Petworth. *hc*, W. Peacocke, Efford, Lymington. *c*, H. Humphrey Attington, Pulborough; J. Chisman. *Chickens.*—1, J. Martin. 2, J Smith *hc*, Mrs. Hayne; Mrs. E. Wheatley, Blackmore Rectory, Ingatestone (2); Sir H. C. Paulet, Bart., Little Testwood, Totton; W. Trevitbick, Hayle, Cornwall; J. Smith; H. S. Fraser, Headley, Liphook (2). *c*, Sir H. C. Paulet, Bart.; J. Smith.

Cochins.—1, Cup, and *hc*, J. Sichel, Lark Hill, Timperley. 2, Mrs. Allsopp. *Chickens.*—1, Horace Lingwood. Creeting, Needham Market. 2, C. Bloodworth, Bayshill, Cheltenham. *hc*, W. Burch, Barnacle, Coventry; Horace Lingwood; J. K. Fowler, Aylesbury; A. C. Travers, Falmouth; J. Loog, Plymouth; R. S. S. Woodgate, Pembury, Tunbridge Wells; Mrs. H. Hozier, Alresford. *c*, F. W. Rust, Hastings; C. F. Wilson, Bartley Manor, Totton.

Brahmas.—*Dark.*—1, W. Dring, Faversham. 2 and *c*, Horace Lingwood. *hc*, H. P. Moor, Langley Lodge, Chipperham.

Brahmas.—*Light.*—Cup, Mrs. T. Turner, Avon, Ringwood. 2 and *hc*, J. Pares, Postford, Guildford. 3, H. M. Maynard. *Chickens.*—Cup and 2, Mrs. A. William,

son, Queeniborough Hall, Leicester. 3, Mrs. T. Turner. *hc*, H. M. Maynard, Holmewood, Ryde; Mrs. T. Turner; J. M. Rice, Bramber Rectory, Steyning; T. A. Dean, Marden, Hereford; J. Long, Plymouth; M. Leno, Markyate Street. *c*, C. F. Wilson; Mrs. Malcolm, Totton; J. R. Wright, Mayfield, Southampton; R. B. Wood, Uttoxeter; Dr. Campbell, Brentwood.

GAME.—*Black and other Reds.*—1 and Cup, H. M. Julian, Hull. 2, H. Gibson, Brockenhurst. *hc*, W. H. Stagg, Netheravon, Amesbury; H. Gibson. *Chickens.* —1, T. Burgess, Burleydam. 2, C. H. Ames. *hc*, S. Matthew, Stowmarket. *c*, C. W. M. Laxton, Nantwich.

GAME.—*Any other Variety.*—1, Mrs. S. Matthew. 2, J. Fletcher, Stoneclough, Manchester.

GAME.—*Cockerels.*—1 and Cup, T. Burgess. 2, H. E. Martin, Sculthorpe, Fakenham. *hc*, J. Jeken, Eltham; S. Matthew. *c*, A. Milnes, Rochdale. *Any other Variety.—Cockerels.*—1, Rev. F. Dutton, Windrush Vicarage, Burford. 2, S. Matthew.

HAMBURGHS.—*Silver and Gold-pencilled.*—1 and Cup, Ashton & Booth, Broadbottom, Mottram. Cup, F. Pittis, Newport, Isle of Wight. 2, N. Barter, Plymouth. *hc*, J. King, Oxford; H. Moore. *c*, H. H. Thompson, Coleshill, Farringdon. *Silver and Gold-spangled.*—1, N. Barter. 2, W. A. Tickner, Ipswich. *hc*, Mrs. Allsopp; Ashton & Booth; T. Blackman, Tottenhall, Wolverhampton; Mrs. J. Pattison, Dorchester.

POLANDS.—1, A. Cruttenden, Brighton. 2, G. W. Boothby, Louth. *hc*, C. Bloodworth.

FRENCH VARIETIES.—1, W. Dring, Faversham. 2, G. Mills, Woodville Hall, Dover. *hc*, J. Sichel; Rev. N. J. Ridley, Newbury. *c* J. K. Fowler.

HOUDANS.—*Chickens.*—Cup and 2, R. B. Wood. 3, W. Dring. *hc*, J. Sichel; W. Dring; R. B. Wood; W. Tippler, Duke's Roxwell, Chelmsford. *c*, Rev. G. B. Rowland, Pillerton Vicarage, Kineton.

ANY OTHER VARIETY.—1, J. Watts (Ptarmigan). 2, T. Moore, Fareham (Andalusians). *hc*, Rev. N. J. Ridley (Leghorns); T. Norwood, Churchfield, Salisbury (White Minorcas). *c*, T. M. Derry, Gedney (Black Hamburghs).

BANTAMS.—*Game.*—1, Cup, and 2, Ashley & Maitland, Worcester. *hc*, G. F. Ward, Wrenbury; C. Ashworth, Halifax; H. C. Rogers, Newport Pagnell; W. B. Jeffries, Ipswich; H. Gibson; W. Adams, Ipswich. *c*, C. Parsons, Dorchester; A. Dowdall, Southampton.

BANTAMS.—*Any other Variety.*—1, M. Leno (Silver-laced). 2, W. W. Boulton, Beverley (Cuckoo). *hc*, J. Watts, King's Heath, Birmingham (2); S. & R. Ashton, Mottram; E. Cambridge, Cotham, Bristol. *c*, J. Bloodworth.

DUCKS.—*White Aylesbury.*—1, G. W. Greenhill, Ashford. 2, J. K. Fowler. *hc*, G. Scutt, jun., Martinstown, Dorchester; W. Stephens, Highman Green, Gloucester; J. K. Fowler; A. Marvin. *c*, Miss F. A. C. Cresswell, Early Wood, Bagshot.

DUCKS.—*Rouen.*—1, G. Chase, Titchfield. 2, H. Dowsett, Pleshey, Chelmsford. *hc*, W. Birch; W. Stephens (2); Mrs. E. Wheatley, Blackmore Rectory, Ingatestone; S. H. Stott.

DUCKS.—*Any other Variety.*—1, F. Pittis, jun. (Buenos Ayrean). 2, M. Leno. *hc*, F. Pittis, jun.; S. & R. Ashton; Mrs. Hayne; G. S. Sainsbury, Devizes; J. J. Malden, Biggleswade; M. Leno.

GEESE.—1, J. K. Fowler (Grey). 2, Lady de Bathe, Chichester (Sebastopol). *hc*, Mrs. Ford, Shirley, Southampton (2); W. Trevithick; H. Yardley, Birmingham; Mrs. M. A. Charnbury, Bathampton. *c*, W. Stephens.

TURKEYS.—1, Mrs. J. Mayhew, Great Baddow. 2, G. R. Pearson, Witham Common, Grantham. *hc*, Rev N. J. Ridley; T. Bailey; Mrs. Clay, Fareham.

SELLING CLASS.—*Cock or Cockerel.*—1, H. P. Moore (Dark Brahmas). 2, A. C. Travers (Grey Dorkings). *hc*, H. M. Maynard; H. Humphrey, Attington, Pulborough; H. P. Moore; Rev. F. Cooper; B. F. Parrott, Henbury, Bristol (2). *c*, W. H. Stagg (2); J. Bloodworth; C. Bloodworth. *Hens or Pullets.*—1, H. D. Dent, Cosham (Buff Cochin). 2, J. Chisman (Light Brahmas) *hc*, H. Adney, Goodworth, Clatford; W. Walter, Winchester; Mrs. Malcolm; Lady Heathcote, Hursley Park, Winchester; Mrs. E. J. N. Hawker, Wycliffe, Tunbridge Wells. *c*, A. C. Travers; Lady de Bathe.

EXTRA CLASS.—*c*, H. C. Dear, North Stoneham, Southampton (2).

PHEASANTS.—1, Lady Heathcote.

ORNAMENTAL BIRDS.—1, Withheld. 2, G. W. Jones, Southampton.

PIGEONS.

POUTERS.—1, R. Fulton, Deptford. 2, E. T. Dew, Weston-super-Mare. *hc*, G. H. Gregory, Taunton; A. Heath, Calne. *c*, P. H. Jones, Fulham.

TUMBLERS.—1 and 2 J. Ford. *hc*, R. Fulton.

BARBS.—1, H. Yardley. 2, H. M. Maynard. *hc*, R. Fulton (2). *c*, E. S. C. Gibson.

JACOBINS.—1, G. Roper. 2, H. M. Maynard. *hc*, R. Fulton; H. M. Maynard; G. South, New Bond Street, London; H. Yardley; E. T. Dew.

FANTAILS.—1, Miss J. Millward, Newton St. Loe, Bristol. 2, H. Yardley. *hc*, A. A. Vander Meersch, Tooting; H. M. Maynard; J. Walker, Newark; H. Yardley. *c*, G. H. Gregory; H. M. Maynard.

OWLS.—1, R. Fulton. 2, H. Yardley.

TURBITS.—1, R. Fulton. 2, G. Roper, Croydon. *hc*, O. E. Cresswell, Early Wood, Bagshot; A. A. Vander Meersch; H. Yardley.

CARRIERS.—1, R. Fulton. 2, H. Yardley. *hc*, F. Morgan, Newport.

TRUMPETERS.—1, R. Fulton. 2, H. Yardley.

NUNS.—1, J. Watts. 2, E. T. Dew.

DRAGOONS.—1 and 2, W. Bishop, Dorchester. *hc*, G. H. Gregory; H. Allsopp; G. South. *c*, Master H. Jacoba, Sandown, Isle of Wight.

ANTWERPS.—1, H. Yardley. 2, H. R. Wright, Birmingham.

ANY OTHER VARIETY.—1, W. Bishop. 2, S. A. Wyllie, East Monlsey. *hc*, H. Yardley (2).

SELLING CLASS.—1, H. M. Maynard. 2, J. D. Blackman. *c*, F. Pittis, jun. (Magpies).

CANARIES.

NORWICH.—*Clear Yellow.*—1, Adams & Athersnch. 2, T. Mann, Camberwell. 3, J. Mortimer, West Smithfield, London. *vhc*, W. Walter, Winchester; Enoch and Chater, Hillfield, Coventry (2); T. Mann; Adams & Athersnch. *hc*, W. Walter; E. W. Lulham, Brighton. *c*, C. & D. Carver, Landport. *Clear Buff.*—1 and 2, Enoch & Chater. 3 and *c*, W. Walter. *vhc*, E. W. Lulham; Moore and Wynne. *hc*, Moore & Wynne; J. Mortimer; Smith & Preen, Coventry.

NORWICH.—*Marked or Variegated Yellow.*—1, Adams & Athersnch, Spon End, Coventry. 2, W. Barwell & Golby. *vhc*, T. Willsher; J. Mortimer; T. Mann. *hc*, W. Walter. *c*, E. W. Lulham. *Marked or Variegated Buff.*—1 and 2, Adams and Athersnch. 3, T. Mann. *vhc*, W. Walter; Barwell & Golby; E. W. Lulham. *hc*, J. Mortimer. *c*, Moore & Wynne (2).

NORWICH.—*Any other Variety.*—1, E. W. Lulham. 2, J. Mortimer. *vhc*, W. Walter; W. Barwell & Golby; Moore & Wynne. *hc*, Moore & Wynne. *c*, W. Walter; Moore & Wynne; J. Mortimer.

BELGIAN.—*Clear Yellow.*—1, O. Nicholson. 2, T. Moore. *vhc*, E. W. Lulham; T. Moore. *hc*, C. & D. Carver. *c*, W. Walter; O. Nicholson. *Clear Buff.*—1 and 2, O. Nicholson, Landport. *vhc*, C. & D. Carver; E. W. Lulham; J. W. Savage, Guildford; S. Spinke, Chippenham. *hc*, W. Walter; W. Andrews, Landport (2). *c*, W. Walter.

BELGIAN.—*Any other Variety.*—1, O. Nicholson. 2, T. Moore. *vhc*, O. Nicholson (2). *c*, C. & D. Carver; O. Nicholson; W. Stringer, Rowden, Chippenham.

LIZARD.—*Golden-spangled.*—1 and 2, Smith & Preen. *vhc*, W. C. Selkirk, Dover; O. Nicholson; T. W. W. Fairbrass, St. Dunstan's, Canterbury (2). *hc*, O. Nicholson. *Silver-spangled.*—1, Rev. V. Ward, Hythe. 2, O. Nicholson. *vhc*, W. C. Selkirk; Smith & Preen. *hc*, O. Nicholson; Rev. V. Ward. *c*, T. W. W. Fairbrass (2).

ANY OTHER VARIETY.—1, O. Nicholson. 2, R. Veitch, Northam, Southampton. 3, T. Mann (London Fancy Jonque). *vhc*, O. Nicholson; R. Veitch. *hc*, W. Barwell & Golby.

MULES (Any other variety).—1 and 2, Enoch & Chater. 3, J. Baxter, Newcastle-on-Tyne. *hc*, Enoch & Chater (2); E. W. Lulham; T. Willsher, Chichester.

BRITISH BIRDS.

BULLFINCH.—1, T. Willsher. *vhc* and *hc*, O. Nicholson.

GOLDFINCH.—1, T. Willsher.

LINNET.—1, — Wadham, Southampton.

SKYLARK.—1, O. Nicholson. *vhc*, D. Amor; H. B. Higgs, Southampton.

WOODLARK.—1, H. Janaway. *vhc*, O. Nicholson.

BLACKBIRD.—1, D. C. Amor.

SONG THRUSH.—1 S. Samways.

ANY OTHER VARIETY.—1, J. T. Turner, Avon, Ringwood (Raven). 2, R. Besseant, Southampton (Magpie). 3, T. Willsher (Yellowhammers).

FOREIGN BIRDS.

COCKATOO.—1, G. W. Jones, Nantwich. *vhc*, W. Walter.

PARROTS.—1, J. S. Harrison. *vhc*, Miss L. Standish, South Stoneham, Southampton; A. Van Santen, Southampton. *hc*, H. B. Higgs.

LOVE BIRDS.—1, W. Walter.

ANY OTHER VARIETY.—1 and *vhc*, W. Walter (Madagascar and Cockateels). 2, E. S. C. Gibson (Horned Owl). 3, J. T. Turner (Gigantic Kingfisher or Laughing Jackass).

JUDGES.—*Poultry:* Mr. Edward Hewitt, Birmingham; Rev. G. F. Hodgson. *Pigeons:* Mr. F. Esquilant, London. *Cage Birds:* Mr. A. Willmore, London.

NEWCASTLE-UPON-TYNE PIGEON AND CAGE BIRD SHOW.

THE Newcastle-on-Tyne Ornithological Society held their annual Exhibition of Pigeons and Canaries on November 2nd and 3rd, in the Corn Exchange, which is one of the finest buildings in the kingdom for the purpose, being very spacious and thoroughly lighted. The Show was highly successful, thanks to the good management of the Hon. Secs., Messrs. W. R. and H. O. Blenkinsop. The entries of Pigeons numbered 421 pens. We shall merely notice a few of the most striking pens, referring to the prize list for other particulars.

The *Carrier* classes contained some excellent birds, but were hardly up to last year's standard. Messrs. Stretch, Fulton, Waddington, and Massey exhibited the best birds.

The *Pouter* classes were well filled. The White cock from Mr. Skinner McGill stood first in his class, and but for being very dirty would probably have taken the principal special prize as well. Messrs. Fulton and Van Haansbergen showed good Blacks, which will make their mark in a better classification. Blacks had to compete with Blues, which was a great drawback, and we hope the Society will afford separate classes for each colour next year.

Short-faced *Almonds* comprised the best lot we have seen for a long time, every pen containing either one or two first-class birds, and the whole deservedly received high commendation. One pair were sold for £15, and these were not the prize birds. Several of the best birds were moulting, otherwise the awards might have been different.

Short-faced *Balds* or *Beards* were a wretchedly poor class as far as head and beak were concerned.

Amongst the *Tumblers* of any other variety were some very well-marked Mottles, which were the winners. Messrs. Blenkinsop's Kites were also very fine.

In *Barbs* the only pens worth notice were Mr. Fulton's pair of Reds and one pair of Blacks, and Mr. Van Haansbergen's two pens of Blacks. All these were superb, and, we doubt not, will be heard of again at the forthcoming shows.

Jacobins were a magnificent class. The first-prize Yellows well deserved their position. The second-prize pen of Reds were very good, but hard-pressed by several of the other competitors. We think Jacobins entitled to three classes. The class for Red or Yellow contained twenty-one pens, and the Any other colour class ten entries, thus paying better than any except the Sale and Turbit classes. In the other class for Jacobins of any other colour, Mr. Van Haansbergen swept the board, his two pairs of Whites being exquisite, and in our opinion equal to anything in the Jacobin classes.

White *Fantails* were a good class, Mr. Loversidge's pen *facile princeps*, and claimed at £10. We have seldom seen better, and of course they took the cup. Blue Fantails were all good. No other colour was shown.

In *Trumpeters* (Mottled), the first, second, and special prizes were excellent birds. In Any other colour excellent Whites were first. We thought Mr. Jones's highly commended pair equal to the second-prize pair. Several other good pens were shown.

Turbits numbered thirty-seven entries. Several good Shell-crested birds were shown, and we consider that the Society should allow one class to shell-crowned and two to point-headed birds. The first-prize Blues were sold for £4.

Magpies were good and plentiful.

Nuns were a good class, and not so much trimmed as formerly. The winning Yellows were very fine.

Some very pretty pens of foreign *Owls* were shown, both Whites and Blues. English Owls were a mixed lot. Many of the pens were passed on account of too close alliance to the foreigners. The first-prize Whites were excellent-headed birds, though we must say that colour does not please us in English Owls, the pretty Blues and Powder Blues being more to our liking.

Dragoons were very good. A pen of rather heavy Reds were very rich. Several pens of fine Yellows were also shown.

Common *Tumbler* classes contained very good Balds and Beards of all colours. A pair of Red Mottles were exceptionally fine. Some good Almonds were shown, but were not well matched.

The *Variety* class contained remarkably pretty birds.

The two Selling classes contained some birds which would have

stood well in the other classes. There was quite a rush to claim the prize pens; so great, indeed, that the Secretary had to take down the names of all the applicants and draw lots for each pen. For the winners in each class there were twenty-nine applicants. Several other pens were claimed.

CARRIER.—*Black.—Cock.*—1 and Cup, E. C. Stretch, Ormskirk. 2, R. Fulton, Deptford. *hc*, T. Waddington, Feniscowles, Blackburn. *hc*, R. Fulton. *Hen.* 1 and 2, R. Fulton. *hc*, T. Waddington. *Dun.—Cock.*—1 and Extra, R. Fulton. *Hen.*—1 and 2, R. Fulton.

POUTERS.—*Blue or Black.—Cock.*—1, 2, and Cup, R. Fulton. *hc*, W. B. Van Haansbergen, Newcastle-on-Tyne; T. Rule, Durham. *c*, Skinner McGill, Edinburgh; W. Rutherford, Edinburgh. *Hen.*—1 and 2, R. Fulton. *hc*, W. B. Van Haansbergen. *c*, R. Harrison, Darlington. *Red or Yellow.—Cock.*—1 and 2, R. Fulton. *hc*, F. Gresham, Sheffield *Hen.*—1 and 2, R. Fulton, *hc*, T. Waddington. *White.*—Cock.—1 and Extra, Skinner McGill. 2, R. Fulton. *hc*, W. Rutherford. *Hen.*—1, R. Fulton. 2, W. Moon, Edinburgh.

TUMBLERS.—(*Almond*).—*Short-faced.*—1 and Cup, R. Fulton. 2, J. Fielding, jun., Rochdale. (Whole Class Highly Commended). *Short-faced.*—1, J. W. Edge, Birmingham. 2, J. Fielding, jun. *Any other colour.*—1, J. Fielding, jun. 2, R. Fulton. *Common.*—1, J. G. Dunn. 2, R. Laws, St. Lawrence, Newcastle.

BARBS.—*Black.*—1, R. Fulton. 2 and *hc*, W. B. Van Haansbergen. *Any other Colour.*—1 and 2, R. Fulton. *hc*, W. Massey, Spalding.

OWLS.—*Forcign.*—1, J. Fielding, jun., 2, T. Waddington. *hc*, R. W. Richardson, Beverley; W. R. and H. O. Bleukinsop, Newcastle-on-Tyne. *English.*—1 and Cup, J. W. Edge. 2, J. Chadwick, Bolton. *hc*, A. Ashton, Middleton, Manchester; J. Chadwick; T. Waddington.

JACOBINS.—*Red or Yellow.*—1, J. Thompson, Bingley. 2, T. Rule. *hc*, R. Fulton (2); W. Massey; W. B. Van Haansbergen. *Any other Colour.*—1 and 2, W. B. Van Haansbergen. *hc*, J. Thompson; W. B. Van Haansbergen.

FANTAILS.—*White.*—1, Cup, and *hc*, J. F. Loversidge, Newark. 2, J. Walker, Newark. *Any other Colour.*—1, W. B. Van Haansbergen. 2, H. Yardley, Birmingham. *hc*, J. Chadwick; J. W. Edge.

TRUMPETERS.—*Mottled.*—1, 2, and Medal, W. B. Van Haansbergen. *hc*, T. Waddington. *Any other Colour.*—1, W. H. C. Oates, Besthorpe, Newark. 2, W. B. Van Haansbergen. *hc*, P. H. Jones.

TURBITS.—*Red or Yellow.*—1, T. Waddington. 2, G. Fletcher, Acomb Landing, York. *hc*, W. E. Easten, Hull; G. Fletcher; W. Roberts. *Blue.*—, R. Youll, East Bolden, Sunderland. 2, W. B. Van Haansbergen. *hc*, J. G. Dunn, Newcastle-on-Tyne; R Fulton; A. Brown, Durham.

MAGPIES.—1, R. Harrison, Darlington. 2, J. B. Bowden. *hc*, G. and W. Smith, Durham; P. H. Jones, Fulham.

NUNS.—1, W. B. Van Haansbergen. 2, R. W. Richardson, *hc*, W. E. Easten; T. C. Benson; J. B. Bowden; W. B. Van Haansbergen.

DRAGOONS.—1 and Cup, J. Holland, Manchester. 2, T. Waddington. *hc*, R. Fulton; F. Challoner, Benwell Grange, Newcastle; J. Holland, Manchester; T. Waddington.

ANTWERPS.—1, J. W. Collinson, Ward's Hall, Halifax. 2 and *hc*, J. Stanley, Salford.

BALDS OR BEARDS.—1, J. Percival, Peckham. 2, J. Miller, Newcastle-on-Tyne. *hc*, A. J. Sticks, Newcastle-on-Tyne; A. Jackson, Bolton. *Any other Colour.*—1, C. Anton, jun., York. 2, E. C. Stretch.

ANY OTHER VARIETY.—1, A. Crosbie, Melrose (Letz). 2, T. Waddington. *hc*, M. Ord, Ferryhill, Durham (Satinettes); T. Waddington; W. Lumb, Rochdale; R. Harrison.

SELLING CLASS.—*Pairs not to exceed* £2.—1, J. G. Orr, Beith, Ayrshire. 2, J. H. Watkins, Byford, Hereford. 3, M. Ord. *hc*, J. G. Orr; R. & J. Anderson, Newcastle-on-Tyne; W. H. C. Oates, Besthorp, Newark; T. Rule. *Pairs not to exceed* £1.—1, J. G. Orr. 2, A. Crosbie. 3, W. Bearpark.

CANARIES.

BELGIANS.—*Clear Yellow.*—1 and 2, J. Rutter, Sunderland. *Clear Buff.*—1 and Medal, J. Baxter, Newcastle. 2, J. Rutter. *Ticked or Variegated.*—1 and 2, J. Rutter. *Dun, or Dun Marked.*—1, W. Pearson. 2, J. Logan, New Backworth.

NORWICH.—*Clear Yellow.*—1, J. Cleminson, Darlington. 2, W. Watson, jun., Darlington. *Clear Buff.*—1, W. Watson, jun. 2 and *hc*, J. Cleminson. *c*, R. E. Triffitt, York. *Marked or Variegated.*—1, R. Hawman. 2, J. Baxter. *hc*, E. Mills, Sunderland. *c*, J. Robson, Gateshead. *Crested Yellow or Yellow Marked.*—1 and Medal, T. Irons, Northampton. 2, J. Cleminson. *hc*, T. Allenby, Durham. *Crested Buff or Buff Marked.*—1, J. Rutter, Sunderland. 2, J. Hurnell. *hc*, S. Tomes, Northampton. *c*, R. E. Triffitt; W. Watson, jun.

GLASGOW DONS.—*Clear Yellow.*—1, W. Clark, Newcastle-on-Tyne. 2, J. Kearr, New Backworth. *hc*, J. Soulsby, Chester-le-Street. *Buff.*—1 and Medal, J. Kearr. 2, W. Bone. *hc*, C. Lugton; J. Baxter. *Marked or Variegated.*—, J. Baxter. 2 and *hc*, J. Kearr.

LIZARDS.—*Golden-spangled.*—1, J. N. Harrison. 2, and *hc*, R. Ritchie, Darlington. *c*, R. Hawman, Middlesbrough-on-Tees. *Silver-spangled.*—1 and *hc*, R. Ritchie. 2, J. N. Harrison.

GOLDFINCH MULES.—*Yellow.*—1, J. Baxter. 2, J. Stevens, Middlesbrough. *hc*, S. Perkins, Gateshead. *Buff.*—1, 2, and Medal, J. Baxter, Newcastle-on-Tyne. *hc*, J. Spence, Hendon, Sunderland. *c*, E. Stansfield. *Dark.*—1, E. Stansfield. 2, T. Tennishood, North Acklam, Middlesbrough. *hc*, J. T. Harrison, Darlington. *c*, S. Tomes, Northampton; J. Stevens (2); T. Oxnet.

LINNET MULES.—1, J. Stevens. 2, J. Spence. *hc*, W. & C. Burniston, Middlesbrough; J. Stevens.

MULES (Any other variety).—1, E. Stansfield, Bradford. 2 and *hc*, J. Baxter.

CINNAMON.—*Jongue.*—1, S. Tomes. 2, E. Mills, Sunderland. *hc*, J. N. Harrison, Belper. *Buff.*—1, S. Tomes. 2, E. Mills. *c*, J. N. Harrison. *Marked or Variegated.*—1 and Medal, J. Spence. 2, R. Hawman. *hc*, J. Stevens.

GREEN.—1, J. King, Newcastle. 2, J. Stevens. *hc*, W. Pearson; J. Baxter.

ANY OTHER VARIETY.—1, W. & C. Burniston, Middlesbrough. 2, E. Stansfield. *hc*, J. Robson.

GOLDFINCH.—1, J. N. Harrison. 2, J. Baxter. *hc*, J. Stevens.

BROWN LINNET.—1, J. Baxter. 2, J. Wilson, Darlington. *hc*, W. & C. Barniston.

FOREIGN BIRDS.—1, J. Lamb, Newcastle-on-Tyne. 2, A. B. Brown, Newcastle-on-Tyne.

JUDGES.—*Pigeons:* Mr. T. J. Charlton, Bradford, and Mr. T. H. Ridpeth, Handforth. *Canaries:* Mr. T. Lowrey, Gateshead, and Mr. W. Robinson, Backworth.

SOUTH OF IRELAND POULTRY SHOW.—Our readers will see in an advertisement particulars of this, the "Cork" Show, the first established in Ireland. The prizes are good, and there are ten cups and medals in addition.

CRYSTAL PALACE POULTRY AND PIGEON SHOW.—We are glad to learn that there is a considerable increase in the number of entries this year. The poultry entries now reach 1463, being an increase of 224 over those of the last Show. The Pigeon entries number 894. No doubt there would have been many more entries had the Exhibition been held later in the season, when the old birds had recovered from their moult.

NATIONAL PERISTERONIC SOCIETY.

THE usual fortnightly meeting of the above Society was held at the Freemason's Tavern, on Tuesday, the 7th inst., and was attended by a large number of members and visitors. Some very good birds were shown, including remarkably fine Carriers by Mr. Ord and Mr. Feltham; a very pretty pen of Turbits by Messrs. South and Jones; Yellow Dragoons by Mr. Betty, which fully sustained that gentleman's reputation; and various other good and promising birds, old and young. The Society is in a very flourishing state; and for the convenience of members and friends visiting the Crystal Palace Show, it was resolved to have a special extra meeting on Tuesday, November 14th, at 8 P.M., when important and interesting matter will be introduced.

OUR LETTER BOX.

ROSS POULTRY SHOW.—Mr. F. Crotts informs us that he obtained the second prize for Bantams.

INQUIRY.—Mr. Alexander Johnston, Bathgate, N.B., has parted with Pigeons, value seven guineas, to Mr. R. T. Williamson, Wallasey, near Birkenhead, and as he can obtain no reply from him, he wishes to ascertain if any of our readers know anything of him.

DARK BRAHMAS (*C. McHardy*).—No one without seeing the birds could justly say to which pen the prize should have been awarded.

STANDARD (*W. G.*).—No authority. The time of opening the Crystal Palace Show is not yet advertised.

FOWLS TRESPASSING (*E. G.*).—You have no remedy but seeing the owner in the County Court. We recently saw that "*spring* chickens are those which will get over from their own side of a fence." We must quote on this subject from a very amusing book, "My Summer in a Garden:"—"I like neighbours, and I like chickens; but I do not think they ought to be united near a garden. Neighbours' hens in your garden are an annoyance. Even if they did not scratch up the corn, and peck the strawberries, and eat the tomatoes, it is not pleasant to see them straddling about in their jerkey, high-stepping, speculative manner, picking inquisitively here and there. It is of no use to tell the neighbour that his hens eat your tomatoes: it makes no impression on him, for the tomatoes are not his. The best way is to casually remark to him that he has a fine lot of chickens, pretty well grown, and that you like spring chickens broiled. He will take them away at once."

GAME COCK'S SPURS EXCESSIVE (*Digitalis*).—You may safely cut off the spurs of the bird, provided you do not cut to the quick and draw blood. It is injurious to do so. You cannot be mistaken about the Game cocks—a Black must have a black breast, a Brown has a brown breast. The hen of a Brown Red is nearly black, and has a bright golden hackle. The hen of the Black Red is brown with a yellow hackle. The snake head, as it is called, is the triumph of dubbing; everything in the way of flesh is removed, leaving only the skull and face covered with the red skin. The bird has no forehead, and the skull is level with the beak.

SILVER-SPANGLED HAMBURGH COCK (*J. P. F.*).—We gave these points only a few weeks back. They must have firmly-set combs, straight on the head, piked behind and turning upwards, full of points, rather large than small, but not overhanging the nostrils. Both sexes should have taper blue legs and a spangled breast. The wings should be barred and laced, the tails clear, with a distinct moon at the end of each feather. The hen must have a dark hackle, and her plumage should be accurately but plentifully spangled. There should be no mossing or indistinctness.

EXHIBITION GRIEVANCES.—"If '*E. S. J.*' were to change places with a secretary to a poultry exhibition only once, he would then understand the vast amount of anxiety, thought, and labour a secretary must go through before a show is brought to a close. He would never after be jealous if a secretary had the honour of taking a prize, or wish to exclude him, his son, or daughter from exhibiting.—HON. SEC."

POULTRY FEEDING (*P.*).—In very severe weather you may give your fowls some bread and ale, but they are not necessary under ordinary circumstances. When the ground is frozen as hard as a rock, and scratch is impossible, give them a little; when the surface of the earth is hidden by snow do the same. At other times good ground oats and whole barley are enough for them. (*Owl.*)—Always barley will not do. Vary it with some maize at midday. We do not much admire sharps. Give them the crumbs and cloth sweepings from the luncheon-table, also the kitchen scraps. The contents of the wash-tub will often mix well with barley-meal, and make good food for fowls. These are changes, and they are necessary. Fowls will starve to death on the best barley or any other food if they are confined to it.

WEIGHT OF LIGHT BRAHMAS AND COCHINS—DORKINGS (*E. S. P.*).—Your Brahmas and Cochins are not flagrantly wrong in anything. Their weight is good, but they should now begin to put it on faster. The description you give of your Dorkings is that of good Silver-Greys. They seem right in all particulars but one. It is a sad fault for the spur to be outside. It is a sign of bad constitution if these birds get long-legged; or of doubtful merit where the claws are badly developed. The leading characteristics of a breed should be strikingly carried out in every member of the family.

CRÊVE-CŒURS (*E. J. P.*)—You can get a Crêve-Cœur cock of any of the London dealers. Most of them keep them. Baily, in Mount Street, imports them largely.

EGGS MUSTY-TASTED (*J. R. W.*).—We frequently have such complaints as yours at this time of year, and especially where the birds run in shrubberies and pick up berries or search under leaves, and eat something that pervades the whole body. Nothing acquires taste more easily than an egg, and a fowl fed on garlic or shallot will impart the flavour of either to her eggs. It is difficult to advise you because you do not know

which are the offending birds, but we can give you comfort—it is only just now the eggs will have that taste. If you know the hen, then about two doses of castor oil, each about a table-spoonful, given at twenty-four hours' interval, will cure it.

Turkeys' Livers Disordered (*F. P.*).—The complaint is a disordered liver, the cure is not so easily given. Change of food, castor oil, and Baily's pills will do most good. Give no potato, no Indian corn. Put camphor, or wormwood, or both in the water they have to drink, and see that they roost in a place sheltered from the wind.

Duck's Legs Paralysed—Turkey Feeding (*R. C.*).—We fear your Duck is in bad case. The paralysis arises from internal disease or external injury. In either case we believe it to be incurable. It will be a kindness to kill it, as it will certainly die a lingering and painful death. Ducks are hardly more amenable to medical treatment than boas or cobras. We know a very intelligent man who fancied calomel was the right thing for poultry, and commenced his experiment on a Duck and a hen. He had a little leaning to homœopathy, and began with the smallest possible doses. He gradually increased the dose till the Duck took three table-spoonfuls, and the hen pecked it as fast as she could, and our experimentalist could not see any effect. Turkeys do well on ground oats, with a small quantity of beans and peas ground with them, and mixed with milk. They should be shut in a small place where they can roost comfortably, and should have their food in a trough, but only as much as they will eat at a meal. It should be fresh mixed morning and evening The very heaviest London Turkeys are crammed, but that is not necessary for ordinary purposes.

Removing a Tumour (*G. R. B.*).—You should have removed the tumour before it became so large as it is. It must be taken off at once. It will be a trifling operation if the tumour is not attached to the breastbone—so trifling, that when you open the skin the tumour will probably fall out. If it is attached to the bone it must be cut off with a very sharp knife or pair of scissors. There are two skins which will require to be sewn up separately, and each suture should be well rubbed over with grease. The bird will suffer very little. Your feeding is bad without being cheap. Light wheat is expensive food. Weight for weight, that which costs more costs less. Indian corn is a favourite food with fowls when whole; they will not eat it ground if they can help it. Boiled potatoes and boiled rice are worse. Hempseed is not good, being too heating. Feed on ground oats, whole Indian corn, and table scraps. We have no doubt the tumour or excrescence arises from weakness and insufficient food. It is possible that with feeding such as we prescribe he might weigh less, but he would look and show more. He would be as the trained 10-stone man is compared to the heavy, sleepy, spiritless man, who from sheer fat weighs 4 or 5 stone more. We know no one who can perform the operation for you.

Hastening a Pigeon's Moulting (*E. J. K.*).—Put your bird by itself in a clean pen in a warm place—for instance, a harness-room, or any south-fronted, warm, and dry building, and if it be cold, where there is a fire. Feed it on wheat and hempseed mixed. After this treatment be very careful that you send it to the show in a doubly-warm basket, one having canves or other material inside the wicker, or it would be sure to get cold.

Stocking Bar Hives (*Barton Joyce*).—The usual method adopted in shaking a swarm into bar or frame hives, is to hive the swarm first into a common straw hive. As soon as the bees are properly settled, or in the evening of the same day, they are knocked out on a cloth and the box set over them resting on two sticks. A better way is to remove the top board; see that the frames are all in place, and the bees furnished with bits of worker-comb for guide, then take the straw hive contsining the bees, and with a sharp concussion between the two hands dislodge the cluster so as to cause the bees to fall on the very top of the bars, repeating the blows until all are fallen. Some of the bees will pour out over the sides of the box, and many will go down between the bars at once. With a small sheet of zinc, or a spoon, shovel those bees that cluster out over the back on the top of the bars, and when the majority have gone down take the cover, and placing it on the extreme edge of the back of the hive, gradually press it on over the top, keeping it flat on the box. Those bees that are left outside will soon find their way in at the entrance. This is all best done as soon as the swarm has settled in the straw hive.

Saddle or Berkshire Hive.—"Can any of our readers give the weight of an empty saddle or Berkshire hive—that is, of the store-box minus the super?—J. H."

Feeding Bees (*Idem*).—If your hive is still so empty of honey, after all your feeding, that you cannot see any honey sealed-up or glistening in the open cells, you will have to feed probably all through the winter. But we would advise you to lose no time, and feed diligently every day that the weather is fine and still, and the bees abroad. Stop feeding when the weather is cold, and resume again on the return of mild open weather. Sugar-candy has been found a good food for bees, but it is usually made of loaf-sugar. We have no experience of the brown. We should thrust it in at the entrance rather than in the supers, taking care that it goes right into the hive below the combs.

Syrup for Bees and Barley Sugar (*E. S. H.*).—The syrup is best made of three parts of sugar to two parts of water by weight. Boil a few minutes; when cool it should be of the consistency of thin but not watery honey. Should it have been boiled too long and become too thick, a little water can be added to thin it. Recipe for barley sugar as food for bees:—Add to 3 lbs. of refined sugar a pint and a quarter of water, boil it quickly till it becomes very thick. Pour it on to a marble slab, or on to shallow dish slightly oiled or rubbed with butter; and when it begins to harden at the edges form it into sticks, lozenges, or balls, or any other shapes at pleasure.

Mange (*Blackpool*).—There are many varieties of skin disease to which dogs are liable. If it is that caused by an insect, then, as described by Mr. Meyrick, "the hair comes off in large patches, principally on the back and neck and round the eyes; in some cases the dog becomes almost bare. The skin is dry, hot, wrinkled, and scaly. The appetite generally continues good, but there is a great deal of thirst and some fever. The dog is continually scratching himself, and rubbing against the furniture if he is kept in the house. The old-fashioned sulphur treatment, if properly followed, is generally specific. Give small doses of sulphur (five grains) three times a-day, and rub into the skin equal parts of lard and sulphur. This operation should be performed before a fire to make the ointment flow, and the whole skin should be thoroughly saturated. Four or five applications, at intervals of three days, are usually enough to cure the disease. The skin should be well washed each time before the ointment is applied. In a very severe case the dog may be bled, and the ointment of iodide of mercury rubbed in, the dog's bowels being kept open, if necessary, with castor oil."

Grape Wine (*J. M. R.*).—We do not think it will ferment excessively if undisturbed and if you did not put yeast into the must. A little brandy added checks fermentation. We will give further information next week

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Nov.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	In.
We. 1	29.963	47.6	45.1	E.S.E.	49.5	52.5	46.3	67.8	45.1 —
Th. 2	30.117	45 6	42.6	N.	49.2	49.7	44.2	60.0	42.4 —
Fri. 3	30.102	46.2	42 4	N.E.	48.6	49.6	41.8	66.2	37.4 0.010
Sat. 4	30.067	44.8	44.0	N.	48.7	48.1	40.9	69.7	40.5 0.010
Sun. 5	30.141	41.0	37.5	E.	47.2	45.2	34.8	78.8	31.6 —
Mo. 6	29.907	37.3	34.2	E.	45.6	43.6	31.4	52.0	28.8 —
Tu. 7	29.627	41.7	40.4	N.E.	44.8	48.0	36.0	50.2	34.1 0.031
Means	29.989	43.4	40.9		47.7	48.1	39.5	65.5	37.1 0.050

REMARKS.

1st —A very lovely autumn day, clear and bright throughout.
2nd.—A cloudy but dry day.
3rd.—A very bright morning, cloudy at noon and so continued, but fair and pleasant.
4th.—Alternate sunshine and cloud with a little rain, but on the whole a pleasant day.
5th.—Very fine day though cold and wintry; stars bright at night.
6th.—Strong white frost; fine morning, but rather hazy after.
7th.—Foggy all day and occasionally dark, but clearer in the evening.

A dull November week with easterly wind, but damp atmosphere and falling barometer. Slight frost in the air only on one day, Monday the 6th. —G. J. Symons.

COVENT GARDEN MARKET.—November 8

Notwithstanding the fine weather of the past week, we are not able to report so firm a market. In rough produce trade has been heavy the last few days, and a considerable quantity has gone over from day to day. Importations have also been large. Good dessert Apples are scarce; Pears are sufficient for the trade, comprising Marie Louise, Glou Morçeau, Van Mons Léon Leclerc, Beurré Diel, and others. Dealers in Potatoes report that crops are heavy, and that a large proportion of them is, in some districts, affected with the blight.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	to 4	0	Mulberries lb.	0	0	to 0	0
Apricots doz.	0	0	0	0	Nectarines doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges ₱100	6	0	12	0
Chestnuts bushel	10	0	20	0	Peaches doz.	6	0	12	0
Currants ½ sieve	0	0	0	0	Pears, kitchen doz.	2	0	0	0
Black do.	0	0	0	0	dessert doz.	2	0	4	0
Figs doz.	0	0	0	0	Pine Apples lb.	3	0	8	0
Filberts lb.	0	6	1	0	Plums ½ sieve	6	0	8	0
Cobs lb.	0	6	1	0	Raspberries lb.	0	0	0	0
Grapes, Hothouse lb.	2	0	6	0	Strawberries lb.	0	0	0	0
Gooseberries quart	0	0	0	0	Quinces doz.	1	0	2	0
Lemons ₱100	8	0	12	0	Walnuts bushel	10	0	25	0
Melons each	2	0	6	0	ditto ₱100	1	0	3	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	0	4	to 0	6	Leeks bunch	0	3	to 0	6
Asparagus ₱100.	0	0	0	0	Lettuce doz.	0	8	1	0
Beans, Kidney ½ sieve	0	0	0	0	Mushrooms pottle	1	0	2	0
Broad bushel	0	0	0	0	Mustard & Cress punnet	0	2	0	3
Beet, Red doz.	2	0	3	0	Onions bushel	2	0	4	0
Broccoli bundle	0	6	1	0	pickling quart	0	6	0	8
Brussels Sprouts ½ sieve	2	0	3	0	Parsley sieve	3	0	4	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	9	1	0
Capsicums ₱100	1	6	2	0	Peas quart	0	0	0	0
Carrots bunch	0	6	0	0	Potatoes bushel	1	6	3	0
Cauliflower doz.	3	0	6	0	Kidney do.	3	0	5	0
Celery bundle	1	6	2	0	Radishes doz. bunches	0	6	1	0
Coleworts doz. bunches	2	0	4	0	Rhubarb bundle	0	0	0	0
Cucumbers each	0	6	1	0	Savoys doz.	1	0	1	0
pickling doz.	2	0	3	0	Sea-kale basket	3	6	5	0
Endive doz.	2	0	0	0	Shallots lb.	0	3	0	0
Fennel bunch	0	3	0	0	Spinach bushel	2	0	3	0
Garlic lb.	0	3	0	0	Tomatoes doz.	2	0	0	0
Herbs bunch	0	3	0	0	Turnips bunch	0	3	0	0
Horseradish bundle	3	0	4	0	Vegetable Marrows doz.	0	0	0	0

POULTRY MARKET.—November 8.

We are tolerably well supplied. We have not a great demand, nor is there any glut. The prices are quite equal to those usually made at this time of year.

	s.	d.	s.	d.		s.	d.	s.	d.
Large Fowls	3	6	to 4	0	Pigeons	0	8	to 0	9
Smaller ditto	2	6	3	0	Rabbits	1	6	1	6
Chickens	1	9	2	0	Wild ditto	0	9	0	10
Geese	6	0	6	6	Hares	3	0	3	6
Ducks	1	6	2	0	Partridges	1	0	2	0
Pheasants	2	6	3	6	Grouse	1	9	2	

WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 16—22, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
16	Th	Twilight ends 6h. 6m. P.M.	48.9	33.2	41.0	14	21 af 7	10 af 4	55af11	28af 7	4	15 7	320
17	F		48.1	33.9	41.0	19	23 7	9 4	after.	43 8	5	14 55	321
18	S		47.9	32.9	40.4	20	25 7	8 4	23 1	2 10	6	14 43	322
19	Sun	24 Sunday after Trinity.	48.9	33.5	41.2	17	27 7	7 4	49 1	21 11	)	14 30	323
20	M		48.7	34.6	41.7	14	28 7	6 4	12 2	morn.	8	14 16	324
21	Tu	Crown Princess of Germany Born.	49.6	36.2	42.9	26	30 7	4 4	29 2	39 0	9	14 1	325
22	W		49.2	34.7	41.9	22	31 7	3 4	45 2	55 1	10	13 46	326

From observations taken near London during forty-three years, the average day emperature of the week is 58 8°, and its night temperature 41.4°. The greatest heat was 81°, on the 20th, 1866; and the loweet cold 18°, on the 19th, 1868. The greatest fall of rain was 0.80 inch.

SUCCESSIONS OF VEGETABLES.—No. 3.

HAVING been informed that my papers on Peas for succession were acceptable to a large number of the readers of this Journal, I have come to the conclusion that to make similar remarks on all the remaining kitchen garden crops would be serviceable. With this in view, I purpose to go through the whole list of vegetables, and Peas having headed the list, I will next turn my attention to Beans.

BROAD BEANS.

Early Mazagan.—Height 2½ feet. The hardiest and earliest. Sow November 5th to 10th, December 10th, and February 15th. All theee sowinge should he made on a warm border, one with a south aspect if possible, and in light soil. Draw the soil to the plants when they are fairly above ground. Sow also March 10th.

Early Longpod.—Height 3 feet. Larger and more productive than the preceding, but not so hardy, nor so early. Sow February 15th and March 10th.

Mackie's Monarch Longpod.—Height 3 feet. Fine both as regards prodnctiveness and quality. Sow March 10th and 25th, April 10th and 25th, May 10th and 25th, June 10th and 25th, and July 5th.

Broad Windsor.—Height 3 feet. Beans large, of good flavour. Productive. Sow March 10th and 25th, April 10th and 25th, May 10th and 25th, June 10th and 25th, and July 5th.

Green Longpod, or Genoa.—Height 3 feet. Productive, and said to be valued for its green colonr when cooked, but I have not known any great demand for these green Beans. Sow March 10th and 25th, April 10th and 25th, May 10th and 25th, June 10th and 25th.

Green Windsor.—Height 3 feet. Large and green. Sow March 10th and 25th, April 10th and 25th, May 10th and 25th, June 10th and 25th.

Here we have forty sowings of six varieties, sufficient seeding for a garden of four acres, a pint of each being sown at a time, except the first sowing of the kinds named for late autumn and first spring sowings, which should be quart sowings. For a garden of about two acres the first four kinds are recommended, the first sowings up to and inclusive of the first March sowing being of a quart each; afterwards sow pints. If green Beans are wanted, then one of those named may be sown instead of Monarch or Windsor, only the green sorts are not nearly so good. For a garden of three-quarters of an acre to an acre take the first-named three, and if a green one be required, sow the Green Longpod occasionally along with Monarch, sowing half the quantity of the latter variety.

For the first sowings light and moderately rich soil is most suitable, but for the March sowings and afterwards a good, rich, strong loam is best. The rows should be 2 feet apart, and the plants earthed-up when about 2 inches high. Cut off the tops just level with the bloom on the stems, for it ceases to be produced at a considerable distance from the top, and for the early crops cut over after a foot of flower-stem is secured.

Broad Beans north of the Hnmber come into use about the middle of June and continue until November.

For small gardens, or wherever space is a consideration, it may be advisable to sow the dwarf kinds.

Beck's Gem.—Height 1 foot. Dwarf and prolific. It is early, but not so early as the Mazagan, of which a few should be sown November 10th; it is the hardiest. Sow March 5th and 20th, April 5th and 20th, May 5th and 20th, June 5th and 20th.

Royal Dwarf.—Productive and dwarf. 1 foot. Sow November 10th, February 15th, March 5th and 20th, April 5th and 20th, May 5th and 20th, June 5th and 20th.

These may be sown in rows 1 foot apart, and a pint of one of the kinds sown at the times named will be sufficient for a garden of half an acre; I consider Beck's Gem the best, but half a pint of each may be sown. For a garden of one-eighth of an acre, half a pint of one of the kinds, sown at the times stated, will be ample. In the case of dwarf Beans, as in that of dwarf Peas, more seed is required than of the larger kinds. A quart of Beans will sow a row of 75 feet, or 25 yards.

DWARF KIDNEY BEANS.

Sir Joseph Paxton.—This is evidently an improved Early Forcing, Sion House, or Six Weeks, and with me best of all for early crops, whether forced or in the open ground. Height 1 foot to 15 inches. Sow April 15th on a warm border, May 1st and 15th, June 1st and 15th, and July 1st and 15th in a sheltered situation.

Dark Dun, or Liver-coloured.—1 foot 6 inches to 2 feet. Very prolific. Sow May 1st and 20th, June 10th and 25th, and July 10th, in a sheltered situation.

Negro Longpodded.—1½ to 2 feet. Very prolific. Sow May 1st and 20th, June 10th and 25th, and July 10th in a sheltered situation.

Half a pint of each sown at the times named is sufficient for a garden of two acres; whilst for one of an acre let the first two sowings and last be of Sir Joseph Paxton and Negro as specified, omitting Dark Dun. For half an acre let the first and last sowing be of Sir Joseph Paxton, and every alternate one of Negro, but also including the first.

The first and last sowings cannot have too warm a situation. Light soil is best for these; but rich deep loam is best for the successional sowings. The rows may be 2 feet apart, and the plants should be earthed-up when about 2 inches high. In dry weather they cannot have too much water, and liquid manure may be given between the rows; but the pods must be always gathered as they become fit for use. Half a pint of Kidney Beans will sow a row 25 yards long.

Dwarf Kidney Beans are in season from the early part of July to October or November, according to the time at which frost occurs.

TALL OR RUNNING KIDNEY BEANS.

Scarlet.—Very prolific, the best for general crop. Sow May 1st to 10th, and June 1st.

Carter's Champion.—A strong-growing variety of the Scarlet Runner, with much finer pods, very prolific. Sow May 1st and June 1st.

The Runner Beans succeed best in rich, deep, light soil, and should be sown in rows 6 feet apart, and the seeds about 4 inches apart. Good stakes should be driven into the ground at a foot apart, and so as to be not less than 6 feet above ground. To encourage early produce it is well to top the shoots at 1 foot, otherwise I do not advise stopping. Water abundantly in dry weather after the plants have come into flower, and liquid manure may advantageously be given once a-week.

One quart of each sort is sufficient for a garden of two acres, and half that quantity for one acre. Scarlet Runners

are in season from the early part of July until destroyed by frost.—G. Abbey.

SELECT ROSES.

One of our first Rose amateurs—not a grower for exhibition only, although the winner of many prizes—has asked me to send to the Journal a list of the best twelve Roses. I cannot but comply with this request. The task, however, would have been easier had the number been less restricted, or had the request been accompanied by a more distinct intimation as to the point of view from which the flower is regarded. It is well known that the best show Roses are not always the best for the garden or for purposes of general decoration, and the best for garden or house decoration are not always the best for exhibition. The grower who enjoys his Roses on the tree or when cut and placed evenly in vases, would not attain his end in the most complete manner by choosing the best show Roses. I shall therefore give my opinion of a separate dozen first-class flowers from each point of view; and as the growers for garden or house decoration are more numerous than the growers for exhibition, that list would seem fairly to claim the precedence.

Twelve First-class Roses for Garden or House Decoration.

Duke of Edinburgh.—Fine in colour.
Elizabeth Vigueron.—Blooms abundantly late.
Jules Margottin.—Very floriferous.
La France.—Free, fine, and very sweet.
Mdlle. Eugénie Verdier.—Fine, but sometimes rough.
Madame Alfred de Rougemont.—Good white.
Madame Victor Verdier.—Always good.
Monsieur Noman.—Good and distinct.
Princess Christian.—Very floriferous and fine.
Madame Falcot.—Free and fine.
Countess of Oxford.—Loses shape; a little early.
Gloire de Dijon.

Twelve First-class Roses for Exhibition.

Alfred Colomb.
Madame la Baronne de Rothschild.
Madame Vidot.—Uncertain, but often the best white Rose.
Marie Baumann.
Perfection de Lyon.—Uncertain, but grand when managed.
Charles Lefebvre.
Pierre Notting.—Uncertain, but grand when managed.
Louis Van Houtte.
Marquis de Castellane.
Devoniensis.
Maréchal Niel.
Souvenir d'Elise Vardon.

Now for a few general remarks. In the first place let me say that it is by painful effort I have excluded from the above lists so many good and valuable Roses. It is only in degree less painful than it would be to set down a list of one's twelve best friends, when there were scores or hundreds never encountered without feeling the pulse quicken and the heart grow lighter. Twelve Roses! when there are scores or hundreds which one cannot regard otherwise than with unqualified delight! Then one must have variety in colour. The white Roses are the weakest, but we must have some, and can only have the best. The crimson Roses are the strongest, and some of that colour omitted are better Roses than the white ones included; but we must not have too many of that colour. Further, certain varieties thrive better in one soil, in one climate, or under one system of management than in or under another. The seasons, too, influence Roses greatly. A flower that is fine in a cool cloudy summer is often of a lower quality in a warm sunny one, and *vice versâ*. With me Louis Van Houtte, although not a very strong grower, grows well enough and is a good hardy Rose, producing an abundance of fine flowers, but some of my friends tell me that with them it is weakly and unsatisfactory. Tastes also differ. I should place La France and Madame Falcot among the very best of garden Roses, but should hardly include them in a limited number of show Roses. My ideal of a show Rose is a smooth globular flower, full, of good substance, clear in colour, and of large size. La France loses its shape too soon to be a safe show flower. Edouard Morren is fine when caught, but uncertain. Mdlle. Eugénie Verdier is a good garden Rose. Prince Léon I have discarded altogether. Homère is one of the hardiest of Tea-scented Roses, growing and blooming freely. I received this Rose the first year from the raiser, and the second year I received the same Rose from France under the name of Socrates. There is confusion abroad with these two varieties; our Homère is often met with in France under the name of Socrates. I have a great love for Tea-scented Roses, but have not put more in my list because they are not hardy enough for out-of-door culture in all places. I believe, however, that some varieties of this group recently introduced will prove grand acquisitions both for general decoration and for exhibition; while clearer in colour and more constant in shape than Gloire de Dijon, they grow vigorously, and promise to be as hardy as that grand old Rose. —W. Paul, *Paul's Nurseries, Waltham Cross, N.*

A GRAPE VINE FOR TABLE DECORATION.

In order to provide a variety of dinner-table decorations one is compelled to exercise some judgment, and, therefore, must pass out of the beaten track in order to produce something pleasing, and if not altogether striking, it is the more appreciated. I will not trouble your readers with any lengthy preamble, because what I am about to describe is by no means novel, but has been practised for many years; so a review of the past is only to act as a "refresher." I shall, therefore, proceed to explain how a young healthy Vine loaded with fruit may be prepared so as to be suitable for the decoration of the dinner-table.

Select a fruitful Vine, from an eye the previous year, grown in a 12 or 14-inch pot in the ordinary way for forcing. Place the Vine in a late vinery where it will have plenty of light; draw the cane through the hole of a 7-inch pot, and allow the pot to rest on the surface of the soil in which the Vine is grown. Then fill the 7-inch pot with light, rich, and open soil, which will become filled with roots in the course of two or three months. The uppermost pot must be watered as occasion requires.

I have grown three Vines this year for the purpose described, each Vine carrying on an average eight bunches of fair size and quality. I used the first about the middle of September. When required for use a strong knife is thrust between the upper and lower pot, severing the Vine at its base. The 7-inch pot will then be found to be crammed with roots, which are quite sufficient, with frequent waterings (I set my pots in pans filled with water), to keep the Vine always fresh. A neat stake about 18 inches in length, or 2 feet if found more convenient, should now be inserted in the centre of the pot, and the Vine then carefully coiled round the stake, making it fast with neat ties of matting. A more pleasing object than such a Vine cannot well be imagined, its bunches of black fruit hanging gracefully down amidst a profusion of green foliage. I may add that I use only black Grapes, as they have, I think, a better appearance than light-coloured ones when placed on the table.—J. Gardner, *The Gardens, Elsham Hall.*

SANTOLINA INCANA.

I can endorse Mr. Luckhurst's remarks on this plant (see page 313), in respect to its being very easily grown and useful for bedding purposes. It is one of the many old subjects that have been brought into more general use during the last few years. We have used it for edging purposes for several seasons, and it has been admired by many persons. Its being quite hardy is a recommendation, as we have already quite enough of tender subjects to propagate.

I have found the best way of growing Santolina incana to be dibbling-in the cuttings about an inch apart in a Calceolaria frame during the first week of September. The Calceolariae are usually taken out in the second week of March and planted in Celery trenches.

The Santolina can be moved at the same time and planted in the position it is intended to occupy in the flower garden. It will bear cutting with the shears very well, and for edgings that have stood one year and are intended to remain, the best time to cut it back is March or early in April, and we cut it hard back with the best results. I am of opinion that in positions where it does not grow too high to interfere with the plants with which it is associated, it looks best not cut the first year—it has then an ease and gracefulness which we do not find in close, level lines. I have often compared it to a plantation of young Larch trees on a small scale.

I am surprised at the high price at which Mr. Luckhurst says it is selling—viz., 12*s.* per dozen, as it is one of the easiest plants I know to secure a stock of. A number of plants are growing here in a kitchen-garden border, struck in the autumn of 1869, and they are now nearly 2 feet high. I may add that the soil where they are growing is rather rich and

shaded, still the plants will grow freely enough in any ordinary soil.—H. J. C., *Hackwood Gardens, Basingstoke.*

GLADIOLUS CULTURE.

The subject of this article holds, and I think justly, the highest position amongst autumn flowers, for it has now been brought to a high state of perfection, and some of the varieties already sent out will not easily be surpassed. Of course I do not mean to say there is no room for improvement—there is; for instance, we have yellow flowers, but a clear yellow with the flower and spike of Madame Furtado is very desirable. What an acquisition would also be a variety with the colour of Lord Byron and the flowers and spike of Orphée; and so, too, would be flowers of other colours which we have not yet succeeded in obtaining.

Seedlings are easily raised, but it is not so easy to obtain a first-class variety with a good constitution and superior to those already in commerce. There have been a few good varieties raised in England, but the stock of them is very limited; indeed, I cannot name a single flower that has been sent out as yet in this country of any value to an exhibitor. The new varieties raised in France and grown by M. Souchet, can be obtained by the dozen from any seedsman in England, and it is on him that we must as yet depend for new varieties. If we do get a good many worthless sorts sent over every year, there are always a few really good flowers amongst them, and we must be content to weed out the bad ones as we do with the Roses. Some of the varieties have a decided tendency to degenerate in this country; others, again, seem to improve. I believe that in our anxiety to obtain the finest possible spikes we destroy the constitution of the plants by overfeeding. Under such circumstances many of the bulbs deteriorate, whereas if differently treated they maintain their position.

I can safely affirm that some of the French varieties have improved with me; of Madame Dombrain, for instance, I thought little the first year it was sent out, and this season, though an unfavourable one, it was finer than I ever had it before. Madame Desportes, sent out the same season, was magnificent, but I have not had a good spike of it since. Some varieties succeed better in unfavourable seasons than others, and I sometimes find that those varieties which flourish in a wet season will not do so in a dry, hot year; thus we must not be too hasty in discarding a variety that for the moment may be unpromising.

Another statement I ought to make is this, that many new sorts sent out at the highest price will not grow under any circumstances; they will sometimes grow in a promising manner at first, and ultimately go off in decline, dying-off while in apparently luxuriant health when the first flowers are on the point of opening. To be thus disappointed after months of unceasing care is most disheartening to the beginner, but the experienced cultivator makes up his mind to a certain number of losses annually.

I have had much success in the culture of the Gladiolus. I grow every good variety that is sent out, and a considerable number of bad ones, as well as hundreds of seedlings every year, and in my opinion no other autumn flower can be compared to this for grace and beauty. The Dahlia and Hollyhock are indispensable for the adornment of large gardens in autumn, but in small gardens they can seldom be introduced with advantage, and are of but little use for decorative purposes in-doors; but in no garden, however small, if the soil is suitable, can the Gladiolus be out of place, and few subjects are better adapted for being arranged in vases for the drawing-room, or for the dinner-table. During August and September this flower is produced in the greatest profusion, although by early and late planting a sufficient number of spikes may be obtained in July and October. The Gladiolus is admirably adapted for exhibition in autumn, and will be grown for this purpose as long as societies give sufficient encouragement; and what a striking contrast they form to the long formal lines and dumpy appearance of stands of Dahlias and cut blooms of Hollyhocks!

Whether Gladioluses are grown for exhibition or for general decorative purposes, the ground must be prepared for them by deep trenching and heavy manuring the previous autumn. No doubt a light sandy loam is that best adapted for the Gladiolus, and for such soil cow manure is the best; if it is a stiff loam, plenty of road-scrapings or sand may be incorporated with it, and stable manure should be used, but in every case the manure ought at least to be 6 inches beneath the surface. In fine weather during winter, and when the ground is dry, the surface may be lightly forked over. Choose a fine dry day about the middle of March to plant the first lot of bulbs to come in earliest. Do it thus:—Stretch a line across the border, and with a hoe draw four drills a foot apart; in these drills place the bulbs, also a foot apart, with a little sand over them, and then fill in the drills, so that there may be 2 inches of mould over the crown of the bulb. A space of 2 feet 6 inches should be allowed between the outside rows of each bed, to allow a man to get down with a water-pot without injuring the plants. The sticks should be put in at an early stage of growth, as, if this is delayed, not only does the plant incur the risk of being damaged by the wind, but the roots are injured by pushing the sticks into the ground. To prolong the blooming period, plant a few bulbs every fortnight until the first week in June.

As soon as dry weather sets in the watering-pot must be used, and to prevent evaporation mulch the beds with decayed frame manure. It is as well to state that when ground is highly manured there is always great danger of overwatering; even in very hot weather I seldom water the beds oftener than twice a-week, and then I do not use manure water.

The spikes should be fastened to the sticks as they appear, and this is nearly all the attention they require. Some growers shade the spikes to prolong the bloom, but the colours are brighter when the spike is freely exposed. If required for in-door decoration the spikes should be cut as soon as the first three flowers are expanded; the others will open in the water.

The best time to dig up the bulbs is towards the end of October, when a dry day should be chosen. Cut the stalks off as they are lifted, and place each sort with the label in an empty flower-pot; the small bulbs or spawn to be found at the base of the bulbs should be saved if an increase in the stock is desired. The pots must be placed in a dry airy position for a week or two, and if they are in the way, wrap each sort separately in a sheet of paper and pack all of them away in a box secure from frost.

The Gladiolus is also well adapted for pot culture, and fine spikes are obtained in this way. When thus grown the plants in flower may be removed to any desirable position, and are exceedingly effective in the greenhouse, in a conservatory among Ferns, or placed where the spikes rise above the foliage of plants not in flower. It is well to grow a few bulbs in pots to fill up blanks in the beds, say eight or ten to every hundred planted out. The best compost for the Gladiolus in pots is turfy loam of a light sandy nature three parts, one part rotted manure, and one of leaf mould, with a proportion of sand larger or smaller as the loam is light or heavy. Pot one bulb in the centre of a 6-inch pot, and when the plant has grown 6 inches, shift it again into an 8-inch pot. The pots should stand out of doors in an open position, but sheltered from cutting winds.

I append to this a list of the best sorts for exhibition. The best of the new ones for 1870-71 are Edith Dombrain, Horace Vernet, Nestor, Phidias, Sir J. Franklin, and Talisman. Of older sorts I recommend Armide, Adolphe Brongniart, Delicatissima, Etendard, Eugène Scribe, Fulton, Galilée, Homère, Horace, James Veitch, Lacépède, Madame Basseville, Madame Desportes, Madame Furtado, Maréchal Vaillant, Marie Dumortier, Mary Stuart, Meyerbeer, Legonvé, Ophir, Orphée, Princess Mary of Cambridge, Princess Clotilde, Madame Dombrain, Rosa Bonheur, Rosea perfecta, Rossini, Schiller, Shakespere, Sir W. Hooker, Ulysse, and Virgile.—J. Douglas.

THE CULTURE OF THE CYCLAMEN.

I obtained a packet of seed in February last, and sowed it in a shallow seed-pan, using sandy loam and a little well-decayed cow manure, with a covering of silver sand after sowing. I then placed the pan in a gentle bottom heat, and the young leaves soon made their appearance. As soon as the seedlings had made two leaves I potted them in thumb-pots and placed them near the glass, giving them very little water, but not allowing them to become dust dry. They soon filled the pots with roots. I then gave them a shift into 60-sized pots and let them remain till spring.

When the bedding plants were taken from the cold frames at the end of May I gave the young plants another shift, and let them remain in the cold frame all the summer months, keeping them well watered and slightly shaded in very hot weather. At the end of September I put them in 6-inch pots and placed them in a warm pit; very soon they began to show their flowers,

and now in nine months I have beautiful plants covered with flowers, the corms being nearly an inch in diameter. I have other plants which have been growing two years under cool treatment, and they are not nearly so good. From the packet of seed sown in spring I have several distinct varieties, and very sweet-scented.—Owen Orpet.

GREENHOUSE PLANTS.—No. 8.

Lachenalia.—A genus of beautiful small-growing plants, with rather long, narrow, fleshy, spotted leaves, and erect flower-stems about 6 inches long, bearing racemes of pretty pendant flowers from March to May.

Lachenalias are best grown on shelves near the glass, or in other light airy positions. Six-inch pots are quite large enough for a dozen bulbs, and for six or more a 4-inch pot, potting them so that the crowns may be just covered with soil. The pot should be well drained, and a compost of equal parts of light fibrous loam, sandy peat, and leaf soil, with a sixth part of silver sand, and the same proportion of charcoal, will grow them well. Commencing growth early in winter they should be potted then, or whenever they begin to push, and any desired increase may then be secured by dividing the bulbs or removing the offsets. Water as soon as they begin to grow, and continue to keep the soil moist until the leaves turn yellow, then discontinue watering until growth recommences.

The species are rather numerous, but a dozen of the best are—Lachenalia tricolor, red and yellow; L. fragrans, white and red; L. orchioides, green and white; L. pendula, red and greenish yellow; L. pallida, pale blue; L. quadricolor, scarlet and yellow; L. discolor, brown and orange; L. contaminata, pink; L. pustulata violacea, bluish purple; L. reflexa, pale pink; L. uniflora, white and blue; and L. rubida, red. When first potted the bulbs should be placed on and surrounded with silver sand.

Antholyza æthiopica maxima, a rather tall but pretty Iridaceous plant from the Cape of Good Hope, produces its showy orange scarlet flowers in a cool greenhouse from February to April. Surround the bulbs with sand, placing them about an inch deep, and plant half a dozen in a pot, allowing a distance equal to the diameter of the bulbs between every two, and also between them and the sides of the pot. Use the same compost as for Lachenalias. Water freely during the growing period, keep them dry when at rest, and pot when they begin to grow. After May the plants succeed in a warm situation out of doors, but must be placed under glass before frost.

Blandfordia Cunninghami.—This has rather long, linear, channelled leaves, and the flowers are of a deep red, with the ends of the petals yellow; they are produced in summer about July.

Blandfordia aurea.—Leaves narrow, linear, and channelled; flowers golden yellow, bell-shaped, and drooping, 1½ to 2 inches in length, and nearly as much in width, borne on a flower-stem 1 to 2 feet in height.

Both of the above are fine subjects for the greenhouse or conservatory, and succeed admirably in a compost of two parts of sandy peat, one part of light fibrous loam, and one part of leaf mould, the whole chopped up, but used in a rough state, adding one part of sand. Repot when the plants commence making fresh growth, watering freely until growth is completed, and the flowering past, then water less freely, but at no time must the soil be allowed to become very dry. The drainage must be good. Afford a light airy position, the nearer the glass the better, so long as the foliage does not touch it.

Bravoa geminiflora.—A small bulbous plant, with red flowers in July. Sow about half a dozen bulbs in a 6-inch pot, potting them in October, keeping them just moist over the winter. When they are growing water freely, lessening the supply after flowering, so that they may be rather dry up to October, then repot. Keep the plants near the light, and give abundance of air. The compost named for Lachenalias will suit these plants.

Chlidanthus fragrans.—A pretty bulbous plant, producing in June or July yellow, trumpet-shaped, fragrant flowers. It grows about a foot high. It should have a compost of two parts light fibrous loam, one part sandy peat, and one part leaf soil, with a free admixture of sand. Pot in March, removing all the soil, but not if it is filled with roots, and remove all the offsets, which it puts out very freely. The offsets may be potted and grown for future flowering. They will attain to a flowering state in one or two years. Water freely while the plant is growing, and in winter keep it dry.

Gastronema sanguineum.—A very pretty Amaryllidaceous plant, attaining a height of about 9 inches. Flowers bright scarlet, produced singly late in spring or early in summer. Let it have a pot twice the diameter of the bulb, potting so that the latter may be covered to the neck, which is rather long, surrounding it with sand. Keep it moderately watered for some time after repotting, which may be done in February; when the plant is growing freely water copiously, and when a good growth has been made give less water, but do not allow the leaves to flag. The plant should be kept near the glass in an airy position, and with little water until the return of growth early in spring. Soil, sandy loam, fibrous peat, and leaf mould in about equal proportions, with a sixth part of silver sand, and good drainage. *Gastronema sanguineum flammeum* is a fine variety, if variety it is, having generally double flower-scapes instead of single. The flowers are of a rosy carmine, but in some plants they are rosy pink. They appear during the early spring months simultaneously with the leaves, which are dark green. It is very pretty.

Albuca fastigiata elongata has long recurved leaves, tall flower-scapes 3 feet or more in height, bearing a raceme, about a foot in length, of white flowers tipped with green, which, from their long stalks and their waxy texture, are excellent for cutting. It flowers in June or July. Repot in March, removing the soil that comes away freely. Use in a rather rough state a compost of two parts sandy peat, and one part sandy loam, draining well. Water very freely whilst the plant is growing, and in winter keep it dry in a light airy position. A pot twice the diameter of the bulb is sufficient. Remove the offsets when repotting.

Anisanthus splendens.—Gladiolus-like foliage; flowers bright scarlet, in June or July; height about 2 feet. It requires the same treatment as Atholyza.

Arum crinitum.—Stem finely marbled; flowers pale flesh-coloured, broad, and of considerable length, produced in April or May. It is interesting and curious. Repot the plants early in spring, removing all the soil that comes away freely, and water moderately for a time, but freely when growing and flowering. The growth being complete water less freely, and in winter keep them merely moist, and no more. In hot weather they are the better of a slightly shaded position. Light sandy loam, with a little leaf soil, and good drainage, will grow them well.

Cyrtanthus obliquus.—Flowers deep golden yellow or orange, with green; very curious; fine evergreen foliage. The flowers are produced early in summer, generally in June. Soil hazel or yellow loam, fibrous, and used rather rough, adding a third of leaf soil or old cow dung. Give a pot twice the size of the bulb in width, and pot so that the bulb may be covered to the neck, affording good drainage. The best time to repot is after flowering or July, not removing more of the old soil than any loose parts, and not giving a large shift; pot firmly, and water freely while the plant is growing, but when the growth is complete place the plant near the glass, in the full sun, and give no more water than will preserve the leaves in a fresh state, for being an evergreen it must have water in winter, but the less, so long as the leaves do not shrivel, the better.

Cyrtanthus coccineus has scarlet flowers, C. McKenni has creamy white and slightly fragrant flowers, and is a newly-introduced variety.

Pancratium rotatum.—Fragrant flowers, white, borne on erect stout flower-scapes in clusters of sometimes a dozen. It has the outer segments of the flowers about 3 inches long, and a funnel-shaped crown not unlike a Daffodil or Eucharis. The period of flowering is generally July and August.

Pancratium speciosum.—This also has white flowers, which are sweet-scented, and appear from April to June or July. Soil and treatment the same as for Cyrtanthus.

Richardia (Calla) æthiopica.—An old and very common plant, being an herbaceous perennial, having fine Arum-like foliage, and creamy white spathes. It is an excellent window plant, and thrives amid the smoke and dust of large towns as well as in the purest air, and seems only to require abundance of water when growing, and sun to ripen the growth, or light with dryness will do. I have some fine masses of it producing magnificent flowers in spring and the early part of summer, and its foliage from September all through the winter resembles that of a fine green-leaved Caladium.

My mode of treatment is as follows:—After the flowering is past, and the foliage is dying down, water is less plentifully given, and in July the plants are turned out of the pots, the old soil removed, but the roots not much disturbed, and non-

of the offsets taken off unless increase be wanted, and then they are removed with good roots, and placed in pots that will hold them without cramping. The old plants are put into pots that will hold the ball, and allow of about 1 inch or 1½ inch of fresh soil all round, and it is put in firmly while rather dry. Good drainage is given, and the compost used is light turfy loam, with one part of leaf soil or old Mushroom-bed dung. The plants are set in a slightly shaded position, and have water rather sparingly, then they take their own time in starting into fresh growth, which will generally occur about the close of August. They are next brought to the front, have a light position, and by October they are in fine leaf, and the pots are full of fine white roots. Then if you desire to see this plant at its best, shift it into pots 4 inches wider, using the same soil as before, with plenty of sand. Water gently up to March, when, if the plants do not throw up for flowering, keep them dry—but not so dry as to cause the leaves to flag—for a month or six weeks; then water again. With me the result is in May, as fine a plant for foliage and flowers as ever graced a greenhouse or conservatory. Watering is continued until the flowering is over, and then it is lessened.

I do not believe in the plant being an aquatic in this country, though it will live in tanks out of doors in summer, or in a greenhouse all the year round; for aquatic treatment it should be taken back to the Nile, and there have the heat and dry air to which it is not exposed in our moister climate.—G. Abbey.

GOLDEN CHAMPION GRAPE.

I was pleased to see your defence of Golden Champion. I have had it splendid here. It was ripe in July, and when I knew the Prince of Wales was to be here, I kept it till then, the 19th October, and the Grapes were certainly the most magnificent I ever sent to an employer's table; they were like pigeons' eggs, and as yellow as Dr. Hogg saw them at Archerfield in 1865. The Grape was taken special notice of. The last bunches were sent in on November 1st, plump and fresh, while those of Buckland Sweetwater in the same house all turned bad—were rotten and fell from the stalks.—D. Thomson, *Drumlanrig Gardens.*

[The above-detailed, and other facts that have come to our knowledge respecting this Grape, are a sufficient reproof to those impetuous writers who either have not the skill to produce some varieties of fruit in their best state; or who do not give a thought that there are conditions of soil and situation which do not suit all varieties of fruits alike.—Eds.]

ROSES AND GERANIUMS.

Several other correspondents having sent you their experience with regard to bedding Geraniums and Roses, I also send you mine, and may remark that I have this year grown about eighty varieties of Geraniums, and the same number of Roses.

To begin with the former. If I were asked to select the best twelve Geraniums for making a display, I should name the following:—Foremost I must place Vesuvius, which has been with me a perfect mass of bloom all the season, and next I must select Indian Yellow, William Underwood, Rebecca, Scarlet Perfection (Sutton's), Waltham Seedling, Morning Star, and International; then I should conclude with four old and well-known varieties—viz., Tom Thumb, Stella, Trentham Scarlet and Christine.

In vases or pots the following twelve have done well with me:—Mrs. W. Paul, Acme, Lord Derby, Donald Beaton, Monsieur Martin, The Hon. Gathorne Hardy (an immense trusser), Kentish Fire, Chieftain, Monsieur Comner; and of the double varieties, Gloire de Nancy, Madame Lemoine, and Capitaine L'Hermite.

No two gardeners will give the same list of the best twenty Roses, as different kinds of soil cause them to grow so differently. Those that have done the best with me are Charles Lefebvre, Baroness Rothschild, Marguerite de St. Amand, Felix Genero, Maurice Bernardin, La France, Edward Morren, François Louvat, Boule de Neige, John Hopper, Fisher Holmes, Gloire du Ducher, William Griffiths, Mdlle. Marie Rady, Olivier Delhomme, Charles Lawson, Vicomtesse de Vesins, Lord Clyde, Professor Koch, and Monsieur Woolfield.

Maréchal Niel has not bloomed with me this year, being very much injured by the severe frosts last winter. My best four Roses this season have decidedly been Charles Lefebvre, La France, Maurice Bernardin, and Baroness Rothschild. —E. C., *Oakham.*

JARDIN D'ESSAI, ALGIERS.

In 1832 the then French Government conceived the idea of forming near the town of Algiers a botanical garden, in which all plants likely to be easily grown in Algeria, and which might be useful either for their ornamentation or for their economic value, should be kept for distribution or for sale. A portion of ground, about two miles from the town, situated between the sea and the public road, and occupying the place of an old hamma or marsh, was selected for this purpose. In 1867 the Emperor of the French conceded this establishment to the "Société Générale Algérienne," under whose auspices, but under the direct superintendence of M. Auguste Rivière, the gardens at present are.

In addition to the level swamp, the gardens now also occupy the slope of a low hill on the opposite side of the road. The level ground is laid out in alleys which open out into a circular boulevard which surrounds the whole garden. Carriages are admitted to the circular drive only, foot passengers to the cross walks. A stream of fresh water runs through the grounds, forming in one place a small lake.

One fresh from the botanical gardens of Europe is astonished at every step taken in the gardens by the wondrous vegetation which is shown by all the semi-tropical plants. Descending a few steps from the circular drive, a great Palm avenue is entered. This avenue was planted in 1847, and is formed of about eighty trees of the Date Palm, nearly as many of the Latania borbonica, and about 150 of the Dragon's-blood tree (Dracæna Draco). The avenue is about 10 yards wide, and between every two of the Date Palms there are two of the Dragon's-blood tree and one Latania. It terminates in a clump of Palm trees, which are planted almost to the border of the sea. When it is borne in mind that the Date Palms are from 20 to 50 feet high, the Latanias averaging about 12, and the Dracænas about 8 feet in height, the general effect of this splendid avenue may be imagined. All the trees were in December last in full flower or fruit, the golden trusses of the Date Palm contrasting well with the more brightly-coloured clusters of Latania berries. It would require more space than is at our disposal to describe the contents of all the various small avenues that branch off from the main one. The most remarkable smaller avenues are, perhaps, the one formed of Bamboo (Bambusa arundinaces), planted in 1863, and forming an immense mass of foliage, the stems supporting which are from 40 to 50 feet high, and that formed of about one hundred plants of Chamærops excelsa, each about 10 feet in height. But remarkable as are these charming sub-tropical alleys, the visitor is more than surprised when, on going towards the portion of the garden where the plants are grouped somewhat according to their natural orders, he finds specimens 15 feet high of Caryota urens and C. Cummingii, growing with vigour and covered with fruit; of Oreodoxa regia, from Cuba; several plants upwards of 25 feet in height; and a plant of Jubæa spectabilis, which is 12 feet high; and then just a few steps more and a parterre allotted to the natural family of the Musaceæ comes to view. As both the Plantain and Banana are grown in large quantities for their fruit in another portion of the grounds, the family is here chiefly represented by such genera as Strelitzia and Ravenalia. Magnificent specimens of the latter genus, with stems 9 to 10 feet high, exhibited great combs of flowers. We are not aware if the Traveller's Tree has flowered in Europe, and we were not prepared to find it in full flower in Algiers. It has not, however, matured its fruit in this garden. Near this grand parterre stood another with many fine specimens of Yucca, also a magnificent plot of Aralias—A. papyrifera, in full fruit and very handsome; the fine A. leptophylla and A. præmorsa, thickly covered with spines, and the very ornamental A. farinifera; and then one's attention is caught by a large tree (Carolinea macrocarps) from Brazil, with a couple of dozen of its fruit, each as big as a Cocoa-nut; by a small forest of Anona Cherimolia in full fruit, which is nearly as good as that of the closely related species which yields the Custard Apple. Near these is an immense tree some 30 feet in height, covered with fruit of the Avocado Pear (Persea gratissima); and at its feet is a quantity of the Guava tree (Psidium Cattleyanum) crowded with its perfectly ripe, large, pear-shaped, golden fruit. Growing up into the trees, and forming numerous and never-ending festoons, were some speci-

means of Cacti, chiefly species of Cereus. Some of these were of great size; and one specimen, which had completely strangled a Plantain tree some 25 feet, was said to have been covered in the autumn with 600 to 700 flowers. It must have been a sight worth a long pilgrimage to see.

Enough has been said to show what a surprising number of semi-tropical fruits luxuriate in the beds of this well-watered garden, and we might add many well-known vegetables to the list, as Sweet Batatas, Yam, Papaw. But all this while we have been writing of the great level portion of the garden. Outside of this, and on the other side of the roadway, there is a small hill, 200 or 300 feet in height, which slopes towards the garden and the sea, and is traversed by several ascending walks. This is the New Holland district of the garden, and certainly not the least interesting portion of it. In one section of it are different species of Acacia, many of them large trees, 20 to 25 feet in height. Of the Proteaceæ there were magnificent trees; of the genera Banksia, Hakea, and Grevillea, the collection of species was very large, all of them just bursting into masses of bloom. The most important of the trees growing in this corner of the hill was probably Eucalyptus globulus, of which some trees, now about 40 feet in height and over 4½ feet in circumference, were planted in 1862, and were then only a few inches high. Young well-established seedlings, of about 10 inches in height, are sold for 20s. a-hundred, and large numbers of them have been planted from time to time throughout Algeria by the French Government. This species grows in Algeria with most surprising rapidity, under very favourable circumstances, growing 18 to 19 inches in height each month. Its wood appears to be hard, close in the grain, and it is largely used in the construction of quays, bridges, and railways. This tree seems to do so well on the southern side of the Mediterranean that we think its culture ought to be successfully attempted in the south of Spain, in Sardinia, in Sicily, and the southern parts of Italy. In districts subject to heavy winds it requires for some years—owing to its rapid growth—some protection, but in places sufficiently warm for it, it ought to repay well for any little extra care it might be found to need.

Among the few species that we noticed that did not succeed in these gardens, we may mention the Cedrus Deodara; but Casuarina equisetifolia was flourishing, and one tree of Araucaria excelsa was about 60 feet in height, and measuring a little over 9 feet in circumference at its base.

The object of the Society in keeping up these gardens is, as we said, to introduce into Algeria all useful and ornamental plants likely to grow there. In addition they grow enormous quantities of young Palms and other ornamental plants for exportation to Europe, and some few plants interesting to the botanist for exchange with other establishments. In a place so favoured by Nature and so easily accessible to Europe, it would be, we venture to think, well worth the while of the director of these gardens to considerably enlarge the last portion of the Society's design. How many tropical plants are yet unknown to the large collectors of Europe, and what a vast percentage of deaths occur among the collections sent from the tropics at any season of the year to our shores! But with gardens like these at Algeria, situated on the sunny side of the Mediterranean, to act as a half-way house, the resources of the botanical gardens or establishments of the north would be indefinitely increased. Another purpose for which these gardens might be made most useful is for forming a collection of specimens of plants or fruits of economic interest. Many of the fruits, stems, &c., which ripen in these gardens as easily as Cherries or Potatoes with us, are not to be seen in some botanical collections, and are not, in Europe at least, to be purchased. How gladly would some botanist buy such as we here refer to if they were on sale, say at the depôt of the Algerian Society in Paris; and the expense of putting up such in salt and water would be a mere nothing. The same remarks would apply in many cases to portions of the roots of remarkable genera, and also to flowers. In calling attention to these gardens, we venture to suggest these hints to their well-known director, and also to that indefatigable botanist who, more than any other, now represents science in connection with the Algerian Society, Professor Durando of Algiers.—(*Nature.*)

POTATOES.

At page 335 are excellent notes on the vegetable crops of the past season, and amongst them some on Potatoes. Though agreeing generally with Mr. R. Gilbert in his estimate of the varieties named, I must be excused taking a very different view of Paterson's Bovinia. Mr. Gilbert says, "Of new varieties Paterson's Bovinia is the most promising." I am in hopes the last word is a misprint, and ought to have been unpromising, for with me it is a coarse grower, having most luxuriant haulm, and though planted a yard apart every way, had not half room enough; and all this waste of ground was incurred for the sake of two or three large ugly tubers, weighing, perhaps, several pounds each, which when cooked are like half-melted glue. I grew it as a curiosity for its great weight, and have had some immense tubers, but the weight is not equal from an equal space of ground to that produced by Red-skinned Flourball. Having satisfied my curiosity, I offered the tubers to our farm bailiff, thinking they might suit him for cattle or pigs, but he declined to have them, and pronounced them not fit for beasts. It is with me the ugliest, most useless, and worst-cropping of all Potatoes, and to a gardener worthless.

I have grown this year several American kinds, and find not one equal to our established varieties. Early Rose seems to be the best, and may be useful in a warm light soil and for frame culture, but in my cold soil and climate it is inferior and very much diseased.

Red-skinned Flourball is a strong grower, and requires much room; its tubers are too large, and may suit for market, but can never be of use to lovers of a good Potato until very late. Early Red Kidney has very large haulm, is a great cropper, more so than either Bovinia and Red-skinned Flourball, and in quality is quite equal to Red-skinned Flourball. It is, however, a late Potato, and has very large tubers as heavy as, if not heavier than, Red-skinned Flourball.

My latest conclusion as to the value of Potatoes is that the best are Veitch's Improved Ashleaf Kidney for first early crops and forcing, as it produces heavily and attains early maturity; Myatt's Prolific for early crops and forcing; Lapstone for a second early kind, and to continue until the late sorts come in; Early Oxford for a second early, and to come in until autumn; Paterson's Victoria for autumn, winter, and early spring use; and Red-skinned Flourball for late spring and early summer consumption. The above have with me this year been almost free from disease. The best Potato in cultivation for quality is the Lapstone, and it is second to none for amount of produce, taking the ground occupied into consideration. Like every other Potato, it does best in a light or well-pulverised soil. There are many forms of it; I have had several that are much inferior to the old or true sort.—G. Abbey.

GOOD AND BAD NEIGHBOURS.

The readers of this Journal must have all noticed the superior growth of certain plants when growing in the immediate neighbourhood of other plants. The farmer remarks how the wild Poppy haunts his Legumes—how the Cornflower only grows amongst his cereals. Other plants he notes are bad neighbours—such as the Brassica tribe in his arable land, the Acacia tree in his hedgerows. Now very recently the agriculturist has availed himself of one of these hints from Dame Nature to a very profitable extent in the growth of Swede Turnips, and, surely, there is something very valuable to be achieved in this way with other now only-languidly-growing crops, such as the Red Clover. Will you, then, allow me to ask the readers of the Journal to favour you with the result of their observations on good and bad neighbours in the tenants of the garden?

That much useful information may be in this way derived I have no doubt. I have seen in the garden several indications of the good effects of certain plants being placed in juxtaposition, and it is only within these few hours that I learn from a Scotch clergyman that in his garden at the Bridge of Allan, he can only secure good Carrots by growing them with Onions. He sows their seeds, it appears, together broadcast.

The fact that plants have their good and ill neighbours is not a modern discovery, for, as I have elsewhere remarked—

It was an early observation of the cultivators of the soil that there are good and bad neighbours even in the vegetable world. The Roman farmers noticed the vigour with which the Vine vegetated when planted near to the Elm. They were wont to call that tree the husband of the Vine, and it has been supposed that the Elm was, in fact, first introduced into England by the then masters of our island when they made their vineyards.

They were well aware that, although there is "a friendship" between some plants, there is "enmity" between others. Cato, one of the very early Roman authors, noticed that the Vine is at "enmity" with the Cabbage. And these facts were observed by more than one author of the sixteenth century. Thus, Conrad Heresbach, who

was born in 1508, remarks in his treatise on husbandry, "Because there is a natural friendship and love between certain trees, you must set them the nearer together, as the Vine and the Olive, the Pomegranate and the Myrtle; others," he continues, "have a natural hatred, as the Vine with the Filbert and the Bay."

Modern cultivators have noticed other facts of a similar kind, as how vigorously the plants of Wheat and Rye flourish amid the tares. These observations have, within the last year or two, led in a few places to some very practical and successful trials with our root crops. These experiments are hardly so well known to the cultivators of our islands as is desirable. They are not only valuable in themselves, but they appear to open a field of research, which in all probability will lead to other important results. I allude to the growth together in the same rows of the Swede Turnip and the Mangold. We are aware of the difficulty with which for some time back the Swede has been cultivated in many portions of our island, and this to such an extent that in considerable districts its cultivation has been abandoned. It is therefore most important that it has been found again to flourish on many soils when sown in conjunction with the Mangold, and this not in only the best Turnip soils but on the poor exhausted gravels of Bedfordshire—a county where the rainfall certainly does not aid the dryness of the soil, for the average annual fall of rain is there the least of all the English counties, being only about 20 inches—it was only about 15 inches in 1870. The mode of cultivation they adopt has been so well described to me by my friend Mr. John Porser, of Willington, near Bedford, that I need hardly attempt to give it in any other language. It was in a letter with which he favoured me in June of the present year that he observed, "I have grown now for six or seven years Mangolds and Swedes (not white Turnips) together, and with great success—not a failure have I yet known. Upon our hot gravelly soil we sow all upon the flat: it is far better than on the ridge. My plan is this: I drill early in April 4 lbs. of Mangolds per acre, and another drill follows running one hole only, which is about a pint of Swedes, in the same rows. When we set them out we leave as nearly as we can three, some only two, Mangolds to one Turnip. The Swedes grow very large, and very sound and healthy. Before we adopted this plan our land refused for years to grow a Turnip at all. We put them into pits or clamps by the second or third week in October, and they come out in the spring as sound and healthy as the Mangolds. Very many other farmers near here are doing the same, and with equal success. We certainly grow a greater weight per acre than we ever have done with Turnips only."

It being then established that the growth of certain plants is accelerated by having particular neighbours, we naturally inquire into the reason for this interesting fact. It is probable that it arises from some emanation either from the roots or the leaves of a plant which is grateful to its neighbour. It has been supposed by some Rose cultivators that its fragrance is increased by having a Leek or an Onion for its neighbour. Phillips, who died in 1708, in his "Cyder," alludes to this opinion.

"—— The Pœstan Rose unfolds
Her bud more lovely near the fœtid Leek
(Crest of stout Britons), and enhances thence
The price of her celestial scent."

—(*Farmers' Magazine*, vol. lxx., p. 172.)

To account, then, for these phenomena it has been supposed that plants excrete by their roots certain matters which are either nutritious or noxious to their neighbours. The experiments which have led to this conclusion are most of them collected by my brother, Mr. G. W. Johnson, in his work on "The Science and Practice of Gardening," page 49.—Cuthbert W. Johnson.

EDGINGS AND WALKS.

In the kitchen garden there is still the old-fashioned Box-edging to the principal walks. I do not consider it equal to an edging of slate, or even of well-laid tiles, though I prefer the slate as being more suitable in colour. Box-edging, if neatly kept, is very good, and, as a live edging, is superior to all others. I wanted to look over ours at the beginning of the summer, but owing to a pressure of work, clipping and making-up could not be attended to. I took up a bit of a cross walk not much traversed, lifted the Box, made the edgings all level and smooth, planted the piece afresh, and obtained more Box than was sufficient to fill up all vacancies.

The sweeping-up of the cuttings of Box left the walks a little more dingy than I like to see them, even in a kitchen garden. Most of the gravel here has enough of clay in it to make it bind well in summer, but as it is placed too shallow for frequent turning, its very smoothness in winter is apt to make it adhere to the feet in moist weather. A fresh appearance was given to the walks, and they were made pleasant to the feet for the winter, by a sprinkling of rather sharp red pit sand. I should be almost afraid to say how many yards I can make a small load of sand go over, but all looks fresh afterwards, and the main walks in a kitchen garden ought to be fresh in winter, whatever they may be at any other season.

A gardener from a great place said, "How clean and fresh your walks looks! But do you prefer or approve of cutting all your Box-edging at this season?" I answered, No; I should prefer to cut Box-edging early in summer or early in autumn, so that in the latter case the cut parts might push afresh and become green before the frost came.

The pleasure-ground walks I could not at the time make deeper, and it would be of little use to attempt to turn the most of those under my care, yet I have seldom met with walks more enjoyable from year's end to year's end. Those with grass verges are cut every year with an edging-iron, generally about May, so that the scissors may clip freely afterwards. All the cuttings are removed carefully and put in a heap to form a rich compost, the walks are then hard-brushed with a scrubby broom, a little salt put on, especially at the sides to keep worms away, and a slight covering of sand thrown over. Afterwards we seldom see a weed for the season, and the walks are comfortable and do not cling to the feet in wet or frosty weather. This treatment does not cost a tithe of what turning, levelling, and rolling would do. Of course even sanding must be thin, or it would soon puddle, but very little will suffice to give a fresh appearance and yet prevent such a result. No salt should be used now, except, perhaps, a very little at the sides, say for 3 or 4 inches, in order to keep worms under. I never like to use salt much after June, for if applied in autumn there is a danger of the walk being rendered damp for the winter.

I have seen walks made so deep that a yard of gravel would barely suffice for a half-yard run of a 7-feet walk. Some time ago I saw a place where from 24 to 30 inches of firm soil had been taken out in order to make a suitable approach to a mansion, all of which depth had to be filled with stones and gravel. In the majority of cases, where a firm bottom can be obtained a few inches from the surface, it is a perfect waste of labour and material to sink a great hole merely for the pleasure of filling it up with costly material. In such circumstances people forget that it is the firm earth beneath that carries the roadway, and that the dryness of the roadway on the surface is of far more importance than the depth of the material. I can recollect two instances in point. A roadway had to be formed through a park that had not been stirred for years, and through fields ploughed to the depth of but half a foot. The road was taken out 6 inches at the side, and much less in the centre, where the ground was hard; a layer of broken stones and flints was placed over in a somewhat semicircular form, and then a layer of gravel; this was rolled and the gravel raked in, as the wheels made a little depression. The road soon became firm on the surface, and stood much traffic uninjured; in fact, I have no hesitation in saying that it is much better for wheels than some other roads where fully four times the amount of material has been used.

The other case has reference to one of those damp, low places, where any quantity of stone or gravel disappeared, and then up would come the wet and mud to clog the wheels. The old level was disregarded, a lot of Black and White Thorn hedges were cut in the neighbourhood, and the cuttings brought and placed thickly in the spongy roadway. Clay, likewise, had to be removed for another purpose, and to get rid of it a layer of that clay, about 3 inches thick, was put over the thorns, trodden, and rolled, then a layer of stones, and lastly a layer of gravel, each from 4 to 6 inches deep. For more than fifteen years that roadway never required to be mended. Huge timber-gigs with heavy loads, drawn by four horses, passed over it, and the wheels scarcely left a track, the road being depressed as they passed, but afterwards returning to its original level. At eighteen years it was found that the thorn covered by the clay showed little signs of decay; and now the road, after having been made thirty years, is not quite so springy, but it has had nothing done to it, with the exception of a little rough gravel placed here and there in the wheel-ruts. In a place naturally damp, instead of sinking a walk I would at once raise it; and faggot wood, especially thorn, if kept from air, makes an excellent foundation. There can be no doubt that in the case referred to the clay preserved the thorns fresh for years by keeping them from the air.

Of all seasons of the year it is important that walks and roads on a gentleman's property should be clean and fresh in winter. Even tree-leaves lying about will not have the same melancholy effect if a good wide strip on each side of them is kept clean. The beauty of a walk will more particularly be found in its fitness for use without inconveniencing the feet. All drainage pools should be examined before winter,

as wherever water stands upon walks there will be an accumulation of slimy matter that will not only look unpleasant, but will cling to the feet. A walk may be overlooked in summer when it is so pleasant to traverse the soft dry velvet lawn, but a good walk for exercise is a comfort and luxury in winter.—R. Fish.

HARDY AND HALF-HARDY PLANTS FOR TABLE AND ROOM DECORATION.

Lily of the Valley (*Convallaria majalis*).—I know no more beautiful and fragrant hardy plant for blooming in-doors or for cut flowers than this. The handsome leaves of tenderest green, and the chaste sweet flowers arching elegantly on their stalks, present a union of charms rarely beheld in one plant—a fact which the flower-loving public appear duly to appreciate. For to say nothing of the estimation in which it is held for button-hole and other bouquets, and other purposes to which is is applied in the cut state, the thousands of pots forced annually in nursery and florists' gardens about towns, to sweeten and enliven sitting-rooms, sufficiently show the admiration bestowed upon it. A very large proportion of this supply is imported annually from Holland. The Dutch have sent us in the few bygone years sufficient to have stocked hundreds of acres to overflowing, but we are no richer in Lily of the Valley for it; imported stock is not even equal to the demand the present season, and the home-grown supply is not plentiful; nor is it so well favoured as the foreign. And what becomes of it all, the thousands of pots of home-grown and imported together, that find ready customers in winter and spring? In private gardens where much of it is forced, the gardener knows well the value of the old plants, and would as soon think of destroying anything else that is deemed worth keeping as of throwing them on the rubbish heap. A year's nursing and extra good cultivation will put forced Lily of the Valley in condition for forcing again; and no doubt nurserymen and florists would be glad to get back their old plants from their customers in such a state as that there would be a reasonable chance of recovering their lost stamina. As it is, however, they never return. They become the property of the police, falling into their hands by the way of the dust-bin and the agency of Polly the housemaid. This is a poor fate for a thing of beauty that is yet capable of being made beautiful as ever; for the same care and skill that developed its charms before are able to revive them again in due time.

Our present subject is one of perennial duration, and is, moreover, hardy and enduring to the utmost. It will even survive the dust-box, if quickly reclaimed while yet a little life remains; but it loves generous treatment, and well repays it. The imported Dutch clumps and crowns give flowers superior to our home-grown ones; it is even held to be a distinct variety, differing from ours in being more robust and luxuriant. It does not, however, retain this peculiarity, but quickly degenerates when subject to the conditions of our commonplace treatment. Any superiority it shows under forcing is due, I think, rather to the better climate and soil of Holland, and the special treatment given it by the Dutch. We should not expect many or fine Strawberries in winter and spring from plants lifted to force from the quarters a week or two before putting them into heat; and though Lily of the Valley is better adapted for forcing than the Strawberry, our expectations of the best results from it by ordinary efforts is only, therefore, a little less unreasonable. Forced as it usually is about private places, in clumps lifted from an old-established bed, the pots have as many crowns in them producing leaves only as there are crowns with flowers and leaves; and the abortive ones, besides leading to overcrowding, compete from first to last with those that flower for the food the pot contains, the contest being always more or less to the detriment of the latter.

There is no reason to doubt but that, if we adopted something like the Dutch plan of preparing our plants for forcing, the results would be quite as good in every way with our own as with their plants. We would require to break up our beds in the first instance, and carefully divide and select the crowns to such an extent as our demands suggested, and to plant them, the strongest and weakest by themselves apart, in rich well-trenched ground, 1½ inch asunder. The best time to do this is early in October, as it is also the best time for lifting and potting for forcing, but it will not yet be too late to do it when this comes to the hands of our readers, if the weather is open and mild. After planting—and in doing so the crowns ought to be almost buried—a mulching of old manure to the depth of 2 inches should be laid on the beds, and be beaten moderately firm with the spade, and blinded afterwards with a slight coating of soil. Anyone having old-established beds, and unwilling to break them up for this purpose, need not do so necessarily. The crowns in such a bed may be thinned out by means of a knife carefully inserted below the one to be removed, so as to sever it from the underground stem without injuring those that are to remain. Only the strongest in this case should be taken, and those that are left will benefit by their removal.

On this plan of treating Lily of the Valley, improved plants for forcing would not be our only gain; our stock would also greatly increase, and this, to the nurseryman and florist at least, is a very important point. It may be grown at home at half the cost of the imported roots, and everyone who indulges in the luxury of a pot in his room would ultimately share in the good of this economy. When lifting for forcing, or any other purpose, it is usual to discard all underground stems as useless. This is a mistake, for they may be made the means of largely increasing the stock in hand; every joint is prone to send up a crown when circumstances are favourable—that is, when there is room enough and pasturage sufficient for their development; and for the first two years it need not take up much room—a bushel of it may be put in a bed 4 feet by 6 feet. It is necessary in laying it in, to draw the soil off the bed wholly to the depth of a couple of inches, laying it on either side for handiness in putting it on again. The stems are laid on the bed thus prepared equally and evenly, and covered up with the soil, finishing off with a mulching in the same way as with the nursing bed for crowns, as described above.

Everyone that has to supply cut flowers or plants in flower for conservatory and room embellishment in winter, knows how to force Lily of the Valley; and our remarks on its treatment, to aid beginners, may be very brief. As early as the leaves are ripe the crowns should be lifted and potted, using rich sandy loam to pot them in. Put no manure in the soil; any enriching it may want is better applied in the liquid state after the plants are well started. Pot very firm; it is scarcely possible to make the soil too firm by pressure of the fingers merely, supposing it is in the proper state of dryness for potting. When finished, the tips of the crowns only should appear above the soil. They may then be watered, and put away in a cold frame till they are required for introducing into heat. It is always desirable to have the roots in action before the crowns begin to swell much. Mild bottom heat, applied in a cool atmosphere, secures this. I have started Lily of the Valley and other commonly-forced hardy subjects on the top of a heap of heating leaves in the open air in winter, giving them such top protection of straw or Spruce boughs as the weather rendered necessary, and was well pleased with the results. Plants so treated come away quickly and sturdily when they are brought into heat.

Our subject will not bear rapid or hard forcing; a temperature ranging from 50° to 60° suits best in early winter, but later on it will bear a few degrees higher. Keep it moderately moist till after the leaves and flowers burst the crowns, when the supplies of water must be gradually increased, and be alternated with applications of clear mild liquid manure. The syringe, if used at all, should be discontinued some time before the leaves and flower-spikes are half grown, especially if they are crowded in the pot; but it is preferable never to use it, taking the other ordinary means rather of keeping up atmospheric moisture instead. An over-moist atmosphere is favourable only to the production of fine flabby leaves and scanty weakly flowers that are liable to damp off on the occasion of the first check in temperature, and which under no circumstances continue to be long beautiful.

Hoteia japonica.—This gracefully pretty plant, so very liable to get injured by late frost in spring in most parts of Scotland and northern England, is a very good subject for room and table decoration. It may be very successfully forced, if not hurried too much or started too early. The present is a good time for lifting and potting it, but an early start is desirable, and I would advise lifting early in October, and the general treatment recommended for Lily of the Valley. The soil may be lighter, but equally firm potting is necessary; and manure of any kind, except liquid manure, is objectionable, causing, when applied to the majority of herbaceous plants that are forced, too much leaf growth, while the flowers are benefited little or nothing by the application. A little peat, however, is a very good addition to the compost for this plant. I would advise giving this a fortnight of bottom heat, either in the

open air or in a freely aired pit or frame, before putting it in a higher atmospheric temperature, such as that of a forcing-house or pit; and in other respects the treatment should be the same as for Lily of the Valley.—W. S. (in *Gardener*).

STOKE NEWINGTON CHRYSANTHEMUM SHOW,

The twenty-fifth annual Show of the Stoke Newington Chrysanthemum Society was held on the 14th and 15th inst.; and though not equal to several of its predecessors either in the number or the quality of the specimens and blooms exhibited, that circumstance appears to be solely due to the unfavourable season, and not to any falling-off in the interest taken in the flower.

Of pot plants there was but a small display; a few were very good, some were passable, and many indifferent as specimens. Most of them had the flowers but imperfectly expanded, and in another week or ten days will be seen to much greater advantage. The best three plants of the large-flowering kinds came from Mr. Howe, Shacklewell; the second best from Mr. Sharpe; the third best from Mr. James, of the Rochester Castle, a veteran grower. Among the varieties best represented were Dr. Sharpe, Gloria Mundi, Annie Salter, and Prince of Wales, the last full of bloom but not expanded.

For six Pompons Mr. Martin, gardener to F. Appleford, Esq., Woodbury Down, Stoke Newington, was first with good plants of Lilac and Golden Cedo Nulli and Andromeda. For three plants Mr. Martin was also first. Mr. James had a first prize for very good standards of the White, Lilac, and Golden Cedo Nulli, Bob, and others; Mr. Goodenough, Stamford Hill, being second.

Collections came from Messrs. James, Howe, and Goodenough, who had prizes in the order in which they are named. These comprised well-flowered plants of Gloria Mundi, Little Harry, John Salter, Prince of Wales, Mrs. Sharpe, and some Pompons.

Of cut blooms the show was likewise not very large, nor were the blooms so fine as in former years, still some of those exhibited were remarkably good. We will note the varieties which were best represented, not because of their extraordinary size, but because they were the best in a bad year, and were also the best in stands which we shall pass over. Mr. Rowe, of Roehampton, who was first for twenty-four cut blooms, had fine examples of Prince of Wales, Prince Alfred, Queen of England, Empress of India, Beauty, Mrs. George Rundle, Lady Slade, and John Salter—altogether a very even good stand. Mr. Berry, gardener to the Earl of Leven, Melville and Roehampton, was second with Miss Mary Morgan, Bronze Jardin des Plantes, and several of those already named. For twelve, Mr. Rowe and Mr. Berry were again first and second; Mr. Prickett, gardener to Mrs. Bowerbank, Stoke Newington, being third, and Mr. Drain, De Beauvoir Town, fourth. Among the blooms shown in these collections, Princess of Wales, from Mr. Rowe, was very fine, and the most notable of the others were Lady Slade, Mr. Brunlees, and Princess Teck, together with some kinds already named. The awards for sixes went to Messrs. Berry, Butcher, Rowe, and Holmes in the same order as their names occur. In the class not open to nurserymen and gardener, the principal prizetakers were Messrs. Sanderson, James, Yorley, Howe, and Slade.

Among other subjects exhibited there were several dishes of Apples from Mr. James; dishes and baskets of Apples and Pears from Mr. Smith, fruiterer, Stoke Newington; some Ferns; Palms and plants for table decoration from Mr. A. Forsyth, Stoke Newington; and a pretty Bouvardia called Queen of Roses from Messrs. E. G. Henderson, of St. John's Wood.

CORNICK VERSUS BLACK.

As I was reading the Journal on Friday last I was much surprised to see a very garbled account of a case in the Westminster County Court, headed "Cornick *v.* Black." I happened to be there on the 26th of September last, and heard the case opened; for knowing something of the parties, and being independent alike of each of them, I thought, Well, now, these market gardeners are a very ill-used set of men, to judge from their frequent appearance of late before the public, and here is one who has a veritable cause of complaint; but as the case proceeded it seemed to possess some very unusual features. The person who styled himself a market gardener in it was in the habit of sending, or taking himself, his goods to market, and had every opportunity of ascertaining their value before he parted with them to the salesman.

Somewhere in the latter part of April, 1869, he sent some things for which he received cash payment early in the May following, and continued sending, I think he said, to the end of the month, receiving cash for his consignments, without preferring any complaint against his salesmen; but the whole amount of the articles sent seemed to me a very limited affair. I purposely attended the day of the trial—viz., the 24th of October, and to my great surprise found that on two subsequent occasions when he went to the market he adopted a piece of very sharp practice, and took some one with him. After leaving his things with his salesmen, he so contrived that the person he brought with him should go and purchase some of the best of the things as a retail buyer. As soon as he ascertained the price given he concluded that would be his price, but finds out his mistake when the account sale is furnished; and because he was not allowed to make out the affair to comprise both wholesale and retail trading on his part, turned round and brought an action against the salesman for fraud. It also appeared in the course of evidence he had been actually paid over and above what his things realised, and therefore some extra profit, when it could fairly be made, was necessary to balance one transaction against another, and I was surprised the Judge did not notice this circumstance.—T. Taylor.

MORE ROSE GOSSIP.

If you and your readers are not tired, for this year, of Rose gossip, will you let one more humble enthusiast give his notions as to the best two dozen Roses in cultivation? The following well set up would, I think, be found hard to beat by Mr. Pochin or Mr. Baker:—Dr. Andry, Edouard Morren, Charles Lefebvre, Paul Neron, Comtesse d'Oxford, Duke of Edinburgh, La France, Exposition de Brie, Aurore Boréale, Baroness Rothschild, Fernando, Alfred Colomb, Marquise de Castellane, Sénateur Vaisse, Nardy Frères, Mdlle. Eugénie Verdier, Lady Suffield, Baron de Noirmont (B.), Marie Baumann, Louis Van Houtte, Maréchal Niel (N.), Annie Wood, John Hopper, and Sombreuil (T.).

The above I consider perfectly distinct in form and colour and vigorous hardy growers; the only kinds having any infirmities are La France, which remains too frequently in the bud, and Annie Wood shows a yellow eye, but is the most brilliant-coloured of Roses. Louis Van Houtte is, I am afraid, a feeble grower. Paul Neron is an improvement on Anna de Diesbach, almost if not identical in colour, but more double. I should have liked to have a Moss Rose in my twenty-four, but Lanei is the best, and rarely comes large enough for a show Rose among so limited a number.

If I may give an opinion as to the best new Rose I have seen this year, I select one I saw at Messrs. Paule', of Cheshunt, and which I was told was to be named Mr. Gladstone—a promising Rose in colour (dark) and habit of growth. Robert Marnock is large, but will look, I think, a plebeian beside Mr. Gladstone.—F. H. G., *Risendeniensis*.

P.S.—If anyone wishes for a very free-growing, free-blooming Hybrid Perpetual to cover a wall rapidly, I recommend him to try Fernando.

BUILDING A GREENHOUSE ON A SLOPING SURFACE.

I shall be obliged by your advice as to the best mode of heating a greenhouse which I am now building, first premising that, having rebuilt my dwelling-house, I found it necessary to pull down and remove to another site a range of old coach-houses and stabling, and so exposing to view, on approaching the house, a cowhouse, piggery, poultry-yard, &c. To conceal these was my chief object in erecting the greenhouse, which will face nearly due south.

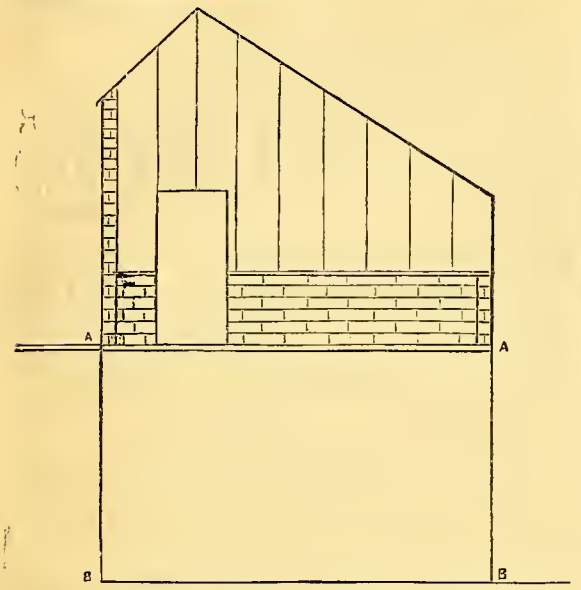
The position of the house and greenhouse is on ground sloping steeply from the south to the north, in length about 250 yards, and about halfway up; the slope upwards from the house being greater than that downwards to the carriage-entrance. In fact, the top of the garden is higher than the roof of the house, and are all eastward of, and nearly parallel to, the turnpike road, but considerably above it.

In pulling down the old stabling, &c., the site of which was originally excavated, we left the back wall standing to the height of about 10 feet, the level of the ground behind, forming a sort of dry area, the object being to hide the cowhouse, &c. We have built the greenhouse on four brick arches or vaults, communicating with each other by doorways. The vault furthest east has also a front doorway, this being the place where the heating apparatus is to be placed. The others are built up in front, and lighted with a piece of thick glass fixed, and ventilated with a terra-cotta air-brick, and small air-shafts in the back wall, rising to about 3 feet above the level of the ground behind. In these vaults I intend to store roots, &c. The intervals above in the roofs of the vaults are filled up with concrete, as also the floor level above to from 3 to 6 inches.

Of the greenhouse the back wall is carried up to the height of 10 feet above the ground level. There are four wooden ventilators in it at about 9 feet from the ground level. Its total length, inside measurement, will be 34 feet; its width, 14 feet; its height to the inside of the hipped roof, 14 feet. There will be a glass partition dividing it into two parts at about one-third of the distance from the east end. The roof is to be fixed. The glass, Hartley's rough, is borne on rafters 4½ inches by 2; that of the roof and sides, three-eighths of an inch thick; that in front, one-quarter of an inch thick. The rafters to be 1 foot

6 inches apart. The upper third part of three of the divisions of the roof to be made to open, sliding up and down. The front sashes to be hung on hinges, and to swing outwards.

The one-third partitioned-off at the east end is to be used more as a propagating house, the remaining two-thirds more as a general house, in which my wife will keep her plants; the gardener, probably, having but little voice in the matter, consequently but little responsibility.



A, A, Ground level at back. B, B, Ground level in front.
A, B, B, A, Side of vaults 10 feet high, 15 feet 6 inches wide outside, 14 feet wide inside.
End brickwork, 3 feet high; front sashes, 3 feet high; door 6½ feet high.

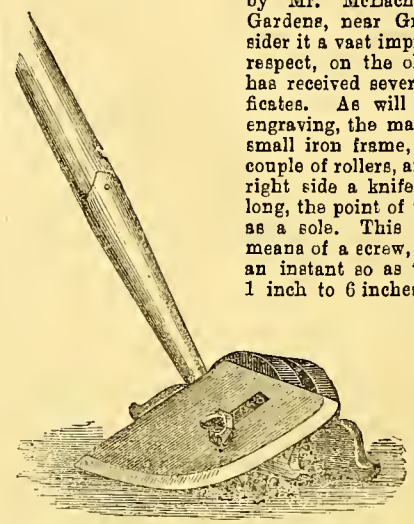
At the back of the eastern vault there has been carried up on arches a Pigeon house, rising some 25 feet from the back ground level; and through this Pigeon house the chimney-shaft from the vault below has been carried, leaving a place in which to carry up the chimney or pipes from the heating apparatus.—W. D. Paine, *Reigate*.

[As you wish to make the eastern division into a propagating house, you are quite right in the idea of having the heating apparatus there; and all things considered, a saddle boiler about 30 inches long would suit well, or a conical one of about the same dimensions. There is no other mode which would so easily enable you to have more heat in the propagating house with less or more in the main part of the building. In any spare part of this vault in winter you might grow Sea-kale and Rhubarb; and in the contiguous vault, merely by leaving the door open, you would have heat enough for Mushroom beds, whilst the other two vaults would come in for roots, blanched salads, &c.

The heating, too, would greatly depend on internal arrangements. For instance, to make the most of the internal arrangements as respects comfort and room, you might have a 3-feet bed in front of the propagating house, and a similar width of platform in the general house, a 3-feet path, and then a sloping stage of 8 feet for a base, which would take up the 14 feet in width. For easily getting at the plants a simpler arrangement would be to have a 2½-feet bed or platform all round, a 2½-feet pathway, and then a 4-feet platform or stage in the centre. To make the most of the propagating part you could have either the one bed in front, or in the latter case both back and front, heated by two hot-water pipes surrounded by rubble, with sand, ashes, or cocoa-nut refuse for plunging the cutting-pots in. One of these beds we would cover with small moveable sashes or squares of glass extending from the back to the front. The back border or platform would do for fresh-potted plants to be moved to the centre platform when becoming established. With two T-pipes you can have two flows and two returns to the boiler, one flow to go into the propagating house and one into the general house, the latter fitted with a throttle-valve, so that you could regulate or stop the circulation at pleasure, as it will often be necessary to have heat in the propagating house and to have none in the other house. Besides the hot-water pipes for bottom heat you would need two pipes all round in the propagating house for top heat, or three pipes round the front and two ends. Two pipes in front and at the ends of the other house would keep out frost. We think that with your ventilators in the back wall there is no occasion to have top lights to move. We should be perfectly satisfied with the wooden ventilators and the moveable lights in front.—Eds.]

McLACHLAN'S NEW PATENT VERGE-CUTTER.

Is it not surprising that so little that is new or improved has been added to garden implements? With the exception of the mowing machine, and, perhaps, Parkes's steel fork, garden implements remain very much as they were in the time of our great-grandfathers. We all the more heartily welcome this new edging-cutter, invented and patented by Mr. McLachlan, Dungourney Gardens, near Greenock, and consider it a vast improvement, in every respect, on the old edging-tool. It has received several first-class certificates. As will be seen from our engraving, the machine consists of a small iron frame, which is set on a couple of rollers, and has fixed at the right side a knife of about 6 inches long, the point of which is turned in as a sole. This blade is fixed by means of a screw, and can be set in an instant so as to cut verges from 1 inch to 6 inches deep, while the sole part of the knife detaches from the base the portion of edging detached from the side of the walk, thus doing with one action the work which requires an edging-tool and a Dutch hoe. This piece of simple mechanism is fitted to a wooden handle, 6 feet long, and the instrument is worked by the same sort of action required for Dutch hoeing. We have used this machine with our own hands, and find it very easily worked, and that it makes a very speedy and superior job.



Mr. McLachlan recently had a public trial of his invention, but the competitor with the old edging-tool soon gave up the contest. The testimony of the gardeners who saw the contest is as follows:—

"We, the undersigned, met for the purpose of proving Mr. McLachlan's edging-machine, and find that it is all that could be desired for the purpose, and a great improvement on the old system of edging. Mr. McLachlan, with the assistance of one man picking up the trimmings, cut with the sole-knife a verge 90 yards long in the short space of 7½ minutes."

[Signed by sixteen gardeners present at the trial.]

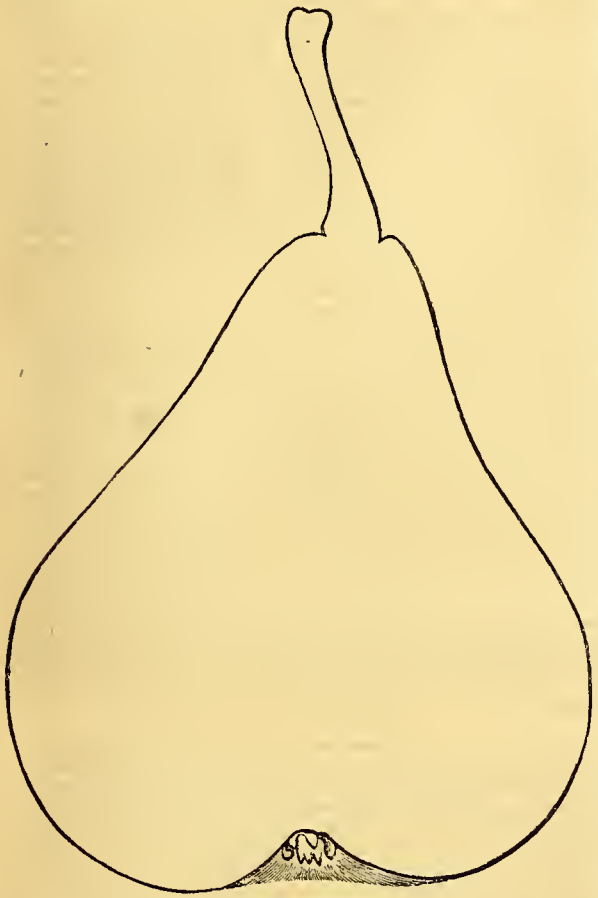
The work performed by the new machine was fully twice as much as was done by the old edging-tool, and a comparison of the work showed the great superiority of the work performed by the new one. The old tool either scatters that part detached from the edging over the walk, or requires a man or boy to follow with a Dutch hoe before it can be picked up; while that cut by the new one remains where it is cut, and can be gathered up without disturbing the walk.—(*The Gardener.*)

[We are glad to notice—and the more so because it has emanated from a gardener—a new form of an implement so much needed in modern gardens, and at the same time admitting of so much improvement. Gardeners, as Mr. McLachlan truly remarks, do not often try to improve their tools.—Eds.]

SINCLAIR PEAR.

It would be well if we could always know the exact spot where the various sorts of fruits will succeed best: and it is only by co-operation among fruit-growers and pomologists that we shall ever be able to arrive at so desirable a result. There are many fruits which when grown in the south are utterly worthless, and the same fruits grown in a northern latitude acquire all the excellence of some of the finest of the south.

On the other hand, certain fruits which are of the finest when grown in the north, are greatly inferior in the south. Where are there such Gooseberries, for instance, as are to be found north of the Tweed? Those of the southern part of the island bear no comparison with them. And where are there such Strawberries as are grown in England, far surpassing those of France? That excellent but very fleeting Pear Beurré Superfin, when grown in the North Riding of Yorkshire as our friend the Rev. W. Kingsley grows it, instead of ripening at the end of September, and decaying as fast as it ripens, as it does with us, is one of the finest December Pears at Thirsk, and, if we are not mistaken, Mr. Kingsley had kept it even till Christmas.



Sinclair Pear.

The Pear we figure to-day is one of those from which we learn the lesson, that what we often regard as an inferior fruit and unworthy of cultivation is in reality one of the greatest excellence. For this Pear we are indebted to the kindness of Sir Archibald Dunbar, of Duffus House, in whose garden, near Elgin, it was grown. Our figure gives an exact representation of the size and form of the fruit, and our reason for bringing it thus prominently before the notice of our readers is, that the large number of them who reside in the north and similar situations may know that in the Sinclair Pear they have one of the best October fruits this climate can produce.

The fruit is very handsome, with a smooth, clear, lemon-coloured skin, with a faint blush of red next the sun. The flesh is fine-grained, buttery and melting, very juicy and sweet, with a slight musky perfume.

This was raised by Dr. Van Mons, and was named in honour of Sir John Sinclair, Bart.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Wheeling out manures, composts, earths, mud, &c.; trenching, draining, making new walks, and repairing old ones, are amongst the principal operations at the present season in this department. Always make choice of suitable weather for performing each, with a view to cleanliness and good order. The *Asparagus* haulm may now be removed, cleaning the ground, and giving a good dressing of rotten manure. In the case of young plants which are only very lightly covered, the manure might be mixed with a quantity of leaf soil, and a good solid coat of this, 2 or 3 inches thick, applied. Take care to pot or lay in a sheltered situation a good store of Cape *Broccoli*, *Cauliflower*, and Grange's White Broccoli. The fine dry weather we have had of late has been particularly favourable for taking up *Beet*, *Carrots*, and *Parsnips*. The ground which they occupied should be trenched, and where the soil is clay or strong loam it should be ridged, that the frost and air may act on as large a surface of it as possible. *Celery* must be earthed-up carefully in suitable weather, and a supply of Endive must be blanched. *Jerusalem Artichokes* keep well in the ground, and can be taken up as required. To prevent the frost from injuring them the stalks may now be cut off within 5 or 6 inches of the surface, and laid between the rows, or a quantity of leaves or other vegetable refuse may be wheeled amongst them to cover the ground. The best plan, in respect to *Parsnips*, is to let them remain in the ground, and trench them out fresh as required for use; at this season of the year take care to have a good coating of manure or mulch spread over, so that in the event of frost it may always be easy to get at them. Proper sowings of *Peas* and *Beans* must be made immediately, but if this has been delayed the seed should be soaked in warm water for six hours to hasten the growth. Ground may now be prepared for new plantations of *Asparagus*, *Sea-kale*, and *Rhubarb*; and as these are permanent crops, every care ought to be bestowed on the thorough preparation of the soil. It ought to be in each case 3 feet deep, thoroughly trenched, manured, pulverised, and drained; where, too, the soil is exhausted it ought to be renewed with loam. Clear away dead leaves from old growing crops, and fill up blanks wherever they occur.

FRUIT GARDEN.

Continue to prepare for fruit-tree planting by draining, trenching, and pulverising the soil, and after planting tie them loosely and mulch in good time. Clear away all dead leaves from the wall trees, and remove the green fruit from the Fig. The established strong-growing fruit trees that are slow in producing fruit should be root-pruned. If the trees are planted too deeply, or the soil has been raised about them since planting, by all means fork the roots out carefully and plant again on the surface, spreading out the roots judiciously and mulching them. If trees to be operated upon are planted high and dry, fork about them at a reasonable distance, and prune back the main or strongest root. Raspberry plantations may be cleared of the dead canes and superfluous wood; the suckers should be taken off, and, where required, the strongest should be at once planted for succession. The most successful way of cultivating the Strawberry at this season is to add enough manure between the rows, which are, in general, nearly 3 feet apart, and to dig it in only a spade's width in the centre. It will, perhaps, be feared that the roots will be cut, as is really the case, but that is done intentionally, having been found by experience to be beneficial; its necessary tendency is to check overluxuriance in the leaf up to the period when the blossoms appear. By the time the fruit is swelling a new set of white roots will be found to have taken possession of the dug line, which, with the decomposed matter of the old Strawberry runners and a small amount of manure, contains everything necessary for the sustenance of the plant. At the end of February or the beginning of March the old leaves are entirely cut off, and a little soil is drawn to the crowns.

FLOWER GARDEN.

Those who propose making additions to their collections of Roses should do so at once, as there will be a better chance of obtaining good plants now than after the nursery stock has been repeatedly picked. The present season is also very favourable for planting all but tender sorts, which had better be kept under glass until next May; but these should be procured at once, and if they can be placed in a gentle heat throughout the winter, they will grow freely, and furnish cuttings which will root just as readily as a Verbena. In preparing ground for Roses, let it be trenched at least 2 feet deep, and very heavily dressed with manure mixed to the full depth of the soil. It is hardly possible to make the ground too rich for any kind of Roses, particularly the autumn-blooming kinds. Four or five inches of rotten farmyard dung will not be too much when the soil is naturally rather poor. Large-headed standards that have done blooming for the season should be cut back

somewhat freely to lessen the chances of their being injured by heavy gales of wind. Where walks are in good condition but weedy, recourse should be had to hand-weeding, for the use of the hoe and rake should be avoided at this season as much as possible. These tools do more harm than good by breaking up the surface, whilst the destruction of weeds is not secured. Those walks which are overrun with Starwort, Liverwort, and the various mosses, had better be dug over with the spade, thereby putting the whole out of sight, and presenting a new surface; this when rolled down smooth will have a neat appearance for some months.

GREENHOUSE AND CONSERVATORY.

Guard against damp by giving air freely when the state of the weather permits, and use fire heat only when it is indispensable, and then as sparingly as consistent with the safety of the plants. It will probably be necessary to force many plants gently to secure a succession of bloom for the conservatory, as few plants will make much progress at this season unless encouraged with more than an ordinary growing temperature. Where forcing must be resorted to, avoid subjecting the plants to a very high temperature, which is very injurious to many things, and causes the flowers to fall much sooner than if the heat were suited to the habit of the plants. Take advantage of unfavourable weather for out-door work to get the foliage of Camellias, Orange trees, &c., thoroughly cleaned, for this is very essential to their health. Look over the plants in the greenhouse frequently, and examine very closely those which are liable to suffer from mildew and damp, such as Leschenaultias and Boronias, for a short spell of neglect will sometimes result in the disfigurement of a promising plant. Boronias, Leschenaultias, Gompholobiums, &c., are very impatient of exposure to cold drying winds, and if they must be wintered in the same house with the hardier kinds of greenhouse plants, they should occupy a part of it where they will not be exposed to cold draughts, though air must be admitted by the top sashes freely on fine days. Young specimens of Azaleas which have been growing in heat had better be removed to a cool house for a few months. This will cause them to start more freely in spring. Keep Cinerarias and other softwooded plants clear of green fly, and endeavour to secure stocky specimens by affording them sufficient pot room, and admitting fresh air freely whenever the weather allows. Cinerarias are rather liable to be attacked by mildew at this season; if this enemy makes its appearance apply sulphur immediately.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Observation has led us to the conclusion, that in a growing bright moon we have the coldest air in the evening, and in a waning bright moon we have the greatest degree of cold in the morning. In a mild evening, therefore, after the new moon, with a thermometer about 40°, we would not be so particular in giving additional covering or firing to prepare for a frosty morning. On the other hand, with a waning moon, rising from midnight and onwards, and with signs of a falling thermometer before dark, we should like to be prepared for the very probable cold of the morning. In such cases, and, perhaps, in others, the greatest cold is often at sunrise or shortly after. We believe that if the direction of the wind, and the state of the atmosphere—cloudy or clear—and even the age of the moon were taken into consideration, some of the evils might be avoided that come from under and over protection and firing.

Cauliflower.—We have given no protection as yet to the young plants under hand-lights, as we rather like them to have a touch of frost. Fine plants coming in for use, we did not treat in any of the ways alluded to the other week, as we could not well place them under protection. Had we taken them up we could hardly have put them in more thickly than a piece of Veitch's that is coming in. Where the heads are still but half the size we wish them, we find that the lifting of the plants and laying them in, however carefully, has a slight tendency to affect the compactness of the head, and singularly enough plants thus treated have always been more attacked by rats and mice than those standing where they were planted. As we had some long litter to spare, and as the plants were thick, we heaped this up lightly between the rows a little above the flower centre, and then laying a nice Cauliflower leaf across, we put a little hay along the tops. The hay was some rough stuff with leaves and bits of sticks in it, a supply of which is useful on an emergency. By such means we have kept Cauliflowers, Walcheren Broccoli, and Snow's Broccoli, through most of the winter. Of course, the litter remains until the crop is cleared, which is done on a fine day, the rough hay being lifted off the plants and laid in little heaps for future use. When Cauliflower is planted rather thickly in beds, or on a narrow sloping bank, such covering should often be taken off and replaced, as it will ever be more effectual in proportion to its dryness. Had we at liberty a secure place under glass, such as the floor of an orchard house, we would have raised a lot carefully with balls, with the certainty that they would afterwards require less trouble. The above mode, however, has often answered even in rather sharp winters. The covering the ground and stems with litter in such a case, is of importance, as tending to keep the ground and the roots warm.

FRUIT GARDEN.

We could not move under protection our Strawberry plants in pots, but as they stood in beds we run some litter all round to protect the outside rows of pots, and then covered them over with dry litter. So long as the heat in the ground is prevented from escaping, a very little litter all over the top will prevent the soil being so frozen as to affect the roots. We have thus kept them all the winter, removing the litter from the top of the plants on fine days. They would be still safer from cold if plunged, but then to counterbalance this advantage they are apt to suffer from too much moisture. We would prefer having such pots, especially all those intended for early work, under glass, plunged or unplunged. The latter would not be necessary where there was no artificial heat, if a little covering over the top were given in the severest weather.

Grapes in the orchard house have neither been so good nor so well ripened as in previous years, owing to the coldness of the first part of the summer. In most cases much north of London, Grapes in unheated glass cases will depend much on the sun of the summer. Grapes in a wide late vinery, with two pipes in front, have hardly shown half a dozen of decaying berries. A little artificial heat is, therefore, an advantage where Vines are grown. The Messrs. Lane did wonders in their simple orchard house at Berkhampstead, but they did greater wonders when they took advantage of the hot-water pipes. In the Peach house we pruned, cleaned the front, and resurfaced, so as to get the floor and every available space covered with boxes of bedding plants. The first lot that we consider to be quite safe from damp and frost we will find room for elsewhere, when we give more heat to the Peaches to bring them on. This we do only because the room is valuable, as the end of this month, and the whole of the next is the most trying time to bedding plants in cold frames or pits, with the exception, perhaps, of Calceolarias, which do better without any artificial heat.

ORNAMENTAL DEPARTMENT.

When we wrote last week we could have gathered baskets of bloom from the flower beds; now little can be obtained except some Violets, Salvias, Lupines, Phloxes, and Chrysanthemums. The frost of the week has destroyed nearly everything aboveground. The Ageratums, that eight days ago were a mass of grey flowers, are now in a fit state for retirement. Our scarlet Geraniums, cuttings of the previous September and March, not only bloomed freely, but grew so strong and thick that, though the tops were injured, the plants were perfectly well lower down. We took up a number and put them under cover, in order to pack another lot away as referred to the other week. They will thus suit our purpose as well as those taken up early; and so long as the plants remain fresh and show a good deal of bloom, it seems undesirable to break the symmetry of the beds. A spring display is much more easily obtained than a summer display to be kept up into the winter. In consequence of this latter practice we have several times had the whole flower garden destroyed early in November; but once, by means of covering with mats, we had a beautiful show of Geraniums and Calceolarias on Christmas-day.

We went through the usual routine of potting, watering, and plunging fresh-potted, hardy plants in a mild hotbed to encourage fresh rooting. A few bulbs we wished to come in early were treated in the same manner, to attract the roots downwards whilst the top of the bulb was kept cool. Scarlet Geraniums in 6 or 8-inch pots that had been prevented blooming much in summer, and were put under glass some five weeks ago, promise to yield a fine crop of flowers when flowers of any kind are scarce. Primulas and Cinerarias also come in useful at this time. We have commenced securing all the most tender plants under glass, where a little heat can be given them until the days lengthen; in the meantime they are supplied with some rough protection.—R. F.

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Books (*Thornhill*).—Gordon's "Pinetum" and Supplement is the book you wish for.

Our Volumes (*T. R. Jones*).—They end the last Thursday in June and December, and an index is soon after published for each six-months volume.

Seedling Fuchsia (*R. H., Bournemouth*).—The Fuchsia, we think, has some merit, as far as we could judge from the bloom, which was very much withered. Why not send it to the Floral Committee of the Royal Horticultural Society?

Parsnips (*J. D.*).—We do not know the wholesale price, and we never recommend dealers. In Kelly's Directory is a list of Covent Garden salesmen.

Seedling Coleus (*G. E.*).—The leaves are rich-coloured and the beading of green good; but there are such legions of these varieties now—some very like yours—that we fear it would not be remunerative to expend money about it.

Stove Boiler (*J. P.*).—The 30-inch boiler will heat your house amply, but we have no faith in your doing so by having, according to your plan, your boiler above the ground, first raising your pipes, and then at once sinking them below the level of the bottom of the boiler. For an open-topped boiler the pipes may be level with, but not below, the part that comes directly from the boiler. To make your plan answer you would require to have air-pipes at all the bends, and then there would always be a risk. It is quite as natural for hot-water to rise as for hot air to do so. It is always unadvisable to take any hot-water pipe, even a return one, below the level of the bottom of the boiler. For such a house you would want four 4-inch pipes in the front of the house, besides a flow and return at each end, or three pipes all round except the back. Your sinking the boiler enough outside, or even inside to be fed from the outside, would save all difficulties; and then we would have a short chimney outside instead of taking an iron tube inside across the gable end of the house. That alone would most likely prove a fertile source of trouble as respects red spider.

Writing or Engraving on Glass (*A Young Gardener*).—The following, which we extract from "The Mechanics' Magazine," seems as if written by anticipation for you. "M. A. Wilbaux finds that words and designs may be printed on glass by the use of type made of any suitable elastic material. The printing ink contains, however, fluoride of calcium incorporated with it, and when the glass which has been thus printed on is submitted to the action of hot sulphuric acid, sulphate of lime is formed, and hydrofluoric acid set free, which immediately attacks the glass in the place of its birth. On subsequently washing off the ink stains, &c., the design is found to have been beautifully etched upon the plate."

Garden of Eden (*Querist*).—No certainty has been arrived at as to its locality, consequently it cannot be told whither Adam journeyed. Our correspondent adds—"An English writer says in his advice to young married women, 'that their mother Eve married a gardener.' It might be added that the gardener, in consequence of the match, lost his situation."

Evergreen Shrubs (*C. H. H.*).—You should have said how many kinds you need, for they are numerous. We will name about a dozen—Arbutus Unedo, Aucuba japonica, Berberis Aquifolium and Darwinii, Buddlea globosa, Laurel, Portugal Laurel, Cotoneaster, Cratægus Pyracantha, Escallonias, Kalmia latifolia, Laurustinus, and Rhododendrons.

Black Bess Strawberry.—We are informed that it is the same as Empress Eugénie.

Glass for Vinery (*J. S.*).—Had your house been for flowering plants, we would have said, Have ribbed shaded glass for the roof, and clear glass for the front. For Vines and fruit trees we would say, Decidedly use clear 21-oz. glass, or heavier if you do not mind the expense.

Window Plants (*G. C.*).—We do not think anything would suit your window better, after Chrysanthemums, than the yellow-flowered Cytisus racemosus, or for a dwarf, Cytisus Attleeanus. A compact plant in the centre, with blue and red Hyacinths on each side, would look very well. Coronilla glauca also blooms well in a window; the flowers are yellow. Early Cinerarias also do well if the leaves are frequently damped, and if merely kept from frost. Both the Cytisus and the Coronilla would require to be lifted from the window in severe frost. As a hardy plant, no fire being used, you might have a good-sized variegated Holly, an Aucuba, or even a Laurustinus that would bloom all the winter.

Orchard House, Position, &c. (*T. R. Jones*).—From the ground being occupied by tree roots which you cannot move, you may grow the fruit trees in pots, setting the latter on slates or tiles, otherwise the roots would be apt to interfere with the pots. Such a house, even though receiving little direct sun after two o'clock, but heated with hot water, would be better for Grapes in pots than a more exposed span-roofed house that had no heating, as in some seasons the Grapes do not ripen well when merely under glass, though much may be done with abundance of sunshine, and shutting the ventilators early. For Peaches, Nectarines, Cherries, Plums, &c., we should prefer the span-roofed house with the sides facing east and west, and the ends north and south, even with no heating; and if we placed Vines in pots there, we would make a division and have them by themselves, so that we could treat them a little differently as respects ventilation as soon as growth had fairly commenced. If you decide on having your new house in line with the present greenhouse, and if the pipes in the new house would run in the same line and level, you may easily continue your pipes in the orchard house, but the latter will not be quite so warm as the former. Again, though by having the circulation in the greenhouse complete, and the addition made by valves, you could then heat the greenhouse without heating the orchard house, you cannot heat the orchard house without first heating the greenhouse. Your case is similar to that alluded to in the second column, page 366, and all the difficulty would be avoided if your boiler had been placed between the two houses. It is always well to be able to heat each house separately. Thus you might wish to give more heat to the Vines when in bloom, and again to perfect the ripening, when heat would not be at all wanted in a common greenhouse. You might, it is true, neutralise the extra heat in either case by extra ventilation; but this involves extra expense for fuel. With your present arrangement, if we did not continue the heating in the orchard house, we would leave the greenhouse heating just as it is, only on the flow-pipe, as near the boiler as convenient, we would cut the pipe so as to fix a valve to open or shut at pleasure. On the top of the boiler we would fix another flow-pipe 1 inch in diameter, provide that too with a valve or stop-cock, take that small pipe through the greenhouse, and join it to the pipes in the orchard house by cap, blank socket, or blank spigot. You would thus have only the extra small pipe passing through the greenhouse, and with that exception you could heat each house separately. One thing, however, you must ever bear in mind—namely, never to put a fire on without opening the valve of one of the two flow-pipes, or you will have an explosion. If these matters should be deemed too troublesome, we would advise growing some pot Vines in your present greenhouse, and making your new house, where you say it will have all the sun possible, as that we think will be best for everything except the Vines.

Austrian Pine (*C. H.*).—The Austrian Pine requires to be protected from sheep until it is sufficiently grown to be out of their reach London dung can be procured from all the London railway stations, and on application to the master at any of the stations the information as to price and carriage can be obtained.

New Plum (*A Green Plum*).—We would recommend you in preference to grow the Transparent Gage. It is a fine fruit.

Pruning Pyramidal Fruit Trees (*W. Frodsham*).—If your pyramid fruit trees have made vigorous young shoots, we would shorten them to about two-thirds of their length, and if too thickly placed thin them out. Cut the shoot at an outside bud, so that the leading shoot which will grow from the top bud will take an outward direction. For pyramid trees summer pinching and pruning are best, as they induce fruitfulness. All the pruning that Gooseberry bushes require is to regulate the young shoots by thinning them out where crossing each other, and cutting the ends of those that remain.

Treatment of Dendrobium formosum (*C. M. M.*).—There can be no doubt that this plant is epiphytal, though it succeeds admirably as a pot plant like most others of the same genus. The pots are filled to two-thirds of their depth with crocks, over which should be placed a mixture of chopped sphagnum, fibrous peat, lumps of charcoal, and a little silver sand, with crocks, the whole compressed firmly and rising well above the rim. Let the roots of the plant alone be covered with the compost, when it is as much at home as if it were growing on the trunk of a tree. Being a native of Nepal and Moulmein it does not require a very high temperature, and will, indeed, grow in a warm vinery—an admirable place for a great number of Orchids. If the plant is in good health and in good growth, place it in a house with a temperature of 45° to 50°, and from now until March give only a sprinkling of water betimes to keep the pseudo-bulb from shrivelling up. In March you may put it in a vinery with a temperature of from 50° to 55°, increasing in a few weeks to 60° at night, and also sprinkle it overhead every morning for the first fortnight, when it will start into flower and afterwards into new growth. It should now be encouraged with moisture to make a good growth, and on that being completed and the bulbs being firm, keep it dry and moderately warm, but try to obtain a complete maturation by exposure to light and air. The flowers come from the base of the old leaves, and each pseudo-bulb will produce fresh leaves and a new pseudo-bulb from its base, or sometimes from other parts.

American Cranberry Culture (*F. B.*).—The treatment you describe yourself to have given your plants ought to have had a different result, but we fear you erred in the question of soil, and also with regard to the water in the ditches, which need not be very deep. Though peat is insisted on by some cultivators, it does well in a compost of equal parts turfy peat, leaf soil, and sandy fibrous loam. It may be planted in single rows in beds 4 feet in width, and the same distance apart, water being made to circulate a foot below the surface of the beds in a small ditch between. The position should be sontherly, and not shaded by overhanging trees, and a top-dressing of decayed leaves and sandy peat should be applied every November. Our correspondent wishes to know if any of our readers cultivate this plant, what is their estimate of it as a fruit-bearing bush, and what their mode of treatment.

Mediterranean Heath, Propagation (*A Subscriber*).—Take cuttings of the young shoots when their bases are rather firm, and stripping off the leaves from half the length of the cutting, and paring its base smooth, insert them round the sides of a pot clear of each other. The pot should be first filled half its depth with drainage and a little rough peat, and then to within three-quarters of an inch of the rim with very fine sandy peat, the whole being covered up to the rim with silver sand; water gently and press firm. After standing a few hours put in the cuttings, and place them in a cold house or pit covered with a hand or bell-glass. Keep close and moist, shading so as to lessen the necessity for watering, and when the cuttings have struck, as you may know by their growing, admit air gradually. Pot them off when well hardened, and keep them in a cool house or pit over the winter, planting out in the spring. They may also be wintered in the cutting-pots, and planted out in spring after being well hardened.

Vine Transplanting (*Amateur*).—Your Vine which has been growing out of doors for six or seven years should not be moved until March. In the meantime have the border well drained, taking out the soil if not of a light sandy nature, and placing over the drain rubble 9 inches to 1 foot deep, covering the whole with 2 feet 6 inches to 3 feet of turfy light loam, mixed with lime rubbish and a few half-inch bones. If the soil is light and sandy it will not be necessary to do more than drain the border; or if the ground is dry, not even the lime rubbish and bones will be required. The width of border you name will answer well for one Vine.

Coleuses Wintering (*Idem*).—They should be protected and have a temperature of from 45° to 50° by fire heat, being watered only when they become dry, and then moderately. They suffer most from damp and cold. Young plants winter more safely than old plants, and are better every way. We put in cuttings early in September, and have them now compact bushes in 4½-inch pots in a cool stove. They are extremely useful for decorative purposes, and endure a dry atmosphere very well.

Names of Fruits (*F. S. Milham*).—1, Beurré Clairgeau; 2, Northern Spy; 3, Birmingham Pippin; 4, English Codlin; 5, Scarlet Leadington. (*C. C. E.*).—Nonveau Poiteau. (*J. Green*).—Emile d'Heyst.

Names of Plants (*J. P.*).—Spindle Tree, Euonymus europæus. (*T. L. Mayo*).—1, Pteris serrulata; 2, Pellæa hastata; 3, Nephrolepis exaltata;

4, N. acuta; 5, Lomaria lanceolata; 6, Polypodium aureum; 7, Selaginella Martensii; 8, Pteris quadriaurita; 9, P. cretica albo-lineata; 10, Platyloma rotundifolia; 11, Asplenium flaccidum; 12, Polypodium vulgare; 13, Adiantum æthiopicum; 14, A. cuneatum; 15, Polypodium cambricum; 16, Begonia Dregii (B. parviflora); 17, B. insignis (B. incarnata); 18, B. coccinea. (*Goodness*).—Cosmos diveraifolius var. atro-sanguineus, native of Mexico. (*Mrs. B.*).—1, Polypodium aureum; 2, Asplenium nitidum. (*Rush*).—Cyclamen neapolitanicum, *Ten.*, native of Italy. (*C. M. Major*).—Your Orchid is Calanthe vestita var. rubro-ocnlata. Maxillaria aromatica, otherwise Lycaste aromatica, is about as distinct from this as any two plants need be. (*Donna Serafina*).—1, Polypodium aureum; 2, Cyrtomium falcatum; 3, Asplenium lucidum; 4, Pellæa adiantifolia; 5, Leycesteria formosa; 6, Solanum pyracanthos. Alternantheras require the temperature of a warm greenhouse during winter, should be potted in a light soil, and be kept moderately dry. Begonias require stove treatment, and to be supplied with no more water than is necessary; many kinds will, however, be in bloom this season. For general cultural directions on all sorts of plants we cannot do better than recommend the "Cottage Gardeners' Dictionary," in which brief instructions are given under every individual genus. Price 12s. 6*d*., to be obat our office. (*Curious*).—1, Selaginella Brauniana (S. pubescens); 2, Nerine pulchella; 3, Selaginella Martensii; 4, Corydalis lutea.

POULTRY, BEE, AND PIGEON CHRONICLE.

CRYSTAL PALACE POULTRY SHOW.

We expected a first-class show of poultry at the Crystal Palace; but we confess, remembering the earlier date fixed on this occasion, we were surprised at the magnitude and quality of the collection brought together. Nearly fifteen hundred pens of poultry and over nine hundred of Pigeons testify to the popularity of this new Show, and the confidence felt in its Committee of Management by the fancy at large; and such a number of entries is indeed treading very close on the heels of Birmingham.

Last year, as is well remembered, there were many faults to be found with the details of arrangement. On this occasion it gratifies us to be able to testify to the excellent manner in which the birds were shown. The open wire backs of the pens, which before worked so much evil, were now covered with calico; and the long rows of pens being placed in the nave, in full light, so long as daylight lasted the Judges had every facility for performing their really arduous duties. This leads us, in fact, to the greatest defect in the arrangements—the Judges' work was *too* arduous. They worked with a will, and without intermission; but we cannot consider three Judges sufficient for fifteen hundred pens of fowls, and the consequence was that many awards had to be made in failing light and under other disadvantages; and the whole with greater dispatch than is advisable, and at a Show of this class in particular.

DORKINGS.

Classes 1 to 3.—The cups for old birds were secured by the grand Rose-combs of Mr. Martin, who still keeps up the credit of the Holmesdale strain. The other prizes were only middling, and the Dorkings generally awakened in us very unfavourable anticipations, which we were pleased not to find realised by the rest of the Show. The cup cockerel was a very large and dark bird, with uncommonly good legs and feet. The next two prizes went also to birds dark in colour, and this is evidently preferred by the Judges, and should therefore be studied by Dorking-breeders. We should have been ourselves inclined to award the third prize to pen 24 or 25, both of which were very good. The winning pullets, too, were Dark, and in size far beyond the rest, which were most of them hardly ready to show by the middle of November. The second and third were well placed, but later on several of the highly commended pens will usurp their places.

4 to 8.—All the Silver-Grey hens in Class 4 were larger than usual. The cup pen were both birds genuine Dorkings, and the cock of a remarkably good colour; none of the others free from white on the breast. The first-prize cockerel was small, but very handsome; second much larger, but far from equal in colour and carriage. This breed is not progressing. Several of the pullets were not pure in colour, showing a nasty red tinge through the silver; but the first were very good. A special class for Cuckoo Dorkings brought a small but very good collection, and the cup pen was truly fine, but in both the others the cocks were too light in marking to match the hens. The Whites showed some improvement, in our judgment, both in colour and size; and several prize pens besides the winners were really good.

COCHINS.

9 to 12.—The old Buffs also were in pairs. First-prize a well-shaped deep-coloured cock with a medium-shade Buff hen, the cock having grand legs and feather, as, indeed, was the second-prize, the cock in which was lighter, being a gold tint; third-prize also a very dark, almost Cinnamon cock, very large and fine, but with a hen far too light to be a good match. But for this, second and third would probably have changed places. The cup cockerel was one of the finest birds we ever saw—certainly the best shown for four seasons, having finer development than of late in fluff and saddle, with a beautiful sound colour for breeding, and grandly-feathered legs. Second good in colour and fine, but far from equal to cup in shape. Third very large, and an even gold colour over the top; tail too long, but honestly left all in. The same exhibitor showed an unnoticed cockerel (pen 145), which when he has got some hackle on will probably be heard of. The pullets were much better and more numerous than last year, but still show much to desire as regards fluff and cushion before they are equal to the birds of years ago in these cardinal points of a Cochin. The cup pen had one grand bird, though with a bad comb; the other much smaller. Second fair in shape, a good match, and remarkably fine heads and combs. Mr. Taylor's third-prize birds were very similar, and the second and third prizes must have been hard to decide. The class for Silver Buffs contained only one entry of very poor quality, but the cup was awarded, we think, very injudiciously for the sake of "a discerning public."

13 to 15.—The cup pen of old Partridges contained a grand hen, but the cock hardly through the moult, which did not set him off well; he struck us as heavy and clumsy, but had beautiful legs and feet. Second a handsome but small hen, and cock a deal of brown in his thighs. It is quite plain that the Judges do not now consider this latter ought to disqualify a good bird, and the fact should be noted. Third a fine cock, but hen not in condition, otherwise we believe this pen would have been probably first. The best hen was in pen 177, but the cock was poor. The cup and second cockerels were as fine in plumage as could be wished, besides being of excellent shape; the metallic rich gloss they showed has been rare lately. Third was a mere raw chicken, though very promising. Many of the birds were far too poor in feather. First-prize pullets good, but not a match, and one had far too much tail. Second was a decided mistake, one bird being quite wanting in breast-pencilling, and we should ourselves have put the third-prize first, first-prize second, and given Mr. Tudman's 202 third. This class was not so good as some we have seen, and good matches were rare, which made placing the pens a doubtful matter. [We have since heard that none of Mr. Tudman's birds arrived in time.]

16 to 18.—All the prize old Whites were good Cochins in shape, and well feathered, but not one of the cocks was entirely free from yellow, which seems becoming more and more prevalent. The cockerels were better in colour, but still not that pure pearly white so desirable. First-prize an extra well-developed bird, good in nearly all points. Second and third rather narrower, and third rather poorly feathered. In pullets, the second-prize must assuredly have been cup but for a comparative want of feather, being best in shape, size, and colour; but all were good, and this was the best of the White classes.

BRAHMAS.

19 to 22.—The cup old Dark cock was a truly grand bird and well worth his place; colour, shape, feather, size—all good. The other two prizes were much criticised, and the third was in our opinion better than second, which we think might have made way for at least three others, being coarse in head, clumsy, and no saddle to speak of. The hens were remarkable for the three prize pens being every one first-class, while all the others were comparatively worthless. The cup for cockerels was rightly won by the Middleton cup bird, which has changed hands, and whose development is such as is rarely seen; but he was by no means in condition. Second was good in shape and feather, but hardly the bird we expected; and third had a slipped wing. This class rather disappointed us on the whole for one of forty entries. The pullets numbered forty-four, and was about the best on the whole which we remember for three seasons. Cup pen splendidly pencilled, both dark and yet clear, but narrow in shape. Second far better in shape, but not quite equal, though still first-rate in marking. Third very clearly and purely pencilled, but poorly feathered, and with same fault as the first. The pencilling in this class was the best seen for a long while, and we did not envy the Judges. We would only say that the cup should, we think, have gone to the hens, which were nearly perfect in shape as well as colour.

23 to 26.—Old Light cocks were very poor, nearly all being of a dirty straw colour. The best bird in all but size was the highly commended pen 368, which, if we mistake not, was winner last year, but was very small. The third-prize we did not like in any way. The cup for hens we were glad to see given to a decidedly hocked but heavy-feathered and beautifully coloured pair of very good shape and size. Second very large but bad colour, being a deep creamy tint. Third good colour and fair in shape, but very poor in feather. The cup cockerel a well-developed large bird, but with no rise in the saddle, which we think a great fault; hackle lightly but distinctly striped. Second good shape, size, and colour, and but for a slipped wing we would have selected him for the place of honour. This bird, however, showed strongly the tendency, now happily nearly stamped out of Darks, to grow white feathers in the tail. Third best in shape and colour of the class, but far too small. Pen 414 was a special example of the yellow tinge which is so offensive. Still this class showed some real advance on last year. The pullets also were better, the cup pen being a nice pair, really well feathered, and good clear colour, though the hackle should be darker. Second much the same. Third, on the contrary, good in hackle, but creamy. We are not sure we should not have selected for the cup one of the pens "left out in the cold;" and for the guidance of amateurs we would point to one of the birds in pen 463 as the best single neck and head in the class. The Light pullets numbered forty-seven pens, beating the Dark by three!

SPANISH.

27 to 30.—In the old cocks the cup and third were very good birds, but the second had one of the ugliest heads ever seen, and we have a strong suspicion the award was meant for 504 next door; but in any case we should have given either second or third to pen 508. The cup hens were very fine, but none of the rest were nearly in condition, and we would not speculate on their value. The cup cockerel had a

medium-sized face, but of super-excellent quality; the second also a fine specimen; the third had long lobes, but a rather poor face. The cup pullets were but middling, and decidedly inferior to the second-prize pair, which was the best in the class; third not nearly matured, and will be better in a month more. It will be seen that both cups for cocks were taken by a new Bristol exhibitor, thus filling the place of the departed Mr. Lane. This is as it should be, and we quote it as one of the many examples to meet the oft-repeated falsehood that practised exhibitors can "rig the market," and as showing that entire ontsiders have an equal chance with the Judges, if the birds are only good enongh to win.

FRENCH FOWLS.

31 to 34.—The cup Houdan cock was rather coarse, and with a small suspicion of Dorking cross, but good dark colour, and really an immense bird. Second and third about the average; third almost too dark perhaps. In hens Mr. Cooper was first again with a really fine pair, and second and third were not far off. It pleased us to see that English fanciers are getting the spangling of these fowls more regular in pattern, and that the splashed and patchy appearance is fast disappearing. In Any other French variety, the cup cock (Crêve-Cœur) was the best single French fowl in the Show; second and third also good Crêve-Cœurs, but a considerable distance behind the cup. In hens, first and third again were Crêve-Cœur, and rightly judged, the third will in a fortnight be far the better pair of the two. Second were La Flèche, and showing far more health and condition than usual, and with capital genuine French heads.

HAMBURGHS.

35 to 39.—In Gold-spangles the first-prize contained a first-rate cock with a hen in bad condition. The same remark, indeed, applies to all three, which were young cocks with old hens not fairly recovered moulting. In Silvers, the first-prize pen contained an unusually good hen, with a cock a little too dark and small. Second-prize a far better, all-but-perfect cock, but hen only middling, with spangles not large enough. Third not up to Mr. Beldon's usual style, the cock having rather a cobweb over his tail. The Gold-pencils secured the cup, the pullet being one of the very best ever exhibited, and the cockerel also of marked excellence. Second and third very fair average, and perhaps appeared worse than they were by contrast with the rare quality of the cup birds. In Silver-pencils Mr. Beldon was again to the front and far a-head, showing the only hen in the class with a properly pencilled tail. His second and the third only moderately good; but we noted the pencilling in the Silvers was recovering depth of colour, and were glad to see it. The Black Hamburghs were only moderate, and disappointed us.

GAME.

40 to 47.—Owing to the excellent light we never saw Game to better advantage than at this Show, and many who do not see it will lose a treat. The cup Black Red cock was rather too light in eye and hackle, but no doubt as good as in the class. Second a better colour, but not matured, and rather too leggy. Third rather short in the head for a Game fowl, but good. Still we were surprised not to see Mr. Douglas's bird, No. 687, "among the three;" he was certainly either second or third best of the lot. The first-prize hen left little to desire; second and third fair average prize birds, even for a Crystal Palace Show. The first-prize Brown Red cock was as good as could be, perfect shape and colour, and in fine condition. Second also good, but quite rough in comparison with either first or third, which last should have had second prize. Mr. Brierley took the cup for the fair sex with a very fine but also very old hen; second was a good pullet; third good, but not nearly fit to show, and when in good order will distance the lot. Duckwings were admitted by nearly all to be judged wrongly; the cup went to a fair cock in body, but wretchedly bad in colour, and with a forked tail, which looks decidedly novel in a Game fowl. The second was, perhaps, the best cock in the class, but even the winner's third might have displaced the cup with great advantage. In hens, the first was fine in shape, but not quite the thing in markings; second and third rather poor, and, perhaps, this was the weakest in quality of the Game classes. In the Any other variety classes the first and extra were taken by Mr. Brierley with one of the most perfect birds ever seen, and decidedly the best Game cock in the Exhibition. He was sound and excellent all over, but the marking especially was as if painted on "to order." This bird created quite an enthusiasm amongst the critics. Second and third need no remark, unless, perhaps, the third was too short in the hackle. In hens, the first-prize was a fine old yellow-legged Pile, the same exhibitor being also second with a good pullet; third only middling.

POLISH.

48 to 50.—The Gold-spangled class was remarkably well filled with good birds, but Mr. Beldon was not yet to be beaten, and took both cup and second with grand specimens of old birds. In Silvers also he came to the front in a good class, but still not equal to the Golds. The White-crested were few, but very good, and we were sorry not to see more of them.

MALAYS.

51.—These were few, but somewhat larger than usual, and most of them not quite moulted. Mr. Brooke's well-known pen were still the best.

ANY OTHER VARIETY.

52.—This class was unusually "varied," containing excellent examples of Sultans, Silkies, Cuckoo Cochins, Frizzles, Andalusians, Minorcas, and Leghorns. It was also remarkable for an interesting mule bird, bred between a Game cock and a Guinea-fowl, and shown with his "maternal parent." The appearance was remarkable, and both parents could be clearly traced, the Game blood "going to the head," and the Guinea fowl being predominant in the legs and body. We should like this bird to be persistently bred, with a view to see if the sterility in such cases is absolute. The question is interesting. Sultans took the cup, an extra first going to Mr. Wildey's Andalusians. Sultans again were third, while the only pair of Leghorns took second. We were glad to see the pretty Sultans again becoming so popular.

GAME BANTAMS.

53.—Failing light must make our remarks on these birds very few and very modest. The Judge himself had hardly fair play with them. The old Black Reds were poor, and we regret to see the class at all. GameBantams do not show well when old, they get stout and stocky in comparison. The cup cockerel was a gem and far ahead of the rest; second also good; but third too heavy to our taste—in shape we mean, not weight. The judging in pullets led to some remark; but there were many good birds, and there was room for any number of opinions on the subject. The Wheaten hens (a new class) as a rule were out of condition, and varied much in colour. Brown Red cockerels were few, but better in shape than the Blacks. Pen 980 we thought ought to have been in the list, but all the prize birds were good and very fairly placed so far as we could *see*. The Brown pullets showed marked improvement, colour and shape being now nearly perfect. In the next class all the prizes were taken by Duckwings, the Piles being poor. We can only say the cup bird was one of the best ever shown. The hens we were quite unable to pass an opinion upon.

We can offer no further remarks which would be of any use. The light was now gone, and without some power of passing a judgment no one has any right to profess to judge. We would only remark on the rare quality of the Selling classes, and in these we expect there will be fault found with the awards. We changed our own opinions every time we passed down them, and so might the Judges for all we know. As it was, extra prizes were given, so as to make eight prizes in each class. These classes have now become a feature in the Palace Show, and meet a real want, as proved by the amount of money that changes hands in them.

We were much pleased with this Show; and we would repeat that it only needs such a number of Judges as shall be able to arbitrate promptly, yet with deliberation, and we would add, proper comfort to themselves, to place it in the very first rank. Birmingham would do well to look to it, and will need all it can do to keep ahead. We confess we think the time this year rather too early. The chickens showed well, but the show of old birds was not what it would have been either in numbers or quality somewhat later.

Dorkings (Coloured).—1 and Cup, J. Martin. 2, Mrs. Arkwright, Sutton Scarsdale. 3, Henry Lingwood. *hc*, W. W. Ruttlidge, Shorthend, Kendal; J. Smith, Shillinglee Park, Petworth. *c*, T. Briden, Earby.

Dorkings (Coloured).—*Cockerels.*—Cup, J. Clark, Lochahers. 2, Viscount Turnour. 3, J. White, Warlaby, Northallarton. *hc*, W. S. Trevithick, Hayle, Cornwall; J. Webb, Romford.

Dorkings (Coloured). — *Pullets.*—1 and 3, Mrs. E. Wheatley. 2, J. Webb. *hc*, Mrs. E. Wheatley, Ingatestone (Dark); J. Clift, Dorking; J. Frost, Parham; J. Drake, Ongar; J. Glessall, Milnthorpe. *c*, Rev. E. Cadogan.

Dorkings (Silver-Grey).—Cup, W. H. Denison. 2, J. L. Lowndes, Hartwell, Aylesbury. 2, W. W. Ruttlidge.

Dorkings (Silver-Grey). — *Cockerels.*—1 and *hc*, F. Cheesman. 2, O. E. Cresawell, Early Wood, Bagshot. 3, W. H. Denison. *hc*, J. J. Walker, Kendal.

Dorkings (Silver-Grey)—*Pullets.*—1, R. Smalley, Lancaster. 2, J. J. Walker. 3, J. C. Cooper, Cooper's Hill, Limerick. *hc*, Capt. Downman, Kingatown.

Dorkings (Cuckoo). — Cup, W. F. Harvey, Chartham. 2 and 3, J. Friend, Fulham.

Dorkings (White).—1, J. Robinson, Vale House, Garstang. 2, O. E Cresawell. 3, Rev. F. Tearle. *hc*, Mrs. M. A. Hayne, Fordiogton, Dorchester (2). *c*, Mrs. Hartwell.

Cochins (Cinnamon and Buff).—1 and 2, W. A. Taylor, Manchester. 3, H. Lloyd, jun., Handsworth. *hc*, E. Smith, Lark Hill, Timperley. *c*, F. W. Zurhorst.

Cochins (Cinnamon and Buff).—*Cockerels.*—1 and Cup, Lady Gwyder. 2, W. A. Taylor. 3, R Dawson. *hc*, J. Benton, Erdington; W. A. Burnell, Southwell; C. Bloodworth, Bay's Hill, Cheltenham; H. Lingwood, Barking, Needham Market; W. A. Taylor.

Cochins (Cinnamon and Buff).—*Pullets.*—1 and Cup, H. Lingwood. 2, Mrs. Allsopp, Hindlip Hall, Worcester. 3, W. A. Taylor. *hc*, C. Sidgwick, Eyddles, den Hall, Keighley; J. Benton; C. Bloodworth; Lady Gwydyr, Stoke Park, Ipswich; H. Lingwood; W. A. Taylor; D. Young, Leamington; E. Fearon, Whitehaven. *c*, W. A. Burnell; A. Darby, Bridgenorth; Capt. Downman.

Cochins (Silver Buff)—Cup, C. Howard, Grove Park, Peckham.

Cochins (Brown and Partridge).—Cup, W. A. Taylor. 2, C. Howard. 3, T. Stretch, Ormskirk. *hc*, G. Lamb; J. Stephens, Walsall. *c*, H. Lingwood.

Cochins (Brown and Partridge).—*Cockerels.*—Cup, 1, and 2, W. A. Taylor. 3, J. K. Fowler, Aylesbury. *hc*, T. Stretch; G. Lamb, Compton, Wolverhampton; P. H. Jones, Fulham.

Cochins (Brown and Partridge).—*Pullets.*—1, C. Sidgwick. 2 and *hc*, C. F. Wilson, Totton. 3, W. A. Taylor. *c*, T. Amies (2); J. Powney; C. F. Wilson.

Cochins (White).—Cup, 1, and *c*, R. Smalley, Lancaster. 2, E. Smith. 3, G. Shrimpton, Leighton Buzzard. *hc*, Mrs. A. Williamson, Queenihorough Hall, Leicester.

Cochina (White).—*Cockerels.*—Cup and 1, E. Fearon. 2, R. Chase. 3, A. J. E. Swindell, Kinven, Stourbridge. *hc*, J. Bloodworth, Cheltenham; A. D. Cochrane, Stourbridge; G. Shrimpton; W. A. Taylor; F. W. Zurharst, Dublin.

Cochins (White).—*Pullets.*—Cup and 1, R. Chase. 2, Mrs. A. Williamson. 3, Mias Hales. *hc*, J. Bloodworth (2); R. Brown, Cheadle; G. Shrimpton; W. A. Taylor; Mrs. A. Williamson; Mias Hales.

Brahmas (Dark).—*Cocks.*—Cup, W. A. Taylor. 2, T. F. Ansdell. 3, H. B. Morrell, Cae Mawr, Clyro. *hc*, J. H. Cuff, Holloway; H. Lingwood; J. Thomson, Nether Edge, Sheffield; L. Wright, Bristol.

Brahmas (Dark).—*Hens.*—1 and 2, T. F. Ansdell. 3, H. B. Morrell. *hc*, H Lingwood.

Brahmas (Dark).—*Cockerels.*—Cup, Hon. Mrs. A. B. Hamilton, Ridgemont, Woburn. 2, F. L. Turner. 3, Rev. J. G. B. Knight. *vhc*, G. Griggs. *hc*, J.

Hill, Brentwood; E. Ensor, Bristol; E. J. W. Stratford, Addington Park, Maidstone; Lady Gwydyr, c, E. Kendrick, jun., Lichfield; W. Arkwright; W. Dring, Feversham; E. Ensor; J. K. Fowler.

BRAHMAS (Dark).—*Pullets.*—Cup, W. Arkwright, 2, L. Wright. 3, W. Arkwright. *hc*, Lady Gwydyr; R. Lingwood (2); H. P. Moon, Chippenham; T. Pomfret; G. A. Rogers, Shadwell (2); L. Wright. c, Dr. Holmes, Whitecotes, Chesterfield; H. R. Morrell (2); E. Kendrick, jun.; J. Hill; E. Ensor.

BRAHMAS (Light).—*Cocks.*—1, H. M. Maynard. 2, J. R. Rodbard. 3, Capt. Downman. *hc*, Mrs. T. Turner; M. Leno; H. M. Maynard; Mrs. A. Williamson; H. Prior. *c*, J. Pares, Postford, Guildford.

BRAHMAS (Light).—*Hens.*—Cup and 3, F. Crook, Forest Hill. 2, J. R. Rodbard. *hc*, H. Dowsett, Pleshey, Chelmsford.

BRAHMAS (Light).—*Cockerels.*—Cup, Rev. J. M. Rice, Bramber Rectory, Steyning. 2, Mrs. A. Williamson. 3, J. Long. *hc*, Mrs. T. Turner, Ringwood; Mrs. F. Cheshire, Acton (3); M. Leno, Markyate Street, Dunstable; J. R. Rodbard, Wrington, Bristol; Mrs. A. Williamson; Miss Hales, Canterbury; F. Crook. c, H. M. Maynard.

BRAHMAS (Light).—*Pullets.*—1 and Cup, Miss Hales. 2, F. Crook. 3, Mrs. A. Williamson. *hc*, Mrs. A. Williamson; H. Dowsett; Miss Hales; A. Herbert, Egham; C. F. Wilson, Totton; H. M. Maynard (2); J. Morton, Guildford; Rev. J. M. Rice; J. R. Rodbard. c, Miss Hales (2); A. Herbert; F. Crook; C. F. Wilson, Totton.

SPANISH.—*Cocks.*—1 and Cup, A. Rumbold, Bristol. 2, J. Mansell, Longton. 3, Hon. Miss D. Pennant, Penrhyn Castle, Bangor. *hc*, Nichols Brothers, Camberwell; J. R. Rodbard.

SPANISH.—*Hens.*—1, W. Hodgson, Bristol. 2, H. Beldon, Bingley. 3, F. Waller, Wood Green.

SPANISH.—*Cockerels.*—1 and Cup, A. Rumbold. 2, Mrs. Allsopp, Walsall. 3, H. F. Cooper. *hc*, H. Brown, Putney Heath; Hon. Miss D. Pennant; P. H. Jones, Fulham.

SPANISH.—*Pullets.*—1 and Cup, Boulton & Gliddon, Bristol. 2, E. Jones, Clifton. 3 and c, H. Brown. *hc*, W. R. Bull; J. J. Booth, Silsden.

HOUDANS.—*Cocks.*—1 and Cup, J. C. Cooper, Limerick. 2, Mrs. J. Cross, Brigg. 3, W. Tippler, Duke's Roxwell, Chelmsford. *hc*, Mrs. M. A. Charmbury; W. Dring; G. Mills, Dover.

HOUDANS.—*Hens.*—1, J. C. Cooper. 2, W. O. Quibell, Newark. 3, J. Fletcher, Sunbury. *hc*, W. Dring; J. K. Fowler; Hills & Co., Ronnd Hill, Brighton; W. O. Quibell; W. Tippler. c, G. W. Hibbert, Godley, Manchester; E. C. Tisdall, Epsom; F. Brewer, Lostwithiel; W. Dring; Rev. C. B. Rowland, Pillerton Vicarage.

FRENCH.—*Cocks.*—1 and Cup, E. Smith, Lark Hall, Timperley. 2, Mrs. J. Cross. 3, J. J. Malden, Biggleswade. *hc* and c, W. Dring.

FRENCH (Any other variety).—*Hens.*—1, W. Burrows, Diss. 2, W. Dring. 3, E. Smith. *hc*, T. Waddington, Feniscowles, Blackburn. c, J. K. Fowler; J. J. Malden.

HAMBURGHS (Golden-spangled).—1, J. Rollinson, Lindley, Otley. 2, N. Barter, Plymouth. 3, J. Buckley, Ashton-under-Lyne. *hc*, C. Plimley, Whitmore, Wolverhampton; J. Rollinson; T. Blakeman, Tetteuhall; W. A. Hyde, Ashton-under-Lyne; D. Lord, Stacksteads, Manchester; L. Wren, Lowestoft; H. Beldon. c, E. Brierley, Middleton, Manchester.

HAMBURGHS (Silver-spangled).—1, Ashton & Booth, Mottram. 2, D. Lord. 3 and *hc*, H. Beldon, Goitstock, Bingley.

HAMBURGHS (Golden-pencilled).—1, 2, and Cup, H. Beldon. 3, J. Rollinson. *hc*, N. Barter; J. Preston, Allerton.

HAMBURGHS (Silver-pencilled).—1, H. Beldon. 2, N. Barter. 3, H. Pickles, jun., Earby. *hc*, J. Preston.

HAMBURGHS (Black).—1, E. Shaw, Plas Wilmot, Oswestry. 2, C. Sidgwick. 3, J. Walker, jun., Denton. *hc*, Rev. W. Serjeantson, Acton Burnell; H. Beldon.

GAME (Black Reds).—*Cocks.*—1, 2, and Cup, S. Matthew, Stowmarket. 3, J. Jeken, Eltham.

GAME (Black Reds).—*Hens.*—1, S. Matthew. 2 and 3, W. E. Oakley, Atherstone. *hc*, S. Matthew; W. J. Pope, Biggleswade (2). c, W. H. Stagg, Nethersavon.

GAME (Brown Reds).—*Cocks.*—1, T. Burgess, Burleydam, Whitchurch. 2, E. Mann. 3, C. W. Brierley. *hc*, S. Matthew; J. Fortune, Moreton Banks, Keighley.

GAME (Brown Reds).—*Hens.*—1 and Cup, T. Burgess. 2, E. Aykroyd, Ecclershill. 3, C. W. Brierley. *hc*, E. Aykroyd; J. Fletcher, Stoneclough, Manchester; S. Mattbew; J. Wood, Wigan; C. W. Brierley. c, T. Dyson, Halifax.

GAME (Duckwing).—*Cocks.*—1, 3, and Cup, S. Matthew, 2, W. Boyes, Beverley. c, J. Pickles, Mytholmroyd; R. Ball.

GAME (Duckwings).—*Hens.*—1, J. Mitchell, Moseley, Birmingham. 2, J. Goodwin, Liverpool. 3, H. Beldon.

GAME (Any other variety).—*Cocks.*—1 and Book, C. W. Brierley. 2, W. Sutcliffe, Mytholmroyd. 3, J. Frith.

GAME (Any other variety).—*Hens.*—1 and 2, C. W. Brierley. 3, W. Sutcliffe.

POLISH (Golden-spangled).—1, 2, and Cup, H. Beldon. 3, G. W. Boothby, Lonth. *hc*, M. Nicholls, Peel, Isle of Man. c, W. Patrick, West Winch, Lynn; W. Silvester, Sheffield; P. Unsworth, Lawton, Newton-le-Willows (2).

POLISH (Silver-spangled).—1, 3, and Cup, H. Beldon. 2, W. Patrick. *hc*, T. Dean, Keighley; P. Unsworth; T. Waddington, c, G. H. Mulley, Balham.

POLISH (Black and other varieties).—1, Mrs. J. M. Proctor, Hull. 2, D. Mutton, Brighton. 3, T Dean. *hc*, T. P. Edwards; P. Unsworth.

MALAY.—1, Rev. A. G. Brooke, Shrawardine, Shrewsbury. 2, H. B. Payne. 3, J. Hinton.

ANY OTHER VARIETY.—1 and Cup, N. Cook. Extra, W. Wildey. 2, Miss Mill, Riskmansworth. 3, W. H. Tomlinson, Newark. *hc*, G. Anderson, Accrington; A. Coombs, Twickenham; T. Moore, Portsmouth; W. Graom, Ipswich. c, Rev. F. Tearle, Newmarket; Mrs. E. N. Hawker, Tunbridge Wells.

GAME BANTAMS (Black or Brown Reds).—1, G. Maples, jun., Liverpool. 2, J. W. Anns, Clapham. 3, C. Howard, Peckham. c, J. Oldfield, Halifax; Bellingham & Gill, Burnley.

GAME BANTAMS (Black Reds).—*Cockerels.*—Cup and 1, J. Eaton, Southwell, Notts. 2, W. Adams, Ipswich. 3, T. Sharples, Rawtenstall. *hc*, J. Eaton. c, E. H. Webb, Chelmsford; G. Doubleday, Southwell, Notts.

GAME BANTAMS (Black Reds).—*Pullets.*—Cup and 1, G. Todd, Sunderland. 2, T. Sharples. 3, Rev. G. Chilton, Guildford.

GAME BANTAMS (Wheaten).—*Hens.*—1, Miss B. P. Frew. 2, J. Crosland, jun., Wakefield, Yorks. 3, J. W. Morris, Rochdale.

GAME BANTAMS (Brown Reds).—*Cockerels.*—1, J. Oldfield. 2, N. Abercrombie, Trinity, Jersey. 3, J. Pares.

GAME BANTAMS (Brown Reds).—*Pullets.*—1, H. P. Leech, Bury St. Edmunds. 2, G. Hall, Kendall. 3, W. Adams.

GAME BANTAMS (Duckwings and any variety).—*Cocks.*—Cup and 1, J. Eaton. 2 and 3, J. Frith, Bakewell, Derby. *hc*, T. C. & E. Newbitt, Epworth; Mrs. W. F. Entwisle, Cheekeaton. c, T. Sharples.

GAME BANTAMS (Duckwings, any variety).—*Hens.*—1, J. Crosland, jun. 2, J. W. Anns. 3, Bellingham & Gill.

BANTAMS (Sebrights).—1, 2, and 3, M. Leno. *hc*, J. Watts, King's Heath, Birmingham; Miss E. C. Frew. c, G. F. Bodson, North Petherton.

BANTAMS (Black).—1, H. Draycott, Humberstone, Leicester. 2, J. Walker, 3, R. Fulton, Brockley. *hc*, W. A. Taylor, Manchester. c, G. B. Francis, Romford; R. Chase, Birmingham; S. & R. Ashton, Manchester; H. Beldon.

BANTAMS (Any other distinct variety).—1, E. Smith. 2, Rev. W. Serjeantson. 3, W. W. Boulton, Beverley, Yorks. *hc*, J. Bloodworth, Cheltenham; W. Arkwright; W. W. Boulton; H. Beldon. c, Mrs. Woodcock, Leicester; J. Watts; Viscount Turnour, Petworth; H. Beldon.

FOWLS WITH PLUMAGE SUITABLE FOR FLY-FISHING.—1 and 2, Rev. H. J. Stokes, Leek.

SELLING CLASS.—*Cocks.*—1 and extra 1, H. Brown, Putney Heath. 2, J. Clark, Lochabers. Extra 2, H. P. Moor, Chippenham. 3, R. Dawson. Extra 3, Mrs. F. Cheshire. 4, Viscount Turnour. Extra 4, Mrs. E. Williams, Henllys Berriew, Montgomery. *hc*, R. Loft, Beverley; G. Griggs, Romford; F. Parlett, Great Baddow; C. Sidgwick; W. F. Checkley, Northampton; T. W. Rust, Hastings; J. Stephens, Walsall; T. Sharpe, Ackworth, Pontefract; E. Pritchard, Wolverhampton; W. H. Denison, Woburn; L. Dean, Chepstow; M. Leno; J. Pares; H. Dowsett, Pleshey, Chelmsford; Rev. E. S. Tiddeman, Brentwood; J. Mansell, Langton, Staffordshire; H. Brown; J. F. Sillitoe, Wolverhampton; Rev. W. Serjeantson; G. H. Mulley; S. Stephens, jun., Ebber, near Stroud; E. H. Webb, Chelmsford. c, F. W. L. Hind, Kendal.

SELLING CLASS.—*Hens.*—1, J. Rodwell, Buckingham. Extra 1, J. M. Proctor, Hull. 2, W. A. Barnell, Southwell. Extra 2, H. Brown. 3, Rev. W. Serjeantson. Extra 3, E. Shaw. 4, B. Beldon. Extra 4, R. Loft. *hc*, J. Choyce, Atherstone; F. Parlett; R. W. Richardson, Beverley (2); J. Zinsch, Perry Hill; H. Lloyd, Birmingham; H. Brown; Mrs. E. Williams; J. B. Lakeman, Ipswich; Dr. J. More, Kettering; J. D. Clark, Worcester; J. Forsyth, Wolverhampton. c, F. Secco-Ibe, Totnes; J. Smith, Petworth; G. H. Nicholls; F. Webber, Dulwich; E. Smith; C. Boward; H. Dowsett; Dr. D. C. Campbell, Brentwood (2); L. Dean; M. Leno; J. Walsh, Forest Hill; Mrs. E. A. Senior, Aylesbury; Dr. J. More; H. M. Maynard.

SELLING CLASS.—1, Dr. D. C. Campbell. Extra 1, R. Loft, Woodmansey, Beverley. 2 and extra 2, H. M. Maynard. 3, Rev. W. Serjeantson. Extra 3, J. Forsyth, Wolverhampton. 4, C. Bloodworth. Extra 4, Miss Mill. *hc*, H. Dowsett; M. Leno; W. Tippler; J. Holt, Little Green, Middleton; Col. Harcourt, Buxted Park, Uckfield; N. Cook, Chowbent; Rev. G. Chilton, Littleton, Guildford; Mrs. W. F. Entwisle.

DUCKS (Aylesbury).—1, 2, 3, J. K. Fowler. *hc*, J. Holton, Buckingham; G. W. Greenhill, Ashford; J. Drake, Ongar.

DUCKS (Rouen).—1, J. K. Fowler. 2, J. Scotson, Little Byrom. 3, F. Parlett, Great Baddow. *hc*, J. H. Hirt, St. Austel (2); J. Scotson; T. Wakefield, Colborne, Newton-le-Willows; J. Wood.

DUCKS (Black).—1, F. Pittis, jun., Newport, Isle of Wight. 2 and 3, Mrs. M. A. Hayne, Fordington (2). *hc*, S. Burn; G. S. Sainsbury, Devizes (2). c, G. S. Sainsbury; H. B. Smith, Broughton, Preston.

DUCKS (Any other variety and Ornamental Waterfowl).—1, S. Burn, Whitby. 2, M. Leno. 3, W. B. Smith. *hc*, C. W. Brierley; J. K. Fowler; E. C. Gibson; M. Leno (2); Rev. N. Serjeantson; H. B. Smith.

GEESE.—1, S. H. Stott, Preston. 2, J. K. Fowler. 3, W. Tippler.

TURKEYS.—1, F. Lythall, Banbury. 2, Mrs. J. Mayhew, Great Baddow. 3, J. Rodwell. *hc*, Rev. N. J. Ridley, Newbury; H. Cooper; Mrs. Dunn. c, W. Tippler.

PHEASANTS.—1, M. Leno. 2 and 3, J. K. Fowler.

PIGEONS.

POUTERS.—*Cocks.*—1 and Cup and 2, R. Fulton. 3, F. Gresham. *vhc*, J. Wallace, Glasgow. *hc*, R. Fulton; R. Marlin. (Black Pied).—1, F. Gresham. 2, R. Fulton. 3, J. Ure, Dundee. c, J. Wallace. (Red Pied).—1, F. Gresham. 2, R. Fulton. 3, A. Wright, Morningside, Edinburgh. *hc*, W. R. Rose; E. Horner, Harewood, Leeds. c, R. Fulton; R. Marlin. (Yellow Pied).—1 and 2, R. Fulton. 3, A. H. Stewart, West Bromwich. *hc*, W. Volckman. c, E. Horner; J. Ure. (White).—1 and Cup, F. Gresham. 2, A. H. Stewart. 3, M. Skinner, Fountainbridge, Edinburgh. *hc*, A. S. Thomas; R. Fulton; Mrs. Ladd, Calne (2). J. Wallace. Whole class commended. (Any Colour).—1, J. McGill, Elie, Fife. 2, F. W. Zurhorst, Dublin. 3, J. Morrison, Morningside, Edinburgh. *hc*, W. Volckman, Bishopsgate Street Within. (Blue or Black Pied).—1 and 2, F. Gresham. 3, W. B. Van Haansbergen, Newcastle-on-Tyne. (Red or Yellow Pied).—1 and Cup, H. T. Stewart. 2, R. Fulton. 3, P. H. Jones, Fulham.

POUTERS.—*Hens.*—(Blue Pied).—1 and Cup and 3, F. Gresham. 2, R. Fulton. (Black Pied).—1, A. H. Stewart. 2, W. B. Van Haansbergen. 3, E. Horner. (Red Pied).—1, J. Bawley, Bradford. 2, W. R. Rose, Kettering. 3, F. Gresham. (Yellow Pied).—1. R. Fulton. 2, E. Horner, Harewood. 3, N. Hill, Upper Norwood. Whole class highly commended. (White).—1, R. Fulton. 2, F. W. Zurhorst. 3, E. Horner. *vhc*, J. Wallace. (Blue or Black Pied)—1, J. Wallace. 2 and 3, W. Volckman. (Blue or Black Pied).—1, F. Gresham. 2 and 3, J. Wallace. (Red or Yellow Pied).—1 and Cup, R. Fulton. 2, W. R. Rose. 3 and c, A. H. Stewart.

CARRIERS (Black).—*Cocks.*—1 and 2, R. Fulton. 3, W. Woolley, Tarporley. *hc*, E. C. Stretch; F. T. Wiltshire, Lower Addiscombs, Surrey; R. Fulton. *Hens.*—1, 2, and 3, R. Fulton. *hc*, W. Woolley; R. Fulton.

CARRIERS (Dun).—*Cocks.*—1, E. Horner. 2, R. Fulton. 3, H. Yardley, Birmingham. *hc*, F. T. Wiltshire; R. Fulton. *Hens.*—1, F. T. Wiltshire. 2 and 3, J. C. Ord, Lupus Street, Pimlico. *hc*, J. Baker; H. M. Maynard; W. Massey.

CARRIERS (Any other colour).—1 and Cup, R. Fulton. 2, W. B. Tegetmeier, Finchley. 3, J. Watts. *hc*, G. Hodgkinson, Birmingham.

CARRIERS (Any other colour).—1, J. Watts. 2, R. Fulton. 3, W. Massey. *hc*, W. B. Ford, Weymouth, Dorset (2).

CARRIERS (Black).—1 and Cup and 2, F. T. Wiltshire. 3, — Hallam, Lozells, Birmingham. *hc*, R. Fulton; W. Massey; W. Siddons & Sons, Aston, Birmingham (2); W. Bammond, Ilford.

CARRIERS (Dun).—1 and 3, G. C. Holt, Greenbank, Lawton. 2, W. Siddons and Sons. *hc*, F. T. Wiltshire; W. Massey.

CARRIERS (Blue or Silver).—*Young Hens.*—1, R. Fulton. 2 and 3, G. Hodgkinson. *hc*, W. B. Tegetmeier; J. Watts.

TUMBLERS (Almond).—1 and Cup, J. Ford. 2 and 3, R. Fulton. *vhc*, E. Horner; J. M. Braid, Cambridge. *hc*, F. Moore. *Young.*—1 and Cup, F. Moore. 2, J. Ware, Dalston. 3, — Gilbert. c, F. Moore; J. M. Brsid; H. T. Davis, Lewisham Road; E. T. Dew, Weston-super-Mare.

TUMBLERS (Baldheads and Beards).—1 and 2, W. Woodhouse, Lynn. 3, G. Soutb, New Bond Street.

TUMBLERS (Any other variety Short-faced).—1, F. Moore. 2, J. Fielding, jun., Rochdale. 3, J. Ford. c, J. Watts.

BARBS (Black or Dun).—1 and Cup, R. Fulton. 2, Capt. H. Heaton, Manchester. 3, E. Horner. *vhc*, H. M. Maynard.

BARBS (Any other colour).—1 and 3, R. Fulton. 2, J. Firth, Dewsbury.

BARBS.—*Young.*—1 and Cup, 3, and *hc*, J. Firth. 2, F. Smith, Birmingham. *vhc*, Capt. H. Heaton (2); G. H. Gregory, Taunton.

BARBS.—1 and Cup, R. Fulton. 2, P. H. Jones. *vhc*, Capt. H. Heaton, Worsley, Manchester; R. Fulton. c, R. Fulton.

BARBS.—1 and Cup, T. Waddington. 2, Capt. H. Heaton. *vhc*, J. Lister, Keighley; R. Fulton.

JACOBINS (Red or Yellow).—1, Capt. H. Heaton. 2 and 3, R. Fulton. *hc*, Capt. H. Heaton; R. Fulton; E. Horner. c, E. Horner; W. Massey. Spalding.

JACOBINS (Any other colour).—1 and Cup, Capt. H. Heaton. 2, J. Thompson, Bingley. 3, J. B. Pinder. *hc*, S. A. Wyllie. c, J. B. Pinder, Harpurhey, Manchester; G. Roper, Croydon.

FANTAILS (White).—1, H. M. Maynard. 2, Rev. W. Serjeantson. 3, W. H. Tomlinson, Newark. *hc*, G. Ure; J. Sharpe, Johnstone. c, J. Baker, Spring Grove, Kew Bridge; J. F. Loveridge, Newark; Rev. W. Serjeantson. *Disqualified*, two cocks, 1938.

FANTAILS (Any other colour).—1, H. Yardley, Birmingham. 2, P. H. Jones. 3, A. H. Stewart. c, — Randall, Guildford.

NUNS.—1, W. Bearpark, Ainderby Street. 2, E. Horner. 3, R. W. Richardson. *hc*, W. Bankes; H. Yardley; F. Graham, Birkenhead.

TRUMPETERS (Black).—1, 2, 3, and Cup, J. Montgomery, Belfast.

TRUMPETERS (Any other colour).—1, W. B. Van Haansbergen. 2, E. Horner. 3, J. Firth, Webster Hill, Dewsbury. *hc*, E. Horner; J. Montgomery. c, W. H. C. Oates, Beathorpe, Newark.

OWLS (English).—1, P. H. Jones. 2, A. Mangnall, Broughton, Manchester. 3, J. Baker. *hc*, J. W. Edge, Birmingham; J. Kemp, Haslingden (2). c, A. Mangnall.

OWLS (Foreign).—1, E. Horner. 2, T. Waddington. 3, P. H. Jones. *hc*, J. Bowes, Herne Bay; R. Fulton.

TURBITS (Blue or Silver).—1, A. Mangnall. 2, E. T. Dew, Weston-super-Mare.

3, W. Goddard, Great Stanhope Street. *hc*, W. B. Van Haansbergen. *Disqualified.*—W. Bearpark, Stamped in flight.

TURBITS (Any other Colour).—1 and 3, G. Roper. 2, E. Horner. *hc*, A. A. Vander Meersch, Tooting; J. W. Edge.

MAGPIES.—1 and 3, E. Horner. 2, G. H. Gregory, Taunton.

DRAGOONS (Blue or Silver).—1 and Cup, W. R. Tegetmeier, Finchley. 2, W. Gibson. 3, F. Graham. *hc*, F. Graham (2); J. Holland, Cheetham Hill, Manchester.

DRAGOONS (Red or Yellow).—1 and 2, F. Graham. 3, G. South, New Bond Street, London. *hc*, S. C. Betty, Camden Town; W. Volckman.

DRAGOONS (White or any other colour).—1, J. Dunn, Newcastle. 2, J. C. Ord, Pimlico. 3, F. Graham. *hc*, H. T. Dwelly, Peckham.

ANTWERPS (Short-faced).—1, C. F. Copeman, Birmingham. 2, J. Coleman. 3, H. Yardley.

CUMULETS.—1, W. B. Tegetmeier. 2 and 3, A. Lubbock, Beckenham.

RUNTS.—1 and 3, S. A. Wyllie, East Moulsey. 2, T. D. Green, Saffron Walden.

PIGMY OR AUSTRIAN POUTERS.—1, — Kitchen, Blackburn. 2, P. H. Jones. 3, W. B. Tegetmeier.

ANY OTHER VARIETY.—1, T. Waddington. 2, J. Bowes, Herne Bay. 3, H. Draycott, Umberstone, Leicester. 4, A. H. Stuart. *hc*, T. Waddington; H. Yardley (2); W. Goddard.

SELLING CLASS.—1, J. Firth. 2, T. Adams. 3, J. Baker. *vhc*, J. Thompson. *hc*, H. Pratt; R. Fulton; J. Firth; A. H. Stuart; J. Thompson (2); W. B. Tegetmeier. *c*, R. W. Richardson; G. H. Gregory; E. Horner; P. H. Jones; W. B. Tegetmeier.

SELLING CLASS.—1, J. Ford. 2, J. Bowes. 3, E. Horner. 4, R. Fulton. *hc*, P. T'Anson, Grantham; Rev. A. G. Brooke, Shrewsbury.

COLLECTION OF FOUR PAIRS OF PIGEONS EXCLUSIVE OF CARRIERS AND POUTERS.—1, R. Fulton. 2, W. B. Van Haansbergen. 3, P. H. Jones.

PEN OF HOMING ANTWERPS.—1 and Cup, J. J. Sparrow, Berkley Square, Grosvenor Mews. 2, J. W. Collinson, Halifax. 3, J. J. Bradley, Birmingham. *hc*, W. B. Tegetmeier; B. Cracroft, Austin Friars; J. J. Sparrow; A. Webster, Kirkstall, Leeds; W. Lund, Shipley, Leeds; J. Edmonds, Clapham; J. Wright Rochdale, near Manchester; J. Deakin, Sheffield; J. A. James, Woolwich (2); A. Christy, Cudham. *c*, J. J. Sparrow (2); J. C. Ord.

JUDGES.—For *Poultry:* Mr. Edward Hewitt, Mr. Richard Teebay, and Mr. J. H. Smith. For *Pigeons:* Mr. E. L. Corker, Mr. Jones Percival, and Mr. T. H. Ridpeth.

BIRMINGHAM PHILOPERISTERON SOCIETY.

THE Committee of Management have just held their seventh annual Show, and it is most satisfactory to state that both as to the quality of the birds and the pecuniary success, this year's meeting has very far exceeded any yet held. Great interest is excited by the fact that the majority of the birds shown have been bred by members of the Society during the current year. Three hundred pens competed, most of them being far behind those generally met with at our public shows. Carriers throughout were superb, and some of the young ones especially so. In Pouters the display of white birds was magnificent, being such as is rarely equalled at any Pigeon show. The Fantails, Almonds, and Barbs were not less worthy of praise; the Owls, Turbits, and Jacobins were also much better than heretofore. Great, indeed, was the competition in the Antwerp and Dragoon classes, the general impression being, never were such well-filled classes of these breeds seen in Birmingham. The Variety class, too, contained so many new varieties, as to be quite a feature of the Show. Mr. Yardley sent in a very large cage of quite new breeds not for competition; they proved objects of great interest to visitors.

YOUNG BIRDS.

CARRIERS.—*Black.*—1, F. Smith, Selly Oak, Birmingham. 2, C. Mugg, Bromsgrove. 3 and 4, G. F. Whitehouse, King's Heath, Birmingham. *hc*, J. Coleman, West Bromwich; J. F. While, Birmingham; T. Robson, Penkridge. *Dun.*—1, G. F. Whitehouse. 2 and 3, J. F. While. *Any other Colour.*—1, J. Watts, Hazlewell Hall, King's Heath, Birmingham. 2, Withheld.

POUTERS.—1, 2, 3, and *hc*, G. Sturgess, Leicester.

FANTAILS.—1, G. While, Balsall Heath, Birmingham. 2, H. Adams. 3, F. H. Paget, Birstall, Leicester. *hc*, H. Adams, Beverley. *c*, J. W. Edge, Birmingham.

BARBS.—1, F. Smith. 2, H. O. Blenkinsop, Newcastle-on-Tyne. 3, H. Adams.

ALMONDS.—1, H. Adams. 2, No competition.

HALDS AND BEARDS.—1, J. W. Edge. 2, No competition.

SHORT-FACED (Any other variety).—1 and *c*, H. Adams (Red Mottle). 2, H. O. Blenkinsop (Almond Tumbler).

OWLS (English).—1, J. Watts. 2, G. F. Whitehouse. 3, J. W. Edge. 4, W. Bankes, Runcorn. *hc*, W. Bankes; W. T. Nicholds, Selly Park, Birmingham.

TURBITS.—1 and 6, T. Robson. 2 and 3, J. W. Edge. 4 and 5, W. Bankes. *hc*, F. H. Paget.

NUNS.—1 and 2, W. Bankes. 3, F. Graham, Birkenhead.

JACOBINS.—1 and 4, R. Saunders, Lever, Beverley. 2, H. O. Blenkinsop. 3, J. W. Edge. 6 and *hc*, H. Adams.

TRUMPETERS.—1, H. O. Blenkinsop. 2, T. Robson.

DRAGOONS.—*Blue.*—1, 4, 5, and Cup, W. T. Nicholds. 2 and 3, J. Coleman. 6 and 7, W. H. Mitchell. *hc*, F. Graham; W. H. Mitchell, Moseley, Birmingham; J. Watts; J. Coleman; W. T. Nicholds. *Yellow.*—1, F. Graham. 2, J. Watts. 3, W. H. Mitchell. *White.*—1 and 3, F. Graham. 2, H. Adams. *Any other Colour.*—1 and 4, J. Morris. 2, F. Graham. 3, J. Watts.

ANTWERPS.—*Dun.*—1 and Cup, C. Mugg. 2 and money prize, J. Coleman. 3 and 4, W. H. Mitchell. *hc*, W. H. Mitchell; F. Smith. *Dun Chequered.*—1, W. H. Mitchell. 2, J. Massey, Hunter's Lane, Birmingham. 3 and *hc*, C. Mugg. *Blue.*—1 and 2, W. H. Mitchell. 3, J. Coleman. *Blue Chequered.*—1, J. Massey. 2, W. H. Mitchell.

MAGPIES.—1, T. Robson. 2, J. Watts.

SWALLOWS.—1, J. Watts (Blue). 2, F. H. Paget (Yellow).

ANY OTHER VARIETY.—1 and 2, W. Bankes (Silverette and Satinette). 3, J. Watts (Dentillettes). *hc*, F. H. Paget (Yellow and Black Priests).

TUMBLERS (Muff-legged).—*Black Badges.*—1, F. Thomas. 2, G. While. *Blue Badges.*—1, J. W. Edge, Birmingham. 2, No competition. *Black Saddles.*—1, Withheld. 2, J. Morris. *Blue Saddles.*—1, J. W. Edge. 2, No competition. *Rosewings and Redbreasts.*—1 and 3, F. Thomas, Birmingham. 2, J. W. Edge. *Clear-legged.*—*Any other Variety.*—1, J. Watts. 2, No competition.

BIRDS OF ANY AGE.

CARRIER.—*Blacks.*—*Cocks.*—1 and 3, G. F. Whitehouse. 2, F. Smith. *hc*, J. F. While; J. Watts. *Hens.*—1, F. Smith. 2, Withheld. 3, G. F. Whitehouse.

CARRIER.—*Dun.*—*Cocks.*—1, J. Watts. 2, Withheld. *Hens.*—1, G. F. Whitehouse. 2, J. J. While. *hc*, J. Watts.

CARRIER.—*Any other Colour.*—1, J. Watts. 2, Withheld. *Hens.*—1 and Cup, J. Watts. 2, No competition.

POUTER.—*Cocks.*—1, 2, 3, and Cup, G. Sturgess (White). *Hens.*—1, 2, and 3, G. Sturgess.

FANTAILS.—1, J. W. Edge. 2, H. Adams.

BARBS.—1, J. Peace, Burton-on-Trent. 2, No competition.

ALMONDS.—1, H. Adams. 2, J. Peace. 3, J. Fielding, jun., Rochdale.

BALDS AND BEARDS.—1, J. W. Edge. 2, No competition.

SHORT-FACED (Any other variety).—1, J. Watts. 2, J. F. While (Kites).

OWLS.—*Foreign.*—1 and Cup, J. Fielding, jun. (Blue). 2, J. Watts (White). *hc*, G. F. Whitehouse (Blue). *English.*—1, J. W. Edge. 2, W. Bankes. 3, J. Watts. *hc*, G. F. Whitehouse.

TURBITS.—1, J. W. Edge. 2, W. Bankes. 3, T. Robson. *hc*, G. While; T. Robson.

NUNS.—1 and 2, W. Bankes.

JACOBINS.—1, R. Saunders. 2, T. Robson.

TRUMPETERS.—1 and Cup, and 2, T. Robson (White).

DRAGOONS.—*Blue.*—1, 2, and 3, W. H. Mitchell. *hc*, F. Graham; G. F. Whitehouse. *Yellow.*—1, W. H. Mitchell. 2 and 3, F. Graham. *White.*—1, H. Adams. 2, G. F. Whitehouse. 3, F. Graham. *Any other Colour.*—1, F. Graham. 2, No competition. (Single).—*Blue.*—1, J. Morris. 2, J. Watts. 3 and *hc*, W. H. Mitchell. *Any other Colour.*—1 and 2, W. H. Mitchell. 3, J. Morris. 4, H. Adams.

ANTWERPS.—*Blue.*—1 and 3, W. H. Mitchell. 2, J. Massey. *hc*, J. Watts. *Dun.*—1, J. Coleman. 2, C. Mugg. 3 and *c*, W. H. Mitchell. *Dun Chequered.*—1 and 2, J. Massey. 3, J. Coleman. *Single Cocks.*—1, J. Coleman. 2, J. Morris. 3, C. Mugg.

MAGPIES.—1, J. Watts. 2, T. Robson.

SWALLOWS.—1 and Cup, J. Watts (Blue). 2, F. H. Paget (Yellow).

ANY OTHER VARIETY OF FANCY.—1 and Cup and 2, W. Bankes (Satinettes and Sultanas). *hc*, J. W. Edge (Maned). *Single.*—1 and 4, H. Adams (Almond Tumbler and Red Mottled Short-faced). 2, J. Watts (Black Barb). 3, F. Smith (Black Barb). *hc*, J. Morris (Red Magpie); H. Adams (Almond Tumbler); W. Bankes (White Foreign Owl).

TUMBLERS (Muff-legged).—*Black Saddles.*—1, G. While. 2, No competition. *Blue Saddles.*—1 and 2, J. F. While. *Black Mottles.*—Prizes withheld. *Rosewings and Redbreasts.*—1, J. Watts. 2, Withheld. 3, J. W. Edge. *Any other Variety.*—1, J. W. Edge. 2, No competition. *Single Bird.*—1, J. Watts. 2, No competition. (Clear-legged).—*Balds and Beards.*—Prizes withheld. *Any other Variety.*—Prizes withheld.

The Judges of Antwerps were Mr. Edward Hewitt, of Sparkbrook, and Mr. Betts, of Summer Street, Edgbaston. The Judges for all the other fancy varieties were Mr. Hewitt and Mr. Yardley; and for the Flying Pigeons Mr. Maesy, of Hunter's Lane, all of Birmingham.

DARLINGTON ORNITHOLOGICAL SOCIETY'S SHOW.

A LIBERAL schedule of prizes, and the very indefatigable exertions of the Committee and Honorary Secretaries (Messrs. W. Hodgson and W. J. Steward), obtained 359 entries of birds, consisting of Canaries, Mules, and British and foreign birds. It was an excellent Exhibition. The Show was held in the very spacious and suitable hall of the Mechanics' Institute. There were about one hundred more entries than at the previous year's exhibition, and the birds generally were of first-class breed and quality. Yorkshire certainly is occupying a prominent position in the bird-exhibition world, but the Show at Darlington is one among several others which take a very high place annually in the county of Durham.

BELGIAN.—*Clear Yellow.*—1, J. Rutter, Bishopwearmouth. 2, W. Bulmer, Stockton. 3, R. Robinson, Middlesbrough. *hc*, J. S. Petch, Hull; R. Robinson. *c*, M. Holroyd, Great Horton. *Clear Buff.*—1 and 3, J. Rutter. 2, W. Bulmer. *hc*, R. Robinson (2); J. N. Harrison, Darlington. *c*, J. S. Petch. *Variegated Ticked or Unevenly-marked.*—1, 2, and *hc*, J. Rutter. 3, R. Robinson. *c*, R. Robinson; J. N. Harrison.

NORWICH.—*Clear Jonque.*—1 and 3, Adams & Athersuch, Coventry. 2, Moore and Wynne, Northampton. *hc*, Moore & Wynne; W. Watson, jun., Darlington; W. Hodgson, Darlington; Cox & Hillier, Northampton. *c*, Barwell & Golby, Northampton; J. Cleminson, Darlington; J. Rutter. *Disqualified*, Barwell and Golby. *Clear Buff.*—1 and 3, Moore & Wynne. 2, Smith & Preen. *hc*, Adams and Athersuch (2); J. H. Dosser, York; Wallace & Beloe, Berwick-on-Tweed. *c*, J. Devaney, Knaresbrough; G. Blackston, Whitby; Barwell & Golby; Moore and Wynne.

NORWICH.—*Evenly-marked Jonque.*—1 and 3, Adams & Athersuch. 2, Barwell and Golby. *hc*, Moore & Wynne; E. Mills, Sunderland; W. Hodgson. *c*, C. Greenwood, Scarborough; Adams & Athersuch. *Evenly-marked Buff.*—1, Adams and Athersuch. 2 and 3, Wallace & Beloe. *hc*, W. & C. Burniston; Layfield and Ellerton, Darlington; Moore & Wynne. *c*, Adams & Athersuch; J. Rutter.

NORWICH.—*Ticked or Unevenly-marked Jonque.*—1, Adams & Athersuch. 2, Barwell & Golby. 3, G. Gayton. *hc*, R. Simpson; Moore & Wynne (2). *c*, J. Cleminson. *Ticked or Unevenly-marked Buff.*—1, Adams & Athersuch. 2, Barwell & Golby. 3, Moore & Wynne. *hc*, J. Devaney. *c*, Moore & Wynne; W. Watson, jun.

NORWICH CREST.—1, J. Hurrell, Sunderland. 2, W. Watson, jun. 3, R. Hawman, Middlesbrough. *hc*, M. King, Scarborough; W. Bulmer; W. Robson, Durham; Wallace & Beloe; Moore & Wynne. *c*, Wallace & Beloe; Layfield and Ellerton; J. Rutter; Cox & Hillier.

CRESTED CANARY.—1, Stevens & Leek, Middlesbrough. 2, L. Belk, Dewsbury. 3, P. Rawnsley, Ledget Green, Bradford. *hc*, T. Fawcett, Baildon, Leeds. *c*, W. Park, Darlington.

LIZARD.—*Golden-spangled.*—1, J. Taylor, Middlesbrough. 2 and *hc*, R. Ritchie, Darlington. 3, J. N. Harrison, Belper. *Silver-spangled.*—1, J. N. Harrison. 2 and 3, R. Ritchie. *hc*, Smith & Preen, Coventry; R. Ritchie.

LIZARD WITH BROKEN CAP.—*Gold or Silver-spangled.*—1 and 3, Smith and Preen. 2, W. Watson, jun. *hc*, M. King; R. Ritchie (2); T. Fawcett. *c*, W. Robson; Stevens & Leeke.

CINNAMON.—*Jonque.*—1, Wallace & Beloe. 2 and 3, Barwell & Golby. *hc*, J. Devaney; J. Hurrell; Moore & Wynne; G. Gayton, Northampton; C. Gayton, Northampton. *c*, E. Stansfield, Bradford; Wallace & Beloe. *Buff.*—1, Barwell & Golby. 2, G. Gayton. 3, E. Mille. *hc*, Moore & Wynne; Cox & Hillier. *c*, W. Bulmer.

YORKSHIRE.—*Clear Yellow.*—1 and *hc*, J. Cooper, Middlesbrough. 2, J. Garbutt, Yarm. 3, P. Rawnsley. *Clear Buff.*—1, W. Thornton, Darlington. 2, T. Fawcett. 3 and *hc*, J. Cooper. *Disqualified*—T. Richardson, Guisborough; W. and C. Burniston.

YORKSHIRE.—*Evenly-marked Yellow.*—1, R. Hawman. 2 and 3, Stevens and Leeke. *hc*, T. Tenniswood. *c*, E. Stansfield. *Evenly-marked Buff.*—1, Stevens and Leeke. 2, T. Craggs. 3, P. Rawnsley. *hc*, L. Belk; T. Tenniswood. *c*, P. Rawnsley; Stevens & Leeke; R. Hawman.

ANY OTHER VARIETY OF CANARY.—1 and 2, Wallace & Beloe (Glasgow Don). 3, Moore & Wynne. *hc*, P. Rawnsley; T. Craggs.

SELLING CLASS.—1, G. Gayton. 2, W. Russell, Stapleton, Darlington. 3, J. N. Harrison. *hc*, W. Russell; H. Winter, Guisbrough; Fairclough & Howe, Middlesbrough; Wallace & Beloe; Layfield & Ellerton (Norwich); Stevens and Leeke; Barwell & Golby; R. Hawman; J. Cleminson (2). *c*, W. & C. Burniston (2); Wallace & Beloe (2); Layfield & Ellerton (Norwich); T. Allenby, Durham.

CAGE OF SIX CANARIES (Variety and Plumage).—1, Layfield & Ellerton. 2, J. Calvert, Bootham, York. 3, Stevens & Leek. *hc*, J. Gale, Darlington; Wallace and Beloe; R. Hawman; T. Allenby; J. Cleminson.

GOLDFINCH MULE.—*Evenly-marked.*—1, L. Belk. 2, Stevens & Leek. 3, Layfield & Ellerton. *hc* P. Rawnsley; Stevens Leek; Layfield & Ellerton. *c*, T.

Snaith. West Auckland (2): E. Stanafield (2). *Dark.*—1, Moore & Wynne-2 and 3, E. Stanafield. *hc*, T. Tenniswood; H. Winter; J. Taylor; Moore and Wynne; Stevens & Leeke. *c*, J. Goode; J. T. Harrison.

MULE (Any other Variety).—1, E. Stanafield (Bullfinch and Goldfinch). 2 and 3, Stevens & Leek. *hc*, T. Snaith (Linnet); J. T. Harrison (Greenfinch and Goldfinch). *c*, T. Snaith (Linnet); W. & C. Burniston (Linnet); Layfield and Ellerton (Siskin); W. J. Stewart, Darlington (Siskin).

CLEAR GREEN.—1, Stevens & Leek. 2, W. Robson. *hc*, Layfield & Ellerton.

GOLDFINCH.—1, T. Tenniswood. 2, J. N. Harrison. *hc*, Stevens & Leeke; J. Goode; T. Fawcett. *c*, J. Taylor; W. Robson.

LINNET (Brown).—1, W. Robson. 2, J. N. Harrison. *hc*, T. Snaith; T. Tenniswood; Fairclough & Howe; W. & C. Burniston; R. Robinson. *c*, Fairclough and Howe; W. Carrick, Middlesbrough; J. Hindle, Darlington.

BULLFINCH.—1, J. H. Dosser. 2, T. Allenby. *hc*, J. Cleminson. *c*, W. & C. Burniston; R. Robinson.

ANY OTHER VARIETY.—*British Bird.*—1, T. Swinburne, jun. (Thrush). 2, Cox and Hillier (Yellowhammer). *hc*, W. & C. Burniston (White Linnet); R. Robinson (Variegated Linnet). *c*, P. Sexton (Jackdaw); J. Hindle (Skylark). *Foreign Birds.*—1 and 2, R. Iddison (Love and Weaver Birds).

PARROT.—1, W. Thompson, Darlington. 2, W. Hodgson. *c*, J. Bradley, Darlington; R. Moses; J. Blenkinsop.

JUDGE.—Mr. G. J. Barnesby, Derby.

RABBITS AT THE YORKSHIRE SOCIETY'S SHOW.

THE schedule issued this year is, perhaps, one of the most liberal and varied ever presented to exhibitors. The Lops are divided into six classes, and the other varieties into five, exclusive of the Selling class. All pens are for single Rabbits, which we much prefer. Two pieces of plate are given, one for the best Lop, the other for the best of any of the other six varieties which will be found there. The whole of the varieties of the Rabbits known in the county will be there, we doubt not, and each have a class and chance of a prize. The entry fee is moderate, and the prizes liberal. The Judges are well known for their knowledge of the varied points of excellence. The Committee are working hard to insure success. No entries can be made after the 16th inst.

ENTRANCE FEES.

As a member of a committee for the carrying out of a poultry show I cannot allow the letter of Mr. John Cockroft upon entry fees to pass without notice, otherwise exhibitors might conclude that the committees of many poultry shows were passing a nice balance into their own pockets, instead of which many of them find that there is not only plenty of hard work, but the balance is mostly on the wrong side. To give a rough idea of the working of a show, I consider the entry fees should pay the money prizes, the subscriptions pay for cups and hire of pens, and admissions pay the working expenses. To carry out the scale suggested by "J. C." every class must average from twenty-two to twenty-eight entries. Did he ever hear of such a show with only three prizes to a class? The entries at the Crystal Palace Show last year averaged about seventeen in a class, which I consider very good. "J. C." may consider that committeemen should be prepared to give £50 out of their own pockets for the benefit of the exhibitors. My advice to "J. C." is, "Make one of a committee to get up a show, let the entry fees and prizes be as you suggest—I promise to give all the support I can, and have no doubt the entries would be large—and when the accounts are all squared, let the readers of the Journal know on which side the balance is found."—L. WREN.

SUBSCRIBERS TOWARDS THE PIECE OF PLATE FOR BLACK EAST INDIAN DUCKS.—I have been getting up this for the Birmingham Show. The winner of the first prize will thus win a piece of plate value £4 4*s.*, and the Society's prize of £3. The contributors are—Mrs. Hayne, Dorchester, 10*s.* 6*d.*; Rev. Wm. Serjeantson, Shrewsbury, 10*s.* 6*d.*; Rev. John Richardson, Sandy, 10*s.* 6*d.*; W. E. George, Esq., Bristol, 10*s.* 6*d.*; G. S. Sainsbury, Esq., Devizes, 10*s.* 6*d.*; J. K. Fowler, Esq., Aylesbury, 10*s.* 6*d.*; Mr. Samuel Burn, Whitby, 10*s.* 6*d.*; Mr. F. Hall, Whitby, 5*s.*; F. E. Schofield, Esq., Morpeth, 5*s.* 6*d.*; total, £4 4*s.*—SAMUEL BURN, *Whitby.*

MAKING GRAPE WINE.

SIX days ago I expressed nine gallons of the juice from Black Hamburgh grapes for wine. It began to ferment almost immediately. The fermentation continues, and I cannot find the directions of your correspondent "UPWARDS AND ONWARDS" for checking it in case of going too far. I have put 10 lbs. of loaf sugar into the wine; the grapes were very sweet, and I thought sugar was hardly required. I have also put into it some vegetable charcoal, which a gentleman who makes cider informs me would be a valuable addition. Will you inform me in what numbers of the Journal I shall find the needful information?—J. M. R.

[Nos. 429 and 452, published in the year 1869, contain the information required.

The fermentation of your wine, however, was going on perfectly well without the addition of vegetable charcoal. It is curious to find how, in the many letters which I receive on this subject, the varying features of quackery will intrude. I described the plan of checking fermentation at a certain stage merely for the sake of economy; but "J. M. R." need not be frightened if fermentation goes on to the end unchecked, provided some of the best loaf sugar is given to bring the wine up to the general English palate of 10° before next May, or sooner if convenient, and in order to guard against acetous fermentation during summer. In fact, leaving economy out of consideration, further practice and observation have inclined me to allow my best juices to go through their fermentations without a check, which the saccharometer will reveal by floating at the index of 0°, and then to rack off and sweeten to taste as above. No sulphuring nor fining will then possibly be required, nor will the wines be subject to "cloud" from unfermented sugar, or be so liable to present us with "a last glass of thick" at the bottom of each bottle on consumption.

Unless "J. M. R.'s" Black Hamburghs were grown under glass and were perfectly ripe, I should consider 10 lbs. of sugar to nine gallons of juice a minimum quantity, notwithstanding his thinking the grapes were very sweet.

I begin my Muscadine vintage to-morrow (Nov. 8th), weather permitting. We have a capital yield, and the grapes are in good condition for making into wine. Our Esperione grapes are not good in colour, though sufficiently so for the fabrication of a pink champagne. These I shall let hang, except in case of frost, for a week or so longer, as they are firm, plump, and increasing in their colour. I shall allow them 3¾ lbs. of sugar per gallon of juice, and that is what I would advise for out-of-door black grapes this unfavourable ripening season; 3¼ lbs. of sugar will prove sufficient for the Royal Muscadines, the best of all out-of-door grapes at present for our uncertain English climate.—ROBERT FENN.]

FEEDING BEES.

IN "The English Mechanic and World of Science," there is a description with a diagram of an ingenious method of adapting the bottle-feeder to hives of straw. A gentleman, who signs himself "Joseph Gadsby," is the inventor. As he is not the patentee, but publishes his discovery *pro bono publico*, I cannot be at fault in extracting the following for the benefit of your readers. He says, "I have made both the round and square feeder [of the old type], and have thrown them aside as feeders . . . . . and have adapted the bottle with a small tin made in the shape of a funnel wrong side up, the hole where the spout would be placed made sufficiently large for the bottle neck to go in, and then a tube put in just to fit the neck of the bottle; and where the bottle neck reaches I fix a piece of perforated zinc to prevent the bees coming up. This I can fix on either wood boxes or straw hives. By the plan I have attempted to describe I can give them 4 lbs. in every twenty-four hours without any inconvenience."

Many of your readers who keep bees in hives of straw will be thankful for the hint given in the foregoing extract, as it is often found to be a great practical difficulty. Of course there must be a hole cut in the top of the straw hive, and the tin or zinc cap into which the bottle will go must be made sufficiently large to fit well over the top of the hive, and to support the bottle in an upright position. The whole can be covered over with a conical straw cap and hackle.—B.& W.

BEE HUNTING.

THE accompanying sketches, made during a recent jaunt in the Adirondack region, are illustrative of scenes that one may witness, if so disposed, while camping out in the "Wilderness."

"Max," said one of the ladies of the party to our guide, "there must be quantities of bees in the woods, for they hum

and buzz about that maple-sugar of ours until I am really afraid to go near it."

"Fog's right about, do they, Miss Mamie?" "Fogs" is a favourite phrase of Max's, and does duty in all sorts of ways. "Well, them's some of my molasses-makers," he continued; "if you like honey, I'll take up the hive to-morrow, and let you see how we 'line a bee tree.'"

"Bee-hunting," said Max, as we left the shanty the next morning for our hunt, "always reminds me of General Grant, for, like him, we fights it out on one line till we gets through."

"Smudging for Bees."

We soon reached our old clearing, when Max produced his little bee-box, from which he took some honeycomb, and put it in a little fire which I had quickly kindled on a convenient log.

"You see, girls," said he to the ladies, "the bees scents this from a mile or more away, and comes to see me when I call them so. Then I feeds the little chaps this way" said Max, as he placed some honey in the bottom of the bee-box. During the time that we waited for the arrival of Max's bees, the good fellow entertained us with stories of bear, panther, wolves, lynx, and all manner of things peculiar to the woods.

"Max! Max! here they come!" cried one of the girls, who, in listening to the stories, had not neglected to watch the bee-box.

"Know'd that some time ago," said Max; "only wanted to see whether they were going to get into the box without my help; but I guess they be. We'll watch 'em for a while, then put our mark on a few to see how far away they live."

The bees had by this time gotten well to work, seeing which, Max took some flour and dropped a little on the backs of two or three of the bees that were busy on the honey. By this time even the ladies had decided the line, for it was easy enough to watch the flight of the bee, from the time that it left the box, circled a few times, then directed its flight in a "bee-line" toward the hive. The marked bees soon returned and re-entered the open box.

"Ain't very far to that hive; warn't gone long, anyhow," quoth Max, as he gently shut the box lid and tapped on the box, to make the bees leave the honey in the bottom and rise to the top, so that he might shove in the little slide that divided the box in the centre, thus separating the bees from the honey. Picking up the box, Max started on the line, the party following after, each endeavouring to assist in locating the line. A quarter of a mile traversed in this way, we were halted by Max setting down the bee-box, drawing out the slide, and covering the box with his hat. (The box has a little glass window in the top.) Peeping in, and discovering that the bees were at work on the honey, he took away the hat and opened the box. In a short time we were again on the line, and in two more "tries" lined the honey-makers to their abode in the great trunk of an ancient birch tree.

"Working down the Bee Tree."

Max's axe now came into use, and as the tree came crashing down we dashed forward and stopped with moss the hole used by the bees as their entrance and exit. Rolls of thin birch bark were now lighted and held to the hole, from which the plug had been removed.

"Bees don't fight fire much before they gives up and takes the back track for the honey," said Max, when the bees had ceased the useless contest and he was engaged in chopping out the "big chips" that were to reveal the sweets. Soon we were removing the great combs of honey from the tree-trunk hive to the pails that we had brought with us.

On our way back to the shanty Max told how other bees, attracted by the honey, would come, and sometimes great battles would be fought; and the bees whose honey was lost, being weaker, would be defeated, and if their queen was killed would go off with the other bees and make sugar for them, thus starting another bee-tree for future capture.

Nearly 100 lbs. of honey was distributed from our bee-tree, besides the quantity that we consumed ourselves.—(*Harper's Weekly.*)

OUR LETTER BOX.

CAUTION.—"Committees and managers of forthcoming poultry and Pigeon shows should take care, for at the late Newcastle-on-Tyne Pigeon Show my first-prize White African Owl hen has had her frill pulled out by some malicious person, and she is quite unfitted for future exhibition. A liberal reward will be given to any person who may give information against the offender.—JOSHUA FIELDING JUN., *Park Terrace, Rochdale.*"

NORWICH SHOW (*A.*).—Thanks for the paper; when we have seen advertisements and prize lists we will give it such a notice as we think justified.

THE SOUTHAMPTON POULTRY SHOW.—In the "Other Variety" class, the second prize went to Mr. T. Moore, of Portsmouth, not Fareham.

GAME FOWLS' LEGS SCURFY (*J. W.*).—Your feeding is not good enough. Boiled potatoes and turnips are very bad food. The first are bad enough, the second are worse. The only thing in the whole bill of fare that can nourish your birds is the oatmeal. Depend upon it if you persevere in your present dietary, all your birds will suffer alike. Give ground oats, Indian corn, and table and kitchen scraps. Your birds must be too low in condition.

WHAT IS A PULLET? (*C. M. K.*).—Your question is somewhat difficult. Many declare all are pullets till the year in which they were hatched has passed away. We believe a pullet cesses to have any claim to that name after she has been broody.

BLACK BANTAMS (*G. F.*).—We have never had any trouble in breeding any Bantams, except the Sebrights. Blacks, Whites, Game want little care save that the hen should be put on a dry spot, that the little chickens may neither get draggled nor cramped. It is quite a different thing with the Sebrights. Many of their eggs are useless, and they are tender at first, but after they are a month old they do well. We have always found the earlobe to be hereditary. If you keep your Bantams dry, feed well, supply them with grass and fresh earth, they will do well. When one of the hens hatches, bring her out, put her under a rip in a dry sheltered place, and do not let her have her liberty. She will drag all her chickens to death if you do.

BROKEN SICKLE FEATHER (*H.*).—Leave the perfect feather as it is, and pull out the other, it will grow in two months; even if it be not as fine as the other it does not matter, provided the colour be right. Any deficiency of feathering, or any breaking of a sickle feather, is always viewed with suspicion in the breeds in which colour is the most important feature.

WORM IN HEN HOUSE (*Novice*).—We do not think the worm came from the hen, it has not the character it would have. If the foreign body in the cock's mouth is of a sort of cheesy nature, pull it off. If it is firmer, cut it off. If it is not developed, it can be easily removed with the thumb nail, and the best treatment then is camphor given frequently in pills the size of a garden pea. We never approve of putting fowls in an artificially-warmed place. If they have colds, give them some bread and ale twice per day. Let them have all the table scraps and odd pieces of meat, skin, and fat that are left at meal times. Heat should be communicated through food, and not by stoves or fireplaces.

GOLDEN-SPANGLED HAMBURGH FEATHERS (*G. C.*).—Nos. 3 and 4 are the best feathers, the moons or crescents are good upon them. The hackle feathers are good. The fault in them all is a deficiency of richness in the ground colour. They look a little washed out. We should advise you to introduce a rich-coloured dark cock into the yard next season.

POULTRY SNEEZING (*Blacks*).—There is little doubt your fowls are suffering from chill. It may be from the change in the weather, or from a brick, stone, or wooden floor. The incipient sneeze is a sure sign of "cold in the head." The quickest remedy to relieve the black comb is to administer two pills of camphor, each the size of a garden pea, and then to feed on some bread and ale. The black comb shows congestion, and when all other remedies fail it is sometimes necessary to bleed at the base of it. Poison would have the same effect on the comb, and so does indigestion. The latter is very rare among poultry. In the stage you mention it is not infectious. The Brahmas and Cochins are not subject to it. The Game are, and would most likely catch it. Use stimulants for present relief, then try to remove the cause.

LIGHT BRAHMAS (*R. G.*).—We cannot help thinking No. 1 has a crooked flight, else why should his feathers be folded high on his back? We do not mind the light saddle. We dread his wings, and we disapprove of his "coarse ugly head." We should be disposed to vote for No. 2 in spite of the light flight feathers, but we do not like a crooked breast. We do not think it hereditary, but it is the sign of a weak bird, and we should not, therefore, breed from him. If you are sure No. 1 has not twisted flights, then, taking his weight and good points into consideration, we should overlook the light saddle and the ugly head, and give him the preference. The single-combed bird will not do at all. He must be got rid of. As soon as the hen's crop dropped she should have been held up by the legs till her crop was emptied. She should have been very scantily supplied with water and have had less food; she would then have wasted. You were too ready with your knife. The operation should only be performed on a crop-bound bird. In that case the crop is as hard as a cricket-ball. All birds of the poultry tribe waste and fatten easily, and if you had fasted the hen a little she would have absorbed the fat that killed her. All the eastern breeds put on fat inside. There is nothing in your feeding that should cause excessive fat, unless the kitchen scraps were very good. Fat makes fat. We consider the fattening an accident, and believe she died from the operation. When you open another crop do not give bread and ale after the operation; thin gruel is all that is necessary for a day or two, given frequently in small quantities. We have never met with such fat about the crop except where fowls have been fed on meat.

GERMAN TOYS (*W. W.*).—The Germans are great Pigeon breeders, and are accustomed to put a number of pretty-feathered birds together, and if a pair alike in plumage are produced, they gave them a pretty name, and send them out into the world. Many such under various names which were seen at our shows a few years since, have quite disappeared. We know nothing of "German Hermits," and they are not mentioned in any Pigeon book extant.

ANTWERPS (*A. W.*).—Show Antwerps and working Antwerps differ. Our engraving was one of the former. These birds are bred carefully to colour and points. The working Antwerp is the one most likely you want, which is not so much a bird for the show-cage as for utility.

GOLDFINCH MULES BECOMING LIGHT (*M. G.*).—I apprehend from the query that it is a nest of dark self-coloured Mules, which will remain to all intents and purposes dark Mules, though the dull lustreless hue of the nest feathers will be exchanged for a brighter colour. Those birds which come under the class of Dark Jonques will be of a bright colour, while the Dark Mealies or Buffs will be of a dull leaden shade, the cocks in both classes having more or less of the Goldfinch "flourish" on the face, and the hens being minus that adornment, and clad in somewhat more sober garments. Dark Goldfinch Mules are sometimes extraordinary birds as regards colour, and very deservedly have a class to themselves in every schedule worth calling a schedule. If the Dublin Society issue a prize list sufficiently liberal no doubt our English fanciers will send birds—possibly accompany them, for there is no limit to the pluck of the fancy. But poor men, artisans, cannot afford the luxury of competing for honour; neither can poor men who are not artisans. I once was making active preparations for sending a collection across the Atlantic, but I found that a bronze medal would not pass current in the matter of freight. I am sorry to hear that all the Canaries in Ireland are bad. That can soon be remedied. I am now in communication with Australia respecting a consignment of high-class birds. If they can travel to the antipodes they can easily cross the Irish Sea.—W. A. BLAKSTON.

TREACLE FOR BEES (*J. Campbell*).—We have never fed with treacle, but see no reason why it should not do for bee food. We should dilute it with water if too thick, and perhaps boil it for a minute or two.

FEEDING COWS ON CABBAGES (*A Subscriber*).—They do not impart as turnipy flavour to the milk.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

DATE.	9 A.M.					IN THE DAY.				
1871. Nov.	Barometer at 32° and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of Soil at 1 ft.	Shade Temperatur.		Radiation Temperature.		Rain.
		Dry.	Wet.			Max.	Min.	In sun.	On grass	
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 8	29.453	45.6	45.3	W.	45 6	50.6	7.8	74.6	33.8	—
Th. 9	29.765	34.7	32.4	N.W.	4	46.7	0.3	82.2	28.3	—
Fri. 10	29.683	36.8	35 2	S.W.	4	47.5	31.9	81.3	29 4	—
Sat. 11	29.688	30.5	29.8	N.W.	42 .8	42.5	27.4	66.8	24.8	—
Sun.12	30.014	28.9	28.1	S.W.	42.0	44.5	25.3	72.2	22.0	—
Mo. 13	30.296	28.0	27.7	W.	41.1	45.0	25.2	70.8	22.2	—
Tu. 14	30.272	34.7	31.9	S.E.	39.8	46.4	26.4	66.5	22.1	0.220
Means	29.881	34.2	32.9		42.9	45.9	29.2	72.1	26.1	0.220

REMARKS.

8th.—Foggy and damp till noon, then fine and pleasant.

9th.—White frost; beautiful morning and fine day. Aurora at 10 30 P.M. and subsequently mostly white, but with red streamers.

10th.—A very fine day, though cold. Aurora again at night.

11th.—Frost, but fine morning; a very slight sprinkling of rain in afternoon, but fine evening. Encke's comet seen with a pocket telescope.

12th.—A very fine and bright day, though cold.

13th.—Rather hazy in the morning, fine at noon, but very cold. Evening very foggy.

14th.—Foggy early, a very fine bright day, but a wet evening, with blustering wind and rapid fall of barometer.

A very cold week, the mean temperature (36 3°) was nearly a degree below that of the month of January. Frost on every morning except Wednesday.—G. J. SYMONS.

COVENT GARDEN MARKET.—NOVEMBER 15.

THE trade remains in much the same state as last week. Among fresh arrivals are some good Oranges, both the ordinary and the Tangerine variety, from the Azores; fine Pomegranates and Bananas from Teneriffe. Large quantities of fine French Pears have been submitted to auction during the week. The Potato trade is heavy, the best qualities only commanding fair prices.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0 to	4	0	Mulberries lb.	0	0 to	0	0
Apricots doz.	0	0	0	0	Nectarines doz.	0	0	0	0
Cherries lb.	0	0	0	0	Oranges ℔100	0	0	0	0
Chestnuts bushel	10	0	20	0	Peaches doz.	6	0	12	0
Currants ½ sieve	0	0	0	0	Pears, kitchen doz.	2	0	4	0
Black do.	0	0	0	0	dessert doz.	2	0	8	0
Figs doz.	0	0	0	0	Pine Apples lb.	3	0	6	0
Filberts lb.	0	6	1	0	Plums ½ sieve	8	0	8	0
Cobs lb.	0	6	1	0	Raspberries lb.	8	0	0	0
Grapes, Hothouse lb.	2	0	6	0	Strawberries lb.	0	0	0	0
Gooseberries quart	0	0	0	0	Quinces doz.	2	0	3	0
Lemons ℔100	6	0	12	0	Walnuts bushel	10	0	26	0
Melons each	2	0	6	0	ditto ℔100	1	0	3	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	0	4 to	0	6	Leeks bunch	0	3 to	0	6
Asparagus ℔100.	0	0	0	0	Lettuce doz.	0	3	1	0
Beans, Kidney ½ sieve	0	0	0	0	Mushrooms pottle	1	0	2	0
Broad bushel	0	0	0	0	Mustard & Cress punnet	0	2	0	3
Beet, Red doz.	2	0	3	0	Onions bushel	2	0	4	0
Broccoli bundle	0	6	1	0	pickling quart	0	6	0	8
Brussels Sprouts ½ sieve	2	0	3	0	Parsley sieve	3	0	4	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	2	1	0
Capsicums ℔100	1	6	2	0	Peas quart	0	0	0	0
Carrots bunch	0	6	0	0	Potatoes bushel	1	6	3	0
Cauliflower doz.	3	0	6	0	Kidney do.	3	0	5	0
Celery bundle	1	6	2	0	Radishes doz. bunches	0	6	1	0
Coleworts doz. bunches	2	0	4	0	Rhubarb bundle	0	0	0	0
Cucumbers each	0	6	1	0	Savoys doz.	1	0	1	0
pickling doz.	2	0	3	0	Sea-kale basket	2	3	3	6
Endive doz.	2	0	0	0	Shallots lb.	0	6	0	0
Fennel bunch	0	3	0	0	Spinach bushel	2	0	3	0
Garlic lb.	0	3	0	0	Tomatoes doz.	2	0	0	0
Herbs bunch	0	3	0	0	Turnips bunch	0	3	0	0
Horseradish bundle	3	0	4	0	Vegetable Marrows doz.	0	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week.	NOVEMBER 23—29, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
23	Th		47.6	34.2	40.9	18	33 af 7	2 af 4	0 af 3	7 af 3	11	13 29	327
24	F		47.4	31.7	39.5	14	34 7	0 4	17 3	18 4	12	13 12	328
25	S	Law Michaelmas Term ends.	46.4	33.7	40.0	22	36 7	58 3	34 3	28 5	13	12 55	329
26	Sun	25 Sunday after Trinity.	47.2	32.9	40.0	23	37 7	57 3	57 3	39 6	14	12 36	330
27	M	Princess Mary of Teck Born, 1833.	47.0	33.6	40.3	20	39 7	56 3	22 4	47 7	○	12 17	331
28	Tu	Length of Night 15h. 45m.	48.1	33.9	41.0	22	40 7	55 3	55 4	53 8	16	11 57	332
29	W		51.3	33.8	42.5	20	42 7	55 3	35 5	53 9	17	11 36	333

From observations taken near London during forty-three years, the average day temperature of the week is 47.9°, and its night temperature 33.4°. The greatest heat was 62°, on the 25th, 1863; and the lowest cold 9°, on the 25th, 1858. The greatest fall of rain was 1.21 inch.

SMALL FARMS—HOW THEY CAN BE MADE TO ANSWER.—No. 1.

By Rev. William Lea, *Vicar of St. Peter's, Droitwich, and Hon. Canon of Worcester.*

[We most emphatically ask for our readers' attention to the series of communications of which the following is the first; we ask for such an attention as will result in aiding to realise the writer's convictions—convictions the results of experience. We are emphatic in our advocacy, because our own observations and our own experience quite coincide with those of the writer. His position and known character are guarantees of his sincerity, truthfulness, and singleness of purpose, and that purpose is connected intimately with the internal peace and prosperity of our native islands. Political advocacy has no abiding place in our columns, but the *consequences* of the gradual annihilation of small farms have long rivetted our attention, and been a theme of regret. Most justly did the Patriarch deprecate as the worst of visitations the "washing away the things which grow out of the dust of the earth, and the destroying of the hope of man," and such a washing away and such a destroying of hope are results from the entire expunging of small farms. "I am emigrating because I cannot win from being a labourer here"—"I leave because the squire has added my bit of land to the Home farm"—were replies from two of the steadiest men in one parish. On a property with which we are acquainted there are three small holdings varying from twenty to forty acres each. These are models of good cultivation and domestic comfort. They serve as nurseries for a superior class of household servants and farm bailiffs, and as fast as these attain the necessary age they are eagerly sought after. If once the country is cleared of such tenancies as these, we shall lose a valuable element in our social scale.—Eds.]

THE very title of these papers may sound paradoxical. Political economists have long decided that small farms will not answer, and apparently they are right; for, as while small farms have disappeared from the midland counties years ago, there were in most parishes and properties several small takings of from five to ten or even twenty acres each—some of them were freeholds, others were rented—but in the present day few such are to be found. The freeholds have been bought up by the neighbouring proprietor, and, with his own small takings, added to the adjoining large farm, and in consequence a distinct class has disappeared from the social scale, a class which held an intermediate position between the labourer and the farmer: and the question I would ask my readers to consider is, Whether the country has not sustained a loss both socially and morally by the extinction of this particular class? and if so, whether it may not be to some extent restored?

In all our country districts we have now as a rule three distinct grades of society, separated from each other by sharp lines of demarcation—the landed proprietor, the large tenant farmer, and the labourer; and the objection to this state of things to my mind is this: the farmer may rise to be a landowner, but the labourer is stereotyped in his own present condition without any opportunity of rising in his own walk in life. It is different in every other occupation. The boy who goes into a shop or warehouse may look forward to be a master himself. The mason may become a builder, the carpenter an employer of labour, his children may in future rise to the highest offices of Church and State, for the Endowed Schools' Commission have now made a ladder of steps from the national school to the middle school, from the middle to the higher school, and from thence to the Universities, by which any boy, whom God has endowed with natural gifts and powers, may ascend. The agricultural labourer now stands alone in this respect, without any opportunity of rising in his own profession of cultivating the land. Suppose that by diligence and thrift he has been able to lay by money, it would be impossible for him to lay by enough to enter upon a farm of the extent of which farms are now. He might be able to take, to begin with, ten or twenty acres, and then by thrift to pass on to something more, and leave his son in a position to take something larger still; but, in the present day, there are no such small farms to be had. Hence there is nothing but emigration either to some town district or to some distant colony—emigration from the parish in which his fathers have tilled the land for generations—for the labourer, who has the will and the power to rise: and hence it is that our country parishes lose year by year the stoutest and thriftiest and most intelligent of their men, the very pith of their population. If it were on this ground only, if it were only to retain the best of the men in their native parishes, I think it would be the interest of all landed proprietors to keep a few small holdings on their properties to bridge over the gulf between the labourer and farmer, and to serve as inducements to such men to remain, in the hope of one day rising into the condition of farmers themselves.

But when I advocate small farms, I do not mean that all the country should be cut-up into little holdings as it is in some parts of France and Belgium. The line so often quoted on this subject—

"When every rood of land maintained its man"—

is a mere poetical figure of speech. All I recommend is that there should be a sufficient number of them to serve as stepping-stones for the best of the agricultural labourers, and as inducements to thrift and industry, which are sadly needed in these days of increasing pauperism, and decreasing self-respect and independence in the true sense of the word. If in every thousand acres, fifty or even twenty acres were let in small holdings it would probably meet the case; and as land will bring a higher rent in small quantities than in large, this would, to some extent,

compensate the landowner for the extra expenditure which would be required in buildings.

In addition to this, I think that the country in general has lost a great deal by the destruction of this class of small holders. People are always complaining about their servants; they say they are not what they used to be, they are so helpless that they have no idea of putting their hands to anything outside their common routine of work; and there is some truth in these and similar complaints, but I think that the explanation of the change is to be found in the fact that the class from which the most useful servants—aye, and our best soldiers—used to come has disappeared. If anyone will take the trouble to inquire into the parentage of those "treasures" whose loss he is now deploring, he will find that they were the children of small farmers or freeholders, who were brought up at home in habits of industry, hardiness, and thrift from the time they were able to walk, and taught to put their hands to anything that was required, and to turn everything to the best advantage. They lived hard too, and thought the now-despised "fat bacon" a luxury. But the children of the present class of agricultural labourers have none of these advantages of training—at any rate not in the same degree. There is no little farm to work on, with something to fill up every spare minute; no stock about the cottage to tend, no cow to milk, no chickens to feed, no grafting in the spring, no budding in the summer, no haymaking in the little croft, no binding-up after their father as he reaped the little patch of Wheat which was to keep them all the year round in sweet brown bread—only, perhaps, the pig to look to, if this savings' bank is not prohibited; and as for the children of the workers in towns, there is nothing to teach them habits of thrift or handiness, and consequently they have no idea of either. Whatever their wages are they spend them, and if they are out of work for a week they apply to the parish for relief. They have none of that real independence which makes it a point of honour not to be "beholden" to others for support; and I am afraid a man may travel some way without being told, as I was not long since, by an old woman of seventy-five—"I never had a farthing from the parish in any way in my life, and I would rather die than have it."

If I am right in the estimate I have formed of this class, their destruction has been a loss, not only to their own district, but to the country at large; and if so, it would be a great advantage if they could be reinstated. But how is this to be done? I am quite aware that small farms do not pay—*i.e.*, they will not enable the tenant to live, if they are farmed on the same system as large ones. If the man with five acres tries to grow the same crops as the man with five hundred, he must be beaten in the competition, and go to the wall. But a small farm managed on a different system will afford a very good living to its occupier. It must be planted with fruit, not with Wheat; with vegetables for man, and not with roots for cattle. I can speak to this point from my own experience (the results of which I am about to give) over a period of seven years; and though I have always sold my produce at something below the market price, I think the returns would show a very fair profit to an agricultural labourer, after paying a comparatively high rent. Of this, however, the reader must judge for himself, and to enable him to do so, I must, at the risk of appearing egotistical, give an account of my own experiment.

In 1864 I bought three acres of land, and having long had a hobby of my own in favour of small farms, I commenced to ride it at once, with a view of seeing how far such farms might be made to pay if planted with fruit. One portion I devoted to specimen trees of various kinds—Apples, Pears, Plums, Gooseberries—with a view of ascertaining the sorts which would make the best return if planted in quantities. On another portion I experimented with vegetables, and on a third portion I made a plantation of Gooseberries, Black Currants, and Plums, and sold the produce. It is of this third portion, as nearly as possible one acre in extent, that I purpose to give an account. I first cleaned and double-dug the land, made a broad walk up the middle, and then planted it with bushes 6 feet apart, in rows 6 feet from each other. Among these I planted Plums, some 24, others only 12 feet apart. My stock consisted of 800 Gooseberries, 320 Black Currants, and 110 Plums—1230 in all; the exact number to an acre, planting at 6 feet apart, is 1225. For the first three years I had room for three lines of Potatoes or other vegetables between the rows; then, as the bushes increased in size, for two, and in the last and seventh year for one line only. In three or four years more the bushes will have entirely covered the ground, and there will be no more room for vegetables, but by that time I expect that the trees alone will produce a very good return; but to enable my readers to judge what profit may be expected during the first seven years, I subjoin an account of the fruit sold from this acre of ground. The crop produced

	£	s.	d.		£	s.	d.
In 1865	1	18	6	In 1869	21	17	0
1866	3	6	6	1870	28	6	2
1867	10	15	8	1871	32	12	9
1868	10	16	9				

In addition to the fruit, this last year one line of Potatoes or Onions was planted between each row. The produce was thirteen bags of early Potatoes at 10*s.* per bag, and five pots of Onions at 4*s.* per pot of 90 lbs.—£7 10*s.* in all, which, with the fruit, gives a gross return of £40 2*s.* 9*d.* for the acre.

It may be interesting, perhaps, to go still further into detail, and to give the prices of each kind of fruit, and the amount for which the produce sold in each of the seven years, bearing in mind that the acre was planted with 800 Gooseberries, 320 Black Currants, and 110 Plums, and that a pot of Gooseberries is expected to weigh 90 lbs., a pot of Plums the same, and a pot of Black Currants 63 lbs., the pots—*i.e.*, the baskets in which they are packed—included. I should also mention that some sixty of the Black Currants when planted were large bushes.

1865.	£	s.	d.
The crop of Gooseberries, at 5*s.* 6*d.* per pot, produced	0	11	0
Black Currants, at 10*s.* „	1	7	6
Plums 0*s.* „	0	0	0
	£1	18	6

1866.	£	s.	d.
Gooseberries, at 8*s.* per pot	0	18	0
Black Currants, at 12*s.* 6*d.*	2	8	6
Plums	0	0	0
	£3	6	6

1867.	£	s.	d.
Gooseberries, at 7*s.* per pot	8	8	8
Black Currants, at 10*s.*	2	7	0
Plums	0	0	0
	£10	15	8

1868.	£	s.	d.
Gooseberries, at 5*s.* per pot	7	10	0
Black Currants, at 10*s.*	2	4	0
Plums, at 7*s.* 6*d.*	1	2	9
	£10	16	9

1869.	£	s.	d.
Gooseberries, at 6*s.* per pot	12	18	0
Black Currants, at 10*s.* 6*d.*	4	12	6
Plums, at 4*s.*	4	6	6
	£21	17	0

1870.	£	s.	d.
Gooseberries, at 8*s.* 4*d.* per pot	17	2	0
Black Currants, at 9*s.*	4	12	0
Plums, white, at 3*s.*; red, at 6*s.*	6	12	0
	£28	6	0

1871.	£	s.	d.
Gooseberries, at 10*s.* per pot	13	0	0
Black Currants, at 15*s.*	9	5	0
Plums, white, at 5*s.*; red, at 10*s.*	9	7	6
	£32	12	6

It will be seen from this account that the price of fruit varies according to the season. During the last seven years Gooseberries have been as high as 10*s.*, and as low as 5*s.* per pot; Black Currants have been as high as 15*s.*, and as low as 9*s.*; Plums in like manner have varied in the same proportion; but the price of Gooseberries depends upon another condition besides the quantity of the crop. The time at which the gathering begins is an important item. If the gathering does not begin till June, 6*s.* per pot will be as remunerative a price to the grower as 10*s.* would be if the gathering were commenced in the middle of May. But I will say nothing more of the Gooseberry now, as I shall devote the next paper to this most popular fruit.

The temperature is seldom known to be so low so early in the winter. The minimum of the thermometer here, taken at 9 A.M., as registered during the night for the last nine days, is

as follows. The thermometer is 4 feet from the ground. Snow fell heavily for a quarter of an hour on the 11th, between 1 and 2 P.M.

Nov.	Temp.	Nov.	Temp.	Nov.	Temp.
11th	24°	14th	28°	17th	26°
12th	22°	15th	40°	18th	18°
13th	22°	16th	30°	19th	26°

—H. Harris, *Naseby Woolleys, Northamptonshire.*

GOOD AND BAD NEIGHBOURS.

The question raised by your correspondent, Mr. C. W. Johnson, is one of great interest, and it may not be irrelevant to mention that in the course of some experiments on the influence of various manures on plants made for two years in succession in the gardens of the Royal Horticultural Society, presumptive evidence, at least, was obtained, showing that the Dutch Clover (Trifolium repens), and even more markedly the Anthoxanthum odoratum, do not thrive when grown by themselves, but require the association of other plants. To what cause this is to be attributed I can only guess—my suspicion being that the roots of these plants suffer from the undue evaporation from the surface soil, which is obviated to a great extent when other plants are grown with them. This would be an easy matter to decide by a simple experiment.

Mr. C. W. Johnson may perhaps be unaware of the circumstances which originated the experiments above referred to under the direction of the Scientific Committee. As they have a material bearing on the point raised by him, I may briefly mention that in consequence of the astonishing diversity in the number and the kinds of plants grown in different plots of pasture land in the park of Mr. J. B. Lawes, of Rothamsted, when treated with different manures, it was determined to grow certain plants, twelve in all, separately, and to treat them with various manures. In this manner it was hoped that some light might be thrown on the causes which lead to the predominance of one plant over another under certain conditions of manuring. In the unmanured pasture land at Rothamsted some fifty or sixty species of plants grow together in association, but by the application of certain manures the number of species is reduced, till at length in certain plots little else remains but the Dactylis glomerata. The manures might be positively injurious to some species, or, on the other hand, they might be inert so far as they were concerned, but specially favourable to some other more vigorous-growing plant which would get the upper hand.

The experiments at Chiswick, so far as they went and so far as they can be relied on, seem to show that the latter is the more probable supposition. In comparatively few cases did the manure, of whatever kind it might be, seem to act as a poison would do—though of course if the quantity employed were excessive it would act injuriously in any case. The predominance of one species over another seemed to the experimenters to be due, in the first instance, to the constitution and specially to the habit of the plant, and any manure which stimulated the general vigour of the plant intensified the peculiarities of habit of the plant operated on, and thus it may be conceived would give it an advantage over a plant of weaker constitution, and with a "habit" or organisation less adapted for getting on in the world.—Amicus occultus.

LAYING BROCCOLI, WITH CULTURAL NOTES.

The most important of vegetables for a spring supply is the Broccoli. It occupies the place of honour in spring as the Peas do in summer, and nothing can compensate for its absence; but whilst all admit its usefulness, few doubt its liability to succumb to the severity of the winter. In a word, it is one of the best as well as one of the most uncertain crops of the garden. To obviate this uncertainty is at present beyond the power of the gardener, and it can only be effected by introducing an altogether hardier class of varieties than we at present possess. Some sorts are put forward as having the necessary hardiness, but all I can say is, that I have never yet had the pleasure of getting hold of a variety possessing this all-important requirement. If ever one does come into my hands, and does prove its right to be called truly hardy, I will, if I can, sound its praise through all the land as one of the greatest boons to gardeners and the community generally.

There is no doubt that some sorts of Broccoli are more hardy than others, but I am nevertheless of the opinion that soil, position, and cultura treatment have a greater influence in determining their frost-resisting capabilities than any peculiar constitutional virtue. However hardy a Broccoli may be, it can still be made tender in the growing. In many instances this is unavoidable, but in some it is, to a certain degree, preventible. Low-lying districts subject to a heavy rainfall are naturally unsuited to the winter keeping of Broccoli, as in such places the plants are tender and succulent. In other localities the growth is slower and the plants are more woody, and consequently more hardy. I grow a few plants in an exposed open field on the farm, amongst the Cabbages raised for the cattle, and I cannot possibly grow plants in the garden at all equal to these in hardiness.

In growing Broccoli two points should be kept in mind—abundance of air, and not too rich feeding ground during the summer. The richer the ground the greater should be the distances between the plants, as in rich deep soils the orthodox 2 feet space is altogether useless; it should be at the least 3 feet, or even the plants may be 4 feet by 3. Better than enriching the ground is a limited use of manure, and if large heads are required, give instead heavy surface-dressings of rich stuff in spring, when the plants are safe from frost and are showing signs of growth. Spring-manuring is the most economical and far the best, since manure in summer goes to produce large leaves, whilst spring-manuring helps in producing large, close heads. In the latter case we have a sure and immediate return; in the former the result is uncertain, and the whole process dangerously open to failure.

And now a few remarks about protecting. Laying is the ordinary and the best mode. In advocating laying down the plants I am aware I am running counter to the opinions of many able gardeners, as frequent statements have appeared saying that the loss was greater amongst the plants laid down than amongst those left standing. Those who have thus decided will, of course, not be at the trouble of laying their plants for the future, but there are many, however, who have not decided, and to these I submit my opinion and experience on the question. In the first place, some plants are grown so tender that a severe winter will kill them, either standing up or lying down; and so fatal was last winter, that good heads of Broccoli brought extraordinary prices. Many, though laid, were killed, not, indeed, because they were laid, but in spite of it, and I believe that far more were destroyed because they were left standing. Extended observation and some hard practice have assured me that it is prudent to lay down a large proportion of Broccoli. But if the practice is sound, why a proportion—why not all? some will ask. Simply for the following reasons:—Laying down the plants has some disadvantages. These I am willing to acknowledge, and, acknowledging, to act accordingly. Plants left standing, if they escape the winter, are ready for cutting rather sooner, and form finer heads than those laid down. This advantage I turn to account in order to prolong the season. If it is a choice of large heads or none, leave the plants standing by all means; but if the main object is to have Broccoli with good heads to supply dishes, laying down the plants is, in my experience, the practice most to be relied on. I do not assert that laying down the plants will absolutely prevent loss, but it tends, when properly performed, towards lessening it very considerably. I can hardly remember the time when—in season—I had no Broccoli to cut. I admit that I have experienced scarcity, but this the cook never knew. Last spring, when heads were so scarce, I was fortunate in having a plentiful supply, but positively not one was cut from plants left standing. Careful summer culture—that is, not growing the plants too large and luxuriant, giving them abundance of room, and choosing the most exposed position—these, in conjunction with laying, are the best means of meeting the Broccoli season, and lessening the probability of loss and disappointment.

Laying should be done thoroughly or not at all. The most tender part of the plants is the neck. To cover with soil the hardier parts and leave the tender exposed is simply labour lost. How many thousands of plants are half laid and then killed, the system being blamed for the whole loss, and not the slightest acknowledgment or idea of error on the part of the operator thought of? In laying, two things must be avoided—the plants must not be laid too early nor too shallow. In the latter case the necks are exposed from the first; in the former they quickly grow upright, as if to invite the frost, and are quite as helpless to resist it as if left standing. They are as bare-necked and as tender as if they had not been laid down at all, as the leaves, which would otherwise have been firm and erect, are, by root-disturbance, flaccid, and fall away from the hearts or heads.

I have just laid down about thirty score of Broccoli. I chose the time because the weather was fine and dry. Had I been certain of the same weather ten days later, I should have preferred it. Some were carted from the open field, and some brought from other parts of the garden. A piece of ground intended for next year's Scarlet Runners and late Peas was manured as for winter-digging. On this the plants are laid as close as possible without absolutely overcrowding. In trenching-in the plants, the manure—old vegetable refuse—is put round the roots. They soon begin to grow, but not soon enough to lift up their heads before Christmas. The plants are kept out of the ground until they begin to wither a little, and are then laid-in almost over the hearts. The flaccid leaves of one plant overlap the other, and never again become upright. This affords great protection. The plants soon recover the check caused by late removal, in consequence of the fresh stuff put into the trenches assisting them to form nice heads instead of large leaves. It is important that the plants should be put in perfectly dry or they may rot. As it is, a few will no doubt perish from this cause, but it is better that a score or two should die from excess of moisture than that the whole crop should perish through excess of frost. This plan has enabled me to obtain a supply of Broccoli for many years past, and I do not suppose it will fail me in the ensuing spring, even if the winter should be, as the Rev. W. F. Radclyffe predicts, hyperborean. It is also advantageous in saving ground, as the plants go into much less than half the space they before occupied, and are cleared in time for the above-named crops, which are put in trenches after the manner of Celery. All this certainly does involve labour, and I myself have had to work hard at it. Rest, however, is all the sweeter when a man feels confident that his labour will bring him the reward he anticipates. This plan, be it remembered, will not give gigantic heads, but I care not for that; so long as I get plenty of serviceable plants I do all that is expected, and am satisfied.

I may state that I always sow a little salt amongst the plants once or twice in the growing season, having an idea that it assists them to resist frost. Should the winter prove severe, Broccoli will again be dear, as the plants are more succulent and tender than usual, owing to heavy rains. I advise laying even now. If the winter be mild, it will have some advantage by retarding a portion of the stock and prolonging the season of cutting.—J. W., *Lincoln.*

ALPINE PLANTS.

Lover of the Rose though I am, there was an account in the advertising columns of the Journal a few weeks since that I hailed with pleasure—one announcing the sale of the collection of Roses in pots belonging to Mr. Ware, of the Hale Farm Nurseries, as the houses in which they used to be grown were wanted for his increased stock of succulents and herbaceous plants. It was one of the surest indications of the rising tide that I had yet seen, if I except that when I was at Caunton at the time of the Nottingham show, our great Rose champion showed me the old Rose garden, which was going to be turned into an herbaceous garden for the especial delectation of "my lady," and as a *répertoire* from whence she might gather flowers for her rooms. Yes, a rising tide, which I believe all the Mrs. Partingtons will not be able to keep out with all their mops made of Calceolarias, Pelargoniums, and other bedding stuff. I do not advocate a complete exclusion of the present system, but a moderating of its extravagance. I deplore especially its influence on our cottage gardens, where in so many places bedding plants are taking the place of the old-fashioned flowers that had always something in them to gladden one's eyes; while their utter want of fragrance makes them a poor substitute for the sweet-smelling Stocks, Wallflowers, and Cloves which they have ousted.

It is now some time ago that I paid a visit to Mr. Ware's nurseries, and was then astonished at the vast number of herbaceous and alpine plants that he had in cultivation; but I have now before me his catalogue of ninety pages, and on an average about sixty species in a page, so if here is not variety enough where is it to be found? At the time of my visit the earlier spring flowers were making their appearance; and here is the great value of the alpine rock garden—flowers that are perfect gems, with colours of a brilliancy we rarely see in other flowers—(for what can vie with the glorious blue of Gentiana acaulis or Gentiana verna? or what pink more lovely than that of Silene acaulis?)—open their beauties for us in early spring time; and from the time that the Snowdrop and Siberian Squill are in bloom, all through the summer a succession of beauties is to be had, with Campanulas, Androsaces, Dianthus, &c.

I do not think that there is much difficulty in making an alpine garden anywhere. I am about as badly situated for it as most people, stone being so very scarce, and, in fact, I have been obliged to content myself with large flints obtained from the chalk formation. They are happily yellowish on the surface instead of white, and so even at first do not look very glaring, while in a little while I hope some of my pets will soon hide them from view. It must be remembered that the garden ought to face the full sun, and not be shaded by trees. I have made mine on the border of a shrubbery going up to my house; this is about 4 feet wide, and I have raised it somewhat, getting it out of the way of the roots of the trees, and taking care that none of them overshadow it. My plan was to arrange the stones (I wish I could call them rocks, but I cannot), on the border, which is made of the common soil of the garden; in this I planted such kinds as are not particular as to their soil—Sedums, Sempervivums, Campanulas, &c. When I came to plant those which are particular as to their food I made a good-sized hole in the spot required, took out the earth, and then filled it in with the compost required, being careful that even for small plants the hole should not be less than 1 foot or 18 inches deep. I had by me a supply of road grit, sand, peat, good loam, and leaf mould, and according to the requirements of each plant used them. "Dear me! what a trouble!" says some enthusiastic bedder-out; "why, I have nothing to do but dig over my beds in autumn, stir them up a little in spring, and they are ready." Exactly so; and is not this one reason why bedding-out is so much favoured? But to a man who has been growing Auriculas, Carnations, and other florists' flowers all his life such particularity is nothing. Care must be taken as to weeding, for some of the Alpines are so small in their growth that coarse weeds soon destroy them, and some of them also will require careful watering in summer.

As to choice of sorts, I believe the best plan for anyone would be to put himself in the hands of men who, like Messrs. Ware, of Tottenham, or Messrs. Backhouse, of York, have made these things a speciality, assured that he will meet with fair and liberal treatment, telling them the size of the rock garden, and asking them to give a list of plants and estimate for it; while those who have already formed one can cull at their will from such collections. I know this taste is inexplicable to some. My good brother-in-law, seeing me looking over the Alpines at Glasnevin, accosted me with a polite offer to lend me a magnifying-glass, as he could see nothing, yet to me they are a source of much pleasure, and I would commend them to all interested in gardening.—D., *Deal.*

MORE ROSE GOSSIP.

Marie Baumann was wretched with me all this summer; it had scarcely one good blossom, and now fully half the plant has died off. It has been growing in a large bed with the following Roses—Charles Lee, Madame Margottin, Vicomtesse de Vesins, Alba Rosea, Duke of Edinburgh, Louis Peyronny, La France, Sombreuil, Souvenir de Dr. Jamain, John Hopper, Anna de Diesbach, Madame Rothschild, Joséphine Beauharnais, Princess Mary of Cambridge, and Camille Bernardin. Some of these are delicate Roses, but, with the exception of Marie Baumann, all bloomed through the summer continually, and presented a beautiful combination of colour for a couple of years. Madame Margottin was very poor with me. Mr. Radclyffe lauded it so highly that I did not give it up. I had it potted last winter, kept in a cold frame, and planted out on the 15th of May, and it well repaid the trouble. Only two days ago I cut off the last of its grand flowers.

Could Marie Baumann be improved by the like treatment? I often ask myself. But then the growth is so different that I doubt the success of the experiment. Besides, I had it generally covered with glass during the spring months, and with no good result.

I have been much surprised that none of your correspondents has noticed Miss Ingram, which, though only a summer Rose, I think in shape and colour is unsurpassed. When fresh expanded this year in the beginning of July it was perfectly exquisite. The frost and rain in June spoiled many of the blossoms. For the time (about one month) which it lasts it is a great bloomer. Shall we ever see a white Rose on its model? We really want such.

Alfred Colomb I prize above all varieties of the bright-coloured section; I have never seen its superior. Charles Verdier

is also very beautiful, and Gloire de Ducher graud against a wall.

Suckers were so numerous this season that I much fear where there was neglect—and I have seen it—there will be large gaps in some gardens next year.

"J. B., *Darlington*," whose experience I endorse, inquires respecting the Tea Rose Homère. I saw it as a standard; it was beautiful. I budded it also on a standard and it is doing well; but I regret it was not grown as a dwarf, it being then more easily protected. Comte de Paris is also a handsome Tea.

If any who may read the foregoing remarks would say something from their own experience about Roses in a greenhouse without Vines they would much oblige—An Amateur, *South of Ireland*.

WINTER CUCUMBER CULTURE.

There is a growing demand for Cucumbers all the year round. From May to October there is little difficulty in providing a regular supply, but during the dead of the winter it causes no little trouble to those who are expected to have a Cucumber fit to cut every week. No doubt it is a matter of small moment to those who have a good house, plenty of pipes, and plenty of coal, but by others situated like myself, where the coal bill is not to exceed a certain figure, houses that are to be kept at a high temperature must be made the most of in order to save the fuel.

For several years I have tried planting out in the Cucumber house, training the vines on a trellis about 14 inches from the glass. This involved keeping another boiler at extra heat, as every house in that range except the Cucumber house only required the frost and damp to be kept out, and the result in the Cucumber house was anything but satisfactory. As the piping was rather short, it required heating up to a very high temperature, and we generally had so exhausted the plants that we planted again for spring and summer cutting. This made a break in the supply, however forward the plants which were to replace the old ones. Now, however, we use the Cucumber house for other things throughout the winter, and take advantage of the Pine-stove heat.

About the end of August we make up a bed in a pit, which keeps us going till October is out. In September we sow half a dozen seeds, principally of Telegraph. Mastere's Prolific does very fairly with me. Sometimes we strike cuttings for autumn or late spring production. I prefer them, as they fruit more speedily than plants from seed, and do not grow so rampant, but in the dead of winter striking them is too troublesome. For that time I use seedlings, as they grow more rapidly and sooner fill their pots with roots.

The best way to guard the seed from mice—and I think when so treated it also germinates better—is to fill the pot little more than half full of soil, and, after plunging it in bottom heat, to cover with a pane of glass; this allows the glass to remain till all danger is over as regards mice, which are very fond of pulling up the seeds even after they have vegetated.

When the plants show the rough leaf, I pot them singly in 3-inch pots, and when these are filled with roots, into 6-inch pots. I train the plants upright for about 3 feet, then stop them to cause laterals to form. These are stopped as soon as fruit is showing. When the fruit is set, the plants are shifted into 9-inch pots. The compost used is partially decayed turf, with a little old Mushroom-bed dung and leaf mould. I generally allow five fruit to a pot; sometimes the plants will show double that number, but I consider five quite enough. No shoots are allowed to grow. All the energy of the plant is concentrated on these fruit, and the plant after bearing is thrown away.

I make a sowing about once a-month up to January, when I sow and plant out in the Cucumber house.

I find that Cucumbers will do without bottom heat, but the fruit swells a little quicker with it.

When watering I use the water at 85° to 90°, and as soon as the pots are filled with roots I use manure water, varying it with guano sometimes.

The number of pots of fruiting plants varies with our requirements; sometimes, as at Christmas, we require more, but as a rule one pot lasts us a fortnight, and three pots of plants in a fruiting state keep us going. The chief advantage of this mode of growing them lies in the ability to grow the plants and shift them into any house having the required temperature—70° by night and 80° by day, varying according to the weather, as I think it is bad policy to keep up the same amount of heat in dull weather or severe frost as in mild sunny weather.

Whether the plants are trained upright or on trellises, I prefer them to be in pots for winter, from my experience. One great secret of success is never to let dry heat come in contact with the leaves, as they are soon attacked by insects. Give them a mild humid atmosphere, and, if possible, change the air in the house every day, for which purpose a very small opening is sufficient at this time of the year.—T. M.

CHRYSANTHEMUMS IN THE TEMPLE GARDENS.

These gardens keep up their reputation for their excellent show of this autumnal flower, of which Mr. Newton, Mr. Broome's successor in the Inner Temple, and Mr. Dale, of the Middle Temple, are both skilful cultivators. Mr. Dale, of course, has long been known, but Mr. Newton is a comparatively new recruit to the ranks of Chrysanthemum-growers, and it is very gratifying to find that, as in last year, so in this, he has been successful in producing a fine display notwithstanding an extremely unfavourable season. The large-flowering varieties, as of yore, are placed under a temporary protection of sashes and canvas walling in front of Crown Office Row, the run of border thus covered being 110 feet. Among them we noticed good examples of Prince Alfred, Guernsey Nugget, White Globe, Little Harry, Prince of Anemones, Gluck, and others, but in many cases the expansion of the blooms has been checked by the severe weather we are experiencing, and but for the occurrence of which the show would have been much finer. This points to the necessity of means for affording a little artificial heat, which we think might be secured at a trifling expense, and would be useful for other purposes as well. The beds of Pompons have also been in fine bloom, but have suffered much from the frost. We may add that next the river, on a portion of the ground reclaimed by the Thames embankment, there has been formed a noble walk of some 600 feet in length by 28 in breadth, along which have been planted fine, strong, young trees of the Occidental Plane. Other improvements are also in progress, which will alter still more for the better the appearance of the grounds.

In the Middle Temple Mr. Dale's exhibition, though not nearly so extensive, is, as usual, of high quality, though with him, as elsewhere, the effects of the season are evident. Among the varieties best represented are White Globe, Mrs. George Rundle, Prince Alfred, Venus, Lord Derby, Golden Beverley, Guernsey Nugget, Progne, Phidias, white and pink, pretty in colour; Prince of Anemones, and the fine-tasselled Japanese variety, James Salter. Mr. Dale has also good beds of Pompons, which, had it not been for the weather, would have formed gay masses for a long time.

ASPARAGUS CULTURE.

I entirely agree with Mr. Fish, "that to encourage the growth of Asparagus there is nothing like summer manuring, and summer manure watering." I have had stronger proofs than ever of this in the past season, and as it may tend to encourage many to cultivate this vegetable, I will describe my practice and its results.

I cultivate my Asparagus in single rows, and being obliged last spring to plant a quantity in poor soil, and with a limited supply of manure, I had a favourable opportunity for trying the effects of summer manuring. The soil was trenched 2 feet deep, the best soil kept uppermost, and a little manure mixed with it near the surface. The roots of the plants were then carefully spread out and covered about 4 inches deep with soil taken from between the rows. They started into growth well—for the plants were strong—and when the roots began to put forth spongioles, sheep-dung water of moderate strength was given them; and as the plants gained size and vigour a proportionate increase was made in the strength and quantity of the liquid, till in the hot days of summer it was given twice or three times a-week.

Under this treatment the plants continued to grow freely throughout the summer, sending up such a constant succession of stout young shoots that most of them have formed fine large stools or crowns. On the approach of autumn, finding the growth still active and young shoots still appearing, the liquid manure was gradually withheld in order that the entire growth might be matured before cold weather set in. It is well in such instances as this to afford the luxuriant growth some support, so that it may not be broken off by strong wind, which it frequently is when standing out fully exposed in single rows.

That the foregoing method is altogether superior to the wasteful one of heaping a quantity of solid manure over the roots just as growth has ceased, must be patent to all. By one system the health and requirements of the plants are watched and cared for throughout the season of growth; by the other, if it deserves to rank as a system at all, a thick costly layer of manure is spread over the roots at the very time that their power of absorbing food is reduced to a minimum. Doubtless, much of the rich components of the manure does eventually feed the roots, and is absorbed into the plant's system, but there must also be considerable waste. It is best, therefore, to apply such manure in the form of a mulching early in summer; the roots, being then in full activity, seize on the rich food with avidity. Moreover, it serves admirably to protect them from drought in summer or frost in winter. It is, however, only when Asparagus is grown in low-lying, badly-drained soil that protection is necessary in winter; when the soil is well-drained and thoroughly cultivated, there need be no fear that this vegetable will suffer in the slightest degree from the effects of frost. —Edward Luckhurst.

VEGETABLES FOR NEXT YEAR.

Remarks on the above subject are well timed, as the season is again coming round for procuring supplies of seeds for another year. I forward a few hints, hoping that other correspondents will do the same, so that we may all be able to procure any good novelty that we have not hitherto grown.

To begin with Peas, I think that most gardeners will agree with me that the past season has been a favourable one for that esteemed vegetable. For early crops we generally grow Dickson's First and Best [Dillistone's Early], and Taber's Perfection. This season we added Kentish Invicta, and it turned out exceedingly well, coming in a few days later than the former two, sown at the same time on the same border. We commenced to pick on May 31st. The next to follow was Essex Rival, a capital second early variety. This again was followed by Laxton's Supreme and Prolific; then by Advancer, Wonderful, and Premier. The above six sorts were sown at the same time, on a west border, and made an excellent succession. I do not intend again growing Laxton's two Peas for the parlour table, as I find they come in but very little earlier than Advancer. The latter has been considered much the best variety. Supreme is a great bearer and a fine Pea for exhibition, but by my employers is not considered of very good flavour. We picked daily supplies for weeks from the same sowing of Advancer, Wonderful, and Premier. They became fit for use in the order named. The first dish of Advancer was picked on the 20th of June. Premier proved with us the best Pea this season, taking it altogether. The last dish of it was picked on November 4th, and the quality would have been very good had it not been for the sharp frost we had here the night before—viz., 7° below freezing. They were in full flower yesterday (November 12th), when the haulm was pulled up. I may add that our soil here is a stiff calcareous loam, and has been used for kitchen garden crops upwards of 150 years.

We grow the old Walnut-leaved Kidney for our earliest crop of Potatoes, both in pits and out of doors. We have tried many varieties, but for early use and good flavour nothing is equal to it. Veitch's Improved Ashleaf comes in next, and is an excellent sort; it is the heaviest cropping Kidney Potato we have tried for early use. Dalmahoy, Paterson's Victoria, and York Regent are all good. For our latest crop we grow a variety called Smith's Seedling. This is a good cropper, well shapen, does not grow very large, and is good for table from the time it is dug up until early Potatoes come in again. I have not seen this variety anywhere until I came to this locality. It is a round Potato with a pink eye, though sometimes we come across a root with but a small spot of pink on each tuber. I will forward you a small dish of them for your opinion. I have tried the American varieties, but have not grown them in sufficient quantities yet to be able to say what they will be. Red-skinned Flourball we find an extraordinary cropper and good for baking. From a peck of seed planted this spring we dug up six bushels of Potatoes.

Our earliest Cauliflower is Early London, sown the first week in September, and wintered in a cold pit. I sow Walcheren at the same time for a succession. Erfurt Mammoth, sown in a frame in February, comes in next. I then sow the same variety again out of doors in March. Another sowing of Walcheren and Veitch's Autumn Giant in April, and again in the second week in May, will carry us on until nearly Christmas, and longer if carefully protected. I find Veitch's Autumn Giant a splendid variety; some say it is too large, but it is easy to cut the heads when small. We have had them since the second week in September, and have still a nice lot to come in. The seed was sown as stated above.

For early spring use we sow Snow's Winter White Broccoli the first week in April. Veitch's Spring White sown at the same time follows that useful old sort. Miller's Dwarf White is a good variety to stand the winter. Willcove Improved, Goshen Late White, and Cattell's Eclipse carry us on until the end of May or the first week of June. The last two varieties we always plant on a north border.

Of Savoys, we grow Early Dwarf Ulm and Dwarf Green Curled, planted immediately after the early Potatoes are dug.

Our earliest Cabbages are Veitch's Improved, Atkins's Matchless, and Wheeler's Imperial. The first named is the sweetest little Cabbage we know, and can be planted to advantage 15 inches apart each way.

Of Celery, we find Incomparable White and Hood's Dwarf Red good varieties. This season I have some of Williams's Red, but have not tried it yet. When growing in the row I cannot distinguish it from Hood's.

Our earliest Dwarf Kidney Beans are Newington Wonder and Fulmer's Forcing, followed by Negro Longpod through the season. We find all three good useful varieties.

We had a large bed of Onions this year. The varieties were White Spanish (seed saved from home-grown selected bulbs), Nuneham Park (evidently a good variety of the former), White Globe, Bedfordshire Champion (these again were very much alike), Danvers' Yellow, a good variety, and James's Keeping, for use late in the spring. I find nothing beats the Red Italian Tripoli for standing the winter.

Of Beets, we find Pine Apple Short Top and Dell's Crimson both good.

Dutch Forcing and Early Horn are good early Carrots, with Intermediate for late use.

For Kale to stand the winter, Veitch's Dwarf Green Curled is a first-rate variety.

Our Lettuce to stand the winter is a local variety, called Hampshire Brown Cos; it is an excellent sort; I have frequently cut them 2 lbs. each early in June. For summer use I find Paris White Cos and Hicks' Hardy White Cos both first-rate varieties. Stanstead Park is a good Cabbage Lettuce for early spring use.—H. J. C., *Hackwood Gardens, Basingstoke.*

PORTRAITS OF PLANTS, FLOWERS, AND FRUITS.

Meryta latifolia (Broad-leaved Meryta). *Nat. ord.*, Araliaceæ. *Linn.*, Pentandria Pentagynia. — A native of Norfolk Island. First discovered by F. Bauer. It has a slender tapering stem of from 50 to 60 feet in height, with a cluster of large leaves, each 3 feet long, at the apex, from the centre of which rises the inflorescence. This consists of hermaphrodite flowers, sessile, with imperfect anthers, crowded in clusters of six so as to form many compound yellow heads, which are seated on an erect green rachis.—(*Bot. Mag., t.* 5932.)

Diascia Barberæ (Diascia of Mrs. Barber).—Remarkable for its two spurs at the base of the flower, which are no doubt filled with nectar to attract insects for the purpose of effecting fertilisation. Named after Mrs. Barber, who sent over the seeds. Flowers rose-red, with a yellow spot, in the centre of which are two green dots, situated on the throat of the corolla; arranged in racemes of from 4 to 6 inches long.—(*Ibid., t.* 5933.)

Prunus cerasifera (Cherry-bearing Plum). *Nat. ord.*, Rosaceæ. *Linn.*, Icosandria Monogynia.—The "Cerisette" of the French and the "Kirschpflaume" of the Germans, known in this country as the Myrobalan Plum. The fruit is either solitary or in a small fascicle, has an acid taste and a firm flesh. Seldom produces fruit in England, as the flowers are generally nipped by the frost.—(*Ibid., t.* 5934.)

Plagianthus Lyalli (Lyall's Plagianthus). *Nat. ord.*, Malvaceæ. *Linn.*, Monadelphia Dodecandria.—A small tree which grows in the mountainous regions of New Zealand, and was discovered there by Dr. Lyall. It flowers in January, and is then a conspicuous feature round the forests, whilst in autumn it is not less so from the beautiful golden colour of the fading leaves. Flowers pure white with pink styles, and arranged in fascicles.—(*Ibid., t.* 5935.)

Megaclinium purpuratum (Purpled Megaclinium). *Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria.—Discovered at the

month of the Nun River, in tropical Africa. Rachis, including the connate bracts, narrowing towards the scape, and acute at the end; colour a dirty yellow green, sprinkled with purple. Flowers a quarter of an inch long. Column short, wings triangular.—(*Ibid.*, *t.* 5936)

PYRUS MALUS FLORIBUNDA.—"A prominent position in the very front ranks of hardy ornamental deciduous trees must be allotted to this remarkably floriferous plant, which forms a small tree, producing long slender branches, which burst out in early spring (about the end of April) into leafy garlands of brilliantly-coloured flowers. From each of the numerous buds proceeds a short spur-like shoot of about an inch in length, bearing several of the small lanceolate, acutely-serrated leaves, and terminating in a kind of corymb of seven or eight lovely blossoms on slender peduncles, which thus convert the shoots into very brilliant floral wreaths, measuring from 4 to 6 inches through. The flower buds are ovate, about half an inch long, and of rich crimson, looking like clusters of small elongated Cherries. The calyx is narrow and acuminate, the segments woolly inside and smooth outside, while the small oblong ovary is pubescent. The blossoms are succeeded by small round fruits. When half expanded the flowers appear striped with white and carmine, the petals being imbricated, the inner part remaining white, while the outer exposed half becomes coloured. Fully expanded the flowers are white, the five petals being white inside, spreading, oblong, rounded at the apex, and distinctly clawed; in the centre is a tuft of numerous erect stamens, and five styles somewhat exceeding them in length. The gradation of colour, and the varying form presented by the buds and flowers, are very pleasing. Their profusion renders the plant exceedingly gay and ornamental, and, indeed, in the earlier stages of development, owing to the abundant but gracefully disposed trusses of highly-coloured buds, the appearance of the tree is truly gorgeous. Beautiful as are the Almond trees in the early spring, they are utterly eclipsed by this handsome Pyrus, which has not only a more elegant, but more brilliantly coloured inflorescence, with a setting of small green leaves.

"We cannot claim actual novelty for this plant, but it is comparatively new, and so little known, that we doubt not our readers generally will find in it a novel source of floral beauty. The figure was derived from specimens furnished by Mr. Waterer, of Knap Hill, and we have received others equally beautiful from Mr. W. Paul, of Waltham Cross, Mr. Cripps, of Tunbridge Wells, and the garden of the Royal Horticultural Society. This tree should be introduced everywhere, and planted freely."—(*Florist and Pomologist*, 3 s., iv., 241.)

CORNICK VERSUS BLACK.

SEEING in the Journal for November 16th that Mr. Taylor has made very severe remarks upon the case that was tried October 24th between myself and Mr. Black, I ask Mr. Taylor if he will be so kind as to prove that what he has said is true. He says the person I brought with me purchased some of the best of the things—Mr. Taylor is mistaken. My first witness purchased the whole lot; so there is no best or worst about that. In the next item, which was an account by itself, there were 3 lbs. 3 ozs. of Grapes. I told my witness to purchase the 2 lbs. 3 ozs. which were in a punnet by themselves, and then ask the price of the 1 lb., and if he could get the salesman to sell it for less than the rate the 2 lbs. 3 ozs. were sold at, to buy the 1 lb. also. The 2 lbs. 3 ozs. were sold for 20*s.*, and the salesman would not sell the 1 lb. under 10*s.*; so if there was any best or worst in this last, the best was left with the salesman. Mr. Taylor says it appeared I had been paid over and above what my things realised. Surely if such had been the case, with such able counsel as Mr. Black had in Mr. Moore, Q.C., the contest would not have been given up in my favour as soon as my last witness was sworn, and before he was examined.—S. C. C. CORNICK.

LILY OF THE VALLEY CULTURE.

WE have several times tried a few of the imported clumps, and with fair success, though we have had quite as good shows from our own home-grown roots. Both grow best with the pots in a very gentle heat and in a dark place, such as a Mushroom house. When the shoots rise, and the bloom-stalks show themselves, let them be exposed then to light by degrees, without giving them any sudden check. Of course this extra care is chiefly necessary for early returns. These imported clumps have, however, given us a lesson, and we cannot keep it to ourselves. Instead of allowing the plants to run into beds, we shall be deceived if these imported masses do not stand more thinly apart. Some that we turned out thinly in rows, in little bundles, showed very fair buds when we took them up. It is only lately that these chaste flowers became an object of interest, and that a succession had to be kept up for a considerable time. We had no great stock to go to, so when we wanted a number of good pots, we used to take up a part of a bed well matted with roots, tear it to pieces, pick it over, and after selecting the best-swelled prominent hard buds, we packed from six to nine of the roots in a 6-inch pot. What was left we used to plant again in the usual bed-fashion. Now we should be inclined to plant entirely in rows, and in little separate clumps in the rows. We last season took up a few as described, potted them, and when their flowering was over we put the pots in the orchard house, so that the leaves should experience no check. They were then turned out of the pots, the contents of each pot making two or three patches, and well mulched; when taken up they had buds almost as strong as imported roots. Meanwhile, those persons who have no such old beds or patches to fall back on, had better have at once a dozen or a score of patches from Holland. Bulb merchants make a point of importing these patches sufficiently large, with a mass of roots, to fill a 6 or 7-inch or even a larger pot. The patches will cost from 1*s.* to 1*s.* 6*d.* each, and whether obtained by the dozen or the hundred, we would advise the dark treatment with a mild heat at first. If the pots were partly plunged in a temperature of 70°, whilst that at the top close to the buds was merely from 55° to 60°, success would be more certain. We have found placing an empty reversed pot over that containing the roots an advantage. Towards spring all these precautions are of less moment. In the open air the plants thrive well in good sandy loam, and a mulching with rotten dung in summer will improve the size and maturity of the flowering buds. Good flower stems may be expected if the buds are firm and a quarter of an inch or more, in diameter. We lately saw a great number of plants which were expected to be useful for forcing. Hardly a bud shoot was larger than a good-sized stocking needle. Such plants would require two years' growth and great care to make them fit for forcing. Ladies who like to gather such beautiful flowers for themselves, should be merciful on the fine healthy leaves, for if these are taken at all freely the buds for next year will be inferior.—R. F.

GORHAMBURY.—No. 1.

THERE are few places of greater interest to the antiquary than St. Albans and its neighbourhood. Its venerable abbey, if not equal to some of our cathedrals in architectural beauty, has nevertheless peculiar features of its own. Bold, massive, and commanding in appearance, it is still more notable for the various materials of which it is composed. Stones from the walls of the ancient city of Verulam, mixed with Roman bricks from some neighbouring dwellings and Saxon masonry, form the heterogeneous matter used by the Normans in constructing this pile. Verulam seems to have been situated not more than the distance of a couple of stone throws from the abbey; and antiquarians have of late, by patient exploration, pretty clearly laid down the boundaries of this old settlement, though they cannot definitely say by whom it was destroyed. The crumbling remains of flints and mortar appear to indicate the period of its existence as being long anterior to the Roman invasion, while an adjacent church, that of St. Michael, is reported, and on very good grounds, to have been built on the site of another. Although an historical interest is attached to the neighbourhood of St. Albans, the town itself presents little that is remarkable excepting its agreeable position, which is somewhat elevated, the ground falling away gently on all sides, differing in this respect from those of most other towns in this district; Hertford, Ware, and Luton being all in valleys.

Our business, however, is not with St. Albans but with Gorhambury, a manor and park upwards of two miles to the west of that town. Alighting from the North-Western Railway, and taking the nearest footpath to Gorhambury, we pass the spot where stood Verulam, the ruins of which in few places are more than a yard in height. From this place there is also a good view of the noble abbey. We continue our way through the churchyard of St. Michael, and leaving the various legended Prae Wood on our left, we find ourselves confronted by the entrance lodge to Gorhambury, but the park itself is some distance beyond. The road is wide, and bounded by neatly clipped hedges, with arable land on each side; and passing along we at length reach another gate, which admits us to the park. Here a long stretch of carriage road winds through a park of unusual size, studded with numerous trees and flanked on at least two of its sides by an extensive wood. The mansion is at

first scarcely discernible, but as we journey on and pass the trees which shroud it from view, we become gradually more impressed with a sense of its importance, and cannot but admire the good taste which placed it there. The park has many groups of trees and some avenues of great length. The mansion, kitchen garden, and dressed grounds, which occupy an area of from fifty to sixty acres, are situated near the middle, being well sheltered with large trees profusely scattered around, and which give to the whole the appearance so characteristic of a country home.

The mansion of Gorhambury, the principal seat of Viscount Grimston, Earl of Verulam, is one of those Grecian structures which became fashionable about the end of the seventeenth and beginning of the following century. A row of Corinthian columns adorns its southern front, and on the opposite side broad flights of steps lead the visitor to the best suite of rooms in that direction, whilst at the same spot access is obtained to a lower floor. The offices are united at the north-west side, but the other sides are all included in the garden. The mansion, which is built of a local sandstone, carries the stamp of age upon it, and presents a noble appearance.

[Before proceeding with our notes on the various departments of the gardens we will record what we know of the early history of the place.

GORHAMBURY.

Robert de Gorham, Abbot of St. Albans, appropriated to himself part of the manor of Westwick, attached to the abbey, erected a mansion, and called it Gorhambury—that is, Gorham's Residence. His family were natives of Gorham, in Normandy. It was situated lower down the hill in front of the present mansion. Robert de Gorham died in 1166. Gorhambury then became the property of the abbey, and so remained until the abbey's dissolution in the time of Henry VIII. That monarch granted it to Sir Ralph Rowlatt, whose son conveyed it in 1543 to Sir Nicholas Bacon, and in that family it has since remained. A house was built by him. He commenced building in 1563, and finished in 1568. It cost him about £2000, but then, he adds, in a private memorandum, he did not reckon "any timber felled within the Lord Keeper's woods, neither is there valued any freestone from the abbey of St. Albans," for that was ruthlessly despoiled on the occasion.

Queen Elizabeth visited him there often, and when there in 1577, she told him, "Your house is too little for you." "Not so, Madam," was his reply, "but your Majesty has made me too great for my house."

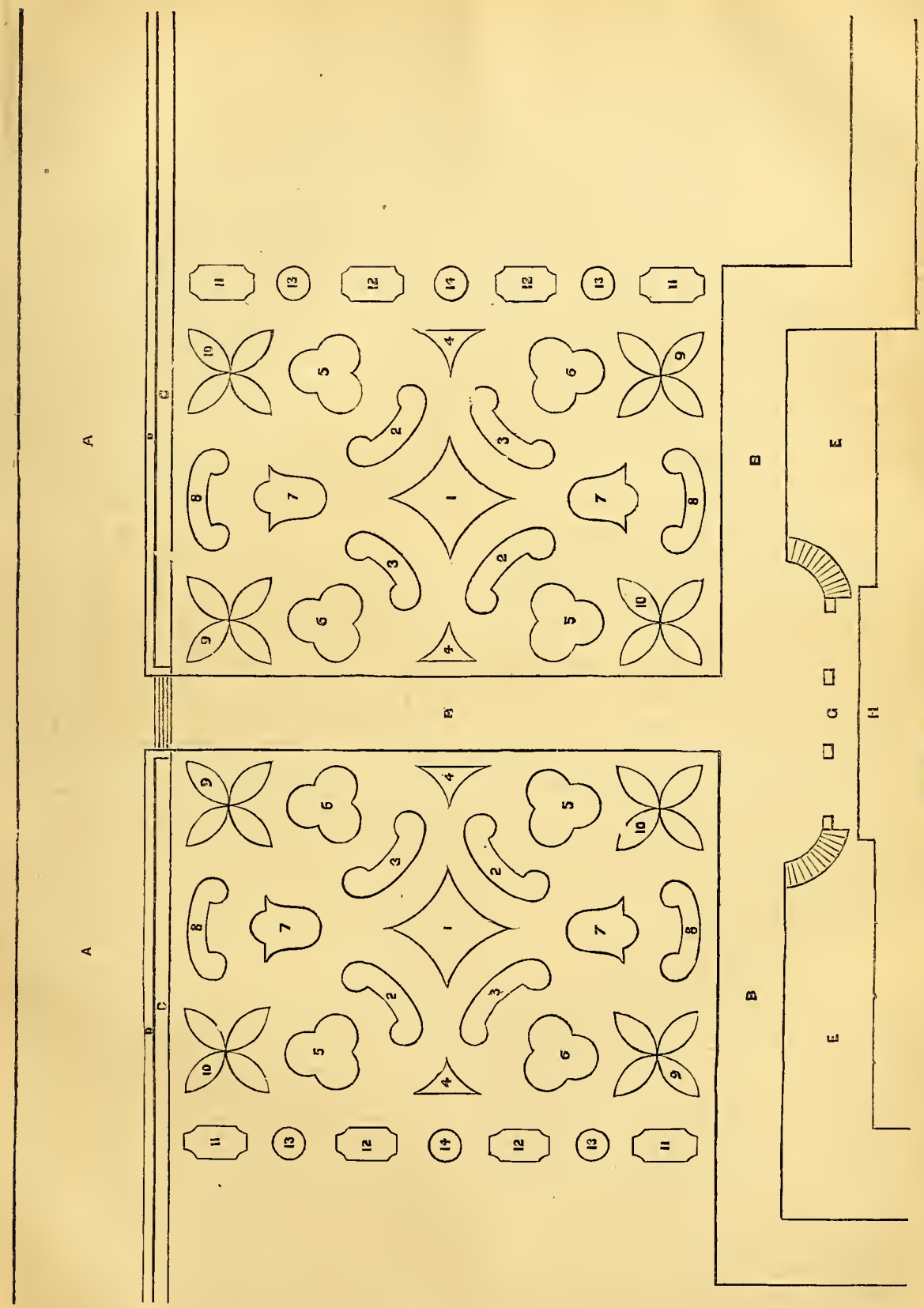
The Queen was first at Gorhambury in 1570-1, but of that and some other visits we have seen no narrative; but it is certain she was well contented with her entertainment, for she was there again in 1573. So novel were such visits to Sir Nicholas, that previously to her first visit he wrote to Lord Burghley for advice how to entertain her; "for," he added, "in very deede no man is more rawe in suche a matter then myselfe." We have not Lord Burghley's reply. In 1577, as already noted, Her Majesty was again at Gorhambury, and we have an account of the cost of this visit to Sir Nicholas. The gross amount was £577 6*s.* 7½*d.*, but we will only particularise that "206 capons cost £16 5*s.* 4*d.*; pullets 21*s.*; chickens, 31 dozen and 8, £6 6*s.* 4*d.*; geese, 10 doz., £6 12*s.*; ducklings, 12 doz., £3 13*s.*; pigeons, 19 doz. and 7, 42*s.* 10*d.*; rabbits, 61 doz. and 9, £7 9*s.* 6*d.*; herbs, flowers, and Artichokes, £6 15*s.* 10*d.*"

The estate passed to the youngest son of Sir Nicholas, Francis, the celebrated "Lord Bacon," who found the difficulty and expense of bringing a sufficient supply of water to Gorhambury was so large, that he said, "If the water could not be brought to the house, he would bring the house to the water." He, therefore, built Verulam House at the end of the avenue facing the ponds at an expense of about £10,000. The estate at length vested in a female of the Bacon family, and she married a Grimston. The third Viscount Grimston commenced building the present mansion in 1776. The centre was from

REFERENCES TO PLAN OF FLOWER GARDEN AT GORHAMBURY.

A A, Raised terrace walk, 20 feet wide.
F, Mansion.
B B, Walks 10 feet wide.
D D, Grass verges.
G, Portico.

—1, Geranium Mrs. Pollock.
—2, Verbena Purple King.
3—3, Verbena, white-flowered variety.
4—4, Viola cornuta.
5—5, Geranium Waltham Seedling, edged with Cerastium.
6—6, Geranium Stella, edged with Cerastium.
7—7, Bogue's Dark-leaved Beet, edged with Golden Pyrethrum.
8—8, Verbenas, mixed kinds.
9—9, Geranium Indian Yellow.
10—10, Geranium Trentham Rose.
11—11, Geranium Alma, white-edged variety.
12—12, Geranium Amy Hogg, deep rose.
13—13, Blue Lobelia and Gazania mixed.
14—14, Geraniums bronze and gold varieties.



FLOWER GARDEN AT GORHAMBURY.

the designs of Sir Robert Taylor, but he died before the whole was completed, and the wings were added in an inferior style.—Eds.]

The dressed grounds extend a considerable distance on both sides of the mansion, and are well furnished with trees and shrubs, while to the south there is an open expanse holding a geometrical group of flower beds. Beyond this an unusual feature in ornamental groundwork is met with, being an elevated terrace walk running parallel with the mansion at the distance of about 150 feet. It is raised about 3 feet above the level of the panel whereon are the flower beds, and which is the same as that of the walk at the base of the mansion. The proportions of this terrace are also imposing, being some 20 feet wide and 400 or 500 feet long. A ha-ha or retaining wall, with an ornamental iron fence upon it, forms the park boundary on that side, the interior having a grass slope of the ordinary angle. I suspect there are few who walk upon this fine terrace but remark how well everything looks from it, the beds of scarlet Geraniums showing to every advantage, and a peep into the park where Lady Verulam's Alderney cows are grazing is also obtained. Still, with all these advantages I am not sure that it is an improvement. It carries with it a feeling that it is too artificial, and on looking from the walk nearest to the mansion its appearance is not pleasing. Had the panel of the flower beds been sunk, and the walk close to the mansion made the same height as that of the terrace, it would have been different, but, as it is, it is rather intrusive than ornamental. Shrubs and other plants disguise it, excepting in front of the flower garden; it is only there that fault can be found with it, and I am not sure that many will do even that.—J. Robson.

NOTES AND GLEANINGS.

We understand that the Royal Horticultural Society's Provincial Show is to take place in 1872 at Birmingham, than which we think but few towns, if any, offer a better chance of success. Birmingham, next to London, is the most important railway centre in the country, easily accessible from all parts, and horticulture is well supported by the inhabitants of the town and surrounding district. The site of the exhibition we believe is to be the Lower Aston grounds. A local committee is being organised, of which Mr. A. Forrest, of Cherry Street, is the secretary *pro tem.*; and we doubt not that the Warwickshire men will make their show as great a success as that held at Nottingham this year.

—— Mr. Henry Willis, of Whidown, Broadclyst, Devonshire, dug up in his garden, a few days ago, under one stalk, the extraordinary number of one hundred Lapstone Kidney Potatoes, the produce of a single grain of seed taken from the Potato apple planted in the spring of the year.

—— In another column are noticed the Chrysanthemums in the Temple Gardens. Those of Mr. Forsyth, of the Brunswick Nursery, Stoke Newington, are now in perfection and are well worth inspection, and worthy of Mr. Forsyth's reputation as a grower of specimen blooms and plants. We purpose giving details next week, but those who wish to see the flowers at their best should not longer delay.

WORK FOR THE WEEK.

KITCHEN GARDEN.

As severe weather may soon be expected, every means should be adopted to secure a continuance of autumn delicacies, such as choice Cauliflowers, salads, &c. All the *Broccoli* and Greens should now be looked over, and every dead leaf removed to the compost-yard. This, and a general clearing of decayed matters, together with the trenching and ridging of all vacant ground, will give the kitchen garden an air of cleanliness and system. Late-sown *Cabbages* in the seed-bed should have some old and dry soil from the shed sprinkled among their stems; this will prevent them from becoming crooked in consequence of snow or other causes. Some *Parsley* should have a protection which will exclude snow, and it is then picked with greater security. On dry well-drained ground on a south aspect a sowing of *Peas* may now be made. The double-blossomed Early Frame is the most profitable for this purpose. Prince Albert is ten days earlier, but is apt to suffer much from cold winds and wet, and does better when started in heat and transplanted in February. Where there are not pits adapted for forcing *Sea-kale* and *Rhubarb*, let a quantity of each be covered with pots or wooden boxes, or be hooped over with rods, and have fermenting material placed round them. Leaves are preferable to any other covering, and by placing over them some long stable dung they are prevented from being blown about the garden. It is beneficial to water the soil in which the plants to be forced are growing with water heated to 130°, covering the ground immediately with leaves.

FRUIT GARDEN.

Figs against walls will require some protecting material placed over them, more especially in the midland and northern counties. Some wall trees, as Pears, Plums, Cherries, &c., are often attacked by scale, in which case the trees should be well washed with a mixture of soft soap, tobacco water, and lime; half a pint of spirits of turpentine may be added to every four gallons of the mixture when they are much infested. The lime is added to give consistence to the mixture, and to show that no part of the trees is missed in dressing. Let this be applied during dry weather, if possible, that it may remain on for some time, and before the trees are nailed. Where orchard trees have been for some years left unpruned, the hand-saw will be required to thin out the larger branches. Keep the middle of the trees open to admit air, and to promote the formation of fruit buds on the interior of the branches. It is, however, a bad practice to leave any description of fruit tree to itself, as it would in all cases pay the cultivator to prune such once a-year at least. Do not let Pears become over-ripe before being used; also look over the whole stock as often as time can be spared, removing any fruit that exhibits symptoms of decay, and put them aside for immediate use. Any of the choice varieties of Pears that do not ripen properly in the fruit room should be removed to a warm dry room for a few days. This will be found to greatly improve them. Keep the fruit room as cool and dry as possible; if frost is excluded from it, it can scarcely be too cool where the object is to preserve the fruit plump and sound as long as possible.

FLOWER GARDEN.

Alterations, planting, &c., will be carried out this autumn with much comfort as far as the weather is concerned, and those who have employed additional labour to carry out this work will have little to regret in the spring. All tender or half-hardy shrubs should have some protection planned forthwith, and especially the tender kinds of Roses. Standards of the latter may have a bunch of dry moss, a wisp of hay or straw, or some dried fern bound round the head, and the whole well fastened to a stake. Those in beds are best secured with a coating of moss. Any porous material which will not retain water long, and, of course, prevent the air circulating, will no doubt answer. The ground should be coated over 4 inches thick at least. We are now approaching a season when little can be done with florists' flowers. Auriculas, Carnations, Pinks, and Pansies, are in their winter quarters, and Tulips ought to be safely deposited in their beds. Attention must be paid to the former; the labour, however, is by no means serious. Regular and careful watering, with an unbounded supply of air whenever the weather is tolerably mild, is the chief requisite, not forgetting to keep a sharp eye on snails and other noxious insects. The past season has not been remarkable for Tulips, as far as their exhibition is concerned. Every florist must bear in mind that now is the season to prepare composts, to secure turf and lay it in heaps, to collect leaves, and, in fact, to lay in a store of soils adapted to the different wants of his plants.

GREENHOUSE AND CONSERVATORY, FORCING HOUSES, AND PITS.

These structures will very soon require to be in full activity to supply the constant demand that will be made on them for plants in bloom. Care must, however, be taken before plants are removed to sitting-rooms, to gradually harden them for a day or two, either by placing them in the conservatory or intermediate house. In addition to keeping the conservatory gay with blooming plants, let the arrangement of the house be occasionally changed by grouping the plants somewhat differently, and adding a few striking specimens for effect. Pay attention to plants intended for successive blooming. Azaleas, Rhododendrons, Justicias, Luculias, Eranthemums, Cape Jasmines, Euphorbias, and Epiphyllums for forcing should be in readiness when wanted. Hyacinths and Narcissus should be protected by a frame. When they begin to grow remove the plunging material down to the surface of the pots to prevent their rooting upwards. With the assistance of a garden frame and some stable manure or tan to furnish a gentle heat, the Hyacinth may be flowered at Christmas, and with a good stock of bulbs the display may be kept up till April or May. For early flowering the bulbs should be planted at the beginning of September; those to flower in spring should be planted in October,

November, and December. The best pots are 5-inch (48's), for one bulb, and 6 or 7-inch (32's and 24's), for three bulbs. It may be well to add, that three bulbs grown together in one pot produce a much finer effect than single bulbs. If smaller pots than the above be used, greater care will be necessary in watering. The soil used for potting should be as rich as possible, such as one-half fresh loam cut from a pasture with the turf decayed in it, and well-decomposed cow or horse manure, with a small portion of clear sand well intermixed. If this cannot be obtained the lightest and richest soil at hand must be employed. Fill the pots lightly with the prepared compost and place the bulb on the surface, slightly pressing it into the soil. After giving the newly-planted bulbs a liberal watering, set the pots out of doors in a place where perfect drainage is secured, and cover them with about a foot of old tan, ashes, sawdust, leaf soil, or any other light material. After remaining here for a month or five weeks the bulbs will be sufficiently rooted to render it safe to remove them to a gentle bottom heat of about 55°, introducing the pots in numbers proportionate to the demand, at intervals of about a fortnight. Persons possessing no better accommodation for growing plants than a room window, will with ordinary management be able to grow and flower the Hyacinth as well, if not to have bloom as early, as those who can command a gentle bottom heat. A sitting-room window forms a suitable position for Hyacinths while in bloom, and their beauty will there be longer in fading than in most situations. In no instance should they be removed from a close atmosphere, or suddenly exposed in a sitting-room window until they have been previously hardened in a suitable temperature to withstand cold drying winds. The inexperienced should avoid subjecting the plants to sudden changes at any period of their growth. Where Achimenes and Gloxinias are required to bloom early, a few pots may soon be started by plunging them in a gentle bottom heat.—W. Keane.

DOINGS OF THE LAST WEEK.

Protection is now a matter of importance. A good portion of our bedding plants are in an earth pit under old sashes, and merely protected with litter, and as yet they are all safe, but as soon as we can find room we shall remove them to a place of greater safety for several months. In the kitchen garden we protected Cauliflowers, Lettuces, and Celery, as worth the labour bestowed, and, provided the weather is cold enough to prevent anything like growth, we do not at all care about uncovering every day. In cold weather the darkness will do little harm if there be no incitement to growth. We have often found that plants covered-up looked as well after a night of three weeks or a month in duration as they would have done after one natural night, but in all such cases there must be no growth. Young Cauliflowers under hand-lights, after having been slightly frosted, were covered up night and day for three weeks or more, and when the weather changed, and the uncovering took place after the ground was thawed, the plants were healthy and fresh. During that time there had been several hours of fine sunshine, but the air being frosty and keen, it was deemed better to let the plants remain as they were. The excitement from the sun heat, if the plants were exposed to it, would only make them more tender instead of more robust. This rule may be followed safely in cold weather with all comparatively hardy plants that have no artificial heat given to them until the sun's power has considerably increased.

In addition to placing some long stable litter lightly between the rows of Celery, leaving the centre highest, and the litter coming down over the sides, we have thrown some rough hay and litter over the beds, and sometimes in severe weather the litter has remained for three weeks or a month, with the exception of breaking and turning it. When uncovered on the change of the weather the Celery foliage looked almost as green as it did in October. In all such cases you must first get your plants cool before you cover them.

Where artificial heat is given either by means of a hotbed or hot-water pipes, so as to stimulate growth or elongation, continuous covering would be ruinous. In such cases all the light compatible with the necessary degree of heat must be given to keep the plant healthy. We regret that we cannot make this sufficiently clear to some. One gentleman who saw fit for use a bed of Lettuces and Endive that had been covered in severe weather, thought he might effect a great saving by thus treating a bed of early Cucumbers—judge with what result. We have frequently seen a bed of Cauliflowers and early Broccoli with heads not larger than walnuts, covered-up in severe weather for three weeks and then swelling the heads and doing well. Such heads covered-up in a temperature of from 45° to 50° would have become a mass of rottenness. The advisability of continued covering at this season in cold weather depends on the coolness of the plant protected, a coolness so great that there shall be no incentive to fresh growth or elongation. Let this be thoroughly understood, and in severe weather many an hour of covering and uncovering may be spared. In prolonged severe weather the little sun that appeared would be better kept out. Under hand-lights we have had Cauliflower plants in December and January in severe weather, part uncovered every day to get what little sun was to be had, and the other part shut out from light for fully three weeks, after being cooled or very slightly frosted, and almost uniformly the last referred to turned out the best—first in cutting, and first in luxuriance as the days lengthened. The coolness before covering is the secret.

Of course there are exceptions. We have referred to bedding plants still out of doors under old sashes. As we had not too much litter to spare, and as we did not like to risk freezing them a little if we could avoid it, we removed the covering on the sunny day of the 18th inst., so that the sun should warm the interior, covering up as soon as the sun left them. By shutting in the sun heat less covering would be necessary to keep out frost; but the plan must not be often repeated, or the plants would suffer.

We have alluded above to turning over the litter. This should be done frequently in severe weather, when the litter is scarce. For this object hay and fine straw are the best of all protection, as they are so easily moved; and as often as the surface is broken the frost must begin its work anew, as every turning breaks the line of radiation. In a severe morning we have frequently had the covering of our cold pits and frames shaken over at daybreak, and have thus prevented frost penetrating in the keenest hours of the twenty-four.

With abundance of hot water much of this care may cease to be necessary, but even then a little covering will greatly conduce to health and safety in many cases. For instance, in growing Cucumbers in winter there is no difficulty in obtaining enough of heat from hot water if the piping is sufficient, and just as little difficulty in obtaining by evaporating pans as much atmospheric moisture as will be necessary now—and that should be rather at its minimum at this dark season of the year—nevertheless, in all houses or pits which could be partially covered with a cloth or mats in severe weather at night, and say to 7 or 8 A.M., there will alike be an economy of fuel and better conditions for the health of the plants, if free radiation from the glass be arrested, and consequently a free condensation of moisture on the glass to drop all over the leaves of the plants just when it is least desirable. We know how much of this could be averted by having grooved sashbars; yet notwithstanding their importance, how seldom is it that even the first gardeners are able to introduce them into practice. Too many are glad to secure a covering of glass, though not done at all in the way their experience would suggest as the best.

Broccoli.—We shall take the first opportunity to lay down the general crop, and the more the plants are inclined, without injuring the roots, the better. For this purpose a little earth should be removed from one side of the plant, the stem bent down to the opening, and earth taken from the other side to place over the stem, thus also preparing for the next plant. The advantage of this treatment is, that the centre of the plant where the flower-head is produced, instead of being exposed to free radiation, is protected by the leaves of the plant overlapping it. As when a plant is frosted much depends on gradual thawing, it is best to turn the heads, when inclining them, to the north, and the next best is to turn them to the west instead of the east. When we have grown two rows of Broccoli between rows of Peas, instead of laying down the Broccoli we have dug a trench where the Peas stood and earthed-up the Broccoli like Celery; and, on the whole, in favourable winters these plants produced larger heads than those laid down, but in severe weather they would have scarcely escaped unless the centres had been protected.

Securing Plants from Frost.—There are endless inquiries, to which we must here only allude, as tending to the safety of plants where there is the most limited convenience. For window plants nothing is better than the window, after the room is heated to dispel the frost. When the room is dry from fires, a little sponging and sprinkling at midday will be of great assistance. In severe nights the plants will be safest in the

centre of the room. When the weather is very severe a clean cloth may be laid over them, and remain until the room is cleaned and dusted. In spare rooms, and in small frames and pits out of doors, which cannot be opened to use a small stove, large earthenware bottles will often be of great advantage, put in when filled with hot water. A good-sized argand gas-burner will keep two or three lights tolerably safe, but the light should rise into a large inverted funnel, with a small gas pipe from it to the open air. We have proved but too well that even an argand gas-burner, which consumes the gas the most perfectly of any, will soon make havoc among growing and flowering plants when there is no regular outlet from it. A large composite candle that needs no snuffing, a good paraffin lamp that would need no trimming for the night, would keep out frost with the help of a little covering on the glass, and the burning of either of these without an outlet is much less dangerous than gas burned in the same way.

In all small glass houses where you can enter by a door all these modes may be tried, but the simplest and best in default of a flue would be a small iron or brick stove, with a pipe going through the roof. In low pits little in this way can be done as respects stoves, but we can recollect hundreds of pits with front walls, say from 12 to 18 inches in height, and a back wall from 3½ to 5 feet in height, and say 30 feet in length; and were we asked the simplest and cheapest mode for merely keeping frost out, we would say, Make a brick stove in the centre close to the back wall, say 30 inches square, and from 36 to 42 inches in height, and make an opening in the back wall large enough to fix your furnace and ashpit doors, so as to do all the feeding there. It would be best to have the smoke pipe at the front or sides, and bring it out at the back wall; but if that were too much trouble, the pipe might rise at once from the top of the stove through an iron square in the roof. A 3-inch pipe would be ample, rising 2 or 3 feet above the wall. Nothing would be wanted but sending a 2½-inch pole through it about once a month. With such an upright pipe draught must be regulated from the ashpit door, and when the fire was fairly burning and the bricks were warm, something like a one-eighth-inch opening would sustain a long quiet combustion. For a nice little pit we know of no mode of keeping out frost that would be so cleanly, effectual, and economical. By using coke or the best cinders there would be little smoke.—R. F.

TRADE CATALOGUES RECEIVED.

F. & A. Dickson & Sons, 106, Eastgate Street, and Upton Nurseries, Chester.—*Catalogue of Forest Trees, Hardy Ornamental Trees and Shrubs.*

J. Harrison, Grange Nursery, Darlington, and Scorton Nursery, Catterick.—*Descriptive Catalogue of Roses and Hollyhocks.*

TO CORRESPONDENTS.

Books (*W. L.*).—You are quite right. The price of "Flower-Garden Plans" is 5s., and you can have it post free from our office for that sum and 2d. for postage. (*Idem*).—"Henfrey's Introductory Course of Botany," edited by Dr. Masters, is the best book you can have.

Pears for Cordons in North Lincolnshire (*Amateur*).—Citron des Carmes, Beurré d'Amanlis, Louise Bonne of Jersey, Jersey Gratioli, Thompson's, and Marie Louise.

Ferns for Cold Fernery (*M. B.*).—As your house is cold you may cultivate a great many of the better class of hardy Ferns, which are quite as beautiful as many of the tender exotic species. Adiantum Capillus-Veneris, A. pedatum; Asplenium Adiantum-nigrum, A. Trichomanes, and its variety cristatum, A. fontanum, A. marinum; Athyrium Filix-fœmina, vars. corymbiferum, depauperatum, Frizelliæ, multifidum, plumosum, and Victoriæ; Blechnum Spicant imbricatum, B. Spicant ramosum; Cystopteris fragilis dentata, Lastrea cristata, L. dilatata cristata, L. Filix-mas, vars. cristata, Bollandiæ, and polydactyla; L. opaca; Lomaria alpina, L. chilensis; Polypodium alpestre, P. Dryopteris, P. Phegopteris, P. vulgare cambricum, P. vulgare; Polystichum acrostichoides, P angulare plumosum, P. Lonchitis, P. proliferum, P. cristatum gracile; Pteris aquilina cristata; Scolopendrium vulgare, vars. corymbiferum, crispum majus, cristatum, ramo cristatum, fissum, submarginatum, Wardii, and ramosum majus; Struthiopteris germanica, and Woodwardia radicans. The following may be added, and they will succeed in all but the most severe winters, when it would be advantageous to use the lamp you allude to. Cyrtomium falcatum, Litobrochia vespertilionis, Lomaria magellanica, Niphobolus lingua, Onychium japonicum, Pteris serrulata, and its variety cristata, and P. scabernla. The only Lycopods are Selaginella denticulata and Wildenovii.

Conservatory Climbers (*A Devonian*).—You name some of the best climbers, but we give you our selection for the roof. Bignonia jasminoides and vars. alba magna and splendida; Lapageria rosea; Kennedya Marryattæ, rubicunda superba; Mandevilla suaveolens; Passifloras cærulea racemosa, Comte Nesselrode, Countess Ginglini, Impératrice Eugénie; Sollya heterophylla, Tacsonia manicata, T. mollissima, and T. Van-Volxemi. Pergularia odoratissima succeeds in a conservatory, but is slow in establishing itself, and should have the warmest part. We think you are in error as to Tacsonia Buchanani, but we do not see why it should not succeed in a conservatory as well as Bignonia Tweediana. Many so-called stove climbers succeed in a warm conservatory. Passiflora Decaisneana for instance, one of the finest of the Passifloras, is now with us in fine bloom in a night temperature of 50°, it is finely scented. Other fine climbers or twiners are Cobæa scandens variegata, Hibbertia volubilis, Hoya carnosa, Jasminum gracile, J. grandiflorum; Kennedyas bimaculata variegata, inophylla floribunda, coccinea major, and monophylla; Physianthus albicans; Rhynchospermum jasminoides, Sollya linearis, and Tropæolum Triomphe de Gand. For the pillars we would have the smaller-growing of the former-named climbers and shrubs, as follows:—Habrothamnus fascicularis, H. aurantiacus, H. elegans; Luculia gratissima, Mitraria coccinea, Metrosideros floribunda, Abutilons insigne, striatum, Thompsoni, venosum; Acacias oleifolia elegans, armata, juniperina, longifiora magnifica; Berberidopsis corallina, Brachysema acuminata, Chorozema cordatum splendens, Clianthus magnificus, Cytisus racemosus, C. fragrans, Desfontainia spinosa, Gompholobium herbigerum, Eugenia hybrida, Myrtles, Plumbago capensis, Swainsonia galegifolia, and Thibandia macrantha. Lantanas would do, but we should prefer Tea-scented Roses, Heliotropes, and Geraniums, as Clipper, &c.

Storing Dahlia Tubers (*B. B.*).—Take them up if you have not already done so, lay them in a dry shed a few days, then clear them of the soil, and store them in boxes in dry sand, just covering the tubers with sand. Put them in a cool cellar, or any place where they will be safe from frost, bringing them out in March, and placing them in a hotbed or house with gentle heat.

Planting Forest Trees near the Coast (*Inquirer*).—We consider from the middle of February to the end of March the best time to plant forest trees. Do not, however, defer planting until very late in the season, for we find it does not answer. Indeed, we advise as early in February as you can plant, and not after March. There is no book specially devoted to the storing of fruit, but it is treated of in most works on gardening, as the "Cottage Gardeners' Dictionary," &c.

Show Fruit for Dumfriesshire (*An Amateur*).—You had better grow these against a wall—Transparent Gage Plum, Cellini Apple, and Madame Treyve Pear.

Diseased Vine Leaves (*F. P.*).—We have carefully examined the eruption on the back of your Vine leaves, and think it is produced by atmospheric influences, as there is no trace of mildew or insects. The young wood of your Vines is not properly ripened, and it is too late to do any good now by maintaining a higher temperature; all that you can do is to remove the leaves as they become yellow. You should also see that the border in which the roots are is efficiently drained; an undrained cold Vine border is often the cause of a late, watery growth. If the border is in good order, and a higher temperature kept up in your house next year, the Vines will be all right. Should the same sort of eruption appear on the leaf send us one or two.

Pandanus elegantissimus Leaves Spotted (*A Subscriber*).—When the leaves of the Pandanus are old they are apt to be so spotted, but the spotting frequently takes place when the leaves are fresh, and from two opposite causes—too great cold and a moist atmosphere, the cold liquid remaining in drops on the hard leaf, and again when there is a strong heat, a bright sun, and small globules of water acting as a burning glass. We have also seen beautiful leaves scorched from bright sun acting on little spots in the glass. It is just possible this may be the case with your plant. On closely examining the glass, if you find any spots they must be daubed with a little paint.

Chrysanthemums (*W. Scott*).—Refer to page 365.

Bones for Vine Border (*Hamburgh*).—Bones from the butcher's and from the house broken small by a heavy hammer, which is easily done on a stone slab, will answer well as the half-inch bones of the merchant.

Gladiolus Culture (*Souter*).—You will have seen what we published last week.

Vinery Arrangements (*H. P.*).—It is advisable that Vine stems should be from 12 to 18 inches distant from hot-water pipes. The Vines along the roof should not be less than the above; of course they will be a number of feet as the stems ascend towards the apex. The distance of the pipes from the border, provided they clear it, is of less consequence—say 3 inches. We approve of the plan of carrying the pipes on an iron bar, carried from the front wall to pier A, only we would suggest a small pier in the middle of the space to prevent the bar giving at all. We would prefer the four pipes distributed as flows from A to B, with the return pipe at the back, instead of having the pipes more uniformly distributed over the whole width of the floor, as then there would not be the same convenience as respects pathways, &c. We think the ventilation may answer if you have openings at each end under the apex. On the whole, however, we would have preferred doubling the number of the top ventilators if they had only been half the depth of the present ones.

Verbenas Diseased (*A Perplexed One*).—There were signs of thrips and mildew on the plants, otherwise seemingly all right, and for these smoking and sulphur-sprinklings would be the best remedies; but there were besides little dark spots—a kind of leprosy, on the leaves, and for that we can give you no remedy. We are sorry to say we suffered much ourselves last season, the plants beginning to be affected at the points, and the malady finding its way downward until the plants were destroyed. Perhaps some of our readers can advise. Do not let the plants suffer from cold. A heat of 60°, with frequent syringing in addition to the sulphuring, may bring them round.

Heating an Orchard House (*T. H. S., Ilfracombe*).—We think your proposed heating will suit your purposes in such a house. There will always be differences of opinion about boilers. For a moderate-sized boiler, such as will suit you, we have found cast-iron the most lasting. When a large boiler is required, say 4 to 5 feet in length, we prefer rivetted wrought-iron, as we always think that when of that size it is more difficult to get the casting equal and uniform.

Pruning Peach, Nectarine, and Plum Trees (*H. L.*).—It requires considerable judgment to successfully operate on much-neglected trees of these kinds trained against a wall. All the shoots that come straight from the main branches, and the old exhausted branches of the Peaches and Nectarines, must be cut clean out, and vigorous shoots trained in in their place, or a fresh disposition of the main branches made, selecting those that have the most and best-situated side shoots. The main branches should be 1 foot to 15 inches apart, and the side shoots or shoots of the current year trained in at the same distance along them

and cut back to a wood bud or triple bud, which is two bloom buds with a wood bud between. We would now thin out and nail up the branches and shoots, but defer shortening the latter until the first mild weather after the middle of February. If the trees are much neglected and deficient in shoots, the old branches should be cut out and fresh shoots trained in their place. You will require to cut away all the foreright shoots of the Plum trees to the base, and the side shoots to within half an inch of their base. The spurs, which are the short stubby shoots with the buds close together, should be left entire, but if very long they may be cut partially away, and a portion allowed to remain near the main branches for extension; this portion must have one or more spurs with buds, or it will perish. The pruning, also, should be done now.

Applying Soot (*Weston*).—The soot you have used as a dressing of a quarter of an inch thick, will not do any harm, but, on the contrary, is a most excellent manure. We would not, however, apply it at this season of the year, but in trenching now throw up the soil as roughly as possible, and early in March apply the soot, taking care that it is dry, and then fork the ground over. Soot is a good manure, and a very useful preventive against grubs. Its principal fertilising constituent is ammonia, which, if the soot is applied now, must in a great measure be lost before the spring.

Manuring Ground in Winter (*M. G.*).—We advise the manuring of all ground before digging or trenching for the winter. The manure should be turned in deeply as soon as spread, and the ground thrown up roughly now, and forked over in spring during dry frosty weather, if possible. The ground intended for Carrots we would now manure and trench, and in March fork well over and pulverise. At the close of the same month make the ground quite black with soot, and then quite white with quicklime, point them in with a fork, and sow the seed early in April. We have known this ward off the attacks of the fly and its grub.

Cucumber Seed (*H. W.*).—Cox's Volunteer and Masters's Prolific may be had of the principal seedsmen who advertise in our columns.

Iris hispanica Culture (*Wrekin*).—They are very pretty flowering bulbous plants, and should be planted now in an open sunny situation out of doors, planting in good, rich, light soil, and covering about 2 inches deep with light sandy soil. They may be planted half a dozen together about 3 inches apart, putting in a peg to indicate the position. They are quite hardy, and will not require removal for several years.

Pyramidal Fuchsias (*Senex*).—We presume that you are supplied with fine young plants that were struck this summer, being now in 4½ or 6 inch pots, and from 15 to 18 inches high. They require to be kept in a light position, and to have a moderate supply of water—in fact, to be kept gently growing throughout the winter in a temperature of more than 40°. In February they should be repotted into the same size of pot, removing all the soil that comes away freely from amongst the roots, and placed in a light airy structure near the glass, with a temperature of 45° from fire heat. In the course of about three weeks shift into 7-inch pots, and when the roots reach the sides, and before they become much matted, transfer to 9-inch pots, and the final shift may be given to an 11-inch pot at the end of May or early in June. The drainage in all cases should be good, and the compost may consist of turfy loam two parts, one part leaf soil, half a part old cow dung or well-rotted manure, a quarter of a part lump charcoal, and the same proportion of silver sand, the loam chopped up but used rather rough. Pot firmly, and place a neat stake to the leading shoot, which need not be stopped until it show flower, then take out its point. Train in its place the fresh shoot which will result from the stopping; this will not require stopping unless it grow extremely tall, and then it should be stopped so as to produce side shoots for the furnishing of the upper part of the plant. These will also require stopping, so as to cause them to branch, and should be kept from flowering until a good and shapely plant is formed. As you succeed well with pyramid Apple and Pear trees, we do not see why you should not secure fine specimen Fuchsias. Give them abundance of air and light, watering only when dry, but before the leaves flag, and giving weak liquid manure after the pots are full of roots. Continue the stopping until six or seven weeks before you wish the plants to flower.

Plants for a Cool Stove (*Idem*).—We only name a dozen, as you wish for but few. Allamanda neriifolia, Burchellia capensis, Franciscea confertiflora variegata, Gardenia radicans major, Ixora acuminata, Lasiandra macrantha floribunda, Monochætum ensiferum, Pentas carnea, Rondeletia speciosa major, Poinsettia pulcherrima, Mediuilla magnifica, and Imantophyllum miniatum, all of easy culture and cheap.

Bone Dust for Lawn (*M. A.*).—There is no manure so good for lawns as bone dust, and you may apply it at the rate of sixteen bushels per acre in March. Between now and then we would have the weeds grubbed up, and the lawn well raked with an iron rake before sowing the bone dust, rolling well after the first rain subsequent to manuring.

Conservatory with Hothouse (*F. C. Taylor*).—As you seem to have so many doors, we presume your pipes are laid beneath them, or below the floor level, and if so, more piping will be required than if the pipes were all exposed. As to your not getting so much heat in your hothouse department as in the cool house, we notice that you have three pipes on two sides, or rather on one side and one end, whilst for such a house, 14 feet wide, you would require such an amount of piping all round, or at least in proportion. Then you have shut off the greater part of one end as a pit, and thus, so far as the heat of the house is concerned, you have lessened its power to heat the atmosphere fully one-third. We are sorry you have pulled your pit out because it did not heat, as that might arise from such causes as the complete exclusion from air, the too great thickness of a covering of stone, or too much cocoa-nut refuse. That substance, when dry, would be more inaccessible to heat and cold passing through it than a secure thick matting. The cool house with four pipes has, on the whole, as much power of heating. Besides, when two divisions are thus heated from a boiler separately, it often happens that the flow is more rapid into one than the other, and in that case the valve should be regulated so as to give the full flow first where the flow naturally is most sluggish. If there is the least difference in the level of the pipes, the water will go most readily into the highest pipe. The boiler is no doubt a good one. When the fire is banked up, the damper, too, should be judiciously used. We think, then, that the chief deficiency in the hothouse is the need of more piping.

Insect (*W. N.*).—The insect found on a rod in a vinery is the chrysalis of the common small white butterfly, which had, probably, fed in the caterpillar state on Nasturtium or Mignonette growing in the neighbourhood.—I. O. W.

Name of Fruit (*W. H. M.*).—The Stone Pippin.

Names of Plants (*W. H. C.*).—We cannot undertake to name varieties of the Chrysanthemum nor of any other florists' flowers. (*T. R. J.*).—It is the Spindle or Prickwood bush, Euonymus europæus. (*C. W. H. Tillett*).—Doubtless your plant will be Echeveria gibbiflora. It is the typical form of the plant, of which what is usually known in gardens as E. metallica is only a variety merely differing in colour, consequently by botanists called E. gibbiflora var. metallica. They are originally from Mexico. (*H. J.*).—Maxillaria picta, native of Brazil; 2, Schizostylis coccinea, from South Africa. (*C. M. Major*).—1, Pellæa hastata; 2, Adiantum trapeziforme; 3, Cyperus alternifolius. (*A. Y. Z.*).—Selaginella caulescens. Pot your Euonymus in poor soil—any inferior loam to which no manure has ever been added—and allow a good proportion of coarse brown sand. Cut away such green shoots or leaves as you can conveniently spare. (*E. H.*).—One of the monstrous forms of the Lady-Fern (Athyrium Filix-fœmina), and apparently the one figured in Lowe's "Native Ferns" (vol. ii., page 36), as var. cristum-coronatum. We do not identify your succulent from the material supplied, but take it to be a Sempervivum, allied to S. Paivæ and S. spathulifolium.

POULTRY, BEE, AND PIGEON CHRONICLE.

OVERWORKING THE JUDGES.

We have listened to the statements of some of the best and unexaggerating judges of our poultry shows, and have no escape from the conviction that at the most extensive of those shows there must be either more judges employed or more time allowed for judging. When we expressed this opinion to a secretary he replied, "This is a novel fancy; they need to be equal to the occasion." To this reply an unrefutable answer is in the following extract from a letter we have received from one of the ablest of those judges:—

"I need scarcely say that year by year the competition becomes more and more general, almost in every class. I mean, that whilst judging we now find, perhaps, fifteen good pens out of every score, whereas about a dozen years back, three or four pens only out of the same number were worthy of a second inspection. So much for the classes in general, and committees now appoint quite as large a number of pens to each judge in his division, as formerly made the aggregate of a whole customary show. It requires no logician to prove that the responsibilities of the judges must be fully thrice as heavy; and as, to save expenses, committees always at large shows give quite as much in each division as occupies the whole day in judging, the arbitrators at these very large meetings rarely see anything of those classes to which they are not specially appointed. Hence, for instance, at the Crystal Palace Show, except in a few cases during the judging, when requested by my fellow judges to 'just give them my opinion' on difficulties cropping up in their allotted tasks, I saw nothing at all of the birds out of my own classes; yet I worked hard at it incessantly, without having even time to eat anything from daybreak until nightfall. Mr. Teebay and myself were 'completely knocked up;' Mr. Teebay's own words were, 'that when we sat down we could hardly get up again.' Birmingham will be even worse rather than better."

The time has now arrived, therefore, when the labour of the judges must be diminished. If this is not done the trustworthy will shrink from the task, exhibitors will be dissatisfied by hasty decisions, and then the committees will have to smart for diminished receipts.

LIGHT BRAHMAS.

I was pleased to read the letter of "Outis" (see page 367), as real thought about matters of breeding and exhibiting is the right way to succeed in both; and, perhaps, I shall do best by replying in order to my unknown friend's remarks just as they occur, and as though I were in conversation with him.

By "colour" in Light Brahmas I mean both black in the proper feathers, as described both by me and "Outis," and also a pure pearly white colour over the body. Many birds lately have been shown quite yellow, with hardly any real white about them at all. But further, while I regard the black in the neck-hackle as very important, indeed essential to a really good bird, black in the saddle is far less so, and is so described by me. Many of the best birds have white saddles, and these are often, as I have said in the work referred to, to be even preferred, while at the same time I do think that a thinly-striped saddle, when to be had, greatly sets off a bird. But the pullets also are to be considered. Their hackles lately have been nearly as bad as the cocks, and the brilliant black

we used to see is replaced by the "muddy" hackle "Outis" correctly mourns over in the cocks.

So much for definitions. Regarding Cheltenham, I admit that the prizes went to birds superior in size but deficient in markings; but I was there myself, though only a short time, and I must say I saw no chickens there of "almost perfect shape and markings." The only pair decently marked were far too narrow in body. With regard to Mr. Pares again, I can remember one Bristol show at least (1869, I think), where he showed the only really black-necked hens or pullets (I forget which) in the class, though I do admit his birds are usually lighter than I like. With regard to my remarks on the Birmingham awards, very singularly I wrote the contrary. What I said was, as I distinctly remember, that (like "Outis") I "never heard the awards *more* complained of, and on the very ground that the winning birds were so small;" and my object was to show that the exhibitors themselves were so running after mere size, that when an award was made on other grounds they complained of it. Mr. Long had said judges would only look at size; I instanced Birmingham to the contrary, and remarked (as written) that when judges (quite rightly) decided by shape and colour, the other exhibitors complained. My object was to show that judges would give honours even to small birds if good in shape and colour, but that it was the exhibitors who were looking to mere size. What may have become of the first-prize bird at Spalding I do not know, but I do know that he won again at the very best shows after, which is more to the point, and again proves that judges will encourage good colour and form when they meet with it. Many things may hinder a bird winning at any particular show, and there might also be other reasons than mere size for thinking Mr. Pares's fourth-prize cockerel ought to have been higher. After all, these are individual differences of opinion. My simple object was to prove that perfection in form and colour did and would win against size, and that breeders, on the contrary, rather went for size. Yet I would not "disqualify" white-hackled birds. After all, a bird must be judged as a whole; that is the great secret of judging, and will explain many awards which puzzle those who can only look at one point at a time. In saying, however, that birds correct in colour and shape "would win," I meant, of course, against mere size, I did not mean against Darks. While the more perfect birds in Lights are small, if at the same time the Darks are both correct in points, and have the advantage of being large as well, the Darks not only will but ought to win. That seems to me just the position of the case at present. Leg feather is also to be considered. But I am quite sure that if such birds as the two first Birmingham cockerels be shown of 11 lbs. weight—*i.e.*, combining the "points" of those two Light birds with the size of the Darks, they will win their share of cups at any show where Messrs. Hewitt or Teebay are the judges. It cannot be said such is now the case, and I have only given a weight which is constantly attained at Birmingham by Dark cockerels. I speak without having asked the opinions of the gentlemen I have named, but I have done what is, perhaps, better—made an analysis of their judgments at several of the best shows for three years, in order to form a correct scale of Brahma "points," and I am convinced their judgments will bear me out whenever they get the birds to give them a chance.

There's the rub. Small size in a large breed, of course, is heavy odds against a bird, and is alone enough to justify Darks winning, which are both large and good. But regarding the weights I stated, the very hen from which the portrait is taken in the work "Outis" refers to, weighed close on 12 lbs.; and not so very long back, when the same controversy of Lights and Darks was carried on in this Journal, Mr. Crook himself stated that if there were any difference the Lights could be bred the largest! I am certain they can be bred at least as large, and I repeat my caution, that in my own belief they are sent to early shows more than the best Dark birds are, and that this has something to do with it. Whatever the American birds were, they were larger than nearly all the rest of the class at Birmingham, but Mr. Simpson himself told me they were only third-rate, as was proved by their price of, I think, six guineas. I have myself seen an English Light Brahma cock of 13½ lbs, and good birds can be bred large as well as bad. If I ever get a chance to try I will guarantee to breed 11 lbs. cockerels by the third year. Long-backed hens, as I said in my last, are the stuff to work upon to obtain size with very short deep-bodied cocks. When size is obtained then we adhere to proper shape, of course; but it is useless when a breed is "down," as I think this is, to attempt to get every point at once. That is a great mistake of many, even experienced breeders. It takes years to make a strain what it ought to be, though two seasons will make giant strides towards perfection in good hands.—L. Wright.

If it is absolutely necessary that Light Brahmas should attain the enormous size of the Dark variety to win, I, of course, agree with Mr. L. Wright; but my argument is to the effect that as they are and always have been, in this country at least, much inferior in frame, they cannot be made to attain the size of their more fortunate rivals. Light Brahma breeders have done their very best year by year, but once more we fail to see great size; whereas, if possible, the dark birds are larger than ever. Symmetry, pencilling, and feather we can obtain, although Mr. Wright appears to doubt the ability of our breeders to secure the latter.

It appears to me a simple fact, that one variety is naturally larger than the other, and in common I believe with every fancier of the variety, I think that where both compete, size, if it is size, should not absolutely turn the scale, as it invariably does, and must under such circumstances. With reference to shape, particularly that of the "duck-shaped hens," I believe that "doctors disagree." Possibly it was the same eminent judge mentioned by Mr. Wright, who spoke to me of "the duck-like bodies" of a pair of hens, whereas their owner, everywhere acknowledged to be a great judge of the variety himself, told me that they were the finest he ever possessed, and coming from the most successful yard in the country this should be worth something. Mr. Wright instances the two Birmingham cockerels as examples of "small" winners; the fact is, that they were fair in size and first-rate in shape, whereas there was not a really large bird in the class, and certai y none combining symmetry with even moderately large siz Again at Plymouth, as Mr. Wright has instanced it, he may be well pardoned for the award. "Little Sampson" undoubtedly took the fancy of his judge, and shape carried the day against rivals, be it remembered, 8 lbs. heavier. From that award I became prejudiced in favour of shape *versus* size; possibly, Mr. Wright will, therefore, extend me forgiveness for this change of opinion.

I have little faith in Mr. Wright's remarks, that if bred "correct in shape, good colour, and well-feathered," they will win, even if not large, and if the Light birds really were larger a few years ago, they were as easily beaten as now. I have a few early numbers of the Journal of 1868, in which I find forty competitions, and in which *thirty-nine* were won by Dark birds. This speaks well for the past.

Mr. Wright's special remarks upon the Southampton prizes to my mind are a great argument in my favour; he states that these special cups do real harm, and bring small results, and that the birds do not surpass, or rarely equal the Darks. I have every reason to believe that all Light Brahma breeders look forward to Southampton as a sort of "passage of arms," and devote all their energies to the production of a good pen or two for the trial. It is one of the stimulants of the year, and although it has been admitted for the past few years that the Light Brahmas have been the best classes in the show, the winning birds have, nevertheless, succumbed to Dark specimens when in open competition at larger exhibitions.

We shall all thank Mr. Wright for his parting advice. Breeding from cocks whose hocks have been cut off resuscitates the idea of producing black-crested Polande, for it is as feasible to breed them from a White Poland with a black nightcap tied over his crest as to suppose that the scissors can affect the hock of the Brahma chicken. I have tried the experiment, and the result was so encouraging that I would not advise its repetition.—James Long.

AMALGAMATION OF COLUMBARIAN SOCIETIES.

I believe it would be advancing the interest shown in keeping Pigeons, if there were an amalgamation of all columbarian societies for the purpose of holding a grand annual exhibition of young birds. The secretary of each society should see that none but young birds are shown by the members. Place of exhibition should be balloted for in rotation.—A Columbarian.

Bristol Prize List.—We are requested by the Secretary to state that the Malay hen class has through an oversight been printed "For the best pair of pullets or hens," which should have been, and is intended to stand as "For the best single

pullet or hen." Exhibitors are therefore requested to send one bird only to each pen of that class, the same as for the Game hen classes.

BIRMINGHAM CATTLE AND POULTRY SHOW.

The entries in all departments for this, the twenty-third annual Exhibition, are highly satisfactory, showing an increase throughout, and necessitating the erection of an additional gallery, upwards of 200 feet in length, to accommodate the various exhibits. What will many of our country friends think of the poultry department with its 2660 entries, some individual classes containing more pens than are to be found in the whole of many county and local shows?

Amongst other improvements in the arrangements and regulations we note the election of life members, who alone are entitled to free admission on Saturday, the day of judging, when the charge to the general public is 10*s*. Between 9000 and 10,000 tickets of admission have been sold.

The prize poultry will be, as usual, sold by auction on the Monday of the Show; and Wednesday and Thursday evenings, after five o'clock, are devoted to the working classes, the charge of admission being reduced to sixpence each.

BRISTOL POULTRY SHOW.

Your correspondent, "E. S. T.," page 347, is evidently one of those who look upon poultry shows merely as places to which they can send their birds with the hope of making a profit. Although I admit that it is pleasant to win prizes enough to pay the expenses connected with showing, and better still if there is a profit, yet this should not be the only consideration. The Bristol Poultry Society was established by a few amateurs from a pure love of poultry, with the hopes of increasing the number of those who keep and rear pure birds, and also to improve the general breed of poultry in the west and south of England. Five shows have now been held, and at most of these the committee have incurred considerable losses. As the committee have not the slightest intention of making a profit out of the exhibition, it seems hard that they should be expected to bear any losses, and they think that they should be supported by those most interested—namely, the exhibitors.

Acting upon the advice of several friends who take an active interest in the Show, we have this year determined that everyone who wishes to compete for the prizes should subscribe £1 to the funds of the Society, that the entrance fee should be reduced to 6*s*., and we feel sure that we shall be supported by all true amateurs. Our place of exhibition is the best in England, our prize list will compare to advantage with the best of other prize lists, and we endeavour, to the best of our ability, to provide for the well-being and safety of the valuable specimens committed to our care. I would add, that should there be any surplus after providing for all expenses, it will be applied to increase the prize list next year.—E. Cambridge.

A few nights since I had a leisure hour, and I thought I would avail myself of the opportunity of looking over the schedule of the Bristol Poultry Show. First, I looked over the prizes offered for the different varieties, and pronounced them to be as usual very liberal. I then ticked three or four classes in which I thought it likely I should be able to exhibit. After settling this part of the business I turned to the rules, but the first dozen words were too much for me; 20*s*. subscription, 6*s*. entrance fee for each pen of poultry exhibited—I was obliged to put on my considering-cap. I thought, What does this 20*s*. subscription mean? I could only make of it at last, that the Committee wish to shut out all the small exhibitors by imposing the 20*s*. subscription. I am only expressing my own feelings on the subject; what the feelings of my fellow (small) exhibitors are I know not. Had the Committee adopted the Birmingham system and charged 3*s*. per pen, I should not have been so much surprised. However, it is not my vocation to dictate to the Committee, so I will be content to be this year —A Non-Exhibitor.

I, like many others, as appears by letters already published, am very much surprised at the alteration in the Bristol entry fees: by which, instead of a uniform charge of 7*s*. 6*d*. per pen (a sum quite large enough for the premiums offered), the terms now are £1 subscription, and 6*s*. entrance fee, thus practically excluding all small exhibitors who can only raise one or two pens, without materially affecting those who can enter a large number.

Of course it rests with the managers of each show to fix any entrance fee they like, only they must bear in mind that if too large it prevents competition; but whatever they fix let it be a charge per pen, thus making all alike, and not the antiquated mode of beginning by a subscription. Of course I am aware that a large number of tickets are given for the subscription, but these are of no value to the majority of exhibitors.—Charles Sidgwick.

WRONG FOWLS RETURNED.

"Would you be surprised" to hear that some person or persons within a radius of seventy miles of London are good judges of Dorking pullets? I am not. I will explain. I sent two Silver-Grey Dorking pullets (my very best) and a cockerel, the former in an open cage, the latter in a covered hamper, to the Exhibition of poultry at the Crystal Palace on November 13th. With pardonable vanity I looked anxiously for my name among the lists of those highly commended, but as it was not there I concluded that there must have been better birds than mine there. So I was resigned, and looked forward with pleasure to welcome my poor pullets back from their tedious journey and confinement; but fancy my horror on being told, "If you please, ma'am, they've sent back other birds to yours," and on inspection this proved to be the case. The cockerel in a covered hamper was all right, but my beautiful pullets, my own rearing this spring, and as perfectly marked as, I imagined, birds could be, had been replaced by two large hens, certainly a year old, one double-combed, and as red as possible all over the wings, and white in large patches; the other single-combed, and very defective as to colour, besides having had her wings clipped in places where white must have existed. When or where this transfer was made is impossible for me to discover, but it is, to say the least, not encouraging to an amateur breeder to lose good birds fit for exhibition, and to get in exchange hens only fit for the table. I may mention I put a fancy price of £20 on them, meaning to keep them for breeding, knowing it would be very difficult to replace them. I shall feel obliged if you could kindly find room for this in your Journal, as I think perhaps some of your correspondents might suggest some safe way of sending birds to shows. I don't suppose I am the only person who has been victimised, but it is a great loss to me, as my stock is very small, and I have no birds to equal those stolen.—G. S. Pasley, *Moorhill, Fareham, Hants.*

[You are not solitary in your misfortune. We hear of a similar exchange at the Southampton Show. Where is the exchange effected?—Eds.]

CRYSTAL PALACE POULTRY SHOW.

This Show came to a very successful termination on Friday last The health of the birds during the time was uncommonly good; there was only one death amongst the whole number in the Palace; this was a Brown Red Game cock, which arrived ill, and the Committee did all they could for the bird, but it proved of no avail. A Dark Brahma hen arrived dead in the basket. These two were the only deaths we heard of.

The judging was on the whole very satisfactory, and there were but few complaints. The excellent light in which every bird was seen by the Judges no doubt enabled them to give a correct judgment of the birds' merits, although some of the Judges were much pressed for time.

The sales were unusually large, especially in the Selling class. In this nearly every bird of any merit changed owners. All the prize birds were put up to auction, numbers of them realising more than double their original prices; in one case a Brahma cockerel sold for more than five times the catalogue price, so keen was the competition. Many birds sold for very high prices; Mrs. Arkwright's Dark Brahma pullets were claimed for 30 guineas, Mr. Burgess's Brown Red cockerel for £20, Mr. Clark's Coloured Dorking pullet for £10, Mr. F. L. Turner's Dark Brahma cockerel for £10 10*s*., Miss Hales' Light Brahma pullets for £12, and Mr. Beldon's Golden-pencilled Hamburgh for £10 10*s*. The total amount of sales for poultry was £590 11*s*.; and for Pigeons, £104 2*s*., making £694 13*s*. in all, one of the largest sales ever made at any show.

We omitted to mention that Miss Frew won the cup for the best pair of Wheaten hens, Mr. Fulton the cup for Blue Carrier hens, Black Carrier cock, and the best collection of four pairs of Pigeons, exclusive of Carriers and Pouters; Mr. Graham the cup for Red or Yellow Dragoons, and Mr. Dunn for White Dragoons. The Any variety cup went to Mr. Waddington.

The Show was closed at 4 P.M. on Friday, and the packing of the birds was commenced immediately, and despatched as quickly as possible

until 11 P.M., when the railways refused to take any more birds that night. The rest were sent off early on Saturday morning, so that all had left the Palace before 9 A.M. except six pens of poultry.

JOHNSTONE POULTRY SHOW.

THE fourth Annual Show of poultry and Pigeons took place in the New Public Hall, Johnstone, on the 11th inst. There were upwards of 650 birds exhibited, many of them very superior specimens. The attendance of visitors was very large, more especially in the afternoon, when there was scarcely room to move about. In addition to the money prizes, there were a number of extra prizes, consisting of timepieces, &c. The Committee were indefatigable in their exertions to discharge their duties, and the Show was greatly indebted for its success to the Secretaries, Messrs. Wylie and Nelson.

SPANISH.—1, Miss Rae, Garngad Hill, Glasgow. 2, W. Barr, Avon Braes, Hamilton. 3, A. Glendinning, Strathblane. *hc*, A. Robertson, Kilmarnock; A. Glendinning. *c*, A. Robertson.

DORKINGS.—1 and 2, Z. H. Heys, Barrhead. 3, J. Malcolm, Longton, Falkirk. *hc*, D. Gallatly, Meigle.

GAME.—*Black or Brown Red.*—1 and Timepiece, D. Harley, Edinburgh. 2, G. Williamson, Johnstone. 3, J. Cochrane, Grahamston, Barrhead. *hc*, E. Woodburn, Ulverston; R. Blair, Johnstone. *Any other Colour.*—1 and 2, D. Harley, Edinburgh. 3, W. Nelson, Johnstone. *hc*, A. M'Farlane, Grahamston, Barrhead; J. M'Indoe, Barrhead.

HAMBURGHS.—*Golden-spangled.*—1, S. & R. Ashton, Mottram. 2, A. Robertson, Kilmarnock. 3, J. Lockie, Paisley. *hc*, J. Lockie, Paisley; R. Tyson, Longtown; E. Robinson. *Silver-spangled.*—1, Timepiece, and *c*, R. Mackie, Clarkhill, Stewarton. 2, Ashton & Bootb, Broadbottom, Mottram. 3, J. Bruce, Harelaw, Barrhead. *Golden-pencilled.*—1, D. Gibb, Motherwell. 2, S. & R. Ashton. 3, W. Nelson. *hc*, Dr. Dunlop, Clackmannan. *c*, R. M'Nabb, Govan. *Silver-pencilled.*—1 and 3, Miss S. S. Lindsay, Glenfield. 2, R. T. Gemmell, Glasgow.

BRAHMA POOTRAS OR COCHIN-CHINAS.—1, D. Gallatly. 2, G. Willison, Kilmarnock. 3, A. Robertson, Kilmarnock.

SCOTCH GREYS.—1, J Fulton, Beith. 2 and Timepiece, R. Smith, Holms, Howood. 3, R. Blair, Thorn, Johnstone. *hc*, A. Dunlop.

GAME BANTAMS.—1, R. J. Gemmell, Glasgow. 2, J. M'Kay, Paisley. 3, G. Dobson, Longtown. *hc*, J. W. Brookbank, Kirkaanton. *c*, D. Johnston, jun., Dalry.

BANTAMS.—1 and 3, A. Robertson. 2, A. Grant, Kilbarchan. *hc*, J. Sharp. *c*, A. Mitchell, jun., Paisley.

POLANDS.—1, T. S. Carven, Langthrope, Boroughbridge. 2, 3, and *hc*, A. Wylie Johnstone. *c*, J. Laird, Johnstone.

ANY OTHER VARIETY.—1 and *hc*, R. Mason, Springfield, Barrhead. 2, Miss Galbraith, Johnstone Castle. 3, W. A. Orr, Kilbirnie. *c*, J. Fulton.

DUCKS.—*Aylesbury.*—1, Timepiece, and *c*, J. Meiklem, Thinacre Mill. 2, Z. H. Heys. 3, A. Robertson. *hc*, W. G. Kerr, Glencart, Dalry. *Any other Variety.*—1, J. Meiklem. 2, J. Sharp. 3, S. & R. Ashton (Carolina). *hc*, A. Robertson (Rouen). *c*, G. Craig, Johnstone (Rouen).

SELLING CLASS (Pen not to exceed 30s.).—1, J. Gow, Kilbarchan. 2, A. Robertson (Hamburghs). 3 and *c*, D. Hurley, Edinburgh (Game). *hc*, W. A. Orr. (Pen not to exceed 15s.).—1, E. Robertson, Airdrie. 2, J. Borland, Kilbarchan. 3, B. M. Knox, Kilbirnie (Crêve-Cœur). *hc*, J. Aitken, Johnstone (Game); J. Jamieson, Beith; J. Smith, Johnstone. *c*, W. M'Millan, Bothwell (Cochin-Chinas).

ANY VARIETY.—*Single Cock.*—1, D. Hurley, Edinburgh (Game). 2, A. Grant. 3, J. Gow (Bantams). 4, W. Barr, Hamilton (Spanish). *hc*, P. Barr, Kilbarchan (Hamburghs); A. Wylie, Johnstone (Poland). *Pair of Hens.*—1, D. Gallatly (Dorking). 2, J. Sharp, Johnstone. 3, D. Hurley. *hc*, J. Borland, Kilbarchan. *c*, G. Williesn, Kilmarnock.

PIGEONS.

POUTERS.—*Blue.*—1, 2, and Timepiece, J. Miller, Glasgow. 3, J. Mitchell, Glasgow. *Black and Red.*—1 and 3, J. Miller. 2, J. Mitchell. *Any other Colour*—1, J. Sharp. 2, J. Mitchell. 3, J. Miller, Glasgow.

CARRIERS.—1 and 3, J. Dunlop, Glasgow. 2, G. White, Ladyburn, Paisley. *hc*, J. Miller. *c*, H. Yardley.

TUMBLERS.—1, D. M'Naught, Kilmanra. 2, J. Sharp. 3, J. D. S. Crawford, Kilbarchan. *hc* and *c*, W. Barr. *Short-faced.*—1 and Timepiece, J. Miller. 2, J. Dunlop. 3, J. Paton, Rigg, Stewarton.

BARBS.—1, J. Miller. 2 and 3, J. Dunlop. *hc*, G. White. *c*, H. Paterson, Combuslang.

FANTAILS.—1, W. Reid, Lochwinnoch. 2, J. Galt, Kilbirnie. 3, J. Paton. *hc*, R. Blair, Thorn, Johnstone. *c*, J. Sharp.

JACOBINS.—1, J. Sharp. 2, J. Dunlop. 3, J. Miller. *hc*, W. Reid. *c*, Miss J. M. Frew, Sinclairtown, Kirkcaldy.

COMMON.—1, J. G. Orr, Beith. 2, W. G. Kerr, Glencart, Dalry. 3, G. Sneddon, Beith. *hc* and *c*, J. Wilson, Beith.

ANY OTHER VARIETY.—1 and Timepiece, G. White (Trumpeters). 2, J. Dunlop (Turbits). 3, H. Yardley. *hc*, J. Dunlop (Owls); J. Sharp.

SELLING CLASS (Not to exceed 30s. per pen).—1, J. Sharp. 2, E. Robinson (Pouters). 3 and *hc*, G. White. *c*, J. Galt, Kilbirnie. (Pen not to exceed 15s.).—1, J. Aitken, Johnstone (Fantails). 2, Mrs. R. Frew. 3, E. Robertson, Craigelven (Pouters). *hc*, W. Wilson, Johnston. *c*, J. Sharp.

JUDGES.—*Poultry:* Mr. John M'Innes, Paisley, and Mr. Alexander Paterson, Airdrie. *Pigeons:* Mr. James Huie, Glasgow, and Mr. Matthew Stewart, Glasgow.

PRESENTATION.—The friends of Mr. Harrison Weir will be pleased to hear that the Directors of the Crystal Palace Company have presented him with a handsome silver tankard, in recognition of his suggestion of a Cat Show, and also for his services. We are induced to mention this, as he is so well known to our readers as having endeavoured to uphold poultry and Pigeon shows by his pen, pencil, and as a judge and exhibitor from their commencement at Birmingham, and the poultry shows held at the Zoological Society's Garden, Regent's Park, up to the present time; and we might add that it is partly owing to his graphic delineations at the commencement of the movement that its success is due.

SCOTTISH METROPOLITAN POULTRY SHOW.—This is to be held in Christmas week. There are three liberal prizes in each class besides twenty-two silver cups. The only blots are that no prize is offered for White Dorkings, and all the Polands are in one class! No judge can award the prize satisfactorily in such a jumble of Golden, Silver, and Black varieties.

HATFIELD (DONCASTER) ORNITHOLOGICAL SOCIETY'S SHOW.

THE members of this Society held their third Exhibition on the 16th and 17th inst., in the district of Hatfield Chase, and it proved quite a success. The Show was a combination of birds, fowls, eggs, and butter, and horticultural produce. The quiet and retired town of Hatfield is situated near the Manchester, Sheffield, and Lincolnshire line of railway, six or seven miles from Doncaster, and the trains of the company conveyed a considerable number of visitors to the place.

The show of Canaries and other cage birds was held in the schoolroom, and a marquee was fitted up in proximity to it for the poultry. The entries were exceedingly good, both in number and quality. Great praise is due to the Committee for their exertions, and also to Mr. W. Travis, the painstaking Honorary Secretary, for the excellent manner in which all the arrrangements were conducted. The following are the awards:—

GAME.—*Any Variety.*—*Cock.*—1 and Extra 2, J. Hepworth. 2, R. Bentley. *hc*, Yatea & Lambert. *c*, G. Hinchcliffe. *Any Pure Breed except Game.*—1, W. Williamson. 2, J. Mowbray. *c*, A. Fosbrooke. *Farmyard Cross.*—1 and 2, H. Hepworth. *hc*, J. Baddiley.

BANTAMS.—1, J. Hepworth. 2, J. Mowbray. *hc*, Master W. Constable. *Cock.*—1, J. Mowbray. Extra 1, R. Bentley. 2 and *hc*, J. Hepworth. *Hens.*—1, A. Fosbrooke. 2, J. Hepworth. *hc*, R. Bentley.

DUCKS.—1, R. Parkin. 2, R. Bentley. *hc*, H. Bepworth. *c*, T. Cooper.

CANARIES.

BELGIAN.—*Clear or Ticked Yellow.*—1, R. Rawnsley, Bradford. 2, L. Belk, Dewsbury. *hc*, J. N. Harrison, Belper. *Clear or Ticked Buff.*—1, J. N. Harrison. 2, T. Fawcitt, Baildon, Leeds.

NORWICH.—*Clear Yellow.*—1, J. Mortimer. 2, G. & J. Mackley, Norwich. *hc*, Moore & Wynne, Northampton (2); G. & J. Mackley. *c*, J. Dawes, Scarborough. *Clear Buff.*—1 and 2, G. & J. Mackley. *hc*, Barwell & Golby, Northampton; Moore & Wynne. *c*, Moore & Wynne.

NORWICH.—*Evenly-marked Yellow.*—1, Barwell & Golby. 2, Moore & Wynne. *hc*, C. Greenwood. *Evenly-marked Buff.*—1, G. Medd, Scarborough. 2, Moore and Wynne. *hc*, G. & J. Mackley. *c*, Barwell & Golby.

NORWICH.—*Ticked or Unevenly-marked Yellow or Buff.*—1, J. Mortimer. 2, G. Gayton, Northampton. *hc*, G. & J. Mackley; G. Medd. *c*, Moore and Wynne; J. Mortimer.

YORKSHIRE.—*Clear Yellow.*—2, P. Rawnsley. *Marked.*—1, P. Rawnsley. 2, J. S. Clarke, Hatfield. Extra 2, Stephens & Leek, Middlesbrough. *hc*, R. Hawman, Middlesbrough.

CINNAMON.—*Clear Jonque.*—1, Barwell & Golby. 2, R. E. Tuffitt, York. *hc*, Moore & Wynne. *c*, E. Stansfield, Bradford. *Clear Buff.*—1, Barwell and Golby. 2, Moore & Wynne. *c*, E. Stansfield.

LIZARD.—*Golden-spangled.*—1, J. Taylor, Middlesbrough. 2, J. N. Harrison. *Silver-spangled.*—1, J. N. Harrison. 2, M. Holroyd.

CRESTED OR TURNCROWN.—1, Stephens & Leek. 2, J. Mortimer. *vhc*, G. and J. Mackley (2). *hc*, L. Belk; P. Rawnsley; M. King, Scarborough. *c*, Barwell and Golby.

ANY OTHER VARIETY.—1, L. Belk (Marked Cinnamon). 2, P. Rawnsley. *c*, Moore & Wynne.

GOLDFINCH MULE.—*Light.*—1, L. Belk. 2, P. Rawnsley. *hc*, Stephens and Leek. *c*, W. Chesney, Readneaa. *Dark*—1, E. Stansfield. 2, Stephens & Leek. *vhc*, Moore & Wynne. *hc*, J. Taylor; T. Fosbrooke.

GOLDFINCH.—1 and 2, J. N. Harrison. *hc*, J. J. S. Clarke. *c*, Stephens and Leek; T. Fawcitt; J. Taylor.

LINNET.—1, J. N. Harrison. 2, A. Fosbrooke, Hatfield. *vhc*, Miaa Machin, Hatfield; E. Holgate, Hatfield; J. N. Harrison. *hc*, C. & T. Purdy.

BRITISH BIRD (Any variety).—1, Miss B. Morris, Bearswood Green (Thrush). 2, R. E. Tuffitt (Bullfinch). *hc*, T. Fosbrooke (Bramble Finch); H. Weat, Darlington (Bullfinch). *c*, — Peakit, Hatfield (Chaffinch).

FOREIGN BIRD (Any variety).—1, 2, and *hc*, J. M. Kirk, Doncaster (Cardinal and Weaver Bird).

LOCAL CLASSES.

CANARY.—*Buff or Yellow.*—1, R. Harrop, Hatfield. 2, B. Hanson, Thorne. *hc*, A. Fosbrooke; J. J. S. Clarke. *Marked or Mule.*—1, A. Fosbrooke. 2, E. Catta, Thorne. *hc*, J. J. S. Clarke; J. Richardson, Hatfield. *c*, Master E. Shaw, Parka, Hatfield; G. Stones.

GOLDFINCH.—1, G. Battie, Hatfield. 2, J. Richardson.

LINNET.—1 and 2, E. Catta. *hc*, Master T. H. Woodall, Woodhouse. *c*, Yatee and Lambert; Miss A. Peakit, Hatfield.

JUDGES.—*Poultry:* Mr. F. Salee, Crowle. *Cage Birds:* Mr. G. J. Barnesby, Derby.

PIGEONS AT THE CRYSTAL PALACE SHOW.

(*From a Correspondent.*)

THE Show of Pigeons at the Crystal Palace was beyond all comparison the most superb ever brought together; in numbers the largest, in varieties the most representative, in quality attaining nearest to perfect standards, and with a remarkable immunity from commonplace specimens. The list of exhibitors would be warrant sufficient for such a summary where nearly every exhibitor of mark appeared, only to re-appear in the schedule of awards in company with several less known but rising competitors.

The judgment, however, is always matter of comment, and without overlooking the difficulties of a delicate and onerous office, we would venture a few criticisms by way of exception to some of the awards, meantime most heartily crediting the Judges—Messrs. Percivall, Ridpeth, and Corker—with the utmost painstaking and a general result alike creditable to themselves and satisfactory to the exhibitors. The presence of the public during the judgment is unquestionably a distraction; so great a show, therefore, the more demands that the labours of the Judges should be advanced in early morning before visitors become numerous, and while the daylight is at its best. Insufficiency of light can be the only excuse for the awards in the Yellow Dragoon class, the prize birds in every case being surpassed by unnoticed specimens of far richer colour. Superiority of colour must always determine the

awards in this class whenever—as in this case—there is anything like uniformity in structure and carriage between rival pens. Mr. Betty, the cup-winner of last year, may therefore still congratulate himself on the possession of the best birds, notwithstanding that they do not figure in the prize list.

The Barh judgment was another vexed question, bnt we incline decidedly to the opinions which would have placed Captain Heaton in the higher position, merited not only by intrinsic excellence, bnt also by the superior condition of his birds. Sufficient stress is too seldom laid upon sound condition as an essential of competition, and it is pitiable to notice in the old classes how rapidly the typical cnp-winner lapses into his usual cronching, degraded, and spiritless attitude, notwithstauding all the eye-dressiug, plumage-washing, and "making-up" to which he has been subjected for the occasion. Just as round after round the battered heroes of the "P.R." are brought up "smiling" through the delicate attentions of their seconders, so do these jaded birds appear at show after show with enongh of apparent vitality forced npon them to stand a transient ordeal with the Judges for the time beiug. A few (fortunately but a few) snch specimens appeared at the Palace.

That any inconsistencies should have occurred in the judgment of the Ponter department is the more to be regretted, seeing how recent efforts have strengthened this division, and made it a principal feature of the Show. In some cases refinement of type and character very properly ruled the decisions, while in others mere bulk turned the scale; and as a whole, perhaps, the birds of heavy build seemed the most favonred. If bnlkiness be elevated to a standard property, then Ponter-breeding will be degraded to the simple process of producing boorish ungainly birds. The Ponter proper, however, is a happy combination of artistic traits in the departments of structure, carriage, and plumage, in all of which elegance and refinement shonld reign snpreme. Had the Jndges followed out consistently in all the classes their appreciation of the symmetrical and the refined, a different but more eatisfactory distribution of some of the awards would have resulted. Mr. Volckman, the Superintendent of this division, withdrew entirely from competition in the young classes, presenting the cup for young cocks. He, however, showed a bird or two of this season's rearing in the old classes, and gained for them considerable credit from Ponter exhibitors. Had classes for yonng Whites been provided, both Mrs. Ladd and Mr. Heath would have stood well with their excellent birds, some of which made their mark notwithstauding competition with much older specimens. The Scotch division complained of the too early date of the Show and consequent disadvantage of the later moult in the north. None the less their birds were represented by owners of well-known names, and met with deserved admiration in many cases.

Despite our strictnres, probably no show as an entirety was ever so evenly jndged or presented so many features of interest; and we may fairly conclude, from the deserved snccess of this the third year, that the Great London Poultry and Pigeon Exhibition may be numbered amongst established institutions.

Fife and Kinross Exhibition.—There are three prizes in each of the classes—not large, bnt the entries are corresponding—three shillings per pen for poultry, half-a-crown for Pigeons, and one shilling for Canaries. In addition to the prizes there are eight two-guinea cups. We regret seeing the mistake continued of having only one class for Dorkings.

"B. & W.'s" APIARY IN 1871.

As the bee season is now fairly over for the year, it is a good time to take a review of its lessons. None of your readers have yet given us their experience, although some of them must have a good deal to tell. By way of provocative, therefore, I will make a few notes of my own.

The year began with very good promise, although some of my hives were only half filled with comb, and therefore not very rich in honey. Only one hive died in the previous winter, and that was found to have plenty of food both in open cells and sealed comb. It was a made-up hive, its occupants being the combined stock of two strong cottage hives that had been condemned to the brimstone pit. As is usual with bees saved late in the year when put into an empty hive and fed up artificially, these bees made but comparatively little comb—just enough for present purposes, preferring to extend the cells rather than waste food in the construction of unnecessary comb. In this respect there is a marked contrast between the summer and autumn habits of bees. In the early part of the year they will fill everything with comb, utterly reckless of the consumption of honey. This is no doubt accounted for in this way, that the exigencies of breeding and the instinct of increase are stronger at that time than the instinct of self-preservation. Be this as it may, they did very well till the long and intense cold and snow of January came; then I suppose they were frozen to death, not having sufficient protection among the combs. But there were also symptoms of dysentery. Could it be the food they ate? for they were not snowed up at any time. This was coarse brown sugar boiled to a syrup. And yet I have never fed my bees on anything else, and they have always done well, as did the others fed equally upon the same food. It must be said, however, that these had no other food but this sugar, while my other hives had some honey stored up, however small the quantity. All the other hives did well save one, which I think had no queen. After parting with some, I reserved eight for my summer stock. Of these, it is true, several were exceedingly poor in bees and honey when March came; but by dint of careful spring feeding they speedily recovered, all but the one spoken of; and some of the poorest, which I thought could hardly survive, have done as well as any of the others.

March was a very promising month, so warm and tranquil in comparison to other seasons at this time of year. April was much the same. I imagine that a fair quantity of honey was gathered by the bees, although I certainly did not observe any addition to their stores, as has been the case in some years within my experience. Still a good deal of comb was constructed in some hives. May was an active and pleasant month, but no great quantity of honey was stored, owing to the singular absence of blossom in all our orchards this year. This usually supplies us with our first grand honey season, often in large-enough quantity to carry our hives well over the following winter, besides giving a considerable surplus.

At the beginning of May my apiary stood as follows:—

BEE HOUSE.

A.	B.	C.
Sold.	Strong. Pure imported Italian queen.	Very strong. Hybrid Italians.
D.	E.	F.
Very strong. Degenerate hybrids.	Weak. Hybrid Italian.	Very weak. Pure imported Italian queen.
	G.	
	Nil.	

GARDEN STAND.

H.	I 1.	J 2.
Weak. Ultimately died.	Died.	Very strong.

FOWL HOUSE.

K.		L.
Sold.	Strong.	Hybrid Italian.
M.		N.
Very strong. Hybrid Italians.		Sold.

—B. & W.

OUR LETTER BOX.

Southampton Show (*An Exhibitor*).—Can you prove that the fowl were not changed while in the care of the railway people?

Andalusians not Spanish (*St. Edmunds*).—Andalusians are very like Spanish, only they differ in colour. They are an offshoot from them. They have much the same properties. Feather-eating is peculiar to no breed, but some seem to practise it more than others. There is no doubt it arises from lack of something the fowls require in the way of medicine or change—but it is peculiar to them, and it is also very capricious. We have kept Spanish for years. They are in confinement. Three years ago they were all naked, and we could find nothing to stop the feather-eating, although we tried everything we knew. Although still in the same place, we have never had it since. The French breeds sometimes take to it, bnt in our experience, they and the Spanish are the only culprits in this way. It is difficult to explain, like human beings who eat tripe, onions, and such like, while others do not think them edible. Your space is a large one, and hardly amounts to confinement. Has it grass? You ask our advice as to breed. We connsel either Cochins or Brahmas; we know no other that do so well or so profitably as they do in a small space, and they are content with it. We hate the idea of a fowl with its wing cut close, and if Spanish are allowed a liberty they will make use of it to the detriment of comfort, the complaining of neighbonrs, and the fiery anger of those who tend the garden. The house you speak of will make a very good fowl house, the main reqnirements are to be wind and waterproof, and to have an earthen floor. A window is desirable, but not essential. At small expense yon could have a pane of glass "let into" the door. Send for your jobbing man, and he will soon prove to you it would cost a "very little more" to have a regular window in the brickwork.

Poultry Yards (*J. E.*).—We like the arrangements of your yard; and the runs, 100 feet by 80 feet, will well accommodate the numbers you propose, especially as the runs are grass. We snppose when the hens bring out their chickens you intend them to be put nnder rips in the yards marked n. They will answer the purpose well while they are small. Your fowls' houses are large enough, but they must be sufficiently high for a tall man to walk easily. They should not be less than 7 feet high in the centre, and that will enable yon to ventilate far above the birds as they sit at roost. Do not let your perches be more than 2 feet from the ground, and place them so that there will be no draught from the door. We prefer 2 feet of brickwork between the runs; it needs only to be 4-inch work. It is more durable, and we think answers the purpose better than boards. Four feet on the top of 2 feet of brickwork will make 6 feet high. This we believe will keep the half-bred Dorkings and Brahmas in, bnt it will not either White Dorkings or Spanish. Either you must carry it up considerably higher, or you must have wire hurdles fastened to the top of the others and leaning over inwards all round. We are

sorry we cannot give you an idea of the cost. It should not be much For partitions of roosting houses we always have brickwork 3 feet or 42 inches high, and the rest wire netting stretched on a frame to fit the roof. We prefer the common-shaped roof to the plain pent you propose, and we cover with slates and Bridgewater tiles. We have found the latter cheap and durable. The houses A will do only for sitting hens; they are useless for chickens after the hen has left, and they will not do for cockerels. Chickens deserted by their mother are old enough and strong enough, unless she be a very bad mother, to forage for themselves. Both they and the young cockerels require all the food they can have, as they have to make growth, and the natural meal they often get by prowling about is essential to them. As a rule, by the time you have cockerels old enough to want a place to themselves you have few sitting hens or small chickens. Let the young cocks have one space B, the sitting hens another, or two, and the orphan chickens the remainder. Your plan shows you are capable of being your own architect; if, then, you have bricks, lime, and timber at hand, you may build them very cheaply.

Cockerel for Stock (*E. H. R.*).—The cock hatched in March or April of one year is fit to breed from any time in the following year. He is an adult bird. When the opportunity exists for choosing, such a bird should be put to run with hens, and an older bird with pullets. It is always considered advisable to reverse the ages of the parents in such manner, taking care on neither side to use worn-out birds. As to your second question, a pullet is called by that name during the year she was hatched. As soon as she has seen her first New Year's-day she is a hen according to time computation; but in reality the January pullet that has laid her eggs in June and July, hatched them in August, and reared her chickens, is as much a hen in October as she ever will be. She is, nevertheless, after having enjoyed the honours of maternity, competent to exhibit her mature charms as a "chicken" of 187— during the whole year. It would not be remarkable if a Cochin or Brahma pullet laid at six months, but Spanish are not so early. What was she crossed with? Chickens of the year change their feathers, but do not moult.

Malvern Poultry Show (*L. H. R.*).—You have no other course to pursue than to sue in the County Court. No committee should hold a poultry show unless they are prepared, under any circumstances, to pay the prizes they offer.

Chickens for Table (*F. C. H.*).—Have Brahma hens to consort with the Dorking cock.

American Hens at Birmingham.—"I am happy to be able to afford 'Outis' the information he seeks respecting the third-prize American hens at Birmingham. They were purchased by John Beach, Esq., of Standeford, Brewood, and are now in his possession. They weigh together 22¾ lbs. They have been mated during the last summer with the second-prize Birmingham cockerel belonging to me.—Wm. Thos. Storer, *Brewood.*"

Pigeon's Wing Disease (*J. Walton and Constant Reader*).—Draw out the flight feathers of the diseased wing, and by the time they have grown again your birds will most probably be quite well.

German Hermit Pigeons (*W. Watson*).—Look to each schedule of a show, that must be your guide. If there is a prize for "Any other variety" enter your birds in that, or "Any new variety;" but the former is most likely to be, and that will be, the place for your birds.

Canary Show-Cage (*R. J. H.*).—The most useful cage for all ordinary purposes, except showing off "position" birds, is the ordinary wooden show-cage. Different exhibitors affect different styles of cages, and anyone conversant with the matter can name, almost at a glance, the "school" to which any particular class of cage belongs. A whole chapter might be written about show cages, and perhaps at the proper time and in the proper place the chapter will appear. They are for the most part all constructed on the same principle—top (sloping to reflect the light), bottom, back, and sides of wood, with wire front. I will just give the dimensions of one before me, an old one of Mr. Walter's, of Winchester, who knows about as well as any exhibitor in England what is a telling cage in which to show a bird. It formed one of a large grateful which usually precedes him by goods train when he means business at any show; and the very look of its old familiar face brings him before me with his wit, his humour, his pathos, and his umbrella, as I last saw him caging-off and making ready to do battle for one of our cups. It was from this cage that a clear Jonque which had just received the finishing stroke to its toilet escaped, and got in behind the dirty kettle. But the chapter of stories will appear with the chapter on cages. On this occasion the dimensions of the cage must suffice. Material, common deal, five-sixteenths of an inch thick, and No. 16 wire. Height of front, 14 inches; height of back, 10½ inches; length, 13½ inches; width, 6½ inches. The top slopes from front to back. The top cross-piece in the front into which the wires are inserted is three-quarters of an inch deep, and the bottom piece 2 inches. The wires are half an inch from centre to centre, with a water-hole at either end. Seed is thrown into the cage bottom, which is raised to within half an inch of the edge of the front cross-piece, causing the cage not to look so deep, and giving more light. This second bottom is not a necessity, but Walter's cages have it; it is a fixed false bottom. The bottom front piece must be 2 inches deep to make the cage look well; but I suppose Mr. Walter thinks 2 inches interior depth will swallow up too much light. The back or the front can be made to screw on and off to allow of colouring the inside with a mixture of whitiog and size (milk or thin paste will do instead of size), with just enough of ultramarine blue and rose pink to give it a warm tint. Make the mixture about the consistency of cream, and lay it on smoothly. The wires can be tied by either one or two cross wires; if by one, let it be opposite the middle of the back, and on it the perch or perches must rest, giving a fair view of the bird. A door at the side, with a secure fastening, large enough to admit the hand, and a wire handle at the top, I think, complete the cage. Paint the wires black and the front of the cage either black or green. The rest may remain unpainted, for it is never seen.—W. A. Blakston.

Bees near London (*H. L.*).—We have no doubt that bees may be kept at Hampstead, and with proper care in supplying them with artificial food during and after poor seasons, they may occasionally yield a tolerable supply of honey. We cannot say that we think they would prove very remunerative, but sufficiently so to become a source of very great pleasure. The noted Wildman kept bees at the top of his house in Holborn, and many persons now have apiaries in the outskirts of the great city. There is no hive invented that will certainly prevent swarming, but a good frame hive approaches nearest to the desideratum so much required by some apiarians. By the use of these you can make what swarms you may require artificially, and be at the same time relieved from all anxiety respecting the issue of natural swarms.

Ants in Hives (*H. W. C.*).—To stop ants from getting into bee hives, scatter guano from time to time round the pedestals. Another remedy which has been found effectual is ammoniacal liquid from the gasworks sprinkled underneath, and applied with a brush to the hive stances. It has been recommended also to use petroleum of the strongest scent in the same manner. Try these one after the other till you succeed. Bear in mind, however, that ants are very quick-witted, and if there be but a leaf or twig from any tree or bush touching the hives, they will make a long circuit and think nothing of a distant pilgrimage to get at their favourite food.

Gold Fish (*Goddess*).—Let the water be clean from a pond, changed once a-week; a layer of small pebbles and sand at the bottom of the vase; feed with raw meat shredded fine.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Nov.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperatur. Max.	In the Day. Shade Temperatur. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 15	29.777	46.2	45.8	W.	40.8	62.5	42.8	73.0	39.2	0.140
Th. 16	30.044	37.7	35.8	N.	42.5	45.0	36.1	76.8	31.8	—
Fri. 17	29.847	31.8	30.8	N.W.	41.2	33.5	31.0	73.0	28.1	—
Sat. 18	30.286	31.1	28.3	W.	40.4	42.8	25.8	65.3	21.2	—
Sun. 19	30.445	25.0	24.8	S.W.	39.5	31.9	21.0	39.2	17.5	—
Mo. 20	29.402	37.3	36.3	S.E.	38.4	43.2	29.4	56.3	20.8	—
Tu. 21	30.165	33.7	31.5	S.E.	37.3	37.6	27.9	61.2	22 8	—
Means	30.138	34.7	33.3		40.1	41.4	29.7	63.5	25.9	0.140

REMARKS.

15th.—Very fine in early morning; sharp hail shower at 11.30 A.M.; afterwards fair, fine night.

16th.—Lovely morning and fine day, rather damp at night.

17th.—Hail and snow in the night and sharp frost; beautifully fine day; moon and stars very bright at night.

18th.—A very fine day; frosty morning and night, and not visibly thawing in the day.

19th.—Very cold and rather foggy all day, but especially so at night.

20th.—Strong white frost in morning; fine day, and warmer towards the evening.

21st.—Fine, bright, and frosty all day. Lunar halo from 6.30 P.M. to 8 P.M.

Another week of unusually cold weather for November, Sunday the 19th being one of the coldest days in November for many years past.—G. J. Symons.

COVENT GARDEN MARKET.—November 22.

We are without improvement from last week, and have nothing material to report as conveying any fresh information. Some heavy cargoes of foreign produce have changed hands at the auctions during the last few days.

FRUIT.

	s.	d.		s.	d.
Apples ½ sieve	2	0	to	4	0
Apricots doz.	0	0		0	0
Cherries lb.	0	0		0	0
Chestnuts bushel	10	0		20	0
Currants ½ sieve	0	0		0	0
Black do.	0	0		0	0
Figs doz.	0	0		0	0
Filberts lb.	0	6		1	0
Cobs lb.	0	6		1	0
Grapes, Hothouse lb.	2	0		6	0
Gooseberries quart	0	0		0	0
Lemons ₱100	8	0		12	0
Melons each	2	0		5	0
Mulberries lb.	0	0	to	0	0
Nectarines doz.	0	0		0	0
Oranges ₱100	0	0		0	0
Peaches doz.	6	0		12	0
Pears, kitchen doz.	2	0		4	0
dessert doz.	2	0		6	0
Pine Apples lb.	3	0		6	0
Plums ½ sieve	6	0		8	0
Raspberries lb.	0	0		0	0
Strawberries lb.	0	0		0	0
Quinces doz.	2	0		3	0
Walnuts bushel	10	0		26	0
ditto ₱100	1	0		3	0

VEGETABLES.

	s.	d.		s.	d.
Artichokes doz.	0	4	to	0	6
Asparagus ₱100.	0	0		0	0
Beans, Kidney ½ sieve	0	0		0	0
Broad bushel	0	0		0	0
Beet, Red doz.	2	0		3	0
Broccoli bundle	0	6		1	0
Brussels Sprouts ½ sieve	2	0		3	0
Cabbage doz.	1	0		2	0
Capsicums ₱100	1	6		2	0
Carrots bunch	0	0		0	0
Cauliflower doz.	3	0		6	0
Celery bundle	1	6		2	0
Coleworts doz. bunches	2	0		4	0
Cucumbers each	0	6		1	0
pickling doz.	2	0		3	0
Endive doz.	2	0		0	0
Fennel bunch	0	3		0	0
Garlic lb.	0	3		0	0
Herbs bunch	0	3		0	0
Horseradish bundle	3	0		4	0
Leeks bunch	0	3	to	0	6
Lettuce doz.	0	3		1	0
Mushrooms pottle	1	0		2	0
Mustard & Cress. punnet	0	3		0	9
Onions bushel	2	0		4	0
pickling quart	0	6		0	8
Parsley sieve	2	0		4	0
Parsnips doz.	0	9		1	0
Peas quart	0	0		0	0
Potatoes bushel	1	6		8	0
Kidney do.	3	0		5	0
Radishes doz. bunches	0	6		1	0
Rhubarb bundle	0	0		0	0
Savoys doz.	1	0		1	0
Sea-kale basket	2	6		3	6
Shallots lb.	0	6		0	0
Spinach bushel	2	0		3	9
Tomatoes doz.	2	0		0	0
Turnips bunch	0	3		0	9
Vegetable Marrows doz.	0	0		0	0

POULTRY MARKET.—November 22.

We have still an average trade, and a good supply. Grouse remain very plentiful, and Pheasants are more so.

	s.	d.		s.	d.
Large Fowls	3	0	to	3	6
Smaller ditto	2	0		3	6
Chickens	1	9		2	0
Geese	6	0		7	0
Ducks	2	0		2	8
Pheasants	2	0		3	6
Pigeons	0	8	to	0	9
Rabbits	1	6		1	6
Wild ditto	0	9		0	10
Hares	2	3		2	6
Partridges	1	9		2	0
Grouse	1	9		2	0

WEEKLY CALENDAR.

Day of Month	Day of Week	NOV. 23—DEC. 6, 1871.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
30	Th	St. Andrew.	48.0	34.5	41.3	22	44 af 7	54 af 3	26af 6	46af10	18	11 15	334
1	F	Princess of Wales Born, 1844.	48.5	34.9	41.7	22	46 7	53 8	25 7	29 11	19	10 52	335
2	S		47.4	33.7	40.5	19	47 7	52 3	31 8	1 0	20	10 30	336
3	Sun	1 Sunday in Advent.	47.0	35.8	41.4	24	48 7	52 3	38 9	30 0	21	10 6	337
4	M	Length of Day, 8h. 2m.	48.1	36.4	42.2	20	49 7	51 3	50 10	58 0	22	9 42	338
5	Tu		49.0	35.2	42.1	25	51 7	51 3	morn.	12 1	☾	9 18	339
6	W	Royal Horticultural Society, Fruit, Floral, and General Meeting.	48.2	36.7	42.4	22	52 7	51 3	3 0	30 1	24	8 52	340

From observations taken near London during forty-three years, the average day temperature of the week is 48.0°, and its night temperature 35.3°. The greatest heat was 62°, on the 1st, 1857; and the lowest cold 14°, on the 5th and 6th, 1844. The greatest fall of rain was 1.02 inch.

SMALL FARMS—HOW THEY CAN BE MADE TO ANSWER.—No. 2.

By Rev. William Lea, *Vicar of St. Peter's, Droitwich, and Hon. Canon of Worcester.*

GOOSEBERRIES.—As the Gooseberry produces a profitable return earlier than any other fruit, we will give it the place of honour, and begin with it. The Gooseberry is now extensively grown for market in the midland counties. A great portion of the crop is gathered green, and is sent off in "pots" by rail to the large towns of the north—Manchester, Glasgow, and Sunderland, as well as to the "Black Country." When I speak of green Gooseberries I do not mean those small buttons tasting of the wood, which may be seen early in the season in Covent Garden, but large, full-grown fruit gathered from the beginning to the end of June for the delectation of the *dura ilia* of colliers and miners; and they, too, have tastes of their own, which the fruit-farmer will do well to consider. It is of no use his sending Gooseberries to market when Cherries have once been seen. Cherries, too, have their season, and then give place to Plums; but from the time Gooseberries come in till Cherries appear there is a steady demand for them: after that time they are only in demand when ripe, which means when they are partially coloured. Hence it is a common practice to gather the greater portion of the crop when green, and leave only a small part of it to ripen. Some do not even do this, but gather the whole of the crop when green, as the blackbirds commence a raid upon it directly the fruit begins to colour, and also because the ripe fruit is apt to arrive at the end of a long journey in the condition of jam.

In making a plantation of Gooseberries the bushes should be planted 6 feet apart, and in rows 6 feet from each other. This will take 1225 bushes to an acre. The best soil for them is a light loam. There should not be too much moisture, otherwise the trees are soon covered with moss, and cease to flourish. Here I may mention the best cure for moss is to sprinkle the branches with soot. If, therefore, the subsoil should be of clay, the ground should be deeply and thoroughly drained before the bushes are planted. The safest plan for a beginner will be to commence with a variety of sorts, and when he has discovered which of them is most congenial to his soil, to propagate largely from it. This is easily done, as the Gooseberry grows readily from cuttings if taken when the leaf has fallen and the wood is sufficiently hardened. I see the usual way, as recommended in garden books, is to take out all the eyes but two or three of the top ones. This will produce a bush with a long single stem, which may do very well for a dressed garden where appearances are to be consulted, but not for a fruit farm; for if your single stem is broken by the weight of fruit or any accident, or decays in the course of nature, your bush is gone. Instead of this, put in your cuttings, whether of Gooseberries or Currants, without taking out any eyes; by this means you will get in a much shorter space of time a large wide-spreading bush, which will not be liable to any of the accidents above-named. The way to set about it is this—Dig a long trench, and slope the side to about an angle of 45°; put in your cuttings 6 inches apart, cover them with light well-pulverised soil, and then press it down upon them as hard as possible, and in the next summer you find few gaps in your line. In pruning, all that is required is to cut off the branches which touch the ground, to let light and air into the middle of the bush, and to shorten some of the too-rampant shoots. The object should be to produce the largest possible bush and the greatest quantity of fruit.

And now comes the question, What sorts are best for this purpose? and the only answer to be given is, that it depends to a certain extent upon the soil. The three qualifications for excellence in a farm Gooseberry are—1st, That it possess sufficient toughness of skin to enable it to carry well; 2nd, That it shall be a free cropper; and 3rd, That it shall be dark-coloured, as dark Gooseberries sell better than green or yellow ones when they are ripe. The Gooseberry which is named Crown Bob unites all these requisites, and I believe suits most soils. When I began I ordered a large number of this variety, but the nurseryman, not having sufficient stock, sent me 100 Whitesmith, which I find suit my purpose and soil even better than the Crown Bob. Whitesmith is earlier, which is important if the fruit is to be picked green, and never fails to produce a crop, and to grow into strong bushes in two or three years from the cutting. From my own experience I should put the Whitesmith first. The Red Warrington is also a good market sort; so, too, are the Green Overall and Lord Rancliffe, the last two when ripe are excellent for the table. But for this purpose nothing is really equal to the two well-known old small varieties, the Pitmaston Green Gage and the Rough Red. The best out of some thirty new varieties which I have grown are Hopley's Companion (red), Leader (yellow), and Pet (green).

And now for a few words on the Gooseberry-grower's enemies. Blackbirds and missel thrushes, of course, are destructive to this as to all other varieties of ripe fruit, but by picking your crop when green you avoid all annoyance from them. Not so with your insect foes. The red spider will sometimes infest the bushes in such quantities as to shrivel-up all the leaves before the fruit is gathered, and seemingly to prevent the possibility of any healthy shoots; but the most destructive of all enemies is an abominable green grub, about half an inch in length, with black lines round its body. It comes in such numbers as to strip a whole plantation of its leaves, and, as I now write, my acre of Gooseberries is most indecent to look upon; line after line of trees with naked shoots, and not an atom of green to cover them. My bushes have often been infested with these hateful grubs, but never to such an extent as in the present season of 1871, which seems to be pre-eminent for blight of every kind. They appeared first of all about the first week in May, and here and there a bush was stripped by them, but they did not make much way, and on examining the bushes I found the head and

skin of the grubs upon the shoots, but not a living one to be seen. Again, in a fortnight, they appeared a second time, and disappeared again in the same manner. It was evident that some bird preyed upon them, sucked their juices, and left the hull upon the bush. I watched carefully to see to what bird I was indebted for ridding me of this pest, and after some observation I came to the conclusion that the much-maligned cuckoo was my friend. When the grubs were about there were always two or three cuckoos in the plantation. I think, too, that the chaffinch and the whitethroat also assisted, and perhaps some other soft-billed birds. The sparrows, too, sometimes visited the bushes early in the season, but as soon as there was anything like Peas or grain to be had they turned to plunder. They probably did not fancy this disgusting grub, and only used it for feeding their young. The cuckoo, the chaffinch, and whitethroat, however, seem to eat it with an appetite.

I had long been aware that this grub was the offspring of a sawfly, but I never could see the fly itself till this year, when I caught it *flagrante delicto*. It was a bright hot day early in August, and as I walked up the farm I saw a cloud of clear-winged flies disporting themselves about the bushes. They dropped from time to time, and then rose again; and suspecting that they were the parents of the grub, and after no good, I went up and watched their proceedings. The females, about the size of common house flies, with flat yellow bodies, were on the lower branches of the bushes; the males, considerably smaller, with thin, black, ichneumon-shaped bodies and transparent wings, were hovering in hundreds above. A fortnight later there was no doubt about their business. On examining the bushes I found numberless leaves perforated with little pinholes, which had been nibbled by the grubs just hatched, and on others there were the eggs not yet hatched, laid in close order along the ribs on the under side of the leaves, and principally on the lower branches of the bushes. In this arrangement one could not help admiring the instinct of the fly; directly its young are hatched they begin to eat their way upwards till they reach the end of the shoot. In this case there was evidently no time to be lost. A number of children were straightway set to work to pick off the perforated leaves. They did pick them, and six large bucketsful were collected and burnt. I thought I had got the better of my enemies, but on going into the plantation about a week later I found every tree covered with grubs in almost incredible numbers. It was no longer a question of picking perforated leaves — on some bushes scarcely any leaves were left, nor was it a matter for children; it was a case in which women must be employed. So I set some women to work, some with quicklime, others with fresh-powdered hellebore, to dredge the trees; both these remedies are recommended, and I wished to see which was the more effectual. In another week's time I was able to see the result. The lime was utterly useless, but the hellebore had saved a certain portion of the leaves. At any rate I have ascertained thus much about this detestable grub of the sawfly, which I now put down for the benefit of Gooseberry-growers —if you wish to escape this pest, encourage small birds, and especially soft-billed birds, in your plantation—above all, do what you can to protect the cuckoo. If, notwithstanding the exertions of the birds, these grubs infest your bushes, as soon as you detect their presence by the perforated leaves, have them carefully hand-picked, and if this does not stop their ravages dredge them well with fresh hellebore powder, which I believe to be the only thing that has the slightest effect upon them.

Currants.—Next to the Gooseberry, the Currant is the fruit which will bring the quickest return to the fruit-farmer. The Red Currant is subject to the ravages of the same abomination as the Gooseberry—the grub of the sawfly, but not to the same extent; but it suffers infinitely more from the birds. Not only do the blackbird and the missel thrush make their voracious raids upon it—I say nothing of the song thrush, for his appetite is not of the same insatiable nature, and he is always welcome to as much as he can eat in return for his song—but robins and other small birds keep nibbling at it; so much so, that what with their depredations and those of the wasps, I have never yet been able to get a quarter of a crop from my Red Currant bushes, and I cannot therefore recommend it as a crop for a fruit farm unless it is planted in sufficient quantity to justify the employment of a man to protect it during the season of ripening. Still, if any should wish to try, they will find the Raby Castle the finest of all varieties, and an abundant bearer.

But the Black Currant is my favourite fruit—not for its intrinsic excellence, for anything more nasty I cannot imagine; but because, first, no grub that I know will prey upon its leaves; and second, no bird will touch it as long as any other possible kind of food is to be had. Thirdly, it always bears freely; and fourthly, it is always in great demand.

Here are four undeniable excellencies, and if you add to this that it is easily propagated and will produce as large a profit per square yard as any fruit I know, I recommend it to the particular notice of all fruit-farmers whose soil is suitable for it. The bush, also, if planted in the manner suggested above, leaving all the eyes in the cuttings, will continue to bear for many years if properly managed, though the fruit diminishes in size as the plants grow older.

As a proof of the profitable nature of the Black Currant I may mention that in one small plantation I have for two years carefully calculated the produce, and I find that it has varied from 3*d*. to 4*d*. the square yard, or, if taken at the higher price, about £80 per acre. The bushes should be planted like the Gooseberry, 6 feet from each other; and in pruning, it should be remembered that a plan the very opposite to that which succeeds with the Red Currant must be adopted. In the Red Currant you must cut out all the new wood to a single eye and leave the old, whereas in the Black Currant you must cut out old wood and leave the new—this at any rate when the bushes are fairly established. Till this is the case the young wood should be shortened to three or four eyes, or the branches will not grow with sufficient vigour to support the fruit.

I do not recommend the Raspberry for the same reason as the Red Currant. The birds will take the greater portion of the crop unless it be constantly watched, and unless the plantation is large it will not justify the employment of a special watcher while the fruit is ripe; and I am now advocating the cause of small fruit farms, on which one family only is employed.

PROLONGING THE STRAWBERRY SEASON.

I hope in this attempt to give some directions for prolonging the Strawberry season, I shall be sufficiently plain to be understood, and to any question asked through the Journal I will try to give a prompt reply. I must remark that it is not by any skill of mine that I have produced crops of Strawberries late in the season, and indeed in a commercial point of view it would not be worth my while, as I find they are little cared for. There appears to be a sort of prejudice against them, an impression that they are without flavour, and persons do not care to purchase them. I think, however, that the reverse is rather the case. The Strawberries are very distinct from the same variety at the ordinary season, so much so that I would defy the greatest epicure to say what variety he was eating; for appearance, colour, shape, flesh, and flavour are all different, at least it is so with me, as indeed Dr. Hogg and others to whom I have sent fruit can testify.

Perhaps there is no fruit grown so capricious as the Strawberry; for in the same soil where one variety will not even live, another quite luxuriates, and this is even the case with kinds nearly related to each other, such as British Queen and Carolina Superba. Most persons grow such late varieties as Elton, Filbert Pine, Frogmore Late Pine, and Myatt's Eleanor, in order to obtain a late supply. With these and a little careful management —or perhaps I ought to say experienced rather than careful, for what is very easy to the experienced is far otherwise to the merely informed—you may obtain Strawberries late in summer and in autumn with very little, if any, intermission, except, perhaps, a week or two—the last week of July and first or second week of August—but even then the gap may be filled up by May Queen, to be succeeded by Sir Walter Scott, Black Prince, and a sort of which I will try to obtain the name. I had it eight or nine years ago from Mr. Nicholson, of Eaglescliff, with about forty other varieties, and lost its name. It is a very distinct variety, and no doubt well known in the trade. For late summer and autumn-fruiting it is very superior, continuing to bear from about the second or third week of August till the second or third week of October. Next in succession and the best of all, taking every point into consideration, is Patrick's Seedling. Those which were shown by Mr. Fulford, Clifton, at the Bristol and Clifton Chrysanthemum and Fruit Show on the 8th and 9th inst. were the same variety; many of them were about two or three to the ounce. With careful management these will carry you till the end of November. President bears a few good berries from the end of October till the end of

November, as does John Powell. Other varieties that I have fruited are Swainstone's Seedling, Rivers's Eliza, La Constante, and Myatt's Quinquefolia, but they will not at all compare with the former for fertility. I would advise trying these, and if you find you succeed tolerably well after one season, you may purchase them as certain and prolific croppers. I am rather a large grower both as regards number of varieties and extent of ground.

I ought to mention some varieties that will not fruit at all, although a few of them may be induced to flower. The old Carolina, for example, has profuse and fine healthy flowers as large as a half-crown, but I do not remember to have ever gathered one fruit. British Queen, La Châlonnaise, Carolina Superba, and Mr. Radclyffe flower very sparingly or not at all; Princess Alice Maude and Goliath (Kitley's) have only an occasional fruit; whilst Dr. Hogg and Souvenir de Kief bear few but fine berries.

My Strawberry garden is on the south side of a hill, sloping abruptly and very stony, so as to be quickly affected by drought; the consequence has therefore been not only a frequent loss of the crop, but sometimes the destruction of the plants, and such a drying-up of the foliage that you might take it in your hand and reduce it to powder. The first time I had a crop I at once saw that it was after a period of rest that a crop of fruit was produced, whether in consequence of the cold of winter or the dry heat of summer. Then came the question how this could be effected artificially, and my experience has shown me that the best way is to have your plants in some way under control, and it may be done in the following ways. For a bed select some sheltered spot, either by a wall (of course not your ordinary fruit wall), or by some evergreen shrubs, and with an aspect as nearly south as possible; take out the soil to at least 3 feet deep, and not more than 4 feet wide; fill the excavated space to the depth of quite 2 feet with stones and rubble, and the remaining foot with good open soil. Thus will be secured thorough drainage, which is absolutely necessary for the production of a crop, and such a bed or border should be made to slope very rapidly—if 4 or 5 inches to the foot so much the better.

Planting may be done in various ways; for instance, you may employ plants previously used for forcing, especially any that have failed to bear a crop; these, if they have been forced early, will come in by the end of July. You may plant very early in the spring, but planting at the ordinary time—August or September—is much better. Plants put in during the spring should have every encouragement to make growth, while those planted early in August will need no care. Allow the ordinary plants to grow on till some of the fruit is nearly ripe, and then place spare lights over them when it rains, and at night if rain is expected; for particular attention must be paid to give the period of rest. You may make a framework for lights, or whatever may be used to keep off rain (lights, or glass covering of some sort being, of course, the best) in the following way:—Select some tolerably straight poles, cut them into 2½-feet lengths, make one end somewhat pointed, bore holes with an iron bar, at the width of the lights apart, to the depth of about 18 inches, and with a wooden mallet drive in each pole till you have about 1 foot above your bed or border, and on the tops of these nail lengthwise common battens. The same material will do to nail across between each light, unless the lights are very large and heavy, and then, of course, something stronger will be necessary; but it will be found that posts fixed in this way will be much firmer than those put in by digging a hole and ramming the soil about them, to say nothing about disturbing the ground. Some fastening will be needed at the top to prevent the lights running down, which they otherwise would do.

Having by the means described brought the plants into a state of rest, although only for two or three weeks, they may be again started into growth (but if only one variety is grown, some must have a longer rest in order that a succession may be kept up), by removing the lights altogether, and leaving the plants to themselves till the fruit is near maturity; then recourse must be had to lights again, in order to keep off excessive rain, which would materially injure the berries both in texture and flavour, but the plants will be much better uncovered save in very heavy and continuous rain. About the end of September it will be necessary to be on guard against frost, for a severe frost will greatly injure the fruit, and a very slight frost will injure the flowers.

This mode of treatment will carry us on to the middle of November with tolerable safety, but cannot be depended upon afterwards. If, then, it is desired to continue the succession say another month, such a result can only be attained with pot plants, and these must not be forced plants of the previous spring, for although the latter grow well in the open ground when planted out, they will not produce a good crop in autumn if kept in pots. It will be necessary to have good plants, and these you may obtain as follows. If it were three months earlier one might get plants just as for early forcing—that is, by plunging small pots in the ground, and fixing the runner on the soil by laying upon them small stones, and when they were well rooted taking them up, giving them a shift into a larger pot, and wintering them in the usual way. But as this cannot be done now, the next best method is to take up plants early with balls, pot, and plunge the pots up to the rims in a bed of ashes about 4 feet wide, growing them on in just the same way as those planted out in beds, only not starting them into growth till two or three weeks later than those in the beds. They will thrive best in the bed of ashes till about the beginning of September or later, care being taken to keep off excessive wet and frost as directed for those planted out. In an orchard house the plants will succeed admirably with abundance of air till late in November, but after that time they should be removed to the back shelf of a greenhouse, where they will be near the glass and have plenty of light and air; or if you want them to come on a little more rapidly, place them in a position where they may have a little heat, but it must be very little, otherwise you will lose your crop, or a considerable portion of it.

Naturally the same variety continues a long time in bearing. From Patrick's Seedling, for instance, I gathered for about nine weeks, but there was only one gathering last week; the interval between that and the preceding gathering was two or three days over a week, and we gathered only once in the week previous, but up till then twice a-week. The other variety of which I cannot give the name, which is very handsome and good under the same circumstances, and treated just like Patrick's Seedling, comes in quite three or four weeks earlier, but will not produce longer than seven or eight weeks, and then the late gatherings are poor. The crop comes in more at one time than that of Patrick's Seedling.

I must say again, Be careful in the resting season to keep the plants as healthy as possible. I have never had so abundant a crop as I have had this season, for the plants were injured before, and I should have failed to give such directions last season as I am able to do this. I have no doubt many of your correspondents will beat me altogether in about two seasons. My gatherings altogether have been about fifty-nine quarts, it may be a few more, and principally from the two varieties, and many of the berries were very fine both as to size, appearance, and flavour.

If anyone should be desirous to make a bed at once he may do so if possessing an abundance of spare plants, otherwise it will be much better to plant in very mild weather at the end of February or in March, for many of the plants put in at this season would run a great risk of being thrown out of the ground by the frost and killed. Do not keep the plants unnecessarily covered, for under the lights there will be a draught of air which in the autumn is very chilly, and, although it does not hurt the fruit so much as wet, it injures the flowers.—G. Lee, *Clevedon.*

SELECT ROSES.

Mr. W. Paul's selection of Roses will, no doubt, be of much service to many of your readers. After several years' experience as a Rose-grower on a loam with a clay subsoil, I find the following answer my purpose as exhibition flowers:—Alfred Colomb, Abel Grand, Madame la Baronne de Rothschild, Madame Vidot, Marie Baumann, Charles Lefebvre, Duke of Edinburgh, Maréchal Niel, Pierre Notting, Sénateur Vaisse, Louis Van Houtte, and Belle Lyonnaise.—William Caudwell.

I think "An Amateur, *South of Ireland*," has been too hasty in his condemnation of Marie Baumann if, as I judge from his letter, though I may be mistaken, he has decided from a single plant. I am eliciting the opinions of Rose-growers as to the best twelve and thirty-six Roses, and hope to be able to publish the returns in your next number. At present I have fourteen lists sent to me in answer to my request, and thirteen out of the fourteen place Marie Baumann among the first twelve; the fourteenth places it first in the list of the next twenty-four. This, as far as the returns go, makes Marie Bau-

mann third in the list, only Maréchal Niel and Baroness Rothschild being named by everyone. However, I am only anticipating matters, and hope to be able to publish the full list next week.—C. P. Peach.

BEDDING PLANTS IN 1871.—No. 4.

I must apologise to some of your readers for having delayed so long in sending this communication on bedding plants, but I have had my time so occupied with other matters that I have not been able to find the opportunity of finishing my notes.

I have not very much to alter or to add to what I said on the Bronze and Gold section last year. I have had twenty-four varieties or so on trial this year. At present I think those raised by Mr. Laing, of the firm of Downie, Laird, & Laing, incomparably the best. Of these Impératrice Eugénie, the finest in point of colour, is of too tender a growth for many gardens, but is worth all the care and attention that can be paid to it, and is especially good as a pot plant. As a bedder, however, it is not so good as Crown Prince. This has a much more vigorous habit, and retains the golden yellow of its leaves longer than any other I have as yet tried. It is glorious both in spring and autumn, and does not turn green as many others, such as Beauty of Calderdale, Her Majesty, Beauty of Oulton, &c. It is invaluable, too, as a pot plant for exhibition on account of its good habit, but in order to make a good plant it should be pinched-in from the first.

Brilliancy, another of Mr. Laing's, is also very fine in point of colour; in fact, at times in pots it excels even Crown Prince, but it has not so good a constitution or habit.

For those who require a golden bed with very little marking, I can recommend Mrs. Lewis Lloyd, very dwarf-growing, with a spreading habit; and Sceptre d'Or, of a more upright habit than the last, and making an almost self yellow bed, the bronze zone not being very distinctly marked, and shading off into the leaf, but the gold in the centre and outside of the leaf being very good.

Of the sorts which are by this time very fairly known, I think the best are Duke of Edinburgh and E. G. Henderson, both very much alike, Ebor, and Kentish Hero. These are of good constitution and growth, and though not so fine in their gold or bronze as Crown Prince, Impératrice Eugénie, and Brilliancy, still do not turn green.

Other sorts well worth retaining are Mrs. Allan Lowndes, a fine pot plant; Prima Donna, Fairy Ring, Countess of Kellie, and Princess of Wales. They all require good treatment, especially in the winter, and ought to be planted in favourable ground. Those which I discard are Black Knight, James Richards, and Black Douglas, all of which have their zones too dark, and are apt to turn green; also Beauty of Calderdale, Beauty of Ribblesdale, Sybil, Princess Alice, &c. Their name at present seems legion, Mr. Bull alone sending out forty or so last season, having separated them into three distinct classes, as Bronzes grown for their foliage; Bronzes remarkable for the beauty of their flowers; and, thirdly, those remarkable for peculiarity of shades of colours. Amongst these forty it is probable that only two or three can be worth much, as all Mr. Bull's strain have too much green in them to please me, and it is more probable still, that strip them of their flowers (and it is to be borne in mind that they should be grown for their foliage and not for their flowers), they would hardly be distinguished one from another.

There are three other promising sorts which I have not sufficiently tested yet; these are Reine Victoria, Marquis of Lorne, and Earl of Rosslyn. I have also omitted one which I think may be considered as a Variegated Bronze, called Columbine, raised at Chiswick, and which has a lighter shade of green running across both the bronze zone and the inner and outer rings of colour, and which this year proved very bright and effective. One reason which induces me especially to mention this is once more to protest against the Bronzes being classified as variegated Geraniums, as they have no more claim to the title than any of the old dark Zonal varieties, as Baron Ricasoli, Symmetry, Baron Hugel, &c. They do not, in short, variegate or sport from the seedling in the same way as Tricolors or Silver-edged plants, and we may soon have a strain of Variegated Bronzes.

The next section I come to are the Tricolors; their name again is legion. A list sent me the other day by a grower in the trade contained 113 sorts, and I think for all practical purposes ten or twelve are sufficient. I have found none yet to beat Lady Cullum, and next to it Sophia Dumaresque. I have not yet tried Achievement, Mrs. Headley, Princess of Wales, and some others of the high-priced kinds, as I have not hitherto considered them worth their market price, though Mrs. Headley is likely to be a step in advance even of Lady Cullum. Mr. Pearson has also some fine varieties in Mr. Sanday, Mrs. Edge, Countess of Manvers, and also Edith Pearson, which I have tried and succeeded with. Queen of the Tricolors, which was not good with me last year, was good this. Louisa Smith has not sufficient zone, while Sophia Cusack and Lucy Grieve do not grow. One of the very best I have tried is one of Messrs. Bell & Thorpe's called Macbeth, very stout in the texture of the leaf, good zone, and a strong grower. I have no doubt it will ultimately prove a fine border plant.

Of the Gold-leaved and Gold-edged section I have not much to say. I still prefer Cloth of Gold to Crystal Palace Gem, and where it can be made to grow the old Golden Chain is best of all, but I do not intend for the future to grow any more. Golden Feather Pyrethrum supplies the place of gold-leaved Geraniums without trouble; and where the Pyrethrum does not harmonise there is gold variegated Arabis, the larger variegated Periwinkle, and other hardy gold-variegated plants which do not take up house room, and give comparatively no trouble.

The Silver Tricolors have only proved with me useful as pot plants, and I do not think any of the new ones I have seen much superior to Italia Unita, unless I except Lass o'Gowrie.

Of White-edged Zonals I still prefer Flower of Spring, as being the most compact in its habit, short-jointed, and full of foliage, and if only sufficient use is made of the old plants there is none superior. May Queen (Turner's), and Pearl (Pearson's), are its two greatest rivals, but I confess I still prefer Flower of Spring to either of them. Alma still keeps up its superiority to Bijou, which, though very white in the leaf, is of such bad habit and of so rough an outline as not to be worth keeping. Miss Kingsbury is good, but not so good as I expected.

To quit the subject of Pelargoniums, there are other bedding plants that have been invaluable this summer. First, I would mention Little Gem Lobelia. This for the third year has proved to be all that could be desired; it is the only Lobelia I know that with good growth clothes itself fully with green foliage before it blooms. It is very compact in its habit, free-blooming, short-jointed, but is a much better grower than the Pumila section, in colour like Paxtoni. We only want a dark blue of the same habit to have all we require, and I am in hopes another Lobelia I have tried this year, Indigo Blue, will be nearly as good. The dark blue Lobelia, Pumila elegans, has also done very well with me, and a white, or very nearly white one, called Pearl. I may mention of Lobelia Little Gem, that a row planted from a spent hotbed about the 18th of May was in full beauty by the middle of July, and lasted in good bloom till the end of September, and everyone who saw it said it was the most perfect line of Lobelia ever seen. It began to bloom about the first week in June, and the cuttings were all struck in the spring—early in February.

Ageratum Imperial Dwarf also proved a most valuable plant, good both for rows and beds. Tom Thumb was too dwarf with me, but would be very good for those who like pincushion beds with succulents, as the Echeverias, Sempervivums, and Alternantheras, but which I am obliged to own do not please my taste, as there is too much floricultural millinery about them, and they do not harmonise with other beds. Beds such as that which Messrs. Veitch planted in the large tent at Nottingham are interesting *per se*, and curious for the number of plants that can be put into a very small space, but individually they give me no pleasure after I have once seen them, and ought when they are used to stand in a place by themselves.

More use ought to be made, I think, of Petunias. One raised by Messrs. Bell & Thorpe, called Single Beauty, has some of the richest and most varied colours I ever saw in any Petunia, and from its freedom of blooming and habit of growth it would be sure of making a fine bed.

In spite of all that has been said against Beet, because it is esculent, I still think it by far the best of the dark-coloured-foliaged plants; my only trouble was with the sparrows, which are too fond of it when young. I cannot see that it makes the leaf a whit less beautiful because the root happens to be useful as a kitchen-garden crop; we might as well not grow the Pyrethrum because it is a Chamomile, and puts one in mind of Norton's pills. I have tried four sorts, but found three of them identical—they are Dell's, Osborn's, and Carter's Crimson Beet. Nutting's Dwarf Selected was different, but not so good. Some seed which was kindly given me on trial by Mr. Sutherland, of Castle Howard, and saved by him, was very good and

true, and the plants were very dwarf, and grew to the same height. I think it is the same as the Belvoir Castle strain. I have never seen any plants that contrast so well with the Centaurea as Beet.

Of Calceolarias, the old Aurea floribunda has answered exceedingly well with me again this year, never having seen the inside of a house or pot. The cuttings are inserted in rows in the open ground in light soil, and protected only with a frame, loose straw being thrown over the frame, and the sides earthed-up in very cold weather.

I cannot endorse all that has been said in favour of the Violas; they do not last long enough to please me. They are very good for spring gardening, which is their proper place; but to hybridise back with the Viola cornuta is to my mind merely introducing again an inferior strain of Pansy, and I have never yet seen a bed of Violas satisfactory in August that was also good in the spring. A beautiful effect can be produced in spring by rows or beds of choice Belgian or Show Pansies, and nothing is more interesting than to raise seedlings, and to make use of them in spring gardening, but I am still a sceptic as to the use of Viola cornuta, lutea, Perfection, &c., for summer and autumn. Space warns me to conclude.—C. P. Peach.

FORCING VEGETABLES.—No. 3.

ASPARAGUS.

I believe Asparagus was one of the first culinary vegetables to which the art of forcing was applied, it having been sold in the London markets in good condition and early in the year as far back as the seventeenth century. I am not surprised at this, for, according to my experience, there is no vegetable more easily and successfully forced than Asparagus, and yet the forcing of this and other vegetables is not carried to the extent that their importance demands it should. The high price realised for a hundred heads in Covent Garden during the forcing season would lead one to suppose that either very few engage in its cultivation, or that the demand for it must be very great. Perhaps both causes combine to raise the price, and should, therefore, be a sufficient reason, for all those who can, to force their own Asparagus. I hope to be able to show that neither expensive contrivances nor any very extraordinary skill is required to force this vegetable successfully.

The most general way of forcing this vegetable is by making dung beds, and placing garden frames upon them. For this purpose sufficient manure should be collected in a heap, and well prepared by frequently mixing and turning it, so as to get out all rank heat and steam, and which, for the bed or for external linings to the frame, is the best mode of preparation, a rank heat from the outside, or a thick steam inside, being very detrimental to the crop. The thickness of the bed may be from 3 to 4 feet, and the size a little larger than the frame that is to be put on it, and if leaves are to be obtained, a third of them mixed with dung will help to sweeten and also moderate the heat in the bed. When the frame is on, put the lights on also, and allow it to remain till the heat is well up and the manure thoroughly sweated itself, then level the surface, and beat it down moderately firm. Some would recommend treading it, but I do not advise that, for it is possible to get the bed too firm, and thus prevent the heat from rising; the weight of the soil and of the roots will press the manure firm enough, and cool the bed considerably. Before planting, a layer of soil over the bed 3 inches thick will be sufficient, and the roots should be placed together level, and in regular order, all over the bed. Afterwards cover the whole with some fine light earth, taking care that all spaces between the roots are well filled up, and the crowns covered to the depth of 3 or 4 inches, when the bed may be considered finished, and the lights placed over the whole; if the heat, however, becomes too strong, and the weather is mild, they may be taken off for several hours in the day until the roots begin to grow, but not after that. The treatment of the bed will now consist in giving plenty of air daily, regulated, of course, by the heat in the bed and the state of the weather. Asparagus requires a less degree of heat to bring it to perfection than almost any other vegetable, as witness how soon the heads make their appearance above ground out-doors after a few mild days in spring. A temperature of from 50° to 60°, but not more, with sun heat, will be found sufficient. It will, of course, grow in a much higher temperature if it is necessary to force it for any specified time, but to produce strong heads with colour and good flavour, the above temperature, with proper ventilation and light, will grow it well. If the heads are required in a blanched state, the light must be excluded by covering over with litter or mats; but the flavour is not in any case so good, nor do I think the heads look so tempting on the table, as much of their delicious appearance is destroyed.

I think it is as well at this stage to say a few words about the plants and their preparation for forcing. I am not so particular about the age of the plants as some gardeners are, believing, and, in fact, knowing by experience, that if the bed from which they are to be taken has produced a good preceding crop, and the plants are strong and vigorous, it matters little what age the plants may be, although in the forcing of many subjects—Strawberries, for instance—youth is necessary to secure vigour. In the case, however, of Asparagus it matters little if the bed be from twelve to twenty years old, if the roots and crowns are sound. I find it preferable when much of this vegetable is forced to grow the plants in single rows, instead of in beds of the usual width, because when required for forcing they can be taken up entire, and without that mutilation of the fleshy roots which must result from tearing them out of a bed when they have all become matted together.

But many gardeners have not the space to grow Asparagus otherwise than in beds, and still they force good Asparagus. I have never found that much watering is required when Asparagus is forced on dung beds; generally one good watering when the buds begin to vegetate will be sufficient, and this should be with water of the same temperature as the bed. Some gardeners apply a sprinkling of salt over the bed at the time of forcing, but, in my opinion, that does no good whatever then, and if given at all should be applied in a liquid state with the watering, or, better still, given on the out-door bed the season previous to its being taken up for forcing. Another way of forcing Asparagus is by making up a bed of faggots, brushwood, or any other open material, in the same way as a dung bed, only a foot or so higher; on the top of these a thin layer of prepared manure should be placed, and upon the last the frame, the heat being kept up by external linings. This is a most excellent plan where manure is scarce. Greater care is necessary in applying the linings that the heat may not be too rank, as it will have easier access to the body of the frame than by the mode above described.

Such are the modes of forcing Asparagus generally adopted, and to be recommended not only for their complete success, but also on the score of economy. In many places, however, where neatness and order are strictly attended to, pits heated by hot water are used instead of dung beds, and are quite as successful and less troublesome, though the expense of erecting such places is a matter for consideration if plenty of manure and leaves are to be had. Forcing Asparagus by means of hot water requires additional care, owing to the tendency of fire heat to make the bed too hot and dry. Water must be carefully supplied in quantities sufficient to keep the soil in the best state for vegetation, remembering always that Asparagus does not require a strong heat to force it successfully. Asparagus is also sometimes forced in boxes, and placed in any forcing house, pit, or frame. The roots may also be planted in the borders of the early forcing vinery or Peach house where no Vine roots are likely to ramble, and many good dishes may be thus produced. All these makeshift plans are very convenient when the general crop is likely to run short, or if an extra dish or two is needed at any particular time.

There is one other method of forcing Asparagus, which originated many years ago, but instead of being generally adopted it is confined to market gardeners and large private establishments, where exceedingly large quantities of this vegetable are required. It is that of forcing the roots as they stand in the open ground, either by digging trenches by the side of the bed and heating by dung linings, or by hot-water pipes under the bed; in either case the beds must be covered by a framework of boards and glass. No doubt there is in the end a saving in all this preparation for those who need such large supplies, but I do not think it is a method for general adoption, especially for the small grower.

Forcing may commence any time after the summer's growth is matured and the tops cut off. I saw a bed in Sir Henry Lupton's garden, near Ashford, in the first week of November, from which most of the produce had been cut, and another coming on in a most promising manner. I understood from the skilful gardener, that early in October was their usual time to commence forcing; but I think November is a very proper time to begin. A bed should be made up five or six weeks before wanted, and in order to keep up a proper succes-

sion another bed should be made every three weeks or a little less. A good deal of judgment must be exercised by the cultivator, for dung beds are more or less affected by the weather and the state of the manure when the beds are made up; one bed will not always produce the same quantity as the other. The greatest care must be taken in cutting the produce from off a forcing bed when the shoots are very thick. They should be cut by a long narrow instrument, thrusting it into the ground almost perpendicularly by the side of the shoot intended to be cut; if used slantingly the chances are that you destroy the other successional growths, and very much injure the crop.—Thomas Record.

NOTES FROM A PEACH HOUSE.

In the warm house Early Beatrice Peach was ripe on May 21st, and good; Early Louise followed in a week; in another week Early Rivers and Early Alfred, then came Early Silver, and very soon after it Rivers's White Nectarine. None of the old sorts were within a month of any of these, and those early sorts from the middle house were before Early Grosse Mignonne in the warm one. Malta was the earliest of the old sorts, and is one of the very best under glass. Some trees I kept under glass till July, and then plunged outside; one of these was Magdala, and the fruit from it was better than I believed a Peach could be. This variety is first-rate under glass, but I expect it should be grown on a wall to have it as it should be, unless we have recourse to early starting under glass, and final ripening outside, a method that always gives fruit of the highest flavour. Of the others under glass, Alexandra Noblesse, Nectarine Peach, and, above all, Princess of Wales, were the best. Dr. Hogg, Crimson Galande, and Dagmar are all inferior when forced, but very fine in the cold house.

Of the Nectarines I have less to say, but Albert, Albert Victor, Pine Apple, Stanwick, Elruge, Victoria, and Rivers's White were, as usual, magnificent. One seedling of my own, raised from Hardwicke set with the pollen of Victoria, promises very well, being very like the Stanwick, but early and seemingly having no tendency to cracking. This is its second season of bearing, and I overcropped it and shifted it into a larger pot when it was stoning, so that I did not think it right to send you any of the fruit, but if it goes on as well next year, you shall see what it is. This, then, is the result of my experience in the present season. Mr. Rivers's Early Beatrice, Louise, Early Rivers, Early Silver, Rivers's Early York, Magdala, Alexandra Noblesse, and Princess of Wales gave a complete succession from the 21st of May to the end of September, and with Malta are all that anyone need care to grow under glass with a small amount of heat from January to June.

If Mr. Rivers's new varieties prove as good out of doors, we shall soon cease to hear of the great mass of the older ones. Early Beatrice is quite hardy here out of doors, and ripened even this summer. Early Rivers, Early Silver, and the other derivatives of the White Nectarine will not suit a cold or cool climate, as they are all inclined to be acid. I do not think the progress of the Nectarines is so great as that of the Peaches, for I think some of the old varieties of Nectarines hold their ground firmly as yet; but I trust our old friend may yet live to see as wonderful a progeny from some of his new varieties as he has done from the Peaches, such a success as I believe no pomologist has ever reached before.—W. Kingsley.

THE GOLDEN HAMBURGH GRAPE.

The manner in which this Grape was abused some few years ago will, doubtless, still be fresh in the memory of the majority of your readers; but, strange to say, I took a fancy to it from the beginning, not because it was supported by such eminent authorities as Messrs. Cramb and Pearson, but simply through its excellent quality and appearance whenever I had seen it. My experience goes to prove that many a good new Grape is condemned and destroyed too hastily. A Vine, more than any plant, requires age—that is, four or more years, to bring out and establish its true character and value. Here are two Vines—one in the early, the other in the late house, planted, I have no doubt, at the time they were sent out. I never wish for better Grapes than those which came from the former—splendid berries, almost transparent, and well-shouldered symmetrical bunches, averaging from 3 to 4 lbs. in weight. Besides its fruiting qualities, it is a variety of the strongest constitution, making in each case the most vigorous growth, not impeded in the least by the impure atmosphere of this locality. I consider it one of the best white Grapes we have for early forcing.

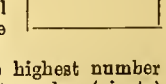
A great deal has been written lately both for and against the Golden Champion, but as I have not seen it growing, I shall wait until next season, when I shall be in a position to send a report upon it, accompanied with a sample of Grapes. The Vines of the last-mentioned have made extraordinarily strong short-jointed rods for the last two seasons; so I think we shall be able to form a tolerably correct opinion of what it will be when thoroughly established.—Thomas Turner, *The Gardens, Beaufort Lodge.*

DENDROBIUM HETEROCARPUM.

We have recently had a plant of the above flowering with greater freedom than I ever remember having seen. Two of the growths, measuring respectively 11 and 13 inches, have produced, the longer eighteen, the other thirteen flowers. I never heard of more flowers on one growth before, although there may have been instances, for the plant is by no means a new inmate of our Orchid houses, having been in cultivation some thirty years. Good old species are often pushed aside to make place for new comers. This certainly ought not to be the case with Dendrobium heterocarpum, for, although it may not be quite so attractive to the eye as some of the genus, it is most deliciously sweet-scented, and its lasting properties should at once make it a favourite; for if placed in a cool house, and kept comparatively dry, it will continue in good condition from six to eight weeks, forming a splendid object at this dull season of the year.—C. J. W., *The Gardens, Ferniehurst.*

LABELLING FRUIT TREES.

I take a thin sheet of lead, and have it cut into pieces about 1¼ inch long and ¾-inch wide; then with a blunt chisel about ⅛ inch wide, upon each label I impress numbers in Roman characters by means of a gentle tap with a hammer. I make a small hole at the left-hand side of the label with a pricker, which can without difficulty be made to penetrate a thin sheet of lead, through which I put a piece of lead wire. The label is then complete and ready for tying on the tree. See the accompanying representation.



It will be noticed that eighty-nine is the highest number that can be made with the chisel, for the next number (ninety) will have a C in it, but I assume that an amateur will not have so many as eighty varieties of any one species of fruit trees; but if a higher number than eighty-nine be required, a C can easily be obtained from some of the shops.

I have a book in which I keep a correct list of all my fruit trees, so that on referring to it I can with ease tell any kind of fruit tree I happen to have, and can almost as easily find such tree. Each page is headed thus—

No.	Name.	Size.	Use.	Remarks.	Season.

In the first column is the number of a tree, and a corresponding number is also on the label attached to the tree. In the second column is the variety of fruit which the tree bears; and the third and fourth columns are respectively for the size and use of the fruit. I generally arrange my fruit into three sizes, No. 1 being the largest, No. 2 smaller, and No. 3 the smallest. The fifth column speaks for itself; and in the sixth column is the month in which the fruit is in season. I number each class of fruit trees separately and distinctly from the others. For Apples, Pears, &c., I commence with No. 1 respectively, and each variety has the same number. If I had ten trees of the same variety of Pear, each tree would have the same number attached to it, and only one reference in my fruit-book.—W. B. A.

Cornick v. Black.—I do not intend to appeal to any third party to corroborate what I have previously stated, nor hold any controversy with Mr. Cornick. My object was simply to state to the best of my knowledge what I heard in Court, and I distinctly remember hearing the defendant's counsel in the course of his address using the words I did, and particularly in reference to some transaction in which more

had been given for some Strawberries (I believe they were) than could possibly be made out of them when they were offered for sale. Surely if the facts were different the statements should have been refuted at the time; if they were I did not hear it, and am much obliged to Mr. Cornick for correcting me and supplying the information he has done. —THOMAS TAYLOR.

[We cannot insert more relative to this trial.—EDS.]

DIAGONAL CORDONS FOR PEARS.

I HAVE frequently advocated in the Journal this style of training, and I have a few more experiences to quote here. That which has immediately called forth these notes is the question of new and select Pears, diagonal cordons being the very best calculated to test the relative merits of such. Here we have planted two walls, which are already producing results. I am thus enabled to state that the observations of some of your correspondents are confirmed, the more so as neighbours—and I may call them pupils in a friendly way—have also by this method given us the benefit of their experiences.

New Pears require at least several years, and culture in differing soils and climates, before they can be accepted generally as standard fruits; and so that method which enables us to ascertain their qualities the soonest must be the most valuable. This the diagonal cordon does better than any other form, the horizontal being insufficiently developed to represent a good-sized tree, being, in fact, antagonistic in idea to such; while the diagonal, representing the natural angle formed by a branch with the main stem, and having a larger area of bearing wood and leaf, holds a position midway between the other forms. Nothing equals the diagonal in simplicity of pruning, for while with horizontals we require dwarfing stocks (which, as in the case of Apple trees on the French Paradise, have the disadvantage of exposing the root fibres to the air whenever heavy rains occur, and this dangerously whenever the border slopes) in the case of the diagonal we are independent of all such considerations. Nor have we any vertical shoots to restrain as in horizontals; the upper side of the diagonal grows freely enough, and is too apt to dwarf the under side, but does not by any means give any real trouble or care. The advantage of removal are equal in either form; their periods of maturity are also equal.

I have nothing to say against horizontal cordons as such; on the contrary, I have just patented a "cordon case" expressly to suit them, which I hope will please some readers of this Journal, and as to such as depreciate what they have not even seen, we must be content to leave the "case" to stand on its own merits. This is the good old way. So I repeat, Grow by all means abundance of horizontal cordons, especially such as suit my "case"—Peaches and Apricots are best—and then you will relish these little improvements in culture, such as the glass cover which slides off, the back which removes, and especially the floor which lowers all at will, the whole of which my old friend at Sawbridgeworth likes very much indeed. With such aids it would be odd if others did not succeed as well as myself in ripening Peaches for Covent Garden before Midsummer-day. This is not bad practice for a case which any lady could attend to. The grandest orchard house could not do more if unheated. Grapes, of course, would do equally well—better, possibly.

Not, however, to wander from our subject, let me confirm what others state as to the beauty and excellence of certain Pears. The one which has most struck me here is the Souvenir du Congrès, which was so beautiful in colour that I made an accurate sketch of it on canvas. It will prove a good market sort for this reason alone, being far more showy than the kindred Williams's Bon Chrêtien, and not unlike it in flavour. I should also think it prolific, for the trees on the wall near it did not bear equally. This specimen was juicy and mellow—to be strictly accurate, not without a suspicion of grittiness in the texture, but not to any damaging extent.

We had many other new Pears from these walls of cordons, grown in pairs side by side, thus testing their relative qualities in the fairest, and, at the same time, the speediest manner possible. These it would be improper to report upon, some being produced on cordons naturally of feeble habit, and requiring another season, and others not being autumnal sorts, and so unripe. But is it not evident that anyone planting a wall of diagonal cordon Pear trees at this time, if he also purchase trees two seasons old (as far as the newness of the sorts allowed), and attending to them with ordinary care, such as good walls call for—is it not evident that such a grower would realise results, gain experience undreamt of before, and, what is of no little consequence, form his own ideas of what Pears suited his taste?

Diagonal Pear cordons double-grafted, as some of mine are, on the Quince, two seasons old, purchased with promising buds —what a change from the days when "Pears were planted for one's heirs!"

Say a grower having a good wall 10 or 12 feet high, wired at the usual intervals—horizontal wiring is the best—purchases two hundred Pears, maiden trees, in pairs of sorts. This will give him one hundred varieties, which he can select out of many old and new Pears. Let him make a good trench along that wall, taking the usual precautions to have a well-drained border filled-in with fresh, maiden soil to place over the tender root-fibres. Then let him lay in the trees at 16 inches interval against the wires at an angle of 70° for the first season, not lowering them to 45° till, say, the third season. Growth should be encouraged to restore root action disturbed by change of position. The shoots should be merely equalised, unless very gross, and the leader steered by a light guiding rod at the proper angle. What mystery is there in all this which a lad would not fathom? Only common observation is needed, and no doubt need be felt as to results. The shoots at the winter regulation will all be cut-in to two buds, and the leader shortened by one-third to a fruit bud. Next summer these two buds will push forth, and these young shoots should be stopped back to 4 inches as soon as eight buds are developed; the second growth to 2 inches as soon as four are seen; the third growth to 1 inch as soon as two are seen. At the winter pruning all these will be cut back. If a fruit bud be clearly visible at the base, we may cut back to it; if doubtful, leave a bud beyond, and the next season will establish it as a permanent bearing fruit bud.

All these rules, seemingly empirical, are, however, useful in practice. After a time one becomes careless, and it is then good to read up the subject again.

The leader should be shortened very little, or not at all; at any rate, if well grown it will soon take care of itself. This supposes, of course, that the fruitful shoots have been well tended, and are becoming thick, healthy, and have plenty of fruit buds. Then the tree seems to advance of itself, and requires the mildest amount of skill. While your neighbours are wearying over the even-balancing of the wings of their "British fane," and covering their walls with slow stages of wood, having to extend each way as well as to rise vertically, your diagonals will be soon covered with handsome fruit, and you a judge of its value by the sure way of tasting. Your hundred varieties, being likewise in pairs, will enable you soon to compete at provincial shows with a dozen dishes of six or twelve fine Pears of varieties quite unknown, even by name, to your neighbours. You may lose the prize you seek for this reason, but it is not much loss after all, and you will still be far ahead of your competitors when knowledge has reached your judges. Remember also to thin with an unsparing hand, and every year you will have the same average of crop to rely on, increased, let me note, by the natural development of the trees.

Should you be dissatisfied with any variety, it is easy to remove it, and the short period which will render the trees fruitful will obviate any long uncertainty. What is the value of such a tree compared to your priceless time and labour?

These are some of the advantages of diagonal cordons. There are other forms, such as the standard, whereby to test varieties, but trees so trained are far longer in producing their fruit, are more difficult to train properly, and do not, as a rule, produce such handsome fruit as those on walls. We hear of splendid specimens grown on standards, and doubt not that for market purposes this is the best way; but where one man can raise a handsome Pear from a standard a score will be found unable to do so.

Let me hint to amateurs, Leave these trees to market gardeners, and to exceptionally good soils and local temperatures, keeping, of course, what suits your gardens for the bulk—shall I say the rougher part?—of your crop, and reserve for diagonal cordons on your walls a good place, and for the very best sort you can find or fancy. In this way all exigencies will be provided for. Where much is required cordons alone will not suit, but they are the most suitable to test new sorts and to grow them for the table, for succession, and for exhibition. It is possible that in these conditions your greatest triumphs will be found; at any rate, a vast amount of knowledge of Pears

will be obtained—a knowledge which will give you power. Already I could direct you to friends or pupils whose thousand trees, all pruned by themselves, would surprise many. What are one thousand or two thousand trees to such men on the cordon system? And think how much they must know of Pears and Apples! Pear and Apple trellises are simply splendid on the diagonal system, though I prefer walls for them. These standard trellises are placed in similar conditions to standards near them—the same soil, the same climate, the same pruner; where one succeeds the other will also. Should you desire many of one choice sort, then have ten or twenty cordons of it. Moreover, it has struck me that anyone planting such a Pear and Apple avenue might with advantage make use of some kind of light portable protection. As, of course, each side of the avenue would be composed of two rows of diagonal cordons (running different ways is best), these protecting shields could be attached between the two rows, which are but a few inches apart, or placed only on one side—that most exposed—at pleasure, thus sheltering both. In the spring they would aid to set the fruit, and be retained till July in position. During July and August they might be removed and replaced for September, only until the fruit was gathered. M. André Leroy used to employ with success straw thinly plaited behind his diagonal Apricots, and the light protecting walls which Mr. Rendle advertises, but which I have not yet seen, seem to me a most practical idea for such cordons.

I must pause here, though there is much to be added, only mentioning as excellent results of what is here advocated, that I had seven Pears of Belle Angevine [Uvedale's St. Germain] on a single cordon, weighing under 17 lbs. This is not remarkably heavy, but the Pear in question is exceptionally loose in texture, and weighs comparatively little. The colour, however, reminded me of the French Pears. We had Chaumontel of 1 lb. weight, General Todtleben very large and good, Beurré Superfin, all Huyshe's Pears, Rivers's Passe Crassanne, Summer Beurré d'Aremberg, Joséphine de Malines, Marie Guise, Dr. Trousseau, and many others, all ripe, and growing side by side, while the next season I am expecting to fruit a whole host of Mr. Rivers's very newest sort.

There are also here a number of Plum cordons, by which I test any sort. Of these, the Transparent Gage is one of the best. Of Jefferson we have too much; though fine, it often lacks flavour here. We have a large fan on a west wall, and two cordons on a south wall, and can say, without having any doubt, where it succeeds best. Many Cherry cordons I have removed, as the trees grow too fast for this style. Many sorts about which I am continually asked have been destroyed, as of little merit. I see them in the lists of all nurserymen the same as ever, and they may suit other soils, but my mind is made up about them.—Thomas C. Bréhaut, *Richmond House, Guernsey.*

CHRYSANTHEMUMS AT MR. FORSYTH'S, STOKE NEWINGTON.

Although Mr. Forsyth has not this year exhibited any of those admirable specimen plants with which he has gained so many prizes, his show of Chrysanthemums is nevertheless the best we know of near London. Indeed since Messrs. Salter, after many years of persecution by the suburban railways, which were ever threatening to take away their ground, and at last succeeded, we know of no place where so many varieties are grown, and grown so well, as at Mr. Forsyth's. Notwithstanding the season is generally acknowledged to have been very unfavourable to Chrysanthemums, the blooms to be seen in his show-house are but little inferior in size and quality to those we have seen in previous years. We noted the following as particularly good—viz., Jardin des Plantes and its sport Bronze Jardin des Plantes, the latter being especially fine; Mrs. George Rondle, Queen of England, John Salter, Empress of India, very fine; White Globe, Alfred Salter, remarkably fine; Golden John Salter, Prince Alfred, Venus, Miss Mary Morgan; delicate pink, one of the new kinds of 1869; Beverley, Golden Beverley, Lady Harding, Guernsey Nugget, Prince of Wales, Lady Talfourd, beautifully quilled; Princess Beatrice, and Lady Margaret.

Of new kinds Mr. Forsyth has an ample store, in which both large-flowering and Japanese varieties are represented; but these are so backward in their flowering that we cannot offer any opinion as to their probable merits. We shall therefore only name a few of them. Mrs. Wreford Major, rose, pink stripe, light centre; Miss Hope, silver white, shaded with lilac; Mrs. Moggeridge, white, shaded with pink, of compact growth; Ondine, and Beauty of Stoke. Of Japanese kinds there are Cry Kang, Criterion, and several others. There was also a promising pale rose Anemone-flowered variety called Princess Louise.

NOTES ON HOT-WATER PIPES, FLUES, AND PROTECTION.

Hot-water Pipes Sunk.—One correspondent tells us that he has studied the pages of the Journal, and has had as many pipes as would have been deemed necessary, and yet even in this frost of merely 8° or 10° he cannot obtain the heat required. It turns out on inquiry that the pipes, instead of being exposed fully on all sides, are sunk in a trench beneath the floor, covered over with stones, with gratings every 8 feet or so to let up the heat, as he was told by eminent scientific men that heat could not be kept down, that it must and would rise and get into the air. We must refer him for consolation to those men in whom he trusted. We shall only say that under such circumstances more than half as much more piping, we would almost say double the quantity, would be required than if the piping were thoroughly exposed.

Another correspondent complains of want of heat; his pipes, too, are placed in a trench, bricked on each side, and shelving nicely from top to bottom. Acting on the best advice, he has had the pipes painted of a mellow stone colour, and in order that no heat should be lost but all radiated, the sides of the trench have been painted of a shining black. The pipes are covered with a grating of iron and of wood, both rather open to let the heat pass freely. Here, too, we may remark that the pipes sunk may not be sufficient, as something like a third more would be required to give the heat of pipes exposed, but as they are they could scarcely have less fair play. For the free passage of heat, the wooden trellis will be far inferior to the iron one. True, heat will pass off from pipes of any colour, and yet the slightest consideration will show that the colouring of the pipes and sides is wrong. No doubt the white-coloured pipes will feel warm to the hand, but, on the whole, the white colour is better for conduction and reflection than free radiation. The colour of the sides is the very best for absorption, and thus takes off the heat into the bricks and the adjacent soil. Make your pipes black, if even with lamp black and a little oil, and the sides very white with paint or lime-wash; then, from the free radiation of heat from the pipes, and the reflection of heat from the side walls, we should be surprised if the consumption of the same amount of fuel did not throw nearly a third more heat into the atmosphere of the house.

Flues.—The complaints are endless, chiefly because, though the furnace bars have been well sunk, and there is a good rise to the flue, the smoke in long flues will come back, smothering you, and refuse to go along as it ought to do. The complaints are trifling in the case of small houses where the flues are short. In flues from 50 to 70 feet in length, when long unused, there is apt to be an accumulation of heavy damp air, even when the flue is clean. In somewhat short flues lighting a wisp of dry straw in the top of the chimney, and when that is flaring, lighting a similar wisp at the furnace, will often make all right, as the heavy damp air will thus be dislodged. But frequently in long flues, not used, perhaps, from March to November, this mode of proceeding will not be effectual, and therefore for them we recommend soot doors, one or two of which when opened, and a small fire put in, with such an amount of draught as would insure combustion, will generally do away with the evil. One gentleman says, "No wonder my flue would not draw; for, would you believe it? on examining the inside not only moisture, but even water-drops hang along the sides. Where could such moisture come from?" We can hardly answer the last query, but we can well believe the statement. We have had sore eyes and nausea besides from a long flue that makes several turns in a long wall after coming from beneath a boiler. Free draught seemed out of the question. The sides of the flue were beaded with moisture, and there could be no free draught until that was dispelled, and we had therefore to open first one and then another of the soot doors, and make a brisk fire in the flue with straw, shavings, and dry wood, so as to heat the flue and dissipate the moisture, and then the furnace drew well. There is another remedy which we have often tried when we were threatened to be smoked out of a stokehole; but though often very quick and certain in its operation we are almost afraid to mention it,

because in careless hands it would be attended with danger, and that is placing a little gunpowder on the lazy incandescent fuel in the furnace. This, when hard driven, we have sometimes resorted to. We have never used more than would be required for the charge of a common gun, wrapped it up carefully in paper, and then put three or four more folds of paper over it, shut the ashpit and other doors, opened the furnace door, and threw the parcel on the burning fuel, and there was plenty of time to get out out of the way before the explosion took place. This rarifies the air, and the draught thus obtained is kept up. We have never known the slightest injury done to anything if the quantity and care were as stated above, but there is danger if done at all recklessly, and that has deterred us from mentioning it, though the plan is often resorted to by washerwomen when they find the draught deficient in the wash-house copper. In such a case less than half the above quantity ought to do. If, however, flues are properly constructed, and have a good rise from the furnace bars, the great preventive against back smoke and want of draught when the fire is lighted at the first frost, is to use a little forethought, and light a brisk little fire now and then in a bright sunny day in September and October. This will secure a dry flue when you want it for use. With all our knowledge of flues we cannot account for this—we have seen two long flues, as much as possible alike in construction, height of chimney, &c., and the one if unused for a twelvemonth would roar away, like a fire out of doors, as soon as lighted, and the other would need humouring until the flue became heated and the heavy air rarified. In short, with flues in houses of from 20 to 30 feet in length there is seldom any difficulty, and if there is the least, a small fire in a soot-box at the bottom of the chimney will make all right. For such small houses, for combining neatness, firing from the outside, economy in first outlay, and economy of fuel, no means of heating will compare with the flue well cleaned and attended to. In all such small houses neatness, efficiency, and comfort in winter will be combined if the flue is inconspicuous and the top of it forms a part of the tiled pathway.

One more word on protection. We must remind our readers that shutting a stable door will not constitute safety unless every opening is attended to. We once lost a fine lot of plants in a pit though no frost could penetrate through the glass. The heat of the summer was so intense that it had drawn, without our noticing it, the wall-plate from its bedding. When the mischief was done we found that in many places we could put our fingers in. In cold pits, too, in severe weather we have known frost penetrate the brick wall when it could not pass in by the glass. To avoid this we have often placed a thin layer of straw tied neatly against exposed walls and sides of frames. Even in the case of brick pits used for forcing, when there was from 3 to 5 feet of brick wall exposed, the covering of that neatly with straw or other non-conducting material made a great difference to the amount of heat required inside. The wall then became a store-house of warmth instead of a continual waster. For this purpose we would much prefer that all such walls should be built hollow; they would be much cooler in summer and warmer in winter.—R. F.

ENTOMOLOGICAL SOCIETY'S MEETING.

The first meeting of this Society was held on the 6th November in the rooms of the Linnean Society at Burlington House. In the absence of the President, Professor Westwood, V.P., was in the chair. The meeting was very numerously attended, and a long list of entomological works presented to the Society's library since the last meeting was read, and thanks ordered to be sent to the various donors. Mr. Charles V. Riley, official entomologist of the State of St. Louis, North America, was elected a member of the Society. This gentleman has recently paid a visit to England and France, and has made some interesting observations on the Vine disease produced by the ravages of Phylloxera vastatrix.

Mr. Davis exhibited a number of admirably preserved caterpillars of Lepidopterous insects, amongst which were various destructive species, especially the great Goat Moth in all its stages, forming a most instructive series of illustrations of entomological biology.

Mr. F. Bond exhibited specimens of Zygæna exalans, a new British Burnet-Moth captured by Dr. Buchanan White in Braemar, and Catocala Fraxini recently captured in the Regent's Park, where other individuals had also been taken; also a remarkable suffused specimen of Sphinx Elpenor, the central portion of each fore wing being almost denuded of scales. The Rev. A. Matthews exhibited Throscus carinifrons and Cryphalus Piceæ, two small species of Beetles new to Britain. Mr. McLachlan exhibited specimens of both sexes of the singular wingless Bittacus, sent to him from North America by Dr. Hagen.

Mr. H. Vaughan exhibited specimens of the dark-coloured variety of Triphæna orbona from Scotland, known as T. Curtisii, but which he considered as a variety of the former, and Mr. Lewis made some observations on the synonymy of the species. The former gentleman also exhibited a singular nearly black specimen of Hipparchia galathea from Kent; and Mr. A. Müller a very large spongy oak gall from North America, also impregnated and unimpregnated eggs of Siballula flaveola.

Professor Westwood exhibited specimens of Formica herculeana, a very large species of Ant, being reputed, but not hitherto proved, to be a British species, of which great numbers had been found in a perfectly fresh state in the proventriculus of a specimen of the great black Woodpecker, Picus Martius, brought to the Oxford Museum, and stated to have been obtained near that city. He also exhibited drawings of two male specimens of Papilio Crino from Ceylon, in one of which some of the veins of the fore wings were partially clothed with brown hairs, of which the other specimen was destitute, the latter being the normal state of the species. Mr. F. Smith exhibited one of the Noctuidæ, apparently belonging to the genus Aplecta, captured alive by Mr. Gwyn Jeffreys at sea, two hundred miles from Nova Scotia.

Mr. Briggs read a paper on Zygæna Trifolii and its larva, detailing the result of his observations for many years past, and arriving at the conclusion that two distinct forms or species of Bornet-Moths had hitherto been confused in this country under that name.

ROOT SHOWS.

Messrs. Sutton & Sons, of Reading, held their twenty-second annual Root Show on the 18th inst. Some of Sutton's Champion Swedes, grown by H. Allsop, Esq., Hindlip Court, Worcester, weighed 28 lbs. each; the whole twenty-four roots averaged 22 lbs. each, and carried off the £10 10s. silver cup. These were followed by some remarkably fine specimens grown by J. Culverhouse, Esq., Abergavenny, F. King, Esq., Eastbury, and W. Joyce, Esq., Waterford. Mr. J. Cave's twelve prize roots of Sutton's Mammoth Long Red Mangold weighed 485 lbs.; one, a perfect giant, weighed 58 lbs. Those shown by Lord Ormathwaite and the Marquis of Ailesbury were also very fine. The Turnip classes were unusually good, but Kohl Rabi was not so fine as usual. Carrots, Cabbage, Onions, and Potatoes were excellent. The Judges were Messrs. Davies, Spearing, and Wilkins.

Messrs. Carter & Co., of High Holborn, also hold an annual Root Show, at which liberal prizes are given. This year it was held on Friday last at the premises of the Pneumatic Dispatch Company, and the different roots exhibited were characterised by great excellence. Some roots of Carter's Mammoth Prize Long Red Mangold weighed between 50 and 60 lbs.; and the Imperial Hardy Swedes were of great size, twenty-four turning the scale at upwards of 4 cwt. The collections included Carter's Champion Intermediate Mangold, the new Purple-top Mammoth Turnip, the Devonshire Greystone Turnip, and the Warden Mangold. Potatoes, Carrots, and Parsnips were also very clean and good. The Oxheart Cabbage from Mr. Robinson, which gained the prize, weighed 70 lbs. The Judges were Mr. Brebner, Norfolk Farm, Windsor, and Mr. Graham, of Bagshot Park.

DRYING FLOWERS.

The articles needed for drying flowers in rotundity of form are, river, lake, or sea sand (this is called white sand, it is sometimes of a bluish grey tint), a wire sieve with a wooden cover to fit its base, a paper knife, and a camel's-hair pencil. The flowers for this method of preservation, as for flat drying, must be freshly plucked, and without dew or any other dampness. Everything about this work must be thoroughly clean. The sand must be rubbed and rinsed in clean water till the water flowing through it is as clear as that from a well. Then put it in clean crockery dishes to dry. It must be perfectly dry and just blood-warmth when the flowers occupy it.

When the sand is of the right temperature, close the cover over the base of the sieve, and pour it in till it fills the whole space beneath the wire cloth. Place the flowers in an upright or natural position by inserting their stems in the apertures of the wire-cloth till they rest firmly in this sand below. Do not crowd them, nor, if sprays or panicles are dried, let the flowers overlap each other to injure their form. Fold a sheet of stiff white paper to make a cone-shaped tunnel, and pour the warm sand through this around and under and within the flowers. The cone should be folded to give the smallest possible stream of sand. After filling in around the flowers, sand must be sifted over them, warm, to the depth of half an inch. Then set the sieve where it will keep the temperature of 70° steadily, till the flowers are dry.—(*Horticulturist*).

Revival of Fruit Trees.—George B. Wood, M. D., reiterates the arguments urged as to the benefit arising from the copious use of potassa salts in the manures applied to fruit trees. This experience bears out the view that the manure should be in accordance with the chemical composition of the plant to be

recruited by it. The form in which he prefers to apply the salt is in that of ashes of plants which contain a large per-centage of it, such as Potato stems, Beans, &c., which contain as much as five per cent. In the autumn of 1869 he dug round the stems of half the trees in an old orchard, which had not borne fruit for five or six years, to the depth of 5 inches, and filled up the space with about half a bushel of fresh ashes. In the following spring and summer a dividing line might have been drawn between the two sections of the orchard, the trees which had been treated with ashes being forward and full in both leaf and blossom, and subsequently presenting a still more marked contrast as the autumn came on, and they were loaded with Apples, while the other trees remained barren. Exceedingly favourable results were also obtained when aged Peach and Plum trees were treated in a similar manner. Crude potash may also be used, but care must be taken that it is sufficiently diluted before it is applied.—*American Philosophical Society, Philadelphia.*

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 22.

I HAVE already called attention, in one of my papers, to the fact that amongst the few caterpillars to be found feeding late in the autumn, that of the Large Garden White (Pieris Brassicæ), is notable. Indeed, I have seen some of these so small towards the end of October, as to favour the supposition that they occasionally hybernate. Most of them certainly enter the pupa state before winter, and passing a garden the other day where many of these caterpillars had been feeding up, I saw a number already in the pupa state, and others about to change. I notice this comparatively trivial circumstance only to show that naturalists are constantly exposed to error through coming to hasty conclusions from imperfect observations. Upon a paling a short distance from the spot where the bulk of them had fed up, a number of larvæ were scattered about, in various positions, each one the prey of the larvæ of the parasitic fly, which is the peculiar foe of this species. There were very few, indeed, which had escaped and become pupæ. Now, the first impression of an observer would be this—"How extensively, in this instance, has the species been attacked by its parasitic enemy?" Yet further investigation proved that these were merely the stragglers. Plenty of healthy pupæ were to be found nearer the food plants; and though the fly had, possibly, made an attack upon a rather larger proportion of the caterpillars than usual, there were not so many sufferers as might be supposed. The caterpillar of Pieris Brassicæ, when thus affected, is smitten with a desire to wander; there is something wrong in its interior, and it cannot understand it; so that when it has ceased to eat it travels away from its food, making abortive attempts at last to undergo its transformation at some distant spot, and there it dies. I find on inquiry amongst my friends, that though very few of the spring brood of these caterpillars were to be seen, the autumn brood has been numerous in some districts in the south of England.

The history of the largest British Moth is so singular and interesting that it ought not to be passed over, though it would be a question for consideration whether it really does commit any ravages of importance. Yet as, whenever it is seen, either as moth or caterpillar, it is regarded by the uneducated (and sometimes by the educated) gardener with dislike, or even with dread, it has some claim to be noticed. The Death's Head Hawk Moth (Acherontia Atropos) appears on the wing in small numbers, in October and November, at a time when insect life is almost stagnating. Still the majority of the individuals come abroad as imagos in the summer, and this for some considerable period rendered the life history of the Death's Head rather a puzzle to us. However, thanks chiefly to the exertions of Mr. Newman, its economy has been elucidated, and proves to be rather peculiar in some of its details. The autumnal specimens of this Moth are mostly females, and though a few may live on through the winter, most of them die without making any provision for the continuance of the species. Those which continue in the pupa state until the year following emerge as moths in June and July, and deposit eggs in the usual way. There is only one general brood of the caterpillar of the Death's Head, and this occurs during July and August.

The Rev. J. G. Wood has given an amusing account of the consternation which pervaded a group of villagers just returning from church, when one of these Moths was discovered resting on the footpath. All drew back in amaze and fear, until a blacksmith, the sturdiest individual of the party, stepped forward, and with a sudden and dexterous spring brought his heavy heel down upon the luckless insect, and people breathed freely. Authors say that it is regarded with dislike on account of the shrill cry it makes, and the skull-like markings on its thorax, but in this case it does not seem to have been heard or closely scrutinised. Probably it shares the indiscriminate dislike with which too many people regard insects of any sort, the feeling being intensified in this instance by the size of the moth. The caterpillar, as is abundantly proved by the communications of entomologists and others to our journals during the last few years, is called in many districts a "locust," or "lokus," a singular designation, and in every way inappropriate. Though occurring in Potato fields, and on patches of Potatoes in gardens (and in some seasons rather plentifully in certain districts, especially in the midland counties), I am not inclined to believe that it does any notable amount of injury to this important vegetable. For instance, both in 1865 and 1869 there were many records of its occurrence, and yet there were no proofs that the Potato crop was diminished thereby. Certainly from the large size of this caterpillar, and the time it occupies in growing to maturity—about two months, I believe—a single caterpillar would consume a considerable quantity of leaves during its career, but I have yet to learn that in the particular season of the year when it is about, much harm, or any, in fact, is done to the Potato plants by the removal of a portion of their leaves, especially those near the ground, and which are already beginning to undergo decomposition. For these, it is said, the Death's Head caterpillar has in several instances shown a partiality. It is, at least, well ascertained that though this huge creature conceals itself sometimes during the day beneath the surface of the earth, it does not gnaw the tubers of the plant.

The caterpillar of which we are speaking, though most frequently discovered on the Potato, occasionally shows itself on allied plants. The Jasmine is established as one of its food plants, and also the Privet and the Thorn Apple, and it is found now and then on other species. As Rennie observes in his remarks on the species, since it appears to be decidedly indigenous, it no doubt fed upon the native species of Solanum and different Apocynæ before the introduction of the foreign species, the Potato and Jasmine, to which it now shows a preference. On the Continent, the Death's Head caterpillar occurs on fruit trees, such as the Mulberry and Pear. It is evident from the habits of the species, that were it necessary to keep it under, an examination of the plants by night with a lantern would be likely to be of more utility than searching for it in the daytime. Nor would it be impossible that this insect should so increase in numbers as to be harmful, but this circumstance is highly unfavourable to it—at the period when the Potatoes are dug up principally, it has gone into the pupa state. Many must be killed by the spade or fork, and others which are tossed on one side with the clods are exposed to the weather, and as it is not very hardy while in the pupa condition, probably most of the latter also perish. No doubt it is a very wise provision for the partial preservation of these pupæ from destruction, that the caterpillars when they have reached their maturity descend some depth below the surface, and thus are not only less likely to be unearthed by man or animals, but they also secure for themselves a measure of immunity from too much moisture and hard frost.

The caterpillar of the Death's Head Moth, like the rest of the Sphingine, is furnished with a horn above the tail, which in this instance is recurved in a way peculiar to the species. If it serves any purpose beyond that of ornamentation, it has not been as yet discovered. There are two varieties of this caterpillar, which differ from each other not only in colour but also in the character of the markings. The moths, however, produced from the typical form and the seemingly abnormal are exactly alike. If annoyed it attempts to drive off its enemy by uttering a peculiar sound, which has been compared to the snapping of electric sparks. There is not, though, anything of an electrical nature about the caterpillar; and though its powers of biting must be proportionate to the size of the jaws, I find no record of any instance of an individual having attempted to defend itself in that way when handled by an investigating biped. But, as I have repeatedly observed, some of the larger caterpillars are by far the most pacific, while such as those of the Buff-tip and Dagger Moths will repeatedly attempt to grip the finger if it is presented to them.

The moth is itself a predatory insect in our gardens, if not of our gardens, which it visits at the dusk of evening, seeking

honey not only from flowers, but from bee hives. The fact, long questioned by some, is undoubtedly well authenticated, that the Death's Head Moth, drawn to the hive as we may suppose by its sense of smell, does attempt to gain admission. If bees had the ability, they might inscribe upon their portals the motto, "All hope abandon, Death's Head Moths who enter here," for should one succeed in penetrating to the interior of the hive, it is dispatched by the stings of the revengeful Hymenopteron and embalmed, since it is too bulky to be removed. An instance was noted only last year where one was discovered in a hive. A correspondent of a scientific journal writes as follows:—"I was preparing to drive some bees located in a common straw hive, and on raising it from the floor-board just by the entrance, I found a very fine specimen of the Death's Head; the insect was quite fresh, and looked as though it had been killed in the most careful manner possible." Why this moth should thus visit bee hives, when many other species whose passion for sweets is as strong or stronger never approach hives at all, is not easy of explanation. Some assert that it does this, because it can intimidate the bees by means of the singular and plaintive cry which it has the power of uttering.

If you should happen to pass during the month of June some freshly-tarred paling, it is very probable you will find that it is studded over with specimens of the moth known as the common Swift (Hepialus Lupulinus), for it has a decided propensity for thus immolating itself. The flight of the species, as of its brethren, is wild and peculiar. Stainton observes that the caterpillar feeds on the roots of herbaceous plants generally; and Newman, in his recent work on moths, mentions the Dead Nettles (Ballots, Lamium) as its favourite pabulum; but it is also a feeder upon the roots of the Potato. I had myself often noted the occurrence of the moth on palings near Potato fields at Battersea, and wondered as to the reason of this, feeling assured that it could be accidental merely. The moths deposit eggs during the summer, and the larvæ, hatching shortly after, feed on until April, and might thus do a good deal of mischief were the species more abundant; at present, however, it is scarcely common enough to excite alarm. The larvæ, being subterranean, could not very well be sought out, but the moths might be easily destroyed by putting into effect against them some device suggested by their habit already noticed, of darting against a tarred paling, which is odorous and sticky.

It will be worth the while of anyone who should turn up a caterpillar of the Swift when he is digging Potatoes, to examine it, and notice how exactly its form is suited for the life it leads. The body is strong yet pliant, nearly colourless; the head provided with powerful muscles and glabrous; the segments which immediately follow the head are protected by horny plates. The legs are sixteen in number, as in the rest of the division of the Lepidoptera to which it belongs.—J. R. S. C.

HOW NOT TO HAVE NICE FLOWERS.

To begin with, beg seeds of all your friends who cultivate flowers; never mind what kind they are; it is not worth the trouble to remember; then when you put them in the ground, of course you cannot arrange them with any regard to height, colour, season of blooming, &c., but must sow them as you have gathered, promiscuously. Lay out your beds in the grass and dig them all of 2 inches deep, but certainly not over a foot. If this is done some wet day the sod will cut easier, and the soil will be in nice large lumps. Dig a hole about 6 inches deep and 2 in diameter among these lumps, pour in half an ounce of your most delicate flower seeds, and if they don't grow blame the one you got them of. If you happen to send to a seedsman for a few kinds, his reputation will be much enhanced by it.

Don't pay any more attention to them until you see other people's flowers in bloom, then pull out some of the largest weeds and wonder why you don't have any luck raising flowers. Don't dig around them for fear of disturbing the roots; don't thin out the plants, for you want to get the worth of your money; don't prune off any of the branches, for there won't be room for so many flowers. Don't pick any of the blossoms, but let them all go to seed, then sit down and say that a seedsman who sends seeds that won't grow ought to be compelled to send enough more to make it up.

Go right back to the friends you begged seeds of last year, and call them mean and stingy if they don't give you as many more. Of course, they can pay a good price for rare varieties, and then distribute them gratuitously with the greatest pleasure imaginable; in fact, you are rather favouring them by accepting. If you have summer bulbs, forget to remove them to the cellar until the ground is frozen up.

When you find farmers can raise Potatoes by planting a bushel in a hill, or excellent Corn without hoeing or cultivating, you will probably produce nice flowers from this sort of cultivation. I have been an eye-witness to several cases of this sort of floriculture.—Loretta E. Knapp (*Rural New-Yorker*).

GORHAMBURY.—No. 2.

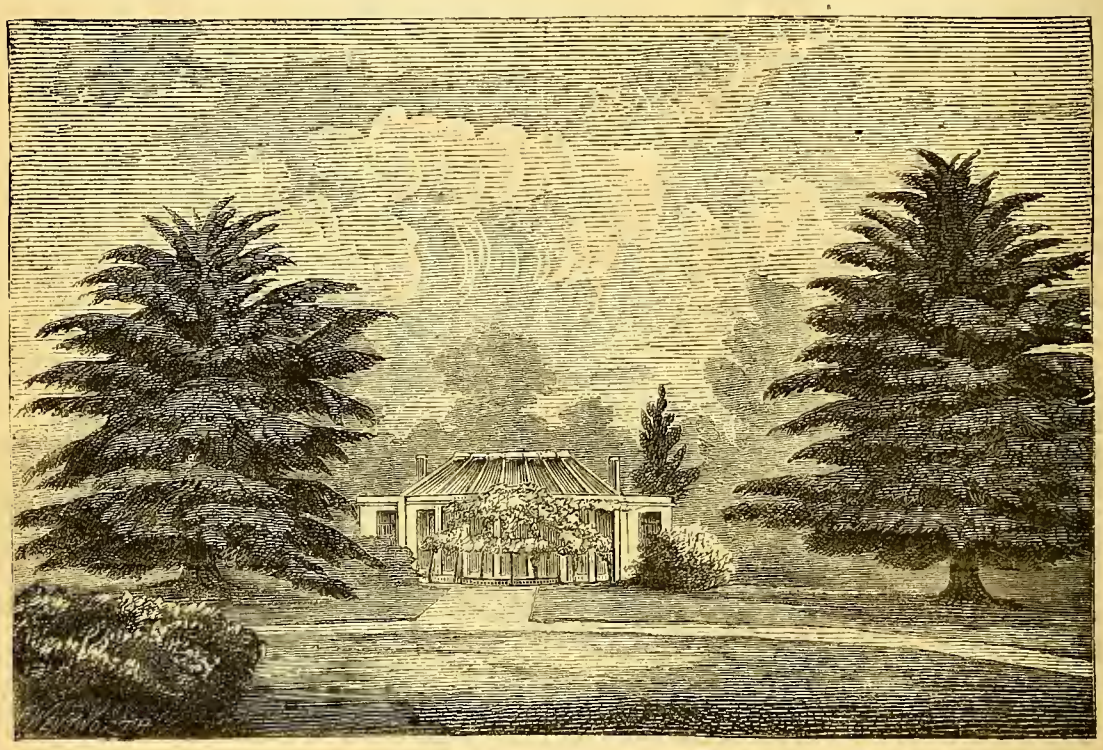
Leaving the flower garden, and directing our steps westward, we come to the conservatory. This used to have a dark roof, but it is now chiefly covered with glass. The tall upright windows and lofty parapet remain as before, the latter hiding the glass roof from view in the grounds. The plants usually met with in September were therein at the time of my visit, but the one which particularly struck my attention—although possibly as old as the building itself—is so far from being common that I am not aware of having seen it before. It is the Cissus antarctica, an evergreen climber, covering the back wall with a verdure equal to that of the Ivy, and like it, too, clinging to the walls by the same means. I do not know whether this Cissus flowers or not, but its lovely green foliage, a great deal smaller than that of the Ivy, seems to be well adapted for covering a dark wall, where Ficus repens will hardly endure the cold. Will any reader state his experience of the Cissus, which at Gorhambury covered a wall at least 60 feet long by 16 feet high? Near to this are several fine Cedars of Lebanon, some with fine clear stems, others branched to the ground. Amongst the former were several particularly fine-looking ones, said to be just sixty-two years old, and presenting a fine, clean, uniform-shaped bole. One, on measurement, was found to be upwards of 11 feet in circumference at 5 feet from the ground, where the bole was as smooth as a ship's mast and tall, with a leader still going upwards.

Following the easy curves of a walk in a south-westerly direction, and passing through a great extent of shrubbery, interspersed with some fine Oaks, we again emerge into the park for a short distance between the dressed grounds and the kitchen garden. Here a fine Oak attracts attention by its healthy appearance, length, and straightness of bole, which, at 5 feet from the ground, is upwards of 16 feet in circumference. Although we are now in the open park, and within less than 200 yards of the garden wall, we cannot see a vestige of it. A belt of trees and shrubbery surrounds it on all sides, serving to afford the shelter so much needed to all within. Externally this belt of trees and shrubbery presents the form of an irregular oval, with its longest diameter north and south, the kitchen garden proper, or that part of it enclosed within the walls, being almost a square, and with a central wall dividing it east and west into two compartments. From this latter a very large slip stretches away some distance to the south, and contains some cold pits as well as heated ones, and the usual appendages of what is called the framing ground. There are Melons and Cucumbers in abundance at the time I was there, as well as good stocks of fine healthy Chinese Primula, Cineraria, and herbaceous Calceolaria, for the whole of which Mr. Bogue, the gardener, is remarkable for having the best strains in the best form. We retrace our steps, and on entering the kitchen garden are attracted by a large breadth of ornamental Beet. This Beet Mr. Bogue has had for upwards of twenty years, having commenced to improve the old kind some years before that time, and he thinks it was as good both in colour of root and leaf twenty years ago as it is now; he therefore, with some justice, claims to be one of the originators of this ornament to the flower garden, though for many years it was simply called an improved Beet, or some such name, in the catalogue of Messrs. Osborn, of Fulham. Grown in a mass, as it was at Gorhambury, nothing could look more uniform, each individual plant being a counterpart of its fellow. Mr. Bogue, I may observe, also grows it in the flower garden, and in many other places, in all of which it looks well.

The forcing houses are against the north wall, with the sheds and other appurtenances behind them. An excellent crop of Black Hamburgh Grapes occupied one of these houses, the bunches of which, though not very large, had good-sized berries upon them, and by their firmness of touch, as well as by the healthy appearance of their foliage, gave token of keeping the usual time. Each bunch was firm and compact, well coloured, and just the size to show well on the dessert dish. Amongst them was a seedling black Grape, somewhat of the Lady Downe's shape, but of exquisite flavour, having a decidedly Muscat taste,

more so than I remember to have noticed in any other Grape partaking of that nature. I omitted to inquire of Mr. Bogue the history of this Grape, but I hope it is not destined to linger unnoticed in its present abode, as I believe it is as hardy as the Hamburgh, colours well, has round berries, and foliage of a healthy hue. The next house contained some of the best Muscats I have seen this year, there being scarcely a vestige of shanking or spot, from which causes in many places the crop is destroyed. Such a house of Muscats many a person would be proud of, and Mr. Bogue said they had been equally good last year, and for several years before that; thus showing that with careful and skilful management, and a judicious preparation of the border at first, this fruit may be grown without shanking. Neither the house nor the border is in any way remarkable, but both the Black Hamburgh and the Muscat of Alexandria were all that could be wished.

But lest the reader may think that I have overpraised the Grape culture, I will mention a fruit with which the results have been very different, that is the Peach. Mr. Bogue has failed to secure good Peaches from the walls after many years' trial, and frequent planting of new trees, until at length he has entirely abandoned growing them out of doors, and keeps some in houses as healthy and in as good bearing condition as could be wished. This difficulty in obtaining Peaches on the walls is not confined to Gorhambury, for we have heard of it in many places, but here it was plain enough. On the forma-



CONSERVATORY AT GORHAMBURY.

tion of the last Peach house, Mr. Bogue having a good space of south wall to spare, determined on one more effort. The soil was removed and fresh wrought in of the same kind as that used for the trees to grow in in the new house, but all in vain, for after a year or two they dwindled away, and there only remained some wretched-looking objects compared with those under glass and with some Apricot trees by which they were associated. The Apricot does remarkably well here, there being a wall of considerable length devoted entirely to those trees, from off which good crops had been gathered during the present season, and the same had been the case with Peaches in the houses, the latest one hanging still in fruit. On the other walls were excellent crops of Plums and Pears. Amongst the former I noticed as good, Pond's Seedling, Reine Claude de Bavay, Jefferson, Victoria, Golden Drop, Magnum Bonum, Kirk's Plum, Green Gage, and several others, the early ones having been gathered. Pears were also represented on espalier trees by the sides, as well as on the walls, while there were several open standards of Pears and of Apples in the west slip.

Extensive slips for the growth of fruit or vegetables surrounded the garden on all sides but the north, which might be called the back of the garden, and in these slips were crops of fruit good for the year, seeing that Apples and Pears are very scarce this season in most places; and although the crop here was not so heavy a one as that of last year, it must be pronounced a good average one. The Celery I saw in the kitchen garden was most excellent. Mr. Bogue has endeavoured to improve this important vegetable, and by selecting the best varieties has, in the course of years, succeeded in checking that tendency to run to seed which most kinds of Celery have when grown too early. Solidity of stalk and hardihood are also essential, and the quarters of this vegetable showed an evenness of growth, proving the uniformity and good qualities of the kinds grown. Mr. Bogue told me that he had not been so successful with winter Broccoli, the disasters of last season proving too much for all the sections of this numerous family, excepting a few of the very latest. Let us hope, however, that a winter like the last one will not often be repeated, and that the growth of this vegetable, checked as it has been by the dry weather in August and September up to the 22nd, will not partake of too much grossness after the autumn rains set in. This was the misfortune of last year, when mild growing autumn weather almost up to the time of severe frost, caused many of the winter crops to become quite 5 feet high, and as tender as a greenhouse plant. We are now led by our worthy cicerone to an open spot in the park, whence a good view of the surrounding country is to be obtained. Near here the former mansion of Gorhambury stood, the residence of the great Chancellor Bacon, and an old Oak is still pointed out as his favourite tree. The traces of that edifice have, however, been too completely obliterated to leave sufficient marks to judge of its character. Another building has also stood near at hand, but whether older or more recent than the one occupied by the great philosopher we are not able to say.

Great places like Gorhambury, however noble in themselves, are not always supplied with all the modern improvements so essential to comfort, and here an ample supply of water has been long felt a necessity. For many years a deep well and horse pump were the means of supplying the mansion, but the pump being at some distance, Lord Verulam determined to dig

another well of great depth in a more convenient place, which has been done, and fitted up with improved machinery. In such places rain water is prized, and Mr. Bogue has all that can be caught preserved in tanks, and only when these are empty does he resort to that from the well, as chalky water is injurious to most plants.—J. Robson.

VERSCHAFFELTIA SPLENDIDA.

The magnificent Palm here pourtrayed is a native of the Seychelle Islands, belonging to the dependencies of the Mauritius, and when first introduced to our gardens, in 1864, was known by the provisional name of Regelia majestica. The stem is slender and of somewhat quick growth; as it increases in size it sends down adventitious roots, which in the form of an inverted cone ultimately serve to support the tree after the manner of the genus Iriartea of the American continent, and

VERSCHAFFELTIA SPLENDIDA.

give to the plant a most singular and picturesque appearance. The stem is profusely clothed with very long black needle-like spines, which spread around it in a fanlike manner. The petiole is short, with the exception of the large, broad, sheathing base, which completely envelopes the stem, the latter portion being abundantly armed with long black spines, whilst the footstalk is only about 6 inches long and perfectly smooth. The leaves are entire, broad, somewhat serrate at the edges, and deeply bifid at the apex; they are of a rich bright green in colour, and in a plant of some 3 or 4 feet high the blade will measure from 3 to 4 feet in length and nearly as much across. One of the peculiar features of this plant is its broad entire leaves, which is one of the distinguishing characteristics of the genus.

Verschaffeltia splendida is the only true species in the genus, although we have another in our gardens which is at present recognised as a second species. I allude to V. melanochætes. This plant, although similar in habit in a young state, entirely differs in character with age, producing broadly pinnate fronds; and its seeds, moreover, which is a more certain indication, will entirely separate it from the species now under consideration. I shall now add a few remarks upon its cultivation.

Many gardeners do not like it, and say that it is difficult to grow. I can only tell them that no plant can be more easily grown into a fine specimen, and that those who fail to appreciate the beauties of this plant must indeed be extremely difficult to please. It is majestic in appearance, and so thoroughly tropical in aspect that it has never failed to strike me as one of the most superb introductions of recent years.

Referring to the culture of Verschaffeltia splendida one point must be thoroughly impressed upon my readers, and that is, it must have an abundant supply of heat and moisture to develope its beauties. All growers of Palms may accept this as a golden rule, that the more spiny the character of the particular

plant or plants under their charge, the greater the amount of water necessary. Having proved this to be the case, I am not an advocate of very large pots or tubs for these plants, but prefer using a pot in proportion to their size in a young state, and as they increase in growth confining them somewhat, supplying the deficiency by an extra supply of water. The soil I prefer for this plant is a mixture composed of about equal parts of good peat and loam, with sufficient silver or river sand to make the whole gritty, and not pressed too hard down into the pot, as I have found it, especially in the young state, grow more rapidly when potted rather loosely. In addition to its highly decorative character in the plant stove and the exhibition tent, I have frequently seen this plant used when young for table decoration with excellent effect; and where the artificial light does not proceed from gas, it can be done with less fear of injury to the specimen, which is always a matter of vital importance to the gardener.—Experto Crede.

[We are indebted to the kindness of M. Rothschild for the portrait of this Palm, which was published in M. Alphand's "Promenades de Paris." If a coloured portrait of this Palm is wished for, it may be referred to in the "Flore des Serres," where M. Van Houtte observes, "This Palm and Stevensonia seychellarum at present are the more majestic ornaments of our hothouses."—Eds.]

WORK FOR THE WEEK.

KITCHEN GARDEN.

Continue to attend to previous directions and make all possible speed in carrying them out in suitable weather. See that a store of dusty earth is procured and kept convenient for protecting early Peas and Beans, for shaking among Lettuces, young Endive, late Radishes, and similar crops if we get much wet. Dry dusty loam, with a little dry lime rubbish, or old mortar pounded, sifted, and mixed together, will not only prevent the injurious effects of frost, cold rains, and canker, but will greatly improve the health, sturdiness, and luxuriance of the plants when the growing season once more arrives. Take advantage of frosty mornings to wheel manure on quarters where it will be wanted, and let all spare ground be trenched and ridged as soon as possible. *Endive* is blanched for salad and kitchen use by various means; the method I prefer is, after tying it up when perfectly dry, to cover with dry leaves as much as requires to be blanched at one time, throwing a little long litter over them to prevent their being blown about. *Celery*, *Cardoons*, and *Leeks* should be earthed-up in dry weather. *Broccoli*, *Borecole*, &c., the ground may still be hoed between the rows, also that between *Winter Spinach*, throwing it out to 16 inches apart.

FRUIT GARDEN.

Planting young trees and removing others should be proceeded with as expeditiously as possible, for the sooner this kind of work is finished for the season, the less trouble will be required in watering next spring and summer. Pruning and nailing should now be proceeded with every fine day, even although it should delay some other work which can be done with more comfort in bad weather than nailing; it is most important to get the latter done while the weather is mild. Nailing is a cold-enough job for even a warm winter's day, but to turn men out to it in very cold or wet weather, and to expect them to do a fair day's work, indicates bad management.

FLOWER GARDEN.

Now is a good time for taking-up and laying down Box edgings. This is also a good season for altering the surface of the flower garden. It is, perhaps, the best season of the year for laying down turf as far as regards facility and success. If the ground is newly made see that it is rendered perfectly solid before laying down the turf, so that there may be no giving way afterwards. When all is laid down it ought to be well beaten all over with the turf-beetle, which will close the edges of the turf, flatten-out the surface, and level down all irregularities. Follow-up the directions given, especially where neatness and order are required, bearing in mind the necessity of removing all leaves and rubbish to a convenient spot at some distance, to decompose as well as to destroy the eggs of insects. Dahlias temporarily placed heels upwards under cover to dry, should now be carefully stored away for the winter. See that coarse plants which may be encroaching upon their weaker neighbours are reduced so as to occupy their proper places. Gladioli may still be planted, but most kinds of bulbs are now better in the ground than out of it. For Gladioli choose a warm, thoroughly-drained situation, work the soil well by deep digging, and add plenty of rotten manure. Elevate the bed or patch a few inches above the general level, plant the bulbs 5 or 6 inches deep and 6 inches apart, and surround them with 1 inch of sand before covering with soil. Protect during winter against excessive wet and frost with a thick layer of sawdust, old tan, dry litter, and old carpet-thatched frames, or tarpaulin. The three last-named coverings must be removed during favourable weather, and the former coverings entirely cleared off when the plants appear. As tree leaves are always in request, either as fermenting material or for leaf soil, they should at this season be carefully collected. If they are required only as a manure, they may be stowed away in any bye place and left to decay; but if, as is generally the case, they are in demand as a cheap mode of furnishing bottom heat for forcing different kinds of vegetables, some pains should be taken to keep them dry. For this purpose they should be stacked-up in some back place, and after allowing time for them to settle, put on a coat of thatch to effectively secure them from rains. By these means they will be found in a fit state for use for some time to come. Should any surface soil of the pots of Auriculas assume a wet mossy appearance, it will be evident that the drainage is affected, and the sooner it is examined the better it will be for the health of the plants. Water must be given sparingly, and constant attention will be requisite to insure a finer bloom in spring. When I say constant attention, I do not mean that anything very laborious will be required—in fact, the success of all cultivators of florists' flowers depends more on their attention to details than to any hard work applied at intervals. Carnations and Picotees which have been placed in frames after potting must be gradually inured to the weather, for like other hardy plants of the Dianthus genus, they are extremely susceptible of confinement and consequent damp. As for Pinks and Pansies, the only attention they will require at present is to fasten them after the frost, and to keep them free from worms.

GREENHOUSE AND CONSERVATORY.

Chrysanthemums, in most instances, will be the chief feature of attraction here at present, and where they are largely grown, which they should be wherever there is a demand for flowers at this season, they make a fine display, and are worth every necessary attention to preserve them in beauty as long as possible. They are very impatient of a close rather warm atmosphere, and if the house contains plants requiring this treatment, the Chrysanthemums should, as far as practicable, be placed in the coolest part where air can be given freely on every favourable opportunity, for unless they can be rather freely exposed to air their foliage is soon attacked and disfigured by mildew, especially if the plants are bushy and well grown. See also that they are kept well watered at the root. Use fire heat only when absolutely necessary either to prevent the temperature from falling too low or to dry the atmosphere. If Geraniums, Cinerarias, and Calceolarias must be wintered in the same house with Heaths and other hardwooded plants, they should be kept as much as possible by themselves, as they will require a somewhat closer temperature than hardwooded plants. The bulbs of the various Japan Lilies should now be shaken out and repotted in pots of a size to correspond with their strength. This beautiful family of plants delights in a good holding fibrous loam with a portion of coarse, clean, sharp sand, and a good supply of charcoal intermixed; the pots to be well drained, and a good portion of rubbly charcoal laid over the drainage. The bulbs only require to be just covered, while the pots in the first place should be only two-thirds filled, for as the plants put forth abundance of roots for 2 or 3 inches up the stem, they may be considerably assisted by earthing-up in spring. Roses for early forcing should be pruned by this time, and placed where they will, at least, be safe from heavy rains. Where American and other shrubs are used for forcing, they should be taken up and potted without delay, placing them in a cool pit until they are wanted for forcing, or in a turf pit, where they can be protected from severe weather by straw mats, shutters, or other covering.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Cauliflowers.—As yet we have found the mode of protection described as given to banks and borders of plants in the open garden effectual, so that fine heads have been gathered, and none that received the protection have as yet suffered. Much,

we think, depends on the long litter placed between and well up the stems, which is not touched, and helps to keep the ground warm. The little that is laid over the top of the plant is lifted off in a fine day and replaced when the evening threatens to be frosty. We suffer least from the attacks of intruders when the plants thus stand in the open air instead of being taken up and put in earth pits.

Lettuces have also as yet stood well; but as it is advisable to be safe we emptied some space in frames, and filled it with Lettuces fit for use and approaching their best. Celery we covered for several days and nights when the weather was severe, but on a change uncovered at once that the heads might be kept green and hardy. A nice piece of Radishes out of doors has been kept well by placing a sprinkling of rough hay over them on frosty nights.

Put more roots of Rhubarb and Sea-kale in the *Mushroom house*. We earthed-up a second piece of a bed, spawned a third, and got a fourth piece in preparation, as we chiefly depend on many and small successions. The platform or shelf bed that we stated had become rather cold is now coming in nicely, the heat being restored by the manure that was placed on the ground beneath it, and where a bed will shortly be formed. Many such schemes must often be resorted to. We have a bed just now that has cooled too suddenly and is not yet spawned. If some simpler modes fail to restore a gentle heat we will mix some barrowloads of fresh horse droppings with the bed, and tread and beat it down afresh. This will give us all the heat we want, but with a loss of time. At this season of the year the easiest way of getting a mixture of droppinge and short litter sufficiently dry is to throw them into a compact heap and cover them with a little long litter. This will cause them to heat rather violently and so far lose a part of their fertilising powers, but then you get the material quickly in a suitable state of dryness. Some of the best Mushroom beds we ever had were made of tree leaves that had been collected damp, and placed in a heap until they heated so strongly as to destroy all spores of fungi, and send all slugs out of the way. All the outside of the heap not sufficiently heated to effect these objects was removed, and the central part chiefly taken and made into a bed from 12 to 15 inches deep. This, as the temperature moderates, will retain a mild heat a long time, and on being surfaced with 2 inches of droppings it was spawned, and, when there was no danger of overheating, from half an inch to an inch more of droppings was placed over it. The chief drawback to using leaves more freely for Mushroom beds is that they often contain the spores of many fungi which would thrive well in the mild heat of a Mushroom bed. Other manures, as a little green grass, would contain nitrogen; but they are apt to bring spores along with them, many of which would survive a high temperature, and would soon destroy the spawn of the cultivated Mushroom.

Cucumbers.—We have just, on the 25th, pulled out the plants from five lights in a pit, as we much wanted the room and though the Cucumber plants were vigorous and healthy, the fruit did not swell to our satisfaction, partly from deficient heat, but chiefly because the plants lay on the soil in which they grew. For all winter work the plants will thrive better when they are trained to a trellis a foot or more above the soil. When we used to have Cucumbers very early by dung heat alone, we found they did best thus free of the soil, even if the trellis was nothing better than a limewashed old hurdles laid across the bed. We have been rather uncertain what to do with Cucumbers lately, because our early-spring Cucumbers have continued to succeed so well in a small pit heated by hot water. We forced ourselves to destroy part and plant afresh. Another part is still producing so profusely that we have let it remain. The sort is Cox's Volunteer, a most prolific kind. We obtained stout plants to fill the space, but were rather afraid of them, as there was only a wooden division between them in a pit slightly heated and chiefly filled with Scarlet Geraniums in bloom. We could not well move the plants, so we put a mat in addition on the cold side of the wood division, tied some straw round the wall, and in the evening put a mat on the glass, and thus we have kept them all right, although the thermometer was not above 55° on the cold nights. In the proper pit, as we have not enough of heating power without making the pipes hotter than we like, we think that some of the success is owing to covering the glass in cold weather at night. Of course we make no reference to the Cucumber disease, for when it troubled us we adopted a similar treatment. We might have removed the young plants referred to from the comparatively cold pit into the warm one, but we were unwilling to do so until the latter was thoroughly cleared out, washed, and lime-and-sulphur-painted.

FRUIT GARDEN.

By turning over some of our beds we managed to get some Strawberry pots, where there was the slightest bottom heat, under glass. We cannot find space to tell how, how by clearing, &c., we prepared the five-light pit for the reception of Strawberry plants next week, leaving it a couple of days open to get frost, it being also an enemy to all insects. The Strawberry pots in beds on the hard soil kept well with the slight covering of litter, and we might have let them remain so, but by moving bedding plants from earth pits we obtained more room. We got under protection the most of the Strawberry plants that we do not intend moving on slowly.

ORNAMENTAL DEPARTMENT.

The chief work was having the last of the Calceolaria cuttings inserted in a cold pit, and getting the whole of the flower beds—unfrosted and frosted—cleared away, and moving against our will lots of bedding plants under Vines, because we felt we were scarcely sure with so many boxes of struck cuttings laid across earth pits under old rickety sashes. The little rough litter has hitherto kept all right, and the place thus occupied came in for the Strawberries.—R. F.

TRADE CATALOGUES RECEIVED.

James Dickson & Sons, Newton Nurseries, and 102, Eastgate Street, Chester.—*Catalogue of Forest Trees, Ornamental Trees, Shrubs, Evergreens, &c.*

Peter Lawson & Son, Edinburgh, and 20, Budge Row, Cannon Street, London, E.C.—*Catalogue of Forest Trees, Shrubs, &c.*

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

GORHAMBURY.—Through an accident on the machine last week, a portion of the references to the plan of the flower garden at this place "dropped out." These should read, "A A, Raised terrace walk, 20 feet wide; B B, Walks 10 feet wide; C C, Grass slopes; D D, Grass verges; E E, Grass plots; H, Mansion; G, Portico; 1—1, Geranium Mrs. Pollock; 2—2, Verbena Purple King."

POTTED PLANTS IN BEDROOMS (*S. H.*).—They are promotive of health. They purify the air. The carbonic acid they emit at night is too trifling to deserve consideration. We refer to growing healthy plants and those not having powerfully fragrant flowers.

COPROSMA BAUERIANA VARIEGATA (*J. A.*).—It is a greenhouse evergreen shrub of the Nat Ord. Cinchonaceæ. It is easily propagated by cuttings in gentle heat. It is a native of New Zealand. The directions given for cultivating Gardenias in the "Cottage Gardeners' Dictionary" are suitable to the Coprosma.

A CUPRESSUS (*A Lady, The Knoll*).—The plant referred to is the Cupressus torulosa, and we do not think it would train well over a window, and it has proved itself rather tender in many places. We think a variegated Ivy would suit you better. Pretty as the foliage of the Ampelopsis is in autumn, there is the litter of its falling leaves. Jasminum nudiflorum is a climbing evergreen of handsome growth, and produces a profusion of yellow flowers in winter and spring—in fine seasons a sheet of yellow; the flowers, however, are scentless. The common white Jasmine is very sweet, but it loses its leaves in winter, and does not grow so fast.

STRAWBERRIES FOR MAY EXHIBITION (*President*).—You should introduce your Strawberry pots about the middle of February, beginning with 45°, and rising gradually in a fortnight to 55°, and then to 60°. We should not think of repotting your plants in 48-sized pots now, but when you get your flower trusses up you might set each 48-pot in a 32-sized pot, with some good compost at the bottom. The Peas to come in the first week of May, should be sown in January, as they will not stand much forcing.

VINE FAILURE (*Subscriber, Co. Donegal*).—We cannot account for the Vines succeeding so badly. The want of artificial heat would not prevent the Vines growing freely. A little heat might be of advantage in maturing wood and fruit. With your preparations of soil, the Vines ought to have done well, if you have not overdone them with rich food. Sometimes the planting and watering afterwards will have great influence. A twelvemonth ago last spring, we saw Vines planted inside of a house having a very miserable appearance. It was said they were regularly watered, but though the surface soil was somewhat sodden for 3 inches down, where the roots commenced the soil was very dry. A good watering recovered them at once. We have no grounds for supposing that this is your case, but it may be looked to.

FERNS—HEATING A PIT (*Conifer*).—Purchase the "Fern Manual," price at our office 5*s*. "The British Ferns" are treated of more fully in a separate work, price 3*s*. 6*d*. at the office. You will see much about heating by flues in late numbers, and also in the present. We hardly know your purpose, otherwise we would advise you more definitely. If you merely want to save tender plants, then you cannot do better than run a flue through the pit, and place a stage for the plants over it, and we would have the stage so that we could raise and lower it at pleasure. If you wish the flue to act instead of hotbed manure, then it would be as well to take it along near the side, and return it on the other side. Lay rough slabs across 6 to 8 inches from the flue, fill the cavities between the slabs with clinkers, &c., and on this flooring place the soil. A simpler plan would be to surround the flue with open rubble, cover 3 inches or so with

the same, and then an inch of fine gravel, on which place the soil. In either case you must have upright drain tiles every 4 feet to let up heat, and moist heat when necessary.

Pears Shrivelling without Ripening (*A. F.*).—Madame Millet and Triomphe de la Pomologie are varieties which require extra warmth to enable them to perfect their fruit on the tree. If fruit is not so perfected it never ripens in the frnit-room. The juices have not been so elaborated as to accomplish by mere warmth the changes needed to form the sugar and the flavour. The requisites for ripening, and the chemical changes during the process, are fully detailed in Johnson's "Science and Practice of Gardening."

Sowing the Heps of Briars (*S. W.*).—The heps of the common Briar should be gathered in the autumn before severe frosts set in, stored in pots or pans, covered with sand in a cool place, and kept safe from the inroads of mice, which are very fond of them. They can be sown in rows in the following spring, much in the same way as haws, but not so thickly, about the end of March or beginning of April; and the rows should be well watered from time to time, especially if dry weather set in. If the season is favourable most of the seed will germinate; but it is better to leave the rows alone for a second season, both to strengthen the growth of those that have germinated and to give any seed that has lain dormant a chance of germinating. At the end of the second season transplant the young plants into rows about 3 feet apart, allowing 10 to 12 inches between the plants in the row, cut back freely so as to encourage growth from the base; and bud those that are sufficiently strong in the following autumn, budding low so as to make dwarfs. The advantage of using Briars raised from seed is, that by doing so it ensures a healthier growth, and more uniform growth, and the plants are not so liable to die off as many Briars transplanted from hedgerows are through having their roots injured. The plan is likely to succeed best where the soil is strong and not suited for the Manetti stock. The reason it is not oftener adopted is that it takes longer time than many nurserymen care to devote to it; but it would well repay the amateur who chose to devote his attention to it.

Jasmine not Flowering (*Idem*).—Is often a shy-blooming plant. It is better to thin-out and train-in the stems rather than to prune back too freely; and the soil—strong loam with a clay bottom—would induce a luxuriance of growth, which might very likely be advantageously checked by root-pruning. We are not usually an advocate for such severe measures, but if the Jasmine continued to be very shy-blooming we should try root-pruning one-half of the plant at a time, and thinning-out over-luxuriant growth so as to encourage the wood to ripen, only do not allow the plant to suffer from the want of water in dry summer weather.

Propagating Roses (*Ignorans*).—Tender Roses, Teas, Noisettes, and some of the Hybrid Perpetuals can be struck in spring, or grafted on Manetti stocks in heat, or budded. The wood that strikes the most readily is that which is taken from flowering shoots which have been slightly forced in pots. Teas and Hybrid Perpetuals procured from nurserymen now, may be kept in cool greenhouses or pits with plenty of air and light; and when they have done blooming in the spring cut off the flowering and other shoots before they start a second growth, leaving a small heel of the old wood, and strike them in a propagating pit with good bottom heat, taking care not to keep them too close. The soil used should be light and open, with plenty of silver sand, and a good moist top and bottom heat ought to be maintained, but giving more air than the generality of cuttings require. To avoid mildew, dust with a little flowers of sulphur if there is any sign of it. The end of February and all March is a good time for the operation. The young tender shoots may also be struck, but it requires the care and attention of an experienced propagator, and the Roses are apt to be very tender; in fact, it is our opinion that Roses grafted in heat on Manetti stocks never make quite such good plants as those budded in the open air; and in the same way, when striking Roses on their own roots, it is better to avoid too much heat. When struck, the young plants should be potted-off early, care being taken not to break the young white roots, plunging the pots in bottom heat, and giving air early in the mornings at first. Repot as soon as the roots are showing well round the pots and give plenty of air eventually. Care should be taken not to let the young roots suffer, either from too great bottom heat or from want of water.

Climbing Roses for an Arch (*Constant Subscriber*).—Four good Roses for covering an arch in an exposed situation are Général Jacqueminot, Gloire de Dijon, Sir Joseph Paxton, and Aimée Vibert. We should recommend them on the Manetti stock. Many other Hybrid Perpetuals as John Hopper, Madame Clémence Joigneaux, Boule de Neige, and Charles Lefebvre would cover an arch.

Netting—Manuring Roses (*Black Edge*).—We recommend Haythorn's hexagon Nottingham net, thick material, especially manufactured for protecting fruit trees; it is equally useful at the time the fruit is ripe, to protect it from the ravages of wasps. It is better stretched at least a foot in front of the trees, putting a coping either of wood, or better still of glass. The netting can be obtained of any London seedsmen, or direct from the manufacturer, Mr. Haythorn, Nottingham. The nets should be put on as soon as the first blossoms begin to open, and removed on fine days. The netting is equally good for Apples, Pears, and Plums as for Peaches, Nectarines, &c. You are quite right in applying the decayed manure to the roots of your Roses, as well as on the surface. The manure applied to the roots should be well incorporated with the soil, and not in lumps, and the manure on the surface should be longer and less decomposed, so as to act as a mulching during winter, and a protection against cold. If your soil is poor you have done right to manure the fruit trees, but as a general rule it is better to apply the manure at the surface to encourage surface-rooting. Four hardy Roses as climbers are Général Jacqueminot, John Hopper, Sir Joseph Paxton, and Felicité Perpetué. The above are not intended to cover a very large space. Of more tender Roses to cover a large wall, select Maréchal Niel, Céline Forestier, Gloire de Dijon, and Devoniensis.

Seedling Primula (*F. Holmes*).—The pips are large and well fimbriated; but they were too much bruised to judge of the colour. Why not send a plant to the Royal Horticultural Society's Floral Committee?

Vine Border Making (*J. H. G.*).—You will find the details in No. 542 of this Journal.

Orange Trees from Seed (*Inquirer*).—We are not surprised at your seedlings not having flowered at three years old from the pip. Your best plan would be to graft or inarch upon them scions of a fruitful tree and established variety, as the Tangerine, Mandarin, or Otaheite, if you wish to have a dwarf-growing kind. From the middle of March to the beginning of April is the best time to graft or inarch. If you wish to hasten the flowering of the seedling Orange trees, you should graft them, even if you place the scion on its own stock. On their own roots all seedlings are longer in flowering than on a foreign stock, and we have known seedling Orange trees not flower until they were nearly a dozen or more years old. On the other hand, we have known instances of their having flowered within six years. Hardwooded greenhouse plants of most kinds may be propagated by cuttings.

Dodder (*S. P.*).—We know of no mode of destroying Dodder without interfering with the plants it victimises. We should cut down the Lucerne patches close to the soil's surface as soon and as often as detected, and manure the patches with salt.

Camellia Leaves Browned (*G. E.*).—The leaves are browned by exposure to the direct rays of the sun, but are otherwise quite healthy. We do not think the plants are "out of condition," and all they require is slight shade from the commencement of new growth until the close of August, or if the weather is very clear, up to the end of September. Tiffany or other thin shading material answers perfectly.

Evergreen Shrubs (*C. H. H.*).—The kinds you name are mainly evergreen, and we presume you wish for such principally. Your list is on the whole good, and to it you may add besides, the common Aucuba, A. limbata, A. himalaica, A. longifolia, A. mascula maculata; Arbutus Andrachne, A. procera; Berberis japonica, B. Bealii; Buddlea globosa, which requires a warm situation or wall; Chamærops excelsa, a Palm of very distinct appearance; Cistus purpureus, C. ladaniferus, C. algeriensis, Colletia bictoniensis, Cotoneaster buxifolia, Cratægus Pyracantha, fine for a wall, or a sheltered position. Eleagnus japonicus variegatus, Escallonia macrantha, and E. glandulosa, require a warm situation or a wall along with the kind you name. Eurya latifolia variegata, Euonymus japonicus argenteus variegatus, E. japonicus latifolius aureus variegatus, E. radicans variegatus. Ilex or Holly—angustifolia, ciliata, crassifolia, and Fortunei, have small neat leaves; I. altaclerensis, Hodginsii, and Shepherdi, have fine broad leaves, and you will, of course, add the Gold and Silver-edged kinds. Osmanthus ilicifolius argenteus variegatus, Raphiolepis ovata, Skimmia japonica, Double Gorse, Vinca elegantissima, and Yucca recurva. Of American plants, besides Rhododendrons, Andromeda floribunda, Hardy Heaths, Kalmia latifolia, K. myrtifolia, K. glauca, Sedum latifolium, Pernettya mucronata, Menziesia polifolia, globosa or erecta. Of Coniferous trees of small growth, Abies excelsa var. Clanbrasiliana, compacta, elegans (dumosa), pumila, pygmæa, A. rubra cærulea, Cryptomeria japonica nana, Juniperus hibernica compressa, J. recurva densa, J. Sabina, and vars. tamariscifolia and variegata, Picea Fraseri Hudsonii, P. pectinata pygmæa, Pinus Strobus nana, P. sylvestris pumila, Taxus adpressa, T. baccata nana, Thuja plicata caucasica, T. glauca, and T. pygmæa.

Propagating Quick and Larch (*W. P.*).—Quicks are raised from the haws of the common Thorn placed in heaps, or in a pit in the ground, and covered with soil. After thus remaining for a year they are sown thickly broadcast in beds 4 feet wide, and the haws are covered about an inch deep with soil from the alleys. Care must be taken to prevent the attacks of mice. In the following autumn there will be some of the seedlings fit to draw and transplant in 4-feet beds. Plant five rows in each bed, the two outer lines 6 inches from the sides, and the others, of course, 9 inches apart. The seedlings should be about 3 inches from each other in the rows. Next autumn the remainder of the plants in the seed-bed may be taken up and transplanted as the strongest were in the previous year. In all their stages they should be kept clear of weeds. Quicks thrive best in rich deep soil. Larch seed requires to be sown in March in light sandy soil, and in autumn after they have cast their leaves the seedlings should be taken up and put out in lines a foot apart, and the plants about 3 inches asunder. Brown's "Forester" would suit you.

Manetti Rose Propagation for Stocks (*Old Subscriber*).—Cut one-year-old shoots into foot lengths, cutting right across, not in a sloping direction, immediately below a bud, but the top should be taken off with a gentle slope just above a bud. Remove all the buds except the uppermost two, and plant so that only the uppermost bud will be above ground. It is well to plant in the centre of a ridge, and the height may be about 8 inches. The cuttings may be inserted about 2 inches apart; but if they are to remain for budding where put in, they should be 6 inches apart, and in the August following the season in which they were inserted they will be fit to bud. The ridge should then be levelled, so as to expose the main stem of the cutting, and in this, at about 6 inches from the bottom, the bud should be inserted, the buds being put in directly after the removal of the soil. November is the time for planting the cuttings.

Planting English Iris (*Idem*).—Plant them about 3 inches deep, covering with light rich soil. They should have an open, sunny situation, and a light, well-drained soil.

Peas Dressed and Eaten with their Pods (*Cote House*).—They are the Pois sans parchemin of the French—that is, the Pea without any tough skin inside the shell. They are known in England as the Sugar Pea. Three hundred years ago Gerarde mentions them as "Pease whose cods are to be eaten with the Pease when they be young, as those of the young Kidney Bean." Any of the principal seedsmen who advertise in our columns could supply you.

Bedding Geranium and Verbena (*S. P. A.*).—Amy Hogg and Purple King will do very well together, but we would rather prefer Purple King and such a Geranium as Christine.

Ventilating a Long Frame (*A Novice*).—You will want a fair amount of top ventilation as well as the doors. Glazing with glass in grooves will only keep out wet when putty or packing with list or soft cord or india-rubber inside is used to keep the glass tight, and yet not too tight to prevent any expansion. We think you will need double the number of 3-inch pipes, unless you use some protection on the glass in the most severe weather.

Vines for a Cool Greenhouse (*A Subscriber, Dublin*).—For the six Vines for a cool greenhouse, we would advise one Buckland Sweetwater, one White Frontignan, one Muscat Hamburgh, one Black Champion, and two Black Hamburghs; also take the advice of the nurseryman you refer to. For the borders we would use but little of the sea sand. Of all the soils mentioned, we prefer the sod from the pasture field piled up some months before being used, so as to sweeten it; and if you fear that is too

rich, add lime rubbish, and some of your mountain soil. We hardly understand about Irish peat. If it is such as has been formed under water, and used as fuel, we would not use it at all in a Vine border.

HEATING (*D A.*).—There can be no difficulty in keeping out frost from a house 20 feet long by 14 feet wide, without going to the expense of a boiler and pipes, &c. We do not know the radiating stove of which you speak, but any stove will do if there is an outlet for the smoke. We kept the frost out of a lofty corridor, painted back wall, hipped roof, front glass to the ground some 10 feet in height, width of house 10 feet, and length about 40 feet, with a round stove of Brown & Green's, about 12 inches in diameter placed at one end, and plants were kept in bloom all the winter and spring. We have an old iron stove in the middle of a house 70 feet by 11 feet, and that has kept Scarlet Geraniums and other plants safe as yet. As the stove is very old, we have moved all such tender plants to-day for a couple of yards from the extreme end. For your half division, 20 feet, you might have less trouble with a small iron stove, the fire-box lined with firebrick. As you wish to study the greatest economy, we would have a brick stove, in the mode referred to at page 402. We should say the want of colour in the Grapes was more owing to bulk of crop than want of heat; however, a little heat would assist.

NAME OF FRUIT (*W. K., Angmering*).—Morris's Nonpareil Russet.

NAMES OF PLANTS (*F. H.*).—1, Leucopogon lanceolatus; 2, Hemerocallis fulva variegata; 3, Selaginella pubescens; 4, Pteris, apparently some form of P. aquilina, not typical however; 5, Blechnum occidentale; 6, Woodwardia radicans; 7, Gaultheria Shallon; 8, Platyloma rotundifolia. (*W. W. W.*).—Pelargonium echinatum, a very interesting as well as beautiful plant, the great wonder is that it should be so little known and appreciated. 1, Microlepia novæ-zelandiæ; 2, Pteris serrulata; 3, Pteris cretica albo-lineata; 4, Litobrochia pedata, in all probability, but very young, scarcely in character. We do not at all approve of your plan of using the refuse of your faggot-heap, unless, indeed, it be quite free from fungi, which is scarcely likely. In any case use it more in the place of a subsoil, and give it a good surfacing of some better material if you wish to utilise it for the purpose you name. We should certainly do this in preference to mixing uniformly. (*Rush*).—Nerine undulata. (*W. W.*).—The Palm bearing the Dates sold by grocers is the Phœnix dactylifera.

POULTRY, BEE, AND PIGEON CHRONICLE.

BIRMINGHAM POULTRY SHOW.

THE great annual reunion to which so many—may we not say all?—poultry fanciers look forward, manifests this year a marked superiority in many classes; and, indeed, as a whole, the quality of the birds is better than usual, though the number of entries is slightly less in the poultry classes through the Crystal Palace competition. The total number of poultry entries at the present Show is 2087, against 2125 last year, and it may be interesting to give the comparative numbers of the different breeds, which are as follows:—

	1870.		1871.
Dorkings	294	..	280
Cochins	323	..	261
Brahmas	261	..	346
Malays	27	..	16
Crêve-Cœurs	41	..	33
Houdans	58	..	42
La Flèche	8	..	10
Spanish	72	..	86
Hamburghs	195	..	105
Polish	63	..	58
Any variety	44	..	19
Game	342	..	382
Bantams	59	..	44
Game Bantams	115	..	109
Ducks	120	..	103
Geese	36	..	30
Turkeys	67	..	55

It will be seen that the decrease is pretty general throughout the classes, but especially in Hamburghs, which number little more than half of last year's entries, and "Any variety" are even less than half, the mistaken policy of cutting down the latter to only one class of three prizes thus bearing its legitimate fruit. Spanish show a small increase, but the only marked growth is in the case of Game and Brahmas. The increase in these latter is the most marked feature of the present Show.

In proceeding to go through the awards, we ought to remark that the light was unusually bad even for Birmingham, the day being dark and "muggy." Hence the Judges had to act under very unfavourable circumstances, and it is, perhaps, much easier to point out real mistakes with the aid of a catalogue than to avoid them without such a guide as the names of noted exhibitors afford. Yet to do so is, nevertheless, the duty of an impartial reporter, and we shall proceed to give our honest impressions of the Show.

DORKINGS.

Cocks.—First of all in the catalogue comes the cup cock, a grand heavy bird, and we were glad to see the honour once more awarded to light colour. The second-prize bird was of medium colour and large, with unusually good feet. Third came a very dark and big bird, one of the best in the class but for the very unsatisfactory state of one foot. Fourth was a small bird, and in our judgment much inferior to Mr. Wheatley's 13, one of the noted winners last year.

Cockerels.—The first prize went to a fine bird, not so large as several others, but with the best feet in the class. The second was a very poor bird, Silver-Grey in colour, and not large enough for a Grey Dorking. Third came a very excellent dark bird, shown in a very bad light, which in our opinion kept him from taking the second place. The fourth-prize bird was also very fine and large, but the fifth was not so good as the sixth, and both of these last we thought inferior to several others.

Hens were a fair lot, and both the first and second were really good pens and rightly placed. The third contained one grand hen, with another only poor. The fourth-prize birds were quite small for old Dorkings, and much worse than the fifth, which last were a bare average, and neither pen equal to No. 133.

Pullets.—The first-prize pair was good in every way, being large, dark, good in feet, and well matched. Second came a very poor pair indeed, only entered at two guineas. Those which were third were very much better, and good, but we thought the fourth should have had the second place. Fifth and sixth call for no remark.

Silver-Grey cocks were a fair class. The first prize was taken by a large but rather coarse bird, too dark for our fancy; the second very similar in both body and colour. The third and fourth-prize birds were the best in colour, but not so large. The fifth-prize bird was not pure either in the white or black, and several better birds could have been found for the honour. The first-prize *hens* were a very old but fine pair with long spurs. Second came a taking pair in the dark, but later in the day appearing very broken in colour, and one pullet had a very misshapen foot. The third prize went to a pair of pretty good old hens; fourth were pullets by no means pure in tint, red showing on the wings. This class was not so good as the cocks.

The *White Dorkings* were good, and the third-prize bird, though not large, was, perhaps, the best in carriage, and well deserved his place, though only entered at a guinea. The *hens* and *pullets* were not so good, and none but the prize pens could be called really good.

COCHINS.

Buff cocks were a good class. The first-prize was well put, Mr. Taylor winning with a grand real Lemon Cochin. Second a much darker, also very grand bird. Third of immense size and good colour, but not a good carriage. Fourth also rather clumsy, but sound in colour. Fifth had a slipped wing, or would have probably been third. The next two classes contained the "sensation blota" of the Show; and while knowing, as we do, how unpleasant it is both to the winners and the Judges to call in question the awards, we feel bound in simple justice to re-judge both classes, premising that we were borne out by all the Buff breeders present. The best bird in England, which won the Palace cup, and has had no equal for five seasons, was put sixth! The sixth prize should have been cup; second, a grand bird which will be better yet, in his place; the cup bird third; Mr. Tomlinson's, fourth; Mr. Taylor's fifth as he was; and Mrs. Allsopp's bird sixth. There were many really fine birds in this class besides; but the sixth-prize was so markedly superior that we cannot attempt to account for the mistake. *Hens* were little better, the first-prize birds being a comparatively worthless and mealy pair. Mr. Lacy's second-prize pen should have been first; Mr. Lloyd's fifth-prize pen second, his pen 377 third, putting the third-prize fourth. In the fifth-prize pen was far the best single hen in the class, or which we have seen for a long while, the other being very good, and the two only inferior to Mr. Lacy's pair. This was an excellent class.

The *pullets* were very fairly put, but as a class far from equal in shape to the hens. The fourth-prize were particularly narrow at the tail, and the sixth pen contained one very good bird with one as bad.

The first-prize *Partridge cock* was well placed, being a really good one. The second we did not like much, and the third was badly feathered. In *cockerels* Mr. Tudman took his old place with a bird hardly mature, but in faultless condition and with all the stuff in him of a good Cochin. Second, a good colour, but wanting in shape. Third, a better, rather, and deserving his place. In *hens* Mr. Tudman was first again with birds grand in size and shape, but not first-rate in marking by the modern standard. Second, well marked, but inferior in development. Third also very pretty pencilling, but wanting in size and good Cochin carriage. First-prize *pullets* beautifully coloured, and if one were rather better fea hered they would be very hard to beat. Second, both grand birds, but badly matched. Third, a fair average pen and no more: this class poor.

Whites.—The first-prize old cock was very old, rather heavy-looking, and by no means so good as the second-prize bird, except in colour, which was better. Third, a very good cock, but not good in style, in which the white cocks generally are falling off. In *cockerels* we thought Mr. Chase's pen, 511, the best in the class, certainly better than his first-prize. The second deserved his place, and the third was also good and well feathered. The three prizes in *hens* were also grand pens, with little to choose. *Pullets* were not nearly so good, and none really first-class, except the first-prize, all the rest being wanting in shape.

BRAHMAS.

In old *Dark cocks* the cup was secured by the Crystal Palace first-prize bird of Mr. Taylor. Second, a very good average bird. Third, a very light "washy" bird, scarcely able to stand, and inferior to at least four other birds in every way. The *cockerels* formed the largest class of any breed ever yet seen at any show, showing the amazing number of 105 entries. With so many birds, many really good, it may easily be believed judging was very difficult work, and it can, perhaps, scarcely be expected that any after-critic should altogether agree with the awards. The Crystal Palace cup bird was first, and rightly. The second, third, and fourth were all excellent birds evidently, or at least apparently, own brothers, as we believe they are. Fifth was rather showy, but valueless for breeding, and we liked the

sixth better, but the last two might in our judgment have been advantageously displaced by at least a dozen; still, our remark above must be kept in view.

Dark hens were pretty good, but to our mind quite wrongly placed; the first-prize Palace hens being here second, while they should, we think, have had their old place. We should also have placed the third second, and given the first third.

Dark pullets were another enormous entry of seventy-four pens. The Crystal Palace second-prize pen, much improved in condition, was here first, while the Palace cup pen was fourth. The second we did not much like, and think the fourth pen should have had that position. The third contained one of the Palace third birds, and another far inferior. Fifth, fair and no more, not quite so good as sixth in our opinion. There were numerous other good pairs, but the "highly commendeds," we confess, we could often not understand; but here, again, allowance must be made for the number of the class.

The first-prize *Light cock* was the same which won as a cockerel last year, small, but beautiful shape, hackle, and feather. Second, very large, fairly feathered, saddle well striped, but hackle too pale. Third lightly feathered, but good shape and very darkly marked. In *cockerels*, the first-prize was very large, fine shape and leg feather, saddle white, hackle poor. Second-prize darkest hackle in the class, saddle white, and leg feather moderate, but wings not sound and some black in them. The third prize went to a cockerel of very fine shape, also good in feather and colour, all but a little black on the wing. This was the heaviest-feathered bird in the class. The fourth-prize bird was also well feathered, hackle shady, saddle moderately wide. Pen 797 was one of the very best in the class, but shown very dirty; and the saddle was, while wide in front, narrow over the tail. This was the best Light-cockerel class seen for a long time.

Hens were very moderate. First-prize fine in shape, size, and colour, heavily feathered, and decidedly hocked, but not too much, nor tampered with. One had a coarse comb, and both were too narrow over the tail. The second-prize bird was good in size, colour moderate, feather middling, but shape poor. The third-prize pen had one fine bird, the other quite poor. The first-prize *pullets* had the best pair of cushions in the class, middling hackles, but poorly feathered. In the second-prize pen one was very fine in shape, size, and colour, the other, again, too narrow behind. The third pen contained one really beautiful bird—cushion, hackle, and feather all good, but her mate, again, a poor bird, and with a spotted back. The fourth-prize birds were of a nice colour, but small and narrow. This class was not equal in quality to the cocks, and disappointed us much.

MALAYS.

The *cocks* were very fine. The first-prize bird very stylish and hard in feather; the second-prize bird larger, but not so Malay in character. *Cockerels* only three! First, a very young almost black bird, in faultless condition. Second, a white. *Hens*, five pens again, and well judged, but in the three *pullets*, the second-prize was quite wrong, being low on the legs, and quite without Malay shoulders, the want of which was made up by a spreading tail.

FRENCH FOWLS.

Crêve-Cœur cocks were a good class and fairly judged, though we would prefer, perhaps, Mr. Sichel's second-prize pen. In the *hens* Mr. Wood was clearly first, but the others were very good, and this struck us as the finest of all the French classes. All the prize *Houdan cocks* were very fine and belonged to the usual names, but were not quite so large as some that have been seen. *Hens* were very fair, and we think we can see signs of their becoming a really handsome variety. We liked, perhaps, Mr. Wood's pen, 980, best of the lot. *La Flèche cocks* were in very good condition, but still few. The *hens* were fewer still, only numbering three pens. Both prizes were very good, but should have changed places.

SPANISH.

Old *cocks* were a small and middling class, bad spirits prevailing throughout. This class did not contain a single Bristol exhibitor, and placing pens was almost entirely a question of condition. The winners were well placed, though the second-prize bird was far the best in sterling value. *Cockerels* were numerous, but quality barely an average. The Palace cup-winner was here put sixth, the cup going to a bird which would be very good if given what the Yankees call "an eye-opener." The second and third were good birds, but the fourth and fifth very poor again, and the class generally was remarkable for the absence of any really first-class specimens. *Hens* again in bad condition, and none but the first and second prizes were really fit to be shown, even these by no means in order, and the present season seems by no means favourable to the faces of the birds, which were in reality good, but looked very middling indeed. It struck us that the faces of the *pullets* were getting smaller, and losing the smoothness which is so desirable. Only the first three prizes could be termed good, the first going to the Crystal Palace pen, and leaving no fault to be found with the judging. The Spanish classes, as a whole, greatly disappointed us, and judging must in a great degree have consisted rather in marking out bad pens than in ticking off the good. A change of weather may, we hope, bring better looks, especially to the "young ladies of the family."

HAMBURGHS.

Black Hamburghs, which here begin the list, were much better than at the Palace, both in number and condition. In *cocks* Mr. Beldon won with an old cock in fine feather, the others, being cockerels, also well shown. In *hens* Mr. Serjeantson took first in his usual style. Second were also in fine order, but third were hardly equal to pen 1108.

Gold-pencilled cocks were a well-filled class, Mr. Beldon being first with a very fine bird. The second and third were also of marked quality, but most of the others had far too much bronze in the tail. *Hens* a fair class, but the prize birds were easily distinguished from the rest. First-prize birds were small, but very accurately pencilled.

Silver-pencilled cocks were a small but really extraordinary class. There were but seven entries, and out of these we have no hesitation in saying that the three prizes (rightly placed) and the sole high commendation given, were the four best cocks ever shown together. The *hen* class contained a few very good pairs, the prize pens being superior in depth of colour, which, we may remark for the benefit of amateurs, is particularly essential to Birmingham winners, the light coming so directly down on the birds that many which appear a fine but colour elsewhere look but very washy at this Show.

Gold-spangled cocks were a good class, and abounded with smart and good combs, which used to be the exception. The best birds were to the front decidedly, all the winners being birds of the year.

Hens good, too, and awards correct. All the winners old birds, and the extra prize for the best Hamburgh hen went to this class.

Silver-spangled cocks were the best class ever seen at Birmingham. All the winners young birds again, and both they and the highly commended pens had wonderfully perfect tails. We were not quite sure about the third prize; but it was at best a ticklish matter, and not much to complain of.

Hens were a capital class and, as in Gold, the matrons took all the prizes. Awards were criticised, but we think them correct as the birds stood, though there is no doubt Mr. Beldon's third-prize will be in a few weeks better than the first. The singular fact may be noted, that except in first-prize Blacks, young cocks took *all* the Hamburgh prizes, while in the other sex all the winners in Pencils were pullets, and in the Spangles old hens.

POLISH.

Black Poland cocks, though few, were a beautiful class, and it was really hard to have only two prizes to give.

Hens were middling, and we must say were misjudged. The second prize should not have been in the list at all. The first prize should have been second, and first given to Mr. Shaw's pen, 1298. In *Golden cocks* first-prize was a grand bird for size and carriage, but his markings far too pale. Second smaller, but far better colour. The first-prize *hens* are the best we ever saw. Second, a nice pair of promising pullets. This breed still progresses. In *Silver cocks* first and second were both good, but third not enough colour. *Hens* were a nice class, the lacing being good all through. The same exhibitor took both prizes and won them fairly.

ANY VARIETY.

This class was remarkable for four rumpless pens shown by one exhibitor, and all quite different in character. First were a nice pair of Scotch Greys, second Andalusian, third Chamois Polish. In this class the legitimate result of the niggardly encouragement offered by the Committee was seen in only nineteen entries; many breeds, such as the now-increasingly-sought-for Leghorns, being quite unrepresented

GAME.

The first prize Black Red *cock* was very good in plumage, colour, and condition, and took the cup for the "best Red." The second should not have been in the list at all, having very scaly legs: he was a good bird otherwise, but this should have thrown him out. Third a grand bird in every way, and we should not be surprised if he turned his tail on the first. Fourth moderately good. Mr. Douglas's pen, 1390, ought in our opinion to have had the vacant second place. This was a fair class and no more. The young cocks, on the contrary, a first-rate class. First well won his position every way. Second a fine shape, but rather dull in colour. Third a good colour, but low on the leg, and with a forked tail. Fourth fine in colour and shape, but too much tail by far. Fifth a good bird, but shown rather too young. Many other really good birds. *Hens* a pretty good class. First a splendid bird, and clearly the best; but second and third also good. *Pullets* consisted of many capital birds, and the Judges again picked them out well. Second was perhaps a shade coarse, fourth rather slight, and fifth dull in colour, but the merits of all these birds quite outweighed the defects.

Brown Red cocks were not up to the Birmingham standard. First a fairly good bird, but far inferior to the same gentleman's pen, 1526—that is, so far as we could judge without handling, and supposing the latter to be as good as he looked. Second a splendid bird, both in carriage and colour. Third good all but his feet, which were too short in the toes. Fourth good in body and limbs, but carried his tail much too high. Fifth a fair bird. The same general remark as to quality applies to the *cockerels*, the good birds being the exceptions. Only the first-prize stood boldly out, being the Crystal Palace winner, which has changed owners, and nearly every breeder said this bird should have had the cup. Second rather too dark, but good in style, and particularly so in legs and feet. Third hardly ready for show, but undoubtedly good when he is. Fourth a nice bird, short in hack toes. Fifth again was too young to show well.

The *hens* were a capital class. The first was clearly before all the rest, having a most beautiful head and neck, and looking a lady all over. Second a nice hen, but tail a little too much up. Other prizes

also good. *Pullets* a fair lot. First-prize stylish, but too round in the back. Third had a stuck-up tail, which seems in fact rather creeping in. Fifth-prize ought to have been higher, and she and the second-prize ought to have settled the two first places between them perhaps.

Duckwing cocks were a fair class, and the winners were the same which took the three prizes at the Crystal Palace, but the Judges had judiciously made the alteration we suggested in our report of that show, the second there (**which had** changed hands), being now put first, and the first (we must in fairness say he was worse in condition) second, the third being third again. On a second inspection we adhere to an opinion there formed—that this last is the best of the three. *Cockerels* middling only, but the first prize went to a really capital bird. Second fine. Third and fourth fair birds only. *Hens* were few, only seven entries; but the first-prize bird really superb. *Pullets*, on the contrary, a first-rate class, which makes it the more remarkable that the same exhibitor (quite fairly) swept the whole prize list with three beautiful birds.

Blacks and Brassy-winged need little remark. We did not like the cock class, and failed to find any birds like those formerly seen. The winners were all Brassy-winged—that is, if black birds with a sort of grimy-red saddle can be so called, but we would fain see the colour more distinct. *Hens* a little better, but rather poor still.

In *Pile cocks* the Palace bird was again to the front, and secured both cup and medal for the best Game cock except Reds. The second prize was taken by the same exhibitor with a yellow-legged old cock (the same which was first here last year), the cup-winner being willow. Third also willow, and again the same as the Palace third, the second there being now left out in the cold, as we hinted he ought to be on that occasion. *Hens* were a good class. First a bird of last year, fine both in shape and colour; second and third good pullets, but not so well marked. All three ladies had yellow legs.

BANTAMS.

In *Gold-laced*, one entry being withdrawn left Mr. Leno both prizes. Both pens good. In *Silvers* the winners were too large but extra well marked, Mr. Crawys' pen being much smaller, but greatly wanting in depth of colour. *White* Bantams were good in quality and are improving. In *Blacks* the first-prize pen contained a very neat cock but very poor pullets, their heads and earlobes being far too dark. Second a scarcely equal cock, but infinitely better pullets. Third and fourth fair pens, but Mr. Draycott's pen 1769 ought to have had one of the first two prizes. In *Any variety* first were Japanese, the variety with that straight sword-like squirrel tail, which we confess not to admiring so well as the sickle. Second were frizzled, which we consider were far too large to find a place among Bantams at all, being as large as Silkies; but they looked rare if not rich, and this may be merely matter of opinion.

GAME BANTAMS.

The first-prize *Black Reds* were a good stylish pen well placed, though the second were little worse. Third rightly judged. Fourth as good in quality as any, but frightfully out of condition. 1817 was also a stylish pen. *Brown Reds* were middling, and the cock in the winning pen was too short in the head. The second-prize bird was much too large, and probably pen 1830 ought to have been first. In the "Any other variety" class, the first was a pen of Duckwings, capital in most respects, and well shown; but when examined fairly in the light, almost every feather on the breast was laced with brown. The defect could only be then seen, and apparently escaped the Judges. Second and third were good Piles. In *Red* cocks, some difference of judgment was expressed, but we thought the winner well placed, being Mr. Eaton's Palace bird, which was finer in the head than Mr. Entwisle's, but it was really hard judging between. Third was very good, and fourth fair, but the fifth was had every way, and a pen bearing the "Great Exhibition" number of 1851 ought to have taken his place. The next class, again, contained the Palace winner in his then post of honour, and we repeat our opinion that he is the best Duckwing, not to say Game Bantam—ever seen. Second was a good Pile, and third also a Pile, good on the whole, but rather too short in the hackle.

DUCKS.

We scarcely consider ourselves competent to judge of the exhibition merits of the remaining classes, and prefer only to give the weights. The first-prize Aylesburies were 17 lbs. 2 ozs.; second, 16 lbs. 12 ozs.; third, 15 lbs. 4 ozs. These it will be seen are actually going back since Mrs. Seamons withdrew. Rouens were much heavier, being 19 lbs. 5 ozs., 19 lbs. 1 oz., 18 lbs. 15 ozs., 18 lbs. 4 ozs., 18 lbs. 8 ozs., and 17 lbs. 10 ozs. respectively. The fifth-prize, it will be seen, was heavier than fourth, but hardly equal in plumage. The Ornamental Ducks were mostly beautifully shown, and among the many exquisite Mandarins and Carolinas we should despair of ourselves pointing out the best. It is a pity the handsome little creatures are so savage when penned up.

GEESE.

The first and second pairs of old white Geese each weighed 56 lbs. 9 ozs.; the young were 48 lbs. 6 ozs. and 44 lbs. The first old Greys reached the enormous weight of 60 lbs., the second 51 lbs. Young were 47 lbs. and 37 lbs. The great difference of nearly 10 lbs. between the first and second prizes in each case shows what good management can effect.

TURKEYS.

The winning Turkey cock was precisely the same weight as last year, 36¼ lbs., second was 32 lbs. 5 ozs. The best pair of hens reached the great weight of 38¾ lbs., or nearly 4 lbs. heavier than last show; second pair were 35½ lbs. Young cocks were 28 lbs. and 23¼ lbs. respectively, and young hens 28 lbs. 10 ozs. and 27 lbs. 2 ozs. The United States this time did not put in an appearance.

The following are the comparative weights of the prize Turkeys, Geese, and Ducks in 1870 and 1871:—

TURKEYS.

	1870. lb.	1871. lb. oz.		1870. lb.	1871. lb. oz.
Single cock, 1st prize ..	36¼	36 4	Single cock, 1871, 1st ..	24⅜	28 8
„ 2nd „ ..	35⅝	32 5	„ „ 2nd ..	23¾	23 4
Pair of hens, 1st „ ..	35	38 12	Pair of hens, 1871, 1st ..	31¼	28 10
„ 2nd „ ..	34	35 8	„ „ 2nd ..	29	27 2

GEESE.

	1870. lb.	1871. lb. oz.		1870. lb.	1871. lb. oz.
White, old birds, 1st ..	58¾	56 9	Grey, old birds, 1st	62¼	60 0
„ „ 2nd ..	56½	56 9	„ „ 2nd	54¼	51 0
„ Goslings, 1st ..	49¼	48 6	„ Goslings, 1st	53¼	47 0
„ „ 2nd ..	49	44 0	„ „ 2nd	49	37 0

AYLESBURY DUCKS.

	1870. lb.	1871. lb. oz.		1870. lb.	1871. lb. oz.
First-prize pair	18⅜	17 12	Third-prize pair	17⅜	15 4
Second-prize pair	18⅛	16 12	Fourth-prize pair	18¼	—

ROUEN DUCKS.

	1870. lb.	1871. lb. oz.		1870. lb.	1871. lb. oz.
First-prize pair	19¼	19 5	Fourth-prize pair	17⅜	18 4
Second-prize pair	18¼	19 1	Fifth-prize pair	17½	18 8
Third-prize pair.....	18⅜	18 15	Sixth-prize pair	17¼	17 10

Messrs. Hewett, Teebay, and Dixon judged the Brahmas, Spanish, Hamburghs, Ducks, Geese, and Turkeys; Messrs. J. H. Smith, R. Woods, and Edward Lowe the Game, and most of all the Game Bantams; and Mr. Baily, the Rev. G. F. Hodgson, and Captain Heaton the rest; but Captain Heaton was taken ill and had to retire about two o'clock.

As a whole, the show of poultry was to be remarked for its very superior quality, *Spanish* and *Dorkings*, however, being marked exceptions. The day being dull made judging difficult; but we repeat our remark of last year on the enormous waste of judging power caused by dividing the Judges into four threes. We were told on this occasion that next year this will not be repeated, but that six pairs of gentlemen will be substituted; we trust this will be the case, and that if not already contemplated our suggestion may even now receive attention. The last awards this year were later than ever, and fully one-third were not posted on the wall till past six o'clock. And lastly, after the perfect light of the Crystal Palace Show, the contrast of the "dark dens" at Birmingham was most painfully felt, and was freely remarked upon by nearly all the Judges and exhibitors who had visited both. We are fully persuaded that unless something be done to remedy this, and to give a far better light to the lower tiers, this great Show cannot hold its own, but must give way to the Crystal Palace, and this was the universal remark. We are convinced the time has come for this matter to receive the attention its importance requires. Few would wish this grand old Show to play "second fiddle" to any other; but whether it be by separating it from the cattle, or by other means, we believe it must now do so, unless some means can be devised of remedying the wretched light which we honestly believe is the chief cause of those "sensation blunders" in judging. While we point these out, we would wish our opinion of at least one cause of them to be remembered also—in justice to the gentlemen who have to act under such unfavourable conditions.

We have only to add that the Committee and officials were as courteous and anxious to oblige as ever, and to thank such of them as assisted us.

PIGEONS.

Many disinterested visitors to these great annual exhibitions have thought, as each successive year came round and showed an increase in the number of entries, as well as a marked improvement in the quality of the birds exhibited. "Now, surely, this must be the greatest height to which the culture of high-class stock can be brought, and hereafter these gigantic exhibitions must be on the wane." It may be, many lukewarm fanciers, too, have echoed the same sentiments, and have from time to time been expecting the retrograde movement to set in and drift us back to the original kind of stock from which hosts of beautiful birds have sprung. But no such downward course is yet to be. These great annual collections of stock, large, as they are, have still to grow and develope into greater achievements, for the competition or spirit of rivalry has hitherto been chiefly confined to fanciers, but in the dim future we fancy we can discern a still stronger spirit of rivalry growing up than fanciers even imagine, as to which shall be the largest and most important of our poultry and Pigeon shows. The great Crystal Palace Show is just of the past, the great Birmingham one is now the event of the period. The strength of the fancy has been put forth to meet both of them, the little summer shows, at which the dealer makes his harvest, are for a time partially forgotten, and the attention of their respective supporters directed to the great winter events, at any of which it is no

small achievement to record a victory, for most of the classes would form a little exhibition of themselves.

As an example that there is no lack of zeal on the part of fanciers, no backward movement yet, the following statistics of the number of Pigeons exhibited will show :—

	1864.	1865.	1866.	1867.	1868.	1869.	1870.	1871.
Pens	290	231	400	565	432	482	441	546

The accommodation for extra Pigeon classes has been judiciously provided for at Bingley Hall this year, by the erection of a gallery on the west side of the building, in continuation of and in character with the former portion on the east side.

Almond Tumblers.—As a class, this variety was the best that has been seen at Bingley Hall for some years. First were a neat little pair of birds; the same exhibitor also won third prize, and the latter pair, we think, should have been second on the prize list, for although young they are good Almond-feathered birds—rich, pure, and uniform in ground tint, and promise well to become the highest type of the Almond breed.

Carrier cocks (Black).—The first prize in this class was an easy victory for a grand bird, far superior in merit to his competitors. There were fourteen entries in this class.

Carrier hens (Black).—A smart stylish hen was first. In our opinion Mr. Fulton's highly-commended bird was the best bird in the class. Another excellent bird from the same loft was unnoticed in the awards. The birds in this class were good in quality, though few in number.

Carrier cocks (Dun).—A capital bird was first; a good bird second, but apparently it was suffering from wing disease. The two pens of Mr. William Siddons, sen., were of excellent quality, each of these birds was highly commended. Mr. Gordon's bird was a fine strapping bird for eighteen months, but was rather deficient in quality, yet it is a capital stock bird.

Carrier hens (Dun).—In this class the first prize was given to a very good hen, sound in colour, good in eye, bill, and carriage. She well merited her position. The second prize went to a good bird, but too coarse in head and rather down in hill. An unnoticed bird of Mr. Fulton's was to our mind far preferable to the second-prize bird.

Carrier cocks (Any other colour).—In this class there was little or no competition. Three birds only were entered.

Carrier hens (Any other colour).—In this class the prize list was headed by a very good Blue hen, perhaps the best of the colour that has lately come under notice. She has won, at various places, many prizes, and until fanciers receive more encouragement to breed for Blues we cannot hope for better birds. Mr. Fulton received a high commendation for a fair "Silver," and also a commendation for an average "Blue." The class was small from two simple reasons—viz., that there are few birds of the kind to be found, and so little pecuniary encouragement for fanciers to breed for them.

Carriers (Black) cock and hen hatched in 1871.—In this new class there was a capital muster of young birds. The silver cup probably caused the collection of twenty pens for the contest. An admirable pair of birds belonging to our veteran fancier, Mr. W. Siddons, sen., were soon dotted down as being in the race, and they ultimately, after close inspection, stood the ordeal, and were recorded victors, and indeed, they well merit the cup and prize which they have won. They are good-sized birds, raven black, straight and thick in bill, good in eye, narrow in skull, and are, besides, a perfectly matched pair in first-class condition. An uncommonly good pair were exhibited by Mr. G. Gordon, but they have not found favour with the Judges.

Carriers (Any other colour) cock and hen of 1871.—Twelve pens were brought together in this class. Both the winning pens were Blues of more than ordinary promise, and in time they will be most likely first-rate birds.

Pouter cocks (Red).—The first prize and cup were taken by a graceful bird in shape and carriage; colour and markings were also very good. He measured 19¾ inches by 7 inches in leg, and was truly a fine specimen. Mr. F. Gresham was second with a good bird in form and carriage, of great length, but of a poor colour. There were seven entries.

Pouter hens (Red).—First was a very stylish hen of symmetrical proportions and good carriage. An excellent bird, good in carriage, girth, and length of feather and leg was second, but she had two much "rose on the wing."

Pouter cocks (Blue).—First on the list was a good specimen, though rather too gay in markings. This bird wants a little more caressing in order that he may show himself and be more at home in a show pen.

Pouter hens (Blue).—A grand bird was first, but to our mind the second-prize bird was preferable.

Pouter cocks (Black).—First was a bird good in all points, and second an excellent specimen very little inferior to the former one.

Pouter hens (Black).—A splendid hen first, pressed closely by a very showy bird.

Pouter cocks (White).—In this class we find an entry of seventeen birds, most of which are first-class specimens, and several of them perfect models of the Pouter; pure, and possessing those graceful and elastic movements so characteristic of high-class stock. The foremost place was taken by a very fine showy bird, but a little too coarse in girth. A capital bird was second. The whole class was a meritorious one.

Pouter hens (White).—There are twelve pens of birds. The first prize went to a perfect gem, good in all points; the second prize to a very nice bird. This class is also very good.

Pouter cocks (Any other colour).—There were only four entries, all Yellows.

Pouter hens (Any other colour).—Seven entries. First prize and silver medal and second prize, both birds Yellows, and good in nearly all points.

The Pouters were subdivided into ten classes, and numbered seventy-six entries.

Barbs (Black).—Seven pens came in for competition in this class, all of which were good. The first and second-prize birds were rich in feather, heavily wattled, broad in skull, and good in eye. The class was a good one.

Barbs (Any other colour).—There were only four entries in this mixed class.

Barbs (Bred in 1871).—This new class drew forth only six entries.

Balds and Beards.—There were fourteen pens. The first prize went to a pretty little pair of Beards (Blue), good in head, compact and neat in form, beard well defined, but the colour was a little too dark. Second came a pair better than the above in colour, but of inferior head properties. Third a pretty pair of Balds.

Tumblers (Short-faced).—Both first and second-prize pairs were good Black Mottles.

Tumblers (Long-muffed).—In this class a handsome pair of Red Rosewings are first, a pair of the same variety second. Mr. H. Yardley showed a pair of Black Mottles and a pair of Blue Tumblers, either of which appeared far superior to the second-prize pair.

Tumblers (Any other variety).—First-prize a pretty pair of Red Mottles, good in colour and markings; second a pair of Silver Baldheads. Nine entries.

The following are the comparative sales last year and this:—

	Pens Sold.	£	s.	d.
1870	145	586	16	0
1871	155	569	2	0

[We must conclude our reports, for we have several, next week.—Eds.]

Dorking (Coloured, except Silver-Grey). — *Cocks.*—1 and Cup, Countess of Dartmouth, Patshull, Albrighton, Wolverhampton. 2, J. White, Warlaby, Northallerton. 3, Mrs. Arkwright, Sutton Scarsdale, Chesterfield. 4, Hon. H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham. *hc*, Admiral W. Hornby, Knowsley, Prescot. *c*, Gunson & Jefferson, Whitehaven; W. W. Rutthidge, Shortend, Kendal.

Dorking (Coloured, except Silver-Grey).—*Cockerels.*—1, J. White. 2, J. J. Waller, Kendal. 3, W. Arkwright, Sutton Scarsdale, Chesterfield. 4 and 6, Mrs. Wheatley, Ingatestone. 5, E. Ramsay, Brackley. *hc*, W. Tyler, Birmingham; Mrs. Arkwright; R. D. Holt, Windermere; Rev. J. G. A. Baker, Biggleswade; Mrs. Wheatley. *c*, Admiral W. Hornby; J. Clark; Rev. G. J. A. Baker; H. Yardley, Birmingham; Mrs. Arkwright; R. D. Holt; Gunson and Jefferson; J. Clark.

Dorking (Silver, except Silver-Grey). — *Hens.* — 1, J. White. 2, Hon. J. Massy, Limerick. 3, W. W. Rutthidge. 4, Mrs. G. Meek, Balcombe. 5, J. H. Wilson, St. Bees, Whitehaven. *hc*, Rev. E. Cadogan, Warwick; Lieut.-Col. Lane, Lily Hill, Bracknell.

Dorking (Coloured, except Silver-Grey).—*Pullets.*—1 and 3, Miss Davies, Chester. 2, H. Yardley. 4, Mrs. Wheatley. 6, J. Drewry, Burton-on-Trent. 6, Gunson & Jefferson. *hc*, Miss Fairhurst, Woodlands, Ormskirk; J. J. Waller; N. Russell, Bryngwyn, Oswestry. *c*, Rev. E. Cadogan; J. Robinson, Garstang; J. D. Mewson, M.D., Coton Hill, Stafford.

Dorking (Silver-Grey).—*Cocks.*—1, H. Yardley. 2, E. St. J. Ackers, Painswick. 3, T. Statter, Whitefield, Manchester. 4, J. J. Waller. 5, M. Edwards, Hilton, Alloa. *hc*, Rev. G. Gilbert, Caxton, Norwich; W. W. Rutthidge; W. H. Denison, Woburn; T. Raines, Bridge Haugh, Stirling; Gunson & Jefferson. *c*, Lady Baget, Rugeley (2); O. E. Cresswell, Early Wood, Bagshot; Rev. J. F. Newton, Kirby-in-Cleveland.

Dorking (Silver-Grey).—*Hens or Pullets.*—1, R. D. Holt. 2, J. Horton, jun., Shirley, Birmingham. 3, O. E. Cresswell. 4, Lady Baird, Newbyth, Prestonkirk, Scotland. *hc*, Earl of Chesterfield, Burton-on-Trent; H. Yardley; R. Smalley, Lancaster. *c*, T. B. Wright, Great Barr, Birmingham; T. Raines, Bridge Haugh, Stirling.

Dorking (White).—*Cocks.*—1, Miss Fairhurst, Woodlands, Ormskirk. 2, Mrs. Hayne, Fordington, Dorchester. 3, The Misses Cotes, Woodcote, Newport, Salop. *hc* Miss Fairhurst (2); J. Robinson, Garstang.

Dorking (White)—*Hens or Pullets.*—1, J. Robinson. 2, Mrs. Hayne. 3 and *hc*, J. Choyce, Pinwall Grange, Atherstone.

Cochin-China (Cinnamon and Buff)—*Cocks.*—1 and 5, W. A. Taylor, Manchester. 2, H. Lloyd, jun., Handsworth, Birmingham. 3, Lady Gwydyr, Stoke Park, Ipswich. 4, J. Sichel, Timperley, Cheshire. *hc*, H. Tomlinson, Gravelly Hill, Birmingham; H. Lloyd, jun.; W. H. & G. A. Perrin, Chantilly, Loughlinstown, Ireland.

Cochin-China (Cinnamon and Buff).—*Cockerels.*—1, 5, and Cup, W. A. Taylor. 2, G. H. Proctor, Durham. 3, H. Tomlinson. 4, Mrs. Allsopp, Hindlip Hall, Worcester. 6, Lady Gwydyr. *hc*, Henry Lingwood, Barking, Needham Market; W. P. Ryland, The Redlands, Erdington, Birmingham. *c*, Lady Gwydyr; R. Allen, The Grange, Erdington; H. Lloyd, jun.; W. A. Taylor; Mrs. R. White, Shirebrook, Sheffield.

Cochin-China (Cinnamon and Buff).—*Hens.*—1, Mrs. Wilkin, Bootle, Carnforth. 2, H. Lacy, Lacy House, Hebden Bridge. 3, W. A. Taylor. 4, Henry Lingwood. 5, H. Lloyd, jun. *hc*, Miss J. Milward, Newton St. Loe, Bristol; J. Cattell, Birmingham; C. Sidgwick, Ryddlesden Hall, Keighley; H. Lloyd, jun. *c*, T. Groves, The Priory, Shrewsbury.

Cochin-China (Cinnamon and Buff).—*Pullets.*—1, Henry Lingwood. 2, W. A. Taylor. 3, W. P. Ryland. 4, R. Allen. 5, Lady Gwydyr. 6, J. Bloodworth, Cheltenham. *hc*, Mrs. Allsopp; W. A. Burnell, Southwell, Notts; W. A. Taylor. *c*, Henry Lingwood; W. Sandys, Radcliffe-on-Trent; Mrs. Wilkin.

Cochin-China (Brown and Partridge-feathered).—*Cocks.*—1, T. Stretch, Ormskirk. 2, G. Lamb, Compton, Wolverhampton. 3, J. K. Fowler, Aylesbury. *hc*, E. Tudman, Whitchurch, Salop. *c*, R. Allen.

Cochin-China (Brown and Partridge Feathered).—*Cockerels.*—1, E. Tudman, Ash Grove, Whitchurch, Salop. 2, J. K. Fowler, Prebendal Farm, Aylesbury. 3, C. Sidgwick, Keighley. *hc*, H. Lingwood, Creeting, Needham Market Suffolk; W. A. Taylor, Manchester.

Cochin-China (Brown and Partridge Feathered).—*Hens.*—1, E. Tudman. 2, W. A. Taylor. 3, R. Allen, Erdington. *c*, W. A. Taylor; H. Lingwood.

Cochin-China (Brown and Partridge Feathered).—*Pullets.*—1, E. Tudman. 2, W. A. Taylor. 3, J. K. Fowler.

Cochin-China (White).—*Cocks.*—1, R. Smalley, Lancaster. 2, J. Sichel, Lark

Hill, Timperley, Cheshire. 3, J. Bloodworth, Cheltenham. *hc*, E. Fearon, Whitehaven.

COCHIN-CHINA (White).—*Cockerels.*—1, R. Chase, Wylde Green, Birmingham. 2, A. J. E. Swindell, Heathland, Steurbridge. 3, P. Collins, Daventry. *hc*, W A. Taylor; R Chase. *c*, E. Fearon; J. Bloodworth.

COCHIN-CHINA (White).—*Hens.*—1, J. Sichel. 2, G. H. Proctor, Market Place, Durham. 3, R. Chase. *hc*, Miss Hales, Canterbury.

COCHIN-CHINA (White).—*Pullets.*—1, Mrs. Williamson, Queensborough Hall, Leicester. 2, J. Bloodworth. 3, E. Fearon. *hc*, R. Chase. *c*, Miss Hales; A. D. Cochrane; Mrs. Williamson; E. Fearon.

BRAHMA POOTRA (Dark).—*Cocks* —1 and Cup, W. A. Taylor. 2, T. F. Ansdell, Cowley Mount, St. Helen's, Lancashire. 3, H. Lacy, Hesden Bridge. *hc*, Hon Miss D. Pennant, Penrhyn Castle, Bangor, North Wales; Mrs. Hurt, Ashby-de-la-Zouch; J. H. Dawes, Birmingham; Rev. J. Bowen, Talgarth; H. Lingwood; L. Wright, King-down; J. H. Dawes.

BRAHMA POOTRA (Dark) —*Cockerels.*—1, Hon. Mrs. A. B. Hamilton, Ridgmont, Woburn, Beds. 2, E. Ensor, Alfred Hill, Bristol. 3, R. Brownlie, Kirkcaldy. 4, Lady Gwydyr, Stoke Park, Ipswich. 5, J. Watts, Hazelwell Hall, King's Heath, Birmingham. 6, E Pritchard, Tettenhall, Wolverhampton. *hc*, Rev. J. Bowen (2); J. K. Fowler; Rev. E. Alder (2); Lady Gwydyr (2 ; W. Hargreaves, Huttock Top, Bacup; E. Kendrick, jun., Weeford House, Lichfield; L. Wright; Hon. Mrs A B. Hamilton; W Arkwright, Sutton Scarsdale, Chesterfield; Countess of Haddington, Coldstream, N.B.; J. H. Dawes; Hon. Miss D. Pennant. *c*, H. Lingwood; F. Sabin, Birmingham; Rev. E. Alder; J. W. Morison, Kirkcaldy; G. Maples, jun., Wavertree, Liverpool; D. Harris, Merthyr Tydvil; T. F. Ansdell.

BRAHMA POOTRA (Dark).—*Hens.*—1, H. Lacy. 2 and 3, T. F. Ansdell. *hc*, Lady Gwydyr; W. Hargreaves; W. Whittaker, Belper, Derby; J. H. Wilson, St. Bees, Whitehaven; H. B. Morrell, Clyro, Radnorshire. *c*, T. F. Ansdell; Mrs. Hurt.

BRAHMA POOTRA (Dark).—*Pullets.*—1, L. Wright. 2, H. P. Moor, Chippenham. 3 and 5, W. Arkwright. 4 and 6, Hon. Mrs. A. B. Hamilton. *hc*, W. Baker, Fetches, Whitchurch, Salop; H. P. Moor; G. F. Whitehouse, Birmingham; H. B. Morrell, Cae Mawr, Clyro, Radnorshire; M. Leno, Dunstable, Beds; W. Arkwright; L. Wright (2); Rev. E. Alder (2); H. Lingwood, Suffolk; Mrs. Hurt. *c*, F. Sabin; Birmingham; W. Hargreaves, Huttock Top, Bacup; L. Wright.

BRAHMA POOTRA (Light).—*Cocks.*—1, M. Leno. 2, J. R. Rodhard, Wrington, Bristol. 3, J. Pares, Postford, Guildford. *hc*, H. Dowsett, Pleshey, Essex; H. M. Maynard, Holmewood, Ryde, Isle of Wight; J. Beach, Coven, Wolverhampton. *c*, J. Pares; Mrs. Williamson, Leicester.

BRAHMA POOTRA (Light).—*Cockerels.*—1, M. Leno. 2, Mrs Williamson. 3, R. Fulton, Deptford, London. 4, J. R. Rodhard. *hc*, Dr. D. C. Campbell, Brentwood, Essex; J. Long, Plymouth. *c*, W. E. George, Downside, Stoke Bishop, Bristol.

BRAHMA POOTRA (Light).—*Hens.*—1, F. Crook, Forest Hill. 2, J. R. Rodhard. 3, R. Allen, Erdington. *hc*, H. Dowsett. *c*, J. Beach; H. M. Maynard.

BRAHMA POOTRA (Light) —*Pullets.*—1, Mrs. Williamson. 2, F. Crook. 3, J. R. Rodhard. 4, A. Herbert, Fgham. *hc*, A. Herbert; H. M. Maynard (2). *c*, Miss Hales, Canterbury; Countess of Haddington; Mrs. Williamson.

MALAY.—*Cocks* —1, Rev. A. G. Brooke, the Rectory, Shrawardine, Salop. 2, W. B. Payne, Shrewsbury.

MALAY.—*Cockerels.*—1, W. Shaw, Birmingham. 2, Rev. A. G. Brooke.

MALAY.—*Hens.*—1, W. B. Payne, Shrewsbury. 2, Rev. A. G. Brooke. *hc*, W. Lort, King's Norton, Birmingham.

MALAY.—*Pullets.*—1, T. Hollis, Twyford. 2, W. Lort.

CREVE-CŒURS.—*Cocks.*—1, W. R. Park, Abbotsmeadew, Melrose. 2, J. Sichel, Timperley. 3, W. Dring, Faversham. *hc*, C. H. Smith, Radcliffe-on-Trent; R. B. Wood, Uttoxeter; W. Blinkhorn, Waterdale, St. Helens. *c*, Mrs. Wilkin, Beetle, Carnforth.

CREVE-CŒURS.—*Hens or Pullets.*—1, R. B. Wood, Uttoxeter. 2, W. R. Park. 3, J. J. Malden, Biggleswade. *hc*, Hon. H. W. Fitzwilliam, Wentworth Woodhouse, Rotherham; H. Wyndham; J. Sichel; C. H. Smith; J. Malden.

HOUDANS.—*Cocks.*—1 and 3, R. B. Wood. 2, W. O. Quibell, Newark. *hc*, Countess of Dartmouth, Patshull, Albrighton. *c*, Mrs. H. N. Try, Hartshill, Atherstone.

HOUDANS —*Hens or Pullets.*—1, W. O. Quibell. 2, C. Morris, Grassendale, Liverpool. 3, R. B. Wood. *hc*, W. Dring; J. Drewry, Burton-on-Trent; C. Morris; W. O. Quibell (2).

LA FLECHE.—*Cocks* —1, J. K. Fowler. 2, Hon. C. W. Fitzwilliam.

LA FLECHE.—*Hens or Pullets.*—1, S. A. Wyllie, East Moulsey. 2, G. A. Stephens, Dublin.

SPANISH.—*Cocks.*—1, H. & J. Wilkinson, Earby, Skipton. 2, Hon. Miss D. Pennant, Penrhyn Castle, Bangor. 3, H. Yardley, Birmingham. *hc*, Mrs. Allsopp, Worcester; Hon. Miss D. Pennant; J. F. Sillitoe, Wolverhampton.

SPANISH.—*Cockerels.*—1 and Cup, J. H. Raby, Great Witley, Stourport. 2, Hon. Miss D. Pennant. 3, P. H. Jones, Fulham. 4, A Mollons, Standiford, Wolverhampton. 5, E. Jackson, Finchfield, Wolverhampton. 6, E. Jones, Clifton, Bristol. *hc*, Miss E. Brown, Chardleigh Green, Chard; Hon. Miss D. Pennant; Mrs. Allsopp (2); E. Jackson (2); J Walker, Standiford, Wolverhampton; Mrs. Hyde (2); H. & J. Wilkinson; T. Bamfield, Clifton, Bristol; A. Mollons. *c*, A. Mollons (2); N. Cook, Chewbent, Manchester; C. W. Brierley, Middleton, Manchester; J. Walker; J. Stephens, Walsall; W. R. Bull, Newport Pagnell.

SPANISH.—*Hens.*—1, Hon. Miss D. Pennant. 2, H. Beldon, Bingley. 3, H. F. Cooper, Walsall. *hc*, C. W. Brierley.

SPANISH.—*Pullets* —1, W. R Bull. 2, Mrs. Hyde. 3, E. Jones. 4, J. Walker. *hc*, A. Mollons; J. Walker; Hon. Miss D. Pennant; E. Jones. *c*, Hon. Miss D. Pennant.

HAMBURGHS (Black).—*Cocks.*—1, H. Beldon, Bingley. 2, J. Statter, Uplands, New Brighton. 3, C. Sidgwick. *hc*, Mrs. R. B. Moore, Wolverhampton. *c*, Rev. W. Serjeantson Acton Burnell Rectory, Shrewsbury.

HAMBURGHS (Black).—*Hens or Pullets.*—1, Rev. W. Serjeantson. 2, W. A. Taylor. 3, T. Wrigley, jun., Tonge Hall, Middleton, Manchester. *hc*, S. Shaw, Stainland, Halifax; D. Lord, Stacksteads, Manchester; J. M. Kilvert, Palms Hill, Wem, Salop.

HAMBURGHS (Golden-pencilled).—*Cocks.*—1 and 3, H. Beldon. 2, C. Sidgwick. *hc*, T. Wrigley, jun.

HAMBURGHS (Golden-pencilled) —*Hens or Pullets.*—1, H. Beldon. 2, A. Crosbie, Gattonside, Melrose. 3, J. Preston, Allerton. *c*, T. Wrigley, jun.; J. Walker, Birstwith, Ripley.

HAMBURGHS (Silver-pencilled).—*Cocks.*—1 and Cup, H. Pickles, jun. 2 and 3, W. M. Mann, Kendal *hc*. H. Beldon

HAMBURGHS (Silver-pencilled).—*Hens or Pullets.*—1 and 2, W. M. Mann. 3, J. Preston.

HAMBURGHS (Golden-spangled).—*Cocks.*—1 and 2, J. Enckley, Taunton, Ashton-under-Lyne. 3, W. A. Hyde, Hurst, Ashton-under-Lyne. 4, H. Beldon. *hc*, W. A. Hyde; J. Statter; T. Blakeman, Tettenhall, Wolverhampton (2); N. Marlor, Denton, Manchester; E. T. Gardom, Newcastle; J. W. Will, Errol; H. Pickles, jun.; D. Lord.

HAMBURGHS (Golden-spangled).—*Hens or Pullets.*—1 and Extra, given by Mr. James Watts. 2, Rollinson, Lindley, Otley. 3, W A. Hyde, Hurst. 4, N. Marlor, Denton, Manchester. *hc*, H. E. Emberlin, Oadby; C. Plimley, Whitmore Reans, Wolverhampton; D. Lord. *c*, H. Beldon.

HAMBURGHS (Silver-spangled).—*Cocks.*—1 and Cup, H. Pickles, jun. 2, Ashton & Booth, Breadbottom, Mottram, Manchester. 3, J. Fielding, jun., Newchurch. 4, Ashton & Booth. *hc*, J. Fielding; Ashton & Booth; H. Beldon. *c*, H. Beldon; G. Mitchell.

HAMBURGHS (Silver-spangled).—*Hens or Pullets.*—1 and 3, H. Beldon. 2, G. Mitchell. 4, Miss E. Brown, Chardleigh Green, Chard. *hc*, Ashton & Booth; J. W. Will; G. Mitchell; J. D. Clark; Miss E. Browne. *c*, G. Walters, Worcester; J. Fielding, Newchurch, Manchester.

POLISH (Black, with White Crests).—*Cocks.*—1, W. Gamon, Chester. 2, S Shaw, Halifax. *hc*, P. Unsworth.

POLISH (Black, with White Crests).—*Hens or Pullets.*—1, T. P. Edwards, Lyndhurst, Hants. 2, T. Dean, Keighley. *hc*, S. Shaw, Stainland, Halifax. *c*, T. P. Edwards.

POLISH (Golden).—*Cocks.*—1, W. Gamon, Chester. 2, H. Beldon. *hc*, T. Waddington, Fenniscowles, Blackburn, Lancashire; M. Nicholls, Peel, Isle of Man. *c*, W. K. Patrick, West Winch, Lynn.

POLISH (Golden).—*Hens or Pullets.*—1, H. Beldon. 2, J. Scotson, Little Byrom, Lowton. *hc*, W. K. Patrick; T. Waddington. *c*, W. Harvey, Sheffield.

POLISH (Silver).—*Cocks.*—1 and Cup, G. C. Adkins, The Lightwoods, Birmingham. 2, W. Gamon. 3 and *hc*, G. C. Adkins. *c*, T. Dean, Keighley.

POLISH (Silver).—*Hens or Pullets.*—1 and 2, G. C. Adkins. *hc*, G. C. Adkins; W. Gamon.

ANY OTHER VARIETY.—1, A. Gibb, Ayr. 2, Countess of Dartmouth. 3, J. Drewry, Burton-on-Trent. *hc*, J. Watts, Hazlewell Hall, King's Heath; N. Cook, Chowbent, Manchester; Rev. A. G. Brooke, The Rectory, Shrawardine, Salop; Mrs. Harvey, Edinburgh. *c*, Mrs. Blay, Gregory's Bank, Worcester (2).

GAME (Black-breasted Reds).—*Cocks.*—1, Cup, and Extra, added by Messrs. M. Billing, Son, & Co., J. Fersyth, Wolverhampton. 2, J. H. Wilson, St. Bees, Whitehaven. 3, C. Chaloner, Whitwell, Chesterfield. 4, J. Mason, St. John's, Worcester. *hc*, C. Chaloner; J. Mason. *c*, W. H. Stagg, Netheravon, Pewsey; J. H. Bradwell, Southwell; J. H. Wilson.

GAME (Black-breasted Reds).—*Cockerels.*—1, J. Douglas, Clumber, Worksop. 2, S. Matthew, Stowmarket. 3 and 5, C. Chaloner. 4, P. A. Beck, Guilsfield, Welshpool. *hc*, S. Beighton, New Inn, Farnsfield, Nottingham; J. Fersyth. *c*, P. A. Beck; A. Gibb; B. Jarvis, Mansfield.

GAME (Black-breasted Reds).—*Hens.*—1, W. J. Pope, Biggleswade. 2, G. Lucas, Pleasley Hill, Mansfield. 3, J. H. Wilson. *c*, H. Gibson, Brockenhurst, Lymington.

GAME (Black-breasted Reds).—*Pullets.*—1, G. Newdigate, Shifnal. 2, S. Matthew. 3, G. Heafford, Loughborough. 4, J. W. Thompson, Southowram, Halifax. 5, H. C. & W. J. Mason, Drighlington, Leeds. *c*, Rev. G. Gilbert, Claxton, Norwich; S. Matthew; S. Beighton; J. Fersyth.

GAME (Brown and other Reds except Black-breasted).—*Cocks.*—1 and 3, J. Wood, Wigan. 2, J. Fletcher, Stoneclough, Manchester. 4, S. Matthew. 5, T. Burgess. *hc*, E. Mann, Wallfield, Stand, Pilkington, Lancashire; H. M. Julian, Hull. *c*, E. Aykroyd, Eccleshill, Leeds; G. Lucas, Mansfield.

GAME (Brown and other Reds, except Black-breasted).—*Cockerels.*—1, C. W. Brierley, Middleton, Manchester. 2 and 5, E. Mann. 3 and 4, J. Wood. *hc*, R. Aykroyd; T. Burgess. *c*, W. B. Etches, Whitchurch, Salop.

GAME (Brown and other Reds, except Black-breasted).—*Hens.*—1, C. W. Brierley, Middleton, Manchester. 2, T. Burgess, Barleydam, Whitchurch. 3, F. Sales, Crowle, Doncaster. 4, E. Aykroyd, Eccleshill, Leeds. *hc*, G. F. Ward, Cheshire. *c*, J. Wood.

GAME (Brown and other Reds, except Black-breasted).—*Pullets.*—1, J. Mashiter, Ulverston 2, J. Carlisle, Earby, Skipton. 3, G. F. Ward. 4, J. Wood. 5, E. Aykroyd. *hc*, C. W. Brierley.

GAME (Duckwings, and other Greys and Blues).—*Cocks.*—1, H. M. Julian, Hull. 2 and 3, S. Matthew, Stowmarket. 4, G. Lucas, Mansfield.

GAME (Duckwings, and other Greys and Blues).—*Cockerels.*—1 and 3, S. Matthew. 2, C. Chaloner, Whitwell, Chesterfield. 4, E. Aykroyd.

GAME (Duckwings, and other Greys and Blues) —*Hens.*—1, J. Goodwin Liverpool. 2, H. M. Julian. 3, J. Frith, Chatsworth, Bakewell.

GAME (Duckwings, and other Greys and Blues).—*Pullets.*—1, 2, and 3, J. Goodwin.

GAME (Blacks and Brassy-winged, except Grey).—*Cocks.*—1 and 2, E. Kendrick, jun., Lichfield. 3, Capt. W. G. Webb, Tamworth.

GAME (Blacks and Brassy-winged, except Grey).—*Hens or Pullets.*—1 and 2 Capt. W. G. Webb. 3, N. Russel, Oswestry.

GAME (White and Piles).—*Cocks.*—1, 2, Cup, and Medal, C. W. Brierley. 3, J. Frith. *hc*, W. Sutcliffe. *c*, J. Sunderland; J. Fletcher.

GAME (White and Piles).—*Hens or Pullets.*—1 and 2 C. W. Brierley. 3, B. Jarvis, Mansfield.

BANTAMS (Gold-laced).—1 and 2, M. Leno.

BANTAMS (Silver-laced).—1 and 2, M. Leno.

BANTAMS (White, Clean-legged).—1, H. Beldon. 2, J. Bloodworth. *c*, Rev. F. Tearle, Newmarket.

BANTAMS (Black, Clean-legged).—1, Rev. G. S. Cruwys, Tiverton, Devon. 2, E. Cambridge, Cotham, Bristol. 3, Miss G. Ridgway, Dewsbury. 4, J. Walker. *hc*, H. Draycott.

BANTAMS (Any variety except Game).—1, Mrs. Woodcock, Leicester. 2, Hon. C. E. Finch, The Bury, Leamington Spa. *hc*, J. Sichel; F. H. Paget, Birstall, Leicester.

GAME BANTAMS (Black-breasted Reds).—1, H. Shumach, Southwell, Notts. 2, H. Gibson, Brokenhurst, Lymington. 3, J. W. Morris, Rochdale. 4, J. Eaton, Farnsfield. 5, E. Fearon, Whitehaven.

GAME BANTAMS (Brown and other Reds, except Black-breasted).—1, S. Beighton, Farnsfield. 2, G. E. Meredith, Ightfield, Whitchurch.

GAME BANTAMS (Any other variety).—1, W. Adams, Ipswich. 2, J. Eaton. 3, S. Deacon, jun., Oundle.

GAME BANTAMS (Black-breasted and other Reds).—*Cocks.*—1, J. Eaton. 2, W. F. Entwisle, Westfield, Cleckheaton. 3, Capt. T. Wethersall, Loddington, Kettering. 4, A. Gibbs, Ayr. 5, G. Maples, jun., Wavertree, Liverpool.

GAME BANTAMS (Any other variety).—*Cocks.*—1, J. Eaton. 2, G. Smith, Stoneley. 3, W. F. Entwisle.

DUCKS (White Aylesbury).—1, 2, and 3, J. K. Fowler. 4, E. Fearon, Whitehaven. *hc*, L. H. Rickets, Banwell; J. W. Will, Errol. *c*, E. Shaw, Plas Wilmot, Oswestry.

DUCKS (Rouen).—1 and 5, T. Statter, Whitfield, Manchester. 2, J. Scotson, Little Byrom, Lowton, Newton-le-Willows. 3, R. Gladstone, Liverpool. 4, A. Dickinson, West Croft, Distington, Whitehaven. 6, J K. Fowler. *hc*, J. J. Waller, Kendal; J. K. Fowler; R. Gladstone (2); H. Dowsett; T. Statter (2); A. Woods, Sefton, Liverpool; J. Scotson; H. B. Smith, Broughton, Preston; W. H. Denisen, Woburn. *c*, J. K. Fowler; Gunson & Jefferson, Whitehaven; A. Woods.

DUCKS (Black East Indian).—1 and extra 1, F. Pittis, jun., Newport, Isle of Wight. 2, G. S. Sainsbury, Devizes. 3, S. Burn, Whithy. *hc*, Mrs. Hayne, Fordington, Dorchester; Rev. J. Richardson; S. Burn; F. Pittis, jun. *c*, H. B. Smith, Broughton.

DUCKS (any other variety).—1, S. Burn. 2, M. Leno. *hc*, M. Leno (2); H. Mapplebeck, Birmingham; H. B. Smith. *c*, J. K. Fowler; N. Russell, Brynowyn, Oswestry; J. Watts, King's Heath, Birmingham

GEESE (White).—1, J. K. Fowler. 2, Rev. G Hustler, Stillingfleet, York *hc*, Lady G. Vernon, Droitwich; T. Statter, jun.; T. Harrison, jun., Gateacre. *c*, Lady G. Vernon, Droitwich; T. Statter, jun.; T. Harrison, jun., Gateacre.

GEESE (White) —*Goslings.*—1, J. K. Fowler. 2, J. Lycett, Stafford. *hc*, Rev. G. Hustler (2); J. K. Fowler.

GEESE (Grey and Mottled).—1, J. K. Fowler. 2, J. Lycett. *hc*, Lady D. W. Fitzwilliam, Wellingborough; W. Lort, King's Norton.

GEESE (Grey and Mottled).—*Goslings.*—1 and 2, J. K. Fowler. *hc*, T. Statter, jun.; E. Shaw, Oswestry; W. Tippler, Roxwell, Chelmsford; Hon. Mrs. Colvile, Lullington, Burton-on-Trent.

TURKEYS.—*Cocks.*—1 and 2, F. Lythall, Banbury. *hc*, Rev. N. J. Ridley, Newbury; Mrs. Parsons, Bridgnorth; F. E. Rawson, Thorpe.

TURKEYS.—*Cockerels.*—1, F. Lythall. 2, E. Kendrick, jun., Lichfield. *hc*, Lady E. Isham. Northampton; Mrs. Winterton, Hinckley; E. Kendrick, jun. (2); Hon. Mrs. Colvile (2); E. Shaw; Miss Winterton, Hinckley; T. Watson, Whiteacre, Coleshill; F. Lythall (2); Miss J. Milward, Newton St. Lee, Bristol; Hon. Mrs. Colvile; W. Tippler; W. Wykes, Welvey, Hinckley. *c*, W. Wykes.

TURKEYS.—*Hens.*—1, E. Leech, Rochdale. 2, F. E. Richardson, Bramshall, Uttoxeter. *hc*, Mrs. Parsons; F. E. Rawson; E. Kendrick, jun.; F. Lythall.

TURKEYS.—*Poults.*—1, E. Leech. 2, F. Lythall. *hc*, Lady E. Isham; Rev. G. Gilbert, Claxton, Norwich; Mrs. Winterton (2); T. Watson; Mrs. Wykes; E. Kendrick, jun.; W. Wykes. *c*, E. Kendrick, jun.

PIGEONS.

ALMOND TUMBLERS.—1 and 3, R. Fulton, Deptford, London. 2, J. Ford, Monkwell Street, London. *c*, E. Horner, Harewood, Leeds; J. Ford.

CARRIERS (Black).—*Cocks.*—1, R. Fulton. 2, E. Horner. *hc*, F. Smith, Selly Oak, Birmingham. *c*, T. Waddington, Feniscowles, Blackburn; W. Woolley, Bunbury, Tarporley.

CARRIERS (Black).—*Hens.*—1, E. Horner. 2, W. Woolley. *hc* and *c*, R. Fulton

CARRIERS (Dun).—*Cocks.*—1, R. Fulton. 2, E. Horner. *hc*, W. Siddons, sen. Aston, Birmingham.

CARRIERS (Dun).—*Hens.*—1, G. Gordon, Birmingham. 2, J. C. Ord, Lupus Street, London. *hc*, J. C. Ord.

CARRIERS (Any other colour).—*Cocks.*—Prize, R. Fulton. *hc*, J. Watts. *c*, W. Siddons, sen., Aston, Birmingham.

CARRIERS (Any other colour).—*Hens.*—Prize, J. Watts. *hc* and *c*, R. Fulton.

CARRIERS (Black).—*Cockerels or Pullets.*—1, 2, and Cup, W. Siddons, sen. *hc*, H. M. Maynard, Holmewood, Ryde, Isle of Wight; W. Siddons, sen. *c*, E. Horner, Harewood, Leeds.

CARRIERS (Any other colour).—*Cockerels and Pullets.*—1 and 2, W. Siddons, sen. *hc*, G. F. Whitehouse, King's Heath, Birmingham; J. Watts. *c*, H. Yardley.

POUTERS (Red).—*Cocks.*—1 and Cup, R. Fulton. 2, F. Gresham, Shefford.

POUTERS (Red).—*Hens.*—1, E. Horner. 2, W. R. Rose, Cransley Hall, Kettering. *hc*, J. Hawley, Bradford.

POUTERS (Blue).—*Cocks.*—1 and *hc*, F. Gresham. 2, R. Fulton.

POUTERS (Blue).—*Hens.*—1, F. Gresham. 2 and *c*, R. Fulton. *hc*, E. Horner,

POUTERS (Black).—*Cocks.*—1, R. Fulton. 2, F. Gresham. *hc*, E. T. Dew, Weston-super-Mare.

POUTERS (Black).—*Hens.*—1, R. Fulton. 2, E. Horner.

POUTERS (White).—*Cocks.*—1, F. Gresham. 2, Mrs. Ladd, Calne. *hc*, W. R. Rose. *c*, E. Horner; W. Harvey; R. Fulton.

POUTERS (White).—*Hens.*—1, F. W. Zurhorst, Dublin. 2, W. R. Rose. *hc*, R. Fulton. *c*, Mrs. Ladd.

POUTERS (Any other colour).—*Cocks.*—1 and 2, R. Fulton.

POUTERS (Any other colour).—*Hens.*—1, Medal, and 2, R. Fulton. *hc*, E. Horner. *c*, T. Waddington.

BARBS (Black).—1 and 2, R. Fulton. *hc*, F. Smith, Selly Oak, Birmingham. *c*, S. Shaw, Stainland, Halifax; H. M. Maynard.

BARBS (Any other colour).—1, T. Waddington. 2, R. Fulton. *c*, W. Harvey, Sheffield.

BARBS.—*Young.*—1 and Cup, F. Smith, Selly Oak, Birmingham. 2, T. Waddington. *hc*, P. H. Jones, Fulham. *c*, H. Yardley.

BALDS OR BEARDS.—1 and *hc*, W. J. Woodhouse, Lynn. 2, W. H. C. Oates, Besthorpe, Newark. 3, J. Fielding, jun., Rochdale.

TUMBLERS (Short-faced).—1, J. Fielding, jun. 2, R. Fulton. *hc*, J. Ford, London (2). *c*, J. Watts.

TUMBLERS (Long-muffed).—1, J. W. Edge, Birmingham. 2, H. Yardley. *hc*, H. Yardley (2); J. Watts.

TUMBLERS (Any other variety).—1, W. Harvey. 2, J. Percivall, Peckham, London. *hc*, E. Horner; J. Hawley. *c*, J. Thompson, Fern Hill, Bingley.

RUNTS.—1, T. D. Green, Saffron Walden. 2, R. Fulton. *hc*, S. A. Wyllie, East Moulsey (2).

JACOBINS.—1 and *c*, J. Thompson. 2, R. Fulton. *hc*, S. Shaw, Stainland, Halifax; E. Horner; P. H. Jones; W. E. Easten, Hull.

JACOBINS (Any other colour).—1, W. B. Van Haansbergen, Newcastle-on-Tyne. 2, T. Waddington. *hc*, F. Waitt, King's Heath, Birmingham; R. Fulton. *c*, J. Thompson.

FANTAILS (White).—1, Rev. W. Serjeantson. 2, W. B. Van Haansbergen. 3, J. F. Loveraidge, Newark. *hc*, H. Yardley. (The whole class highly commended).

FANTAILS (Any other colour).—1 and 2, H. Yardley. *hc*, F. H. Paget, Biratall, Leicester; W. B. Van Haansbergen; W. Choyce, Sibson, Atherstone.

TRUMPETERS (Mottled).—1, W. B. Van Haansbergen. 2, E. Horner. *hc*, T. Waddington; E. Horner.

TRUMPETERS (Any other colour).—1, W. H. C. Oates, Besthorpe, Newark. 2, P. H. Jones.

OWLS (Foreign).—1, J. Fielding, jun. 2, E. Horner. *hc*, T. Waddington; J. Fielding, jun.; P. H. Jones.

OWLS (English).—1, J. W. Edge, Birmingham. 2, C. Gamon, Chester. *hc*, C. Gamon; G. H. Gregory; P. H. Jones.

NUNS.—1, W. Bankes, Runcorn, Cheshire. 2, W. E. Easten, Hull. 3, H. Yardley. *hc*, J. Watts; W. Choyce.

TURBITS (Red or Yellow).—1 and 2, S. Shaw, Stainland, Halifax.

TURBITS (Any other colour).—1, R. Fulton. 2, W. Bankes. *hc*, O. E. Cresswell; W. Bankes; R. Fulton; F. H. Paget, Birstall, Leicester.

DRAGOONS (Blue).—1, 2, and Cup, W. H. Mitchell, Mosely, Birmingham. *hc*, F. Graham, Birkenhead.

DRAGOONS (Red or Yellow).—1 and 2, F. Graham. *hc*, J. Holland (2), Manchester; F. Graham.

DRAGOONS (Silver).—1, R. Fulton. 2, F. Graham. *hc*, H Allsop.

DRAGOONS (Any other colour).—1, G. H. Gregory. 2, F. Graham.

MAGPIES.—1, E. Horner. 2, J. B. Bowden, Blackburn. *hc*, P. H. Jones; J. B. Bowden.

ANTWERPS (Silver Dun).—1, H. Allsop. 2, J. W. Ludlow, Birmingham. *hc*, J. W. Ludlow; R. Brierley; W. Van Wart, Birmingham; H. P. Ryland, Erdington; C. F. Copeman.

ANTWERPS (Blue).—1, H. R. Wright, Birmingham. 2, W. Van Wart. *hc*, C. Gamon; H. R. Wright.

ANTWERPS (Red Chequered).—1, 2, and Cup, H. R. Wright. *hc*, J. Croxland; J. W. Ludlow.

ANTWERPS (Blue Chequered).—1 and 2, J. W. Ludlow. *hc*, W. Van Wart; J. W. Ludlow; C. Gamon; H. R. Wright; H. Yardley.

ARCHANGELS.—1, H. Yardley. 2, W. Harvey.

SWALLOWS.—1, W. Choyce. 2, F. H. Paget, Leicester. *hc*, W. C. Dawson, Otley; T. Waddington; E. Horner.

ANY OTHER VARIETY.—1, W. C. Dawson. Extra 1 and Cup, J. W. Ludlow. 2, F. Waitt, Birmingham. Extra 2, H. Yardley. 3, F. H. Paget. Extra 3, S. A. Wyllie. *hc*, H. Yardley; F. H. Paget; T. Waddington; J. W. Ludlow; A. Crosbie, Melrose.

JUDGES.—*Poultry:* Rev. G. F. Hodson, North Petherton, Bridgewater; Capt. Heaton, Worsley, Manchester; Mr. John Baily, Mount Street, Grosvenor Square, London; Mr. James Dickson, North Park, Clayton, Bradford; Mr. E. Hewitt, Sparkbrook, Birmingham; Mr. R. Teebay, Fulwood, near Preston; Mr. J. H. Smith, Skelton Grange, York; Mr. R. Woods, Osberton, Worksop; and Mr. Edward Lowe, Comberford, Tamworth. *Pigeons:* Mr. Harrison Weir, 9, Lyndhurst Road, Peckham, London; Mr. T. J. Cottle, Pulteney Villa, Cheltenham; Mr. E. L. Corker, Croydon; Mr. F. Esquilant, 4, Effra Road, Brixton, London, S.; Mr. T. J. Charlton, 62, Trafalgar Street, Bradford, Yorkshire; Mr. H. Child, Sherborne Road, Birmingham.

CAMBRIDGE POULTRY SHOW.—We are informed this is a great success. There are more than 700 entries.

OAKHAM POULTRY SHOW.

THE vastly improved arrangement of this year's Show is certainly worthy not only of all praise, but also of the large entry of first-rate specimens which was obtained. A building expressly erected since last year, admirably lighted from the roof, and capable of holding easily from a thousand to twelve hundred pens, has secured a firm position for future meetings of this Society. Although from the time fixed being midway between the great Shows of the Crystal Palace and Birmingham many persons doubted the success of the Oakham meeting, there was an entry of considerably beyond six hundred pens, the majority of which were excellent.

Perhaps years may elapse before so large and so praiseworthy a show of Grey *Dorking* hens may again take place in this district, and yet, strange to say, the Silver-Greys proved just as indifferent. The most notable, perhaps, of any varieties shown were the White *Cochins*. They were all that could be desired, and the Black Cochins were better than have been exhibited for many years. In *Game* fowls the chief merit lay among the Brown Reds, which were not only very perfect, but mostly exhibited in admirable condition. The Selling classes were exceedingly well filled, and a very brisk sale ensued; in fact, it is well known that these sale classes are not only most popular, but also by far the best paying of any to the committees of shows.

The *Pigeons* were mostly of a very high character, but any practised eye could discern, even at a glance, that many of the best pens were ailing very much from being overdone by almost continuous exhibition.

The attendance was satisfactory, and the pecuniary success of the Exhibition much better than heretofore.

DORKING (Coloured).—*Cock.*—1, J. Hornsby, Grantham. 2 C. Speed, Exton. *hc*, J. M. Wellington, Oakham; Mrs. G. Clarke, Sutton Marsh, Long Sutton; Henry Lingwood, Needham Market. *c*, R. Wood, Clapton, Thrapston; J. Stott, Healey, Rochdale; J. Smith, Shillinglee Park, Petworth; T. Briden, Cononby, Leeds. *Hens or Pullets.*—Cup and 1, L. Patton, Hillmore, Tauntcn. 2, J. Stott *hc*, G. Jackson, Langford; E. W. Southwood, Fakenham; R. Wood J. Tyler, jun., Loughborough; Henry Lingwood; C. Speed; J. Hornsby; Briden (2). *c*, J. Hornsby.

DORKING (Silver-Grey).—*Hens or Pullets.*—1 and 2, Marchioness of Exeter Burghley Park, Stamford.

DORKING (White).—*Cock.*—1, Miss E. Williams, Henllys, Berriew, Montgomery. 2, Marchioness of Exeter. *Hens or Pullets.*—1, O. E. Cresswell Bagshot. 2, Miss E. Williams. *hc* and *c*, Marchioness of Exeter.

SPANISH (Black).—1, J. Stephens, Walsall. 2, G. Hibbitt, Exton. *Chickens.*—Cup and 1, C. H Smith, Newport Pagnell. 2, E. Jackson, Finchfield, Wolverhampton. *hc*, W. Smallwood, Springfield, Wolverhampton; J. F. Dixon, Cotgrave, Nottingham *c*, J. F. Dixon; J. Stephens.

COCHINS (Cinnamon, Buff, or Partridge).—*Cock.*—1, J. M. Otter, Newark. 2, H. Lloyd, jun., Handsworth, Birmingham. *hc*, J. Sichel, Timperley; J. Stephens. *c*, R. B. Wood, Uttoxeter; Mrs. Woodcock, Leicester; T. M. Derry, Gedney, Wisbeach; J. Taylor, Sutton, near Ely. *Hens or Pullets.*—1, J. Sichel. 2, H. Lloyd, jun. *hc*, R. B. Wood; Henry Lingwood; J. Stephens. *c*, Mrs. Woodcock.

COCHINS (White or Black).—*Cock*—1, J. Sichel. 2, Mrs. A. Williamson, Syston. *hc*, H. H. Bletsoe, Barnwell, Oundle; Rev. C. H. Lucas, Edith Weston, Stamford (3). *Hens or Pullets.*—1 and Cup, A. Williamson. 2 and *c*, Rev. C. H. Lucas. *hc*, H. H. Bletsoe; J. Sichel.

BRAHMAS.—*Cock.*—1, J. Walker, Keele, Newcastle-under-Lyne. 2, Mrs. A. Williamson. *hc*, R. B. Wood; T. F. Ansdell, Cowley Mount, St. Helens; Mrs. A. Williamson. *c*, Hon. Mrs. A. B. Hamilton, Ridgmount, Woburn; R. B. Wood; J. S. Dew, St. Neots; L. Wren, Lowestoft. *Hens or Pullets.*—1, J. Sichel. 2, T. F. Ansdell. *hc*, R. B. Wood.

HOUDANS.—1, J. Sichel. 2, W. Dring, Faversham. *hc*, R. B. Wood; W. Cutlack, jun., Littleport.

CREVE-CŒURS.—Cup and 1, C. H. Smith, Radcliffe-on-Trent. 2, J. Sichel. *hc*. W. Dring; J. J. Malden, Biggleswade. *c*, J. M. Wellington.

HAMBURGHS (Silver-spangled).—1, J. B. Bly, Lowestoft. 2, W. Hughes, Oakham.

HAMBURGHS (Silver-pencilled).—1, J. Preston, Allerton, near Bradford. 2, H. Walker, Ashwell, Oakham.

HAMBURGHS (Gold-spangled).—1 and Cup, W. K. Tickner, Ipswich. 2, T. May, Wolverhampton. *hc*, L. Wren; T. Blakeman, Tettenhall, Wolverhampton. *c*, H. Hinckley, Radhourne; T. May.

HAMBURGHS (Gold-pencilled).—1, J. Preston. 2, G. Parker, Hopwell, near Derby. *c*, M. Brown.

GAME (Red and other dark colours).—*Cock.*—1, A. J. Fludyer, Ayston, Uppingham. 2, S. Matthew, Stowmarket. *hc*, J. Richardson, Loughborough. *c*, B. Jarvis, Mansfield; R. L. Healey, Hambleton, Oakham; J. Jeken, Eltham. *Hens or Pullets.*—1 and Cup, J. Tyler, jun. 2, R. H. Brown, Pellow Lane, Halifax. *hc*, A. Fetch, Melton Mowbray; W. Jones, Worcester; E. Brough, Leek. *c*, J. Jeken; E. Winwood; B. Jarvis; R. L. Healey, Hambleton.

GAME (White, Piles, and light colours).—*Cock.*—1, S. Matthew. 2, J. Jeken. *hc*, S. Deacon, jun., Oundle. *c*, G. Parker; B. Jarvis. *Hens and Pullets.*—1, S. Matthew. 2, E. Winwood.

BANTAMS (White, clean legs).—Prize, H. L. Bradshaw, Wakerley, Stamford. *c*, Messrs. S. & R. Mottram, Manchester.

BANTAMS (Black, clean legs).—Prize, W. H. Robinson, Long Lee, Keighley. *hc*, Mrs. G. Clarke; S. & R. Ashton. *c*, Mrs. G. Clarke; H. Draycott, Humberstone, near Leicester.

BANTAMS (Gold or Silver-laced).—1 and 2, M. Leno, Dunstable. *c*, F. S. Arkwright, Sutton Scarsdale, Chesterfield.

BANTAMS (Any other variety).—1 and Cup, R. S. Loundes, Stony Stratford (Pekin). 2, E. Winwood (White Rooted.) *hc*, J. Sichel (Pekin); Mrs. Woodcock (White). *c*, E. S. Fordham, Ashwell, Baldock (Silky).

GAME BANTAMS.—*Cock*—1, W. B. Jeffries. 2, H. J. Nicholson, Millom. *hc*, E. Winwood; W. B. Jeffries; Bellingham & Gill, Burnley (2); F. H. Wright, Halifax; W. Adam, Ipswich. *c*, — Johnson, Newark; H. W Currie, Thetford. *Hens or Pullets.*—1 and Cup, Bellingham & Gill. 2, W. Adams. *hc*, E. Winwood; J. Smith; Mrs. H. C. Rogers, Newport Pagnell; H. Smith; W. B. Jeffries (2); J. Oldfield, Little Horton, Bradford; G. Todd. *c*, J. M. Wellington.

POLANDS.—1, G. W. Boothby, Leeds. 2, A. Almond, Oakham.

ANY OTHER DISTINCT VARIETY.—1, E. Fane, Grantham (Black Cochin). 2, Miss E. J. N. Hawker, Wycliffe, Tunbridge Wells (Silky Fowls).

TURKEYS.—*Cock.*—1, L. Patton. 2, M. Kew, Market Overton. *hc*, Miss E. Williams; J. H. L. Wingfield, Tickencote; Mrs. Berridge, Burley-on-the-Hill; W. Kirk, Wymondham; W. Hughes, Oakham. *Hens.*—1 and Cup, L. Patton. 2, G. R. Pearson, Grantham. *hc*, G. R. Pearson; M. Kew.

TURKEYS.—*Young Cocks.*—1, Mrs. J. Mayhew, Great Baddow. 2, T. M. Derry, Gedney, Wisbeach. *hc*, G. R. Pearson. *c*, G. R. Pearson; M. Kew. *Young Hens.*—1, M. Kew. 2, J. Mayhew. *hc*, G. R. Pearson (2); M. Kew.

DUCKS (White Aylesbury).—1 and Cup and 2, G. H. Finch, Burley-on-the-Hill, Oakham. *hc*, J. Hornsby. *c*, Mrs. Lowther, Barleythorpe, Oakham; M. Kew.

DUCKS (Rouen).—1, W. H. Robson, North Reston, Louth. 2, L. Patton. *hc*, W. Meanley, Walsall; J. White, Whitley Netherton, near Wakefield. *c*, W. H. Robson; G. R. Pearson; H. B. Smith, Broughton, Preston; L. Patton.

Ducks (Any other variety).—1, Rev. C. H. Lucas, The Rectory, Edith Weston, Stamford (Kasarka). 2, M. Leno (Mandarin). *hc*, M. Leno (Whistling); S. Deacon, jun., Oundle (Buenos Ayrean); H. B. Smith (Shell). *c*, H. E. Hardy, Ewerby, Sleaford (Buenos Ayrean); Rev. C. H. Lucas (Buenos Ayrean); H. B. Smith (Carolina).

Geese (White).—Prize and *hc*, N. Whitchurch, Melton Mowbray. *Goslings.*—Prize, T. M. Derry. *hc*, G. H. Finch.

Geese (Grey).—Prize and Cup, M. Kew. *hc*, W. Kirk. *c*, Rev. C. H. Lucas.

Selling Class.—*Cock or Cockerel.*—1 and Cup, E. Robinson, Kettering (Black Red Game). 2, J. Mills, Mount Ending, Healey, near Rochdale (Dark Brahma). *hc*, H. Lloyd, jun.; J. Tyler, jun.; F. J. Barlow, Oakham; R. B. Wood (3). *c*, J. Sichel; H. Lloyd, jun.; J. F. Dixon, Cotgrave, Nottingham; J. M. Wellington; R. L. Healey, Hambleton; H. H. Bletsoe.

Selling Class.—*Hens or Pullets.*—1, J. Sichel (Buff Cochins). 2, S. S. Mossop, Long Sutton (Silver-spangled Hamburgh). *hc*, J. Sichel; Miss E. J. N. Hawkes, Wycliffe, Tunbridge Wells. *c*, Lady Aveland, Normanton Park, Oakham; C. H. Smith, Newport Pagnell; J. F. Dixon; Rev. C. H. Lucas: T. M Derry; H. Yardley, Birmingham; Mrs. Woodcock; R. L. Healey; J. J. Malden, Biggleswade; W. Hughes, Oakham.

Miscellaneous Selling Class.—1, G. R. Pearson (Turkeys). 2, Mrs. Berridge (Pea Fowls). *hc*, Mrs. Berridge; G. R. Pearson.

PIGEONS.

Tumblers.—1 and *c*, E. Horner, Harewood, Leeds. 2 and *hc*, W. B. Van Haansbergen, Newcastle-on-Tyne.

Carriers.—*Cock.*—1 and 2, E. Walker, Leicester. *hc*, E. Horner; H. Yardley. *Hen.*—1, E. Walker. 2, H. Yardley. *hc*, E. Horner; E. Walker. *c*, E. Horner. *Young.*—1, E. Walker. 2, E. Horner, *hc*, E. Walker; J. Tyler, jun. *c*, E. Horner; L. Wren.

Pouters.—1, W. B. Van Haansbergen. 2, J. E. Palmer, Peterborough. *c*, T. J. Caparn, Newark; J. E. Palmer; E. Horner.

Jacobins.—1 and 2, E. Horner. *hc*, W. B. Van Haansbergen. *c*, J. E. Palmer; W. B. Van Haansbergen.

Fantails.—1, W. B. Van Haansbergen. 2, E. Horner. *hc*, J. Walker; W. B. Van Haansbergen. *c*, G. Jackson, Langford; H. Yardley.

Trumpeters.—1, W. B. Van Haansbergen. 2 and *hc*, W. Gamble, Thorpe Satchville, Melton. *c*, E. Horner.

Nuns.—1, E. Horner. 2, H. Yardley.

Turbits.—1, E. Horner. 2, W. B. Van Haansbergen.

Runts.—1, W. R. Van Haansbergen. 2, H. Yardley.

Any other Variety.—1, H. Yardley (Barbs). 2, H. Draycott (Red Swallows). *hc*, E. Horner; W. B. Van Haansbergen. *c*, J. E. Palmer, Peterborough; E. Walker; H. Yardley.

Gold Medal for classes in poultry, Mr. J. Sichel; ditto in Pigeons, Mr. E. Horner.

Mr. Hewitt, of Birmingham, and Mr. Tegetmeier, of London, were the Judges.

BARRHEAD POULTRY SHOW.

The fifteenth Annual Exhibition and competition took place on the 25th inst., when the following awards were made:—

Old Scotch Breed.—1, Mrs. Alston, Craighead, Hamilton. 2, J. Pollock West Walton. 3, J. Laird, Johnstone. *hc*, J. Meiklem, Hamilton. *c*, A. Small.

Spanish.—1, D. M'Beith, Bridge of Allan. 2, W. Wotherspoon, Paisley. 3, A. Robertson, Kilmarnock. *c*, J. Crawford, Beith; C. H. Johnstone, Barrhead.

Dorkings.—*except White.*—1 and *c*, Mrs. Alston. 2, J. Pollock. 3, T. Smillie, jun., Kilmarnock. *hc*, Z. H. Heys, Barrhead.

Game.—*Black-breasted and other Reds.*—1, D. Harley, Edinburgh. 2, G. Williamson, Johnstone. 3, J. M'Whirter, Barrhead. *hc*, J. Cochran, jun., Barrhead. *c*, R. Andrew, Barrhead. *Any other Colour.*—1, D. Harley, Edinburgh. 2, W. Neilson, Johnstone. 3, Z. H. Heys. *hc*, A. Hutchinson, Grahamston, Falkirk. *c*, J. Blair, Dollar.

Hamburghs.—*Golden-spangled.*—1, J. Crawford. 2, D. Picken, jun., Stewarton. 3, A. Robertson. *hc*, J. H. MacNab, Barrhead. *c*, J. Moodie, Paisley. *Golden-pencilled.*—1, W. Neilson. 2, Miss Muir, New Kilpatrick. 3 and *hc*, J. Smith, Stewarton. *c*, R. MacNab, Cardonald. *Silver-spangled.*—1, J. Moodie. 2 and 3, R. Mackie, Clerkhill, Stewarton. *hc*, D. Skeoch, Stewarton; A. Stirling, Grahamston. *Silver-pencilled.*—1, J. Nicholson, 2, R. Gilmour, Neilston. 3, J. Bacup, Paisley. *hc*, H. Arndale, Paisley.

Brahma Pootras.—1, A. Robertson. 2, G. Willison, Kilmarnock. 3, W. R. Farquhar, jun., Alexandria. *c*, T. Corbett, Barhead.

Cochins.—*Any Variety.*—1, G. Willison. 2 and 3, J. Pollock, Bushby.

Topped Polands.—1 and *hc*, W. Gibb, Wishaw. 2, A. Wylie, Johnstone. 3, J. Laird. *c*, C. Walker.

Any other Variety.—1 and 2, R. Mason, Springhill, Barrhead. 3 and *hc*, A. P. White, Paisley.

Cross Breeds.—1, T. Donnelly, Springhill, Barrhead. 2, J. Pollock, West Walton, Mearns. 3, W. Reid, Arthurlie Lodge, Barrhead. *hc*, J. Fulton, Beith. *c*, J. C. Shaw, Barrhead.

Bantams.—*Game.*—1, Gow & Walker, Kilbarchan. 2, J. Ynill, Barrhead. 3, Z. H. Heys. *Any other Variety.*—1, S. & R. Ashton, Mottram, Manchester. 2, D. Muir. 3 and *hc*, A. Robertson. *c*, A. Wylie.

Ducks.—*Aylesbury.*—1 and *hc*, Z. H. Heys. 2, J. Meiklem, Hamilton. 3, J. Campbell, Johnstone. *c*, A. Robertson. *Any other Variety.*—1, J. Pollock. 2 and 3, A. Robertson. *hc*, S. & R. Ashton. *c*, W. G. Mulligans, Belfast.

Selling Class.—1, Gow and Walker. 2, R. Leitch, Barrhead. 3, Mrs. Alston. *hc*, J. Bruce, Barrhead. *c*, W. Holme, Barrhead.

Judges.—Mr. Thomas M'Kean, Cowglen Cottage; Mr. Thomas Struthers, Larkhill; Mr. Thomas Raines, Bridgehangh, Stirling; Mr. John M'Innes, Broomlands, Paisley; Mr. John Sharp, Johnstone; Mr. John Paul, Govan Street, Glasgow.

KILMARNOCK ORNITHOLOGICAL ASSOCIATION'S SHOW.

The twentieth annual Exhibition took place at Kilmarnock on November 18th, and the result has been most satisfactory. In fact, the Show has attained such dimensions that increased accommodation and a larger staff of officials will be imperative next year. Poultry numbered 391 pens, Pigeons 251, and Canaries, &c. 204, while the quality of each class showed a decided improvement in every respect. We shall give a detailed report next week.

Spanish.—1 and Timepiece, H. Wilkinson, Earby. 2, A. Robertson. 3, A. Mollons, Standiford, Wolverhampton. 4, W. Paterson, Langholm. *First Sweepstakes for Pullets*, A. Mollons. *Second Sweepstakes for Pullets*, H. L Horne, Whiterigg, Airdrie. *hc*, J. W. Will, Errol; A. Garven, jun, Kilmarnock; A. Robertson, Kilmarnock; A. Walker; H. Paton, Kilmarnock; J. Crawford, Beith; J. Yuill, Chapelhall, Airdrie (2). *c*, H. Wilkinson.

Brahma Pootras.—1, H B. Smith, Broughton, Preston. 2, H. Wilkinson. 3, R. Brownlee, Kirkcaldy. 4, A. Robertson. *hc*, J. W. Will; R. Brownlee; G. Willison, Kilmarnock.

Cochin-Chinas.—1 and Timepiece, J. Pollock, Patna. 2 and 3, J. W. Will. 4, G. Furness, Rawtenstall. *hc*, J. Musgrave, Longtown.

Dorkings.—1 and Timepiece, Z. H. Heys, Barrhead. 2, J. Robertson. 3, T. Smellie, Moorfield, Kilmarnock. 4, H. Henderson. *hc*, T. Briden, Cononley, Leeds; A. Campbell, Largs; R. Watson, Newton, Ayr.

Scotch Greys.—1, J. Meiklem, Hamilton. 2 and 3, J. Alexander. 4, T. Wallace. *hc*, W. Lindsay, Busby, Glasgow; J. Laird, Johnstone.

Hamburghs.—*Golden-spangled.*—1, S. & R. Ashton, Mottram. Timepiece, J. Jardine, Kilmarnock. 2, H. Pickles, jun., Earby. 3, T. Bowlton, Hanford, Stoke-on-Trent. 4, A. Gibb, Ayr. *hc*, R. Dickson, Selkirk; A. Frisken, Irvine.

Hamburghs.—*Silver-spangled.*—1, J. W. Will. 2 and Timepiece for best Cock, Ashton & Booth, Broadbottom, Mottram. 3 and Timepiece for best Hen, H. Pickles, jun. 4, D. Skeoch, Stewarton. *hc*, S. Smith, Northowram, Halifax; Miss Boyce, Wolverhampton; C. Arrol, Paisley. *c*, J. Bruce, Barrhead.

Hamburghs.—*Silver-pencilled.*—1, J. Ashworth, Marsden Heights, Burnley. 2, T. Bowlton. 3, H. Pickles, jun. 4, J. Walker, Birstwith, Ripley.

Hamburghs.—*Golden-pencilled.*—1 and Timepiece, R. Dickson, Selkirk. 2, T. Bowlton. 3, J. Armstrong, Longtown. 4, J. Walker. *hc*, J. Wyllie, Darvel; J. Neil, Galston; R. Clark, Overton, Johnstone. *Disqualified*, H. Pickles, jun.

Game.—1, 3, and Timepiece, D. Harley, Edinburgh. 2, R. Clarke. 4, T. Mackie, Stewarton. *hc*, T. W. Mitchell, Perth; J. Wolfenden, Light Hasels, Littleborough; J. Robertson; A. Mackay, Whitletts, Ayr; W. Copeland, Ayr.

Game Bantams.—1 and Timepiece, J. Barlow, Monkwearmouth. 2, B. M. Knox, Kilbirnie. 3, A. Wilson. 4, T. C. & E. Newbitt, Epworth. *hc*, Bellingham & Gill, Burnley; T. Barker, Hill End, Burnley; D. Johnstone, jun., Dalry; T. Barker; S. Smith; J. W. Morris; G. Furness, Rawtenstall (2).

Bantams.—*Black or White.*—1 and Oil Painting, T. Waddington, Fenniscowles, Blackburn. 2, S. & R. Ashton. 3, H. L. Horne, Airdrie. 4 J. Currie, Kilmarnock. *hc*, J. W. Will. *Any other Variety.*—1 and 2, A. Robertson. 3, Master A. Frew, Kirkcaldy (Silver-laced). 4, J. Dunn, Galston. *hc*, W. Imrie, Kilwinning (Scotch Grey); J. D. S. Crawford, Kilbarchan (Gold-laced); Mrs. J. M. Proctor, Hull (Laced); Miss E. Robertson, Kilmarnock.

Topped Polands or Crève-Cœurs.—1 and Timepiece, H. Pickles, jun. 2, W. Bearpark, Ainderby Steeple. 3, W. A. Orr, Kilbirnie. 4, Z. H. Heys. *hc*, T. Millar, Stewarton; W. Linton, Selkirk.

Any other Variety.—1, T. Bowlton (Black Hamburghs). 2, R. M'M. Banks, Broomberry, Ayr. 3, Miss Drummond, Errol (Houdans). 4, W. Kerr, Milton, Kilmarnock (Black Hamburghs).

Ducks.—*Aylesbury*—1, A. Robertson, Kilmarnock. 2, J. W. Will. 3, W. J. Thompson. 4, W. G. Mulligan. *hc*, Z. H. Heys, Barrhead; W. J. Thompson, Woodhorn, Morpeth; D. M'Naught, Kilmaurs. *Rouen.*—1 and Timepiece, W. G. Mulligan, Springfield, Belfast. 2, J. Meiklem, Hamilton. 3, H. B. Smith. 4, W. J Thompson *Any other Variety.*—1, H. B. Smith. 2, Countess of Tankerville, Chillingham Castle (Shell). 3, Miss E. Robertson. 4, S. & R. Ashton (Mandarin).

Selling Class.—1, J. Rutherford (Coloured Dorkings). 2, J. Muir, Millport (Golden-spangled Hamburghs). 3, G. Willison. *hc*, Z. H. Heys (Crève-Cœurs); Countess of Tankerville (Guinea Fowl); T. Black, Stewarton (Gold-spangled Hamburghs); W. Jardin, Perceton, Irvine (Gold-spangled Hamburghs); A. Robertson (Gold-spangled Hamburghs). *c*, A. H. Banbury, Langton-on-Swale (Cochins).

PIGEONS.

Pouters.—*Black or Blue.*—1, 2, and Timepiece, W. Mushat, Kilmarnock. 3, J. Mitchell. 4, J. Mair. *vhc*, J. Butler, Glasgow. *Any other Colour.*—1, J. Sharp. 2, J Mair, Kilmarnock (Reds). 3, D. Munn, Kilmarnock (Splashed). 4, J. Mitchell, Glasgow. *vhc*, J. Frame. *hc*, T. Imrie, Ayr.

Carriers.—*Old.*—1, G. Brown, Kilmarnock. 2 and Timepiece, G. White, Paisley. 3, D. Lawrie. 4, J. M'Crae, Dalry. *hc*, A. Richmond, Kilmarnock; T. Waddington. *Young.*—1, D. Lawrie. 2, G. White. 3, J. G. Dunn. 4, A. Wardrop, Kilmarnock.

Tumblers.—*Short-faced.*—1 and Timepiece, Master J. Miller, Kilmarnock. 2, W. R. and H. O. Blenkinsop, Newcastle-on-Tyne. 3, Miss M. S. Millar, Kilmarnock. 4, Master A. Millar, jun., Kilmarnock. *hc*, J. & W. Towerson, Egremont. *Common.*—1, J. Sharp, Johnstone. 2, J. G. Dunn. 3, T. Imrie. 4, G. Brown.

Barbs.—1, J. Mair. 2, W. R. and H. O. Blenkinsop. 3, G. White. 4, J. Renshaw, Littleborough.

Trumpeters.—1, G. White. 2 and 4, T. Rule, Durham. 3, J. and W. Towerson. *hc*, Miss E. M. Beveridge, Ayr.

Fantails.—1 and Timepiece, J. Gault, Kilbirnie. 2, R. Young, Galston. 3, T. Wilson. 4, A. Smith, Broughty Ferry. *hc*, R. Dickie, Kilbirnie.

Jacobins.—1, R. Gibson, Kilmarnock. 2, T. Rule. 3, J. Frame. 4, T. Waddington. *hc*, W. Reid, Kilmarnock.

Turbits.—1, J. G. Dunn. 2, J. G. Orr. 3, T. Waddington. 4, J. & W. Towerson, Egremont.

Owls.—*English.*—1, J. Kemp. 2, R. & J. Anderson, Newcastle-on-Tyne. 3, J. Mair. 4, J. Kemp, Haslingden.

Nuns.—1 and 4, T. Imrie, Darvel. 2, H. Shields, Newmilns. 3, G. Gilchrist.

Common.—1, J. G. Orr. 2, J. M'Crae, Dalry. 3 and 4, D. Johnstone, jun. Dalry.

Any other Distinct Variety.—1 and Timepiece, T. Waddington. 2, T. Imrie (Swiss). 3, W. Reddihough, Colne, Lancashire (Dragoons). 4, A. Johnston, Bathgate (Frillbacks).

Selling Class.—1, J. Muir (Pouters). 2, D. M'Naught (Pontars). 3, R. M. Banks, Broomberry, Ayr. 4, T. Imrie.

CANARIES.

Clear Yellow.—*Cocks.*—1 and Timepiece, D. Dick, Kilmarnock. 2, W. Wright, Greenock. 3, J. M'Kendrick, Greenock. 4, W. Love, Kilbirnie. *Hens.*—1, M. Todd, Paisley. 2, J. M'Kane, Kilwinning. 3, D. Reid. 4, W. Hunter, Kilbirnie. *c*, R. Calderwood.

Clear Buff.—*Cocks.*—1 and 2, J. Dalziel, Paisley. 3, W. Love. 4, D. Holden. *Hens.*—1, R. Hannah, Girvan. 2, M. Adam, Ayr. 3, R. Houston, Kilbirnie. 4, W. Love, Kilbirnie.

Piebald Yellow.—*Cocks.*—1, H. Adair. 2, A. Borland, Galston. 3, J Allison, Paisley. 4, J. Glasgow, Beith. *hc*, W. Paul. *Hens.*—1, A. Borland. 2, A. Lyon. 3, J. Scoular, Kilmarnock. 4, A. Lyon.

Piebald Buff.—*Cocks.*—1, A. Kelly, Paisley. 2 R. Buntin, Kilmarnock. 3, J. Glasgow. 4, B. Benny, Kilmarnock. *hc*, A. Lyon, Crookedholm. *Hens.*—1 and Timepiece, W. Hunter, Kilbirnie. 2, A. Kelly. 3, A. Crawford, Johnstone. 4, D. Reid. *hc*, W. Campbell.

Dark.—1, D. Dick, Kilmarnock. 2, J. Ferguson, Kilmarnock. 3, W. Littlejohn, Overton, Kilmarnock. *hc*, R. Bryden.

Full.—1 and 3, W. Grieve, Kilmarnock. 2, J. Calderwood. *hc*, W. M'Cluckie, Kilmarnock.

Goldfinch Mules.—*Yellow.*—1, J. Baxter. 2, W. Littlejohn. *Buff.*—1, G. Goudie. 2 and 3, J. Baxter.

Goldfinches.—1, T. Conn. 2, T. Reive, Glasgow. 3, R. Gray.

Home or Foreign Birds.—1, W. Brown (Parrot). 2, J. M. Wilson, Kilmarnock (Grey Parrot). 3, J. Scoular (Parrot).

Judges.—*Poultry:* Mr. Richard Teebay, Fulwood, Preston. *Pigeons:* Mr. J. Wallace, Glasgow, and Mr. Mathew Stuart, Glasgow. *Canaries, &c.:* Mr. John Lyell, Wishaw, Mr. T. Fernie, Paisley, Mr. John Mair, Kilmarnock, and Mr. Charles Aird, Kilmarnock.

CAUTION TO PIGEON FANCIERS.

I write to draw the attention of fanciers to a very objectionable way of packing Pigeons for exhibition—that of a locked box with the key attached. The majority of fanciers here, if

they cannot go the exhibition, are sure to be waiting the arrival of the train, and, of course, find no cause for complaint. It was while waiting for mine a few days ago at one of the railway stations that I got a glimpse of the kind of treatment our pets receive at the hands of railway officials. Some boxes of the kind I have mentioned above were coolly unlocked, and the birds examined; nay, in one case they were taken out and handled by the boys, and were not put back until they compared the prices (which were foolishly written on outside labels) and discussed the merits of the birds. That they were not fanciers was very evident from their mode of handling them, and, although birds might not be lost, still they are very unsafe in such hands. I think the boxes must have been from the other side of the Tweed, and I can assure you that every fancier here would regret that anything should occur which might keep these fanciers from our exhibitions. Supposing the birds had escaped, who could trace the responsible party? Would the railway company be responsible if it were found out? These are questions for some one to answer who knows more of these things than I do, but I think the blame would be thrown on the unfortunate secretary, as is too often the case. Perhaps this may meet the eye of the offenders (and if I can it will go before their superiors also), and it may warn them to take care for the future.—A Glasgow Fancier.

Wilts County Poultry and Pigeon Show.—As in consequence of a misprint in one of your contemporaries some misapprehension seems to exist as to the dates of the entries closing for the above Show, would you kindly allow me to say that they have not closed, but do so on Friday, December 1st?—One of the Committee.

FEEDING BEES.

The other day I procured a bottle which, including the neck, stands 9¼ inches high, and, when nearly filled, it contained 6 lbs. 10 ozs. of syrup. I placed it on a stock of bees in a Woodbury hive, the hole in the crown board of which is less than 2 inches in diameter. I placed it on the hive at 1.25 in the afternoon, and am quite sure there was no leakage. I visited it at ten minutes to nine at night, and found that the bees had taken down 4¼ inches of the height of its full diameter, or rather more than half of the whole. I saw it again at half-past six the next morning, and there then remained about three-fourths of an inch of the neck filled, so that in seventeen hours the bees had taken down quite 6 lbs. of the syrup, and not one had to leave the main cluster in the hive to obtain it.

This experiment has quite satisfied me that bees may be fed as rapidly with a bottle as by any other means, if it is properly applied. It is quite true that a feeding bottle may stand for days, or even weeks, before it is emptied; but that is not the fault of the bottle, but rather of the bee-keeper, who ought to know better. I have seen bottles that have been put on when the perforated zinc has been gummed-up with propolis, and the bees inside starving for want of the food. I have seen many cases where the food has been crystallised, forming a coat of impervious hard-bake all over the canvas strainer tied over the bottle; and others, where the strainer has been too fine or the food too thick, the food has been sucked out until the strainer has become concave above the perforated zinc, and, as no air can get through, the bees have been tantalised with the food just out of their reach, and themselves on the point of starvation. I do not, however, recommend rapid feeding either with the bottle or by any other means, as there is no condition that I am aware of in which rapid feeding is not injurious; let the unprejudiced try experiments for themselves; but if they use the bottle, let them carefully avoid the blunders I have exposed.

My plan is to invert the bottle on to a plain tin shovel, like a little dustpan, set it on the perforated zinc, and steadily withdraw the shovel; thus there is no waste or mess, and the syrup is brought into actual contact with the zinc. Of course, if the zinc is too coarse, or the syrup too thin, or the hive unlevel, the syrup will escape, which may soon be detected by the bubbles of air rising too rapidly, and should be rectified.—*English Mechanic and World of Science.*

Enormous Egg.—Mr. Thornhill, of Crumpsall Green, near Manchester, recently found one of his Ducks dead upon her nest. She had been ailing for some months, and could neither eat nor lay. The body was opened, and there was taken from it an egg, which we have seen, and which measures 18¼ inches in its greater circumference, 15⅝ inches at the smaller circumference; and its capacity is 2¼ pints of water. It contained three yolks, and the shell weighed 8 ozs.—(*Manchester Guardian.*)

OUR LETTER BOX.

N.B.—Absence from home has compelled us to defer answering a number of questions till next week.

Crystal Palace Show.—We are informed that the second prize in Silver Dorkings was awarded to J. J. Waller, Esq., Mint House, Kendal also that his Silver-Grey Dorking cockerel was highly commended.

Injuries to Fowls at Shows (*R. B.*).—The loss of your Bantam's sickle feather is only one of many similar injuries. The difficulty is to know whether the injuries occur at the show or on the railway.

Antwerps Dying Rapidly (*Pinch Eye*).—There is a disease among Pigeons called "going light," which we believe to be consumption, and the disease in your birds appears to be "galloping consumption." There is no cure, as far as we know, for the disease in either form, whether in man or Pigeon.

Rabbit Show (*Bunny*).—We know of none near London.

Terrier's Hair Falling off (*Anthony*).—Try rubbing into the bare places ointment made of equal parts of flowers of sulphur and lard. Give the dog also thrice daily three grains of the sulphur.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Nov.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 22	30.130	34.7	32.4	N.E.	38.5	39.2	30 2	45.2	26.3	0.060
Th. 23	30.195	34 1	34 1	N.W.	37.6	36.0	33 6	40.4	32.3	—
Fri. 24	29.998	36.6	36.4	N.E.	37.8	42 2	32.2	43.0	3 3	—
Sat. 25	29.955	33.3	33.0	N.	37.4	37.6	31.4	33.4	27 5	0.040
Sun.26	29.945	39 5	38.7	N.	39.0	43.5	34.0	49.0	33 0	—
Mo. 27	30.015	36 3	35.2	N.	39.8	42.3	34.8	70.0	30.3	—
Tu. 28	29.981	36 2	35.1	N.	39.8	40.9	34.4	6 .2	30 6	—
Means	30.036	35.8	35.0		38.6	40.1	32 9	43.9	30.1	0.100

REMARKS.

22nd.—Rather dull all day, and began to rain about 7 P.M.

23rd.—Foggy morning, continuing so all day, but increasing in evening, clear at midnight.

24th.—Foggy in morning, clearer after, and very much more clear than we have had it lately. Moonlight at night.

25th.—Not foggy, but a damp uncomfortable day, no sunshine. Snow at 10.30 A.M.

26th.—Fine morning, rather dull after, but very bright between one and two, rather less so in the afternoon, overcast at night.

27th.—Very fine morning, rather cloudy after, and a few rain-drops between one and two (heavy rain in the south of London about the same time). Fine night.

28th.—Fine in morning and so continued all day, not bright, but fair. Bright moonlight at night.

Atmosphere very damp throughout the week, temperature rather higher than during the previous fortnight, but still low for the season. Barometer rather high and very steady for November.—G. J. Symons.

COVENT GARDEN MARKET.—November 29.

Rough goods meet with a heavy sale at present, and the quantity coming precludes any advance. Foreign imports, owing to the settled weather, are also large.

FRUIT.

	s.	d.		s.	d.
Apples ½ sieve	2	0	to 4	0	
Apricots doz.	0	0	0	0	
Cherries lb.	0	0	0	0	
Chestnuts bushel	10	0	20	0	
Currants ½ sieve	0	0	0	0	
Black do.	0	0	0	0	
Figs doz.	0	0	0	0	
Filberts lb.	0	6	1	0	
Cobs lb.	0	6	1	0	
Grapes, Hothouse lb.	2	0	6	0	
Gooseberries quart	0	0	0	0	
Lemons ₱100	8	0	12	0	
Melons each	2	0	3	0	
Mulberries lb.	0	0	to 0	0	
Nectarines doz.	0	0	0	0	
Oranges ₱100	4	0	10	0	
Peaches doz.	6	0	12	0	
Pears, kitchen doz.	2	0	4	0	
dessert doz.	2	0	6	0	
Pine Apples lb.	3	0	6	0	
Plums ½ sieve	0	0	0	0	
Raspberries lb.	0	0	0	0	
Strawberries lb.	0	0	0	0	
Quinces doz.	0	0	0	0	
Walnuts bushel	10	0	25	0	
ditto ₱100	1	0	3	0	

VEGETABLES.

	s.	d.		s.	d.
Artichokes doz.	0	0	to 0	0	
Asparagus ₱100.	0	0	0	0	
Beans, Kidney ½ sieve	0	0	0	0	
Broad bushel	0	0	0	0	
Beet, Red doz.	1	0	3	0	
Broccoli bundle	0	6	1	0	
Brussels Sprouts ½ sieve	2	0	3	0	
Cabbage doz.	1	0	2	0	
Capsicums ₱100	1	6	2	0	
Carrots bunch	0	6	0	0	
Cauliflower doz.	3	0	6	0	
Celery bundle	1	6	2	0	
Coleworts doz. bunches	2	0	4	0	
Cucumbers each	0	6	1	0	
pickling doz.	0	0	0	0	
Endive doz.	2	0	0	0	
Fennel bunch	0	3	0	0	
Garlic lb.	0	2	0	0	
Herbs bunch	0	3	0	0	
Horseradish bundle	3	0	4	0	
Leeks bunch	0	3	to 0	6	
Lettuce doz.	1	0	2	0	
Mushrooms pottle	1	0	2	0	
Mustard & Cress punnet	0	2	0	3	
Onions bushel	2	0	4	0	
pickling quart	0	6	0	8	
Parsley sieve	3	0	4	0	
Parsnips doz.	0	3	1	0	
Peas quart	0	0	0	0	
Potatoes bushel	1	6	3	0	
Kidney do.	3	0	5	0	
Radishes doz. bunches	0	6	1	0	
Rhubarb bundle	0	0	0	0	
Savoys doz.	1	0	0	6	
Sea-kale basket	2	6	3	0	
Shallots lb.	0	6	0	3	
Spinach bushel	2	0	3	0	
Tomatoes doz.	2	0	0	6	
Turnips bunch	0	3	0	0	
Vegetable Marrows doz.	0	0	0	0	

WEEKLY CALENDAR.

Day of Month	Day of Week.	DECEMBER 7—13, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
7	Th	Day breaks 5.48 A.M.	48.4	38.5	43.5	21	53 af 7	50 af 3	18af 1	47af 1	25	8 27	341
8	F		46.9	33 6	40.3	19	54 7	50 3	36 2	4 2	26	8 1	342
9	S		46.7	34.9	40.8	17	56 7	50 3	58 3	25 2	27	7 34	343
10	Sun	2 Sunday in Advent.	47.0	32.8	39.9	26	57 7	49 3	24 5	49 2	28	7 7	344
11	M		46.5	32.6	39.5	17	58 7	49 3	53 6	22 3	29	6 39	345
12	Tu		48.0	37.0	43.5	18	59 7	49 3	20 8	6 4	●	6 11	346
13	W	Meeting of Royal Microscopical Society, [8 P.M.	47.5	36.5	42.0	23	0 8	49 3	35 9	6 5	1	5 43	347

From observations taken near London during forty-three years, the average day temperature of the week is 47.3°, and its night temperature 35.1°. The greatest heat was 63°, on the 11th, 1844; and the lowest cold 13°, on the 8th and 9th, 1867. The greatest fall of rain was 1.02 inch.

ELECTION OF THE ROSES.

[The following report is from the returning officer.—Eds.]

I SEND you the promised list of Roses which has been the result of the opinions of the following rosarians to whom I wrote asking them to send me the names of thirty-six Roses, stating out of the thirty-six which they considered the best twelve:—The Rev. S. R. Hole, Mr. George Paul, Mr. Benjamin Cant, Mr. May, Mr. Charles Turner, the Rev. H. H. Dombrain, Mr. Keynes, the Rev. P. M. Smythe, R. G. Baker, Esq., the Rev. J. B. Camm, Mr. C. J. Perry, Mr. Cranston, the Rev. C. H. Bulmer, the Rev. E. N. Pochin, and to this I have added my own list, which I wrote out previously to receiving any other, in order not to be influenced by the choice of others. The result is rather extraordinary from the number of Roses mentioned, especially those only mentioned once, to the number of thirty-eight for the second twenty-four.

The analysis shows there are only three Roses—Maréchal Niel, Baroness Rothschild, and Marie Baumann, named in every case for the first twelve; for though I stated Marie Baumann was omitted once, it has since been changed for Ferdinand de Lesseps, which had previously been put among the first twelve. Next comes Charles Lefebvre fourteen times in the first twelve, and once in the second; then Alfred Colomb and La France, each mentioned thirteen times among the first twelve, and twice among the second twenty-four; next comes John Hopper eight times first and seven second. These seven Roses are the only ones always mentioned by everyone. There were altogether 46 Roses named for the first twelve, and 111 named for the second twenty-four, or in all 116 Roses; as in the forty-six Roses three are not named in the twenty-four, because they are always placed among the first twelve; and two, Madame Furtado and Marquise de Ligneris, are named once in the first twelve, and not again in the other lists. It is also noteworthy that, although there are thus 116 Roses named, yet other writers in your Journal, when naming twelve, have named other Roses not contained in this list—namely, Madame Chirard by Mr. Radclyffe, and Princess Christian by Mr. W. Paul.

I shall not add many remarks, as the list speaks for itself. The first column A contains the number of times that a Rose is named among the first twelve; the second column B the number of times it is named among the second twenty-four; and the third column the total number of times it is named for the first thirty-six.

The new Roses most highly recommended by this list are Countess of Oxford, Mdlle. Eugénie Verdier, Marquise de Castellane, Edouard Morren, Emilie Hausburg, Louis Van Houtte, and Dupuy Jamain. Emilie Hausburg will, in my opinion, rank still higher when better known, as already it has been named six times among the first twelve, no other new Rose ranking so high, and some few omitted it from never having given it a trial.

I must return thanks to those rosarians who have so kindly responded to my call, and I feel sure the result will interest them as well as nearly all Rose-growers. It shows us what a wealth of good Roses we have, as I could name several more really good Roses not included in this list, as Monsieur de Montigny, Le Rhone, La Brillante, Lady Suffield, Duchess of Sutherland, Madame Knorr, Boule de Neige, Baronne de Noirmont, François Lacharme, Prince de Portia, and others; so that I do not think we should be wrong in saying there are at least 150 Roses which ought to be grown by everyone.

Names of Roses.	A	B	C
1. Maréchal Niel	15	0	15
2. Baroness Rothschild	15	0	15
3. Marie Baumann ..	15	0	15
4. Charles Lefebvre ..	14	1	15
5. Alfred Colomb	13	2	15
6. La France	13	2	15
7. John Hopper.....	8	7	15
8. Countess of Oxford.	4	9	13
9. Marguerite de St. Amand	1	12	13
10. Duke of Edinburgh.	5	7	12
11. Sénateur Vaisse ..	4	8	12
12. Mdlle. Eugénie Verdier	3	9	12
13. Dr. Audry	3	9	12
14. Gloire de Dijon....	6	5	11
15. Comtesse de Chabrillant.....	3	7	10
16. Duchesse de Caylus	3	7	10
17. Pierre Notting	3	7	10
18. Marquise de Castellane.....	3	7	10
19. Emilie Hausburg ..	6	3	9
20. Edouard Morren ..	2	7	9
21. Madame Victor Verdier.....	6	3	9
22. Madame Noman ..	3	6	9
23. Mdlle. Marie Rady.	2	7	9
24. Madame Vidot	1	8	9
25. Victor Verdier	1	7	8
26. Horace Vernet	2	6	8
27. Souvenir d'un Ami.	0	8	8
28. Devoniensis	3	4	7
29. Centifolia rosea....	2	5	7
30. Xavier Olibo	1	6	7
31. Louise Van Houtte.	1	6	7
32. Maurice Bernardin.	0	7	7
33. Abel Grand	1	5	6
34. Madame Clémence Joigneaux	2	4	6
35. Duc de Rohan	1	5	6
36. Souvenir de Malmaison	0	6	6

Names of Roses.	A	B	C
Mrs. C. Wood	2	3	5
Madame Caillat.....	1	4	5
Duke of Wellington ..	0	5	5
Dupuy Jamain	0	5	5
Elie Morel	0	5	5
Lord Macaulay	0	5	5
Madame C. Crapelet .	0	5	5
Mdlle. Thérèse Levet .	0	5	5
Exposition de Brie ..	1	3	4
Devienne Lamy.....	1	3	4
Antoine Ducher.....	1	3	4
Fisher Holmes	1	3	4
Duchesse de Morny ..	0	4	4
Princess Mary of Cambridge	0	4	4
Madame Willermoz ..	0	4	4
Prince Camille de Rohan	0	4	4
Paul Neron	0	4	4
Marquise de Mortemart	2	1	3
Souvenir d'Elise	2	1	3
Felix Genero	1	2	3
Beauty of Waltham ..	0	3	3
Ferdinand de Lesseps.	0	3	3
Triomphe de Rennes .	0	3	3
Mdlle. Marguerite Dombrain.....	0	3	3
Nardy Frères.....	0	3	3
Leopold Hausburg ..	0	3	3
Annie Wood	0	3	3
Belle Lyonnaise	1	1	2
Alba rosea	1	1	2
Madame Boutin.....	0	2	2
Camille Bernardin ..	0	2	2
Céline Forestier	0	2	2
Leopold Premier	0	2	2
Madame Margottin ..	0	2	2
Gloire de Vitry	0	2	2
Paul Verdier	0	2	2
Jules Margottin.....	0	2	2
Catherine Mermet....	0	2	2

The following Roses were named once among the twelves, and by no one in the second twenty-four—viz., Madame Furtado and Marquise de Ligneris.

The following thirty-eight Roses were named once among the second twenty-four, and never among the first twelve

Henri Ledechaux
Gloire de Santenay
Madame Rivers
Maréchal Vaillant
Caroline de Sansal
Général Jacqueminot
La Boule d'Or
Niphetos
Thorin
Mdlle. Bonnaire
Louis Peyronny
Charles Lee
Baronne Haussman
Paul Ricaut
Madame Moreau
Madame Alice Dureau
Miss Poole
Monsieur Woolfield
François Treyve
Lord Clyde

Perfection de Lyon	Madame Trifle
Anna de Diesbach	Lælia
Baronne A. de Rothschild	Charles Rouillard
Reine du Midi	Madame Derroux Douville
Sophie Coquerelle	Madame Jacquier
Madame Boll	Thomas Methven
President Willermoz	Madame Bravy
Hippolyte Flandrin	Baronne Gonella
Olivier Delhomme	François Louvat

—C. P. Peach.

CHRYSANTHEMUM CULTURE.

Those who are fortunate enough to possess a large glass house, which they can devote exclusively to the culture of the Chrysanthemum, will now, if they have properly managed their plants, have such a display of floral beauty as cannot be obtained from any other class of plants in the dreary month of November. In the neighbourhood of London, especially in the north and east, much encouragement is given to the Chrysanthemum. Societies have been formed, and the exhibitions are invariably held about the middle of November, as in ordinary seasons the flower is in full beauty at that time. This being a late season, however, forcing had to be resorted to in order to bring the blooms forward enough, which is unfortunate, as it spoils the character of the flower.

The head-quarters of the Chrysanthemum is Stoke Newington, and there is the oldest, and, perhaps, most flourishing of the societies. At its Exhibition prizes are offered for plants or flowers in all the classes except the Japanese. This class does not yet rise in popular estimation, and has no place with those who cannot look kindly on anything except what is called in garden language a florist's flower. For my part I confess to a great liking for the Japanese varieties. The colours are more brilliant and decided, and the peculiar shape and arrangement of the florets have a very distinct and quaint effect. A few stands of cut blooms, or collections of pot plants, would be admired by all, and be an object of wonder to some, if they were allowed a place on the exhibition-table. Another advantage attending this class is that the flowers do not require "dressing," whereas, before a stand of twenty-four incurved blooms can be placed on the exhibition-table, they must be subjected to many hours of tedious manipulation. This dressing is sometimes carried to excess, as witness the stands exhibited at South Kensington on November 1st. It was apparent to an ordinary observer that the centres of the flowers had been torn bodily out, and enough florets did not remain to hide the disfigurement.

Dressing cut blooms of Chrysanthemums is necessary to a certain extent, and winked at by all the societies, but it should not go further than removing a badly-formed floret or a few stamens which prevent the centre of the flower from closing over. If this is all that is done to the flowers, the most practised cannot say for certain that the flower has been dressed; but where the dressing is apparent to the ordinary looker-on it ought not to be allowed. Some varieties incurve naturally, and require no dressing, whilst others, which are to be seen in all the best stands, must be dressed. This delicate operation is performed by a pair of tweezers specially designed for the purpose.

There is also at the exhibitions a class provided for Anemone-flowered varieties, which are shown in single blooms, and the Anemone Pompons in trebles, and to these ought now to be added a class for Japanese, either as cut blooms or specimen plants in pots, or both. A few notes on the culture of Chrysanthemums may be useful to some of your readers—to a large class, perhaps—for there are very few who do not grow the Chrysanthemum, though it very seldom receives the attention to which its high value as a decorative plant entitles it. Those who have only limited means, and do not intend to grow for exhibition, should have a few of the best and most approved sorts only. Exhibitors will require to grow a large number of varieties, in order to be able to cut twenty-four distinct ones on a given day.

A noticeable fact with regard to this flower is that a variety may be worthless one season and of the best quality the next. One of our most successful exhibitors recently told me that he thought of discarding that magnificent variety Princess Teck, since with him it is worthless as an exhibition flower, whilst with me it has never failed to be first-class; and other flowers which I have seen very fine at exhibitions are invariably coarse with me. Any flower that has a tendency to coarseness should not be grown in such a rich compost as the finer flowers, and but little manure water should be given it.

If it is intended to grow specimen plants for exhibition, the cuttings should be inserted in November—one cutting in the centre of a 3-inch pot, in the case both of the large-flowered and Anemone sections. The pots should then be placed in a close pit near the glass for two or three weeks until the plants are established. If a very gentle bottom heat can be maintained the cuttings will strike out roots sooner, and when rooted they ought to have an ample supply of air on all favourable occasions. Should the plants be intended for cut blooms or small specimen plants only, February and March are the best months to propagate them in. If the cutting-pots are placed in a gentle hotbed they will form roots at once, and the lengthening days and increasing heat will tend to the formation of fine stocky plants, which will not require the same care as those struck before Christmas. When the cutting-pots are filled with roots the plants should be shifted into 6-inch pots, and again when well established change into 8½-inch pots, which are large enough for the Pompon section to flower in. The large-flowered varieties should be again shifted into 11-inch pots.

Those plants required for cut blooms should be grown from the first for this purpose. They should not be pinched at all, and each plant should be grown with a single shoot, and allowed to produce but very few flowers—from three to six on each plant—three plants being potted in an 11-inch pot, so that each potful may produce from nine to eighteen flowers. The Anemone-flowered varieties and the Japanese, when grown for the quality of their blooms alone, should be treated in the same manner as the large-flowered section, as ought the Anemone Pompons, except that 8½-inch pots will be sufficiently large to flower these last in. The compost in which I have found them succeed best is three parts turfy loam, one of rotted manure, and some pounded oyster shells, a 10-inch potful being added to each barrowload of the compost.

The plants will require the protection of cold frames or an airy pit until the end of April, and the lights ought to be entirely removed in fine weather, as the plants under glass are apt to become drawn. About the end of April they may stand out of doors in an airy position on a hard worm-proof bottom of ashes or some similar material. They ought to be carefully watered until the pots are well filled with roots, when abundant supplies ought to be given to them. The summer treatment consists in careful and unremitting attention to watering, and syringing or watering overhead in dry hot weather. The shoots should be pinched until the middle of June, and trained to sticks as they require it.

The training is a matter of taste; some prefer a pyramid form for Pompons, others train the shoots down until the plants present a flat upper surface slightly rounded towards the centre. This section may be trained into very pretty standards, with clean stems of 2½ to 3 feet high. The large-flowered varieties are generally trained in the form of dwarf bushes, each flower being supported by a neat stick painted green. I have also recently seen very handsome natural-looking specimens formed by training the plants to a centre shoot, and not stopping this or any of the side shoots. They then have the appearance of inverted pyramids, and make excellent back-ground plants.

A list of the best sorts to grow is desirable, and for this we must go back to those sent out before the establishment of the Messrs. Salter, at Hammersmith, was broken up. If there have been any good varieties sent out since then, I have not seen them except on pictures. I am alluding now to the large-flowered, incurved section. We must fall back on our friend, "D., *Deal's*," experience. Has he seen anything good during the last two seasons? There have been some good additions to the Japanese class. Magnum Bonum and Jane Salter are distinct and very good varieties; the latter, I think, the most pleasing flower yet raised in its class.

In adding a list of varieties I will place them in classes, and name only those flowers which I have grown and proved to be good.

Large-flowered for Cut Blooms.—Antonelli, Aurea multiflora, Bella Donna, Beethoven, Beverley, Blonde Beauty, Bronze Jardin des Plantes, Cassandra, Chernb, Donald Beaton, Duchess of Wellington, Eve, Empress of India, General Bainbrigge, Lady Slade, Golden Beverley, Guernsey Nugget, Her Majesty, Isabella Bott, Jardin des Plantes, John Salter, Lady Harding, Lady Talfourd, Le Grand, Lord Derby, Mr. Gladstone, Mrs. Cunningham, Mrs. G. Rundle, Mrs. Sharpe, Novelty, Pink

Perfection, Plutus, Prince of Wales, Prince Alfred, Princess Beatrice, Princess of Teck, Princess of Wales, Queen of England, Rev. J. Dix, Sir Stafford Carey, Venus, White Globe, and Yallow Perfection. The best for pots in this section are Annie Salter, Aurea Multiflora, Dr. Sharpe, Gloria Mundi, Her Majesty, Lady Harding, Empress of India, Mrs. G. Rundle, Prince of Wales, and Venus.

The best Pompons are Aurore Boréale, Bijou de l'Horticulture, Bob, Brilliant, Cedo Nulli, and its golden, lilac, and brown varieties; Drin Drin, Golden Aurore, La Vogue, Mdlle. Marthe, Miss Julis, Mrs. Dix, Saint Thaïs, Rose and White Trevenna, and Trophée.

Anemone Pompons for Cut Blooms.—Antonius, Astrea, Calliope, Eugéne Laujaulet, Fire Fly, Jean Hachette, Madame Chalonge, Madame Gramé, Madame Montels, Marie Stuart, Miss Nightingale, Mr. Astie, Mr. Wyness, Perle, Princess Dagmar, Queen of Anemones, Sidonie, and Zobeide.

Large-flowered Anemones.—Empress, Fair Margaret, Fleur de Marie, Gluck, King of Anemones, Lady Margaret, Louis Bonamy, Madame Godereau, Miss Margaret, Mrs. Pethers, Prince of Anemones, Queen Margaret, and Sunflower.

Japanese.—Comet, Dr. Masters, Grandiflorum, James Salter, Mandarin, Meteor, Prince Satsuma, Negro, Red Dragon, The Mikado, The Sultan, and Viceroy of Egypt.—J. Douglas.

SELECT PEACHES.

In an interesting article in your Journal of October 26th, the names of various Peaches are quoted. Having been successful in the cultivation of some varieties not there mentioned, my experience may not be without interest to some readers.

I entirely endorse Mr. Douglas's opinion of Early Beatrice; last summer mine were poor and watery. Hale's Early, grown in a neighbouring pot in a cool orchard house, ripened its fruit two or three days sooner, and, though small, was of delicious flavour. Early Rivers was very inferior in flavour as compared to last season. On the back of my orchard house is a twenty-five-year-old Royal George Peach with a moderate crop on it. Four Peaches, of course selected as the best, weighed as nearly as possible half a pound each, and measured 9¼ inches in circumference. Early Crawford is not so much grown as it should be; its flavour is good, if it is not allowed to become too ripe, and then it is apt to become mealy. Its appearance is most magnificent at dessert. I think the best late Peaches I had last season were the Malta; they were grown on a south wall without glass, and were therefore not ready till October, for I live amongst mountains, and therefore our sun is often clouded, and my garden is 450 feet above the sea. The above Peaches coloured well, and their flavour was excellent.

Albert Victor Nectarine is a very good late kind; I believe it is one of Mr. Rivers's seedlings. It is not equal to his Victoria. No Nectarine can ever surpass, nay equal that.—C. R.

POTATO TRIAL.

I entered upon my present situation in November last year; my employer told me that they could scarcely ever get a good eating Potato off the garden; and as my predecessor was an elderly man and had been there nearly thirty years, I thought he must either have used his own seed until it was tired of the soil or the soil was tired of it, or perhaps both. I determined, therefore, to try a fresh stock, and so collected twenty different kinds from various parts of the country. Now, although it has been such a wet season, some of these kinds have far exceeded my expectations both in quantity and quality. I send you a list of the kinds I have tried, with remarks regarding these points, and also with regard to the disease.

My soil is what I consider a good Potato soil, neither heavy nor light, but with a good deal of sand in it. Those kinds marked with an asterisk (*) are what I have selected as the best suited for our soil, but I regard the three best (in the order named) as Myatt's Prolific Ashleaf, Early May, and Lapstone Kidney.

I planted a half-peck of the American Early Rose, and the produce was nearly eight pecks all sound, and only three tubers have become diseased since they were lifted. Upon trying their quality when first taken up they were not eatable either boiled, steamed, or roasted; but since being stored they boil very mealy and dry beautifully white, with the exception of a slight tinge of pink in the middle. Flourball is an immense cropper both for size and quantity, but when cooked presents more the appearance of a wax than a flour ball, but it, like Early Rose, may improve by keeping, as remarked by one of your correspondents, until after Christmas. If I had to grow but one kind I should select the true Lapstone, as I consider that is not to be surpassed either for a second or late crop; and as most of us only want about three or four kinds, it would be a great boon to many if a few of the numerous readers of the Journal, and also Potato-growers from different localities, would enumerate but three or four sorts that are really suited to their soil. We should then all know what to grow without wasting so much time, seed, and ground.

Name.	Quality.	Quantity.	Disease.
*Myatt's Prolific Ashleaf	1st	1st	None
Royal Ashleaf	1st	1st	None
Old Ashleaf	2nd	1st	Slightly
Champion of England	1st	1st	None
Alma Kidney	2nd	Small	Badly
American Rose	1st	Extra	None
Dobson's Seedling	2nd	Small	Badly
Flourball (Snttton's)	3rd	Extra	None
Devonshire Kidney	1st	Extra	Badly
Gloncestershire Kidney	2nd	1st	None
*Early May	1st	Extra	None
Paterson's Victoria	1st	Moderate..	Badly
*Lapstone Kidney	1st	1st	Badly
Worcester Silks	1st	Moderate..	None
Skerry Blue	2nd	1st	Slightly
Manchester Blue	1st	Fair	Slightly
Scotch Cup	2nd	Extra	Slightly
Prince of Wales	3rd	Good	Badly
The King	2nd	Good	Badly
A Regent	1st	Good	Badly

—S. Taylor, *Sion Hill, Kidderminster.*

BERRIED HOLLY.

The profusion of berries upon the Holly this winter is very remarkable. Here, in Mid-Sussex, the common green Holly abounds in the hedgerows, and may be seen in thousands upon the wide-spread track of waste land known as "The Forest," ranging in size from the low-stunted bush to splendid specimens of perfect form and noble proportions. There is now a beautiful display of red berries, the branches of many trees being laden with their winter fruitage in such rich profusion as I have never seen equalled.

I suppose this abundance of Holly berries to be very general, as I lately saw some trees near Woking, in Surrey, very fruitful. I need not dilate upon the charming effect which the bright red berries have in contrast with the glossy deep-green foliage. Holly is too intimately associated with Christmas festivities not to be well known to old and young, and I would ask, Why it is not more frequently planted in large quantities in place of that sickly-looking plant the common Laurel? Here, at Oldlands, it grows in the woods by thousands, thriving equally well in deepest shade or brightest sunshine; no drip or crowding affects its health, its sturdy nature enabling it to flourish under circumstances and in situations such as would prove fatal to most other shrubs. Its growth may be somewhat stiff, but it can never be called ungraceful; and when, as now, it puts on its full, rich, winter magnificence of scarlet and green, it far surpasses all other shrubs in beauty.

There is a peculiarity of the Holly which I cannot understand; two trees, or a number of trees, may be frequently seen growing side by side, apparently equally vigorous, and very similar in every respect, with this exception—that some will be laden with berries, while others are totally barren. Why is this? Am I to suppose that there are male and female trees? If so, the only perceptible difference must be in the flowers, and these I have never examined closely.—Edward Luckhurst.

ORANGE TREES UNDER VINES.

Few persons are, I think, aware how well Oranges thrive under the shade of Vines if properly attended to. I have for several years grown the St. Michael and Tangerine Oranges in the cooler portion of a lean-to house. In this house there is in front a 6-feet border between the brick flue and the wall. In this the Vines are planted next the wall, which is built on arches, and in the same border next the flue are a row of Tangerine Oranges. There is a narrow strip behind the back flue, where are placed several large Orange trees in pots. A gentle heat is given during the cold months so as to keep out frost, and the trees are constantly examined for scale and rust.

Manure water is given nearly once a-week, and a little soot is laid on the top as a dressing. Several of the trees are well hung with fruit now turning yellow, while the leaves are of a fine dark green, and the growth of wood is very vigorous. On one Tangerine tree I ripened last year thirty-six nice Oranges. Oranges grown for dessert, of course, do not pay as a speculation, but the trees with their golden fruit are very handsome, and form a little cheerful winter garden.—J. C. Barnham, *Norwich.*

SCARCITY OF FRUIT AND THE REMEDY.

Nothing so fully proves the value and utility of a plentiful supply of fruit, especially Apples, as seasons of general scarcity like the present. In a prolific fruit year the demand for good produce is always equal to the supply, whilst a dearth of fruit is to many little short of a calamity. The population of the kingdom is growing apace. Cities and towns are expanding and sweeping away trees by thousands. How many trees, how many orchards, once flourishing in the immediate outskirts of fast-spreading towns have, within the last twenty years, been uprooted when in the plenitude of fruitfulness? How many tons of fruit have by this means been taken from the consumer? Were it, however, possible to put the loss in a tabulated form, we should be startled by its magnitude. This loss can only be met by a corresponding increase of trees. Has such increase been sufficient to restore the balance? Up to the present time results would seem to answer in the negative. Unquestionably large numbers of trees are every year planted; perhaps, indeed, so far as mere numbers go, more are now being put in than during any previous period. But where do we look for the great increase of planting, and what are the characters of the trees planted? On this point there can be little question that the places more than others where the regular planting of trees is a part of the yearly routine are in the grounds of the nobility and gentry; and the reason they are planted in greater numbers than in past times is explainable by the different class of trees now available, of which a given number go in infinitely less space than the ancient standard type. The free planting of trees of this special class in such places is a wise practice.

Early-bearing trees are naturally in favour with the gardener. He is, as a rule, of migratory habits. Anxious to see the fruits of his labours, he plants those which produce the soonest; and it cannot be denied that, in many instances, it is the only means he can adopt, as, before slower bearers are in anything like perfection, he probably may be gone. They also well serve the owner's purpose, for he, too, likes quick returns; besides, they give the extensive variety which is coveted.

This extensive planting, and the consequent plentiful supply, add, however, but little to the fruit resources of the nation. That they have an effect there can be no doubt, but it is almost solely negative, and a positive effect is better. In such places trees are sufficiently planted to give a fair supply in even a season of scarcity. This is as it should be. But on the other hand in a good season the surplus is immense. Where does it go to? In far too many instances, it is neither allowed to be sold nor given away. This is not as it should be. I remember that a great boast of a gentleman was that he gave his pigs a ton of Apples a-year. He, of course, had a perfect right to give the fruit to the swine, and a right even to boast about it, but the propriety of the deed is questionable. Large plantations of fruit trees have also been made by far-seeing judicious nurserymen for the purpose of realising profits by the sale of fruit. The returns have done credit to their judgment and skill in selection, but that the demand is still great is evidenced by the extreme prices obtained. Similar plantations are yet needed for the benefit of the consumer, and would leave a good margin of profit to the producer, taking into account the reduction in value from an increased supply.

Besides the loss of fruit by the encroachment of towns, the supply in country produce is diminished and diminishing. This, again, is not as it should be. Judging from the garden and orchard ground disposable in country parishes, it is surely reasonable to expect that nearly every village should grow sufficient fruit for its own consumption. This, however, is by no means the case, and the village populations are important competitors with the cities and towns for the productions of the great fruit-growing districts of our own and foreign countries.

Take a general glance at the character of the trees in the rural districts. As a rule they are scraggy and decrepid, fast falling into decay; and apparently there is scarcely anything to take their places. Many of these trees have in their best days produced half a ton of fruit each in good seasons. A few such are still to be seen, but they are rare, and each year are becoming more scarce. There appears to be little disposition to plant useful fruits in cottage gardens compared with what there was in years gone by. This is most probably traceable to the diminished number of freeholds.

While fully admitting the drawbacks of the principle so steadily carried out, there can be no doubt but that, in many instances, the purchasing of small holdings by capitalists and large landed proprietors to add to their estates has been of benefit to the districts. Decent dwellings have gradually taken the place of tumble-down hovels unfit for human habitation, and the sanitary measures adopted have tended to diminish dirt and increase morality. But there is such a thing as moral pauperism, and it is a question if it is not being fostered by the present state of things.

If landlords would but establish small farms on long leases, they would strike a deadly blow at the ugly pauper question, which is a growing evil. The pure labourer has nothing else to look forward to. He has not the means of helping himself out of it, however willing he may be to do so.

But fruit is the question, and buying-up of small holdings has tended to diminish it. When a tree shows signs of decay a landlord does not hesitate to plant another to take its place, but it is very different with the yearly tenant. Cottage tenants are, naturally, very reluctant to plant. However trifling the first cost of trees may be, the fact of their becoming the property of the landlord the moment they are in the ground, has a decidedly deterrent effect on the mind of the tenant. A yearly tenant argues thus: "I am not going to buy trees for my landlord, I may be gone soon and never see my money again." That fruit trees are valued is certain by the fact that a garden containing them is seldom long without a tenant. The fact also is very striking that, as soon as a man gets a piece of ground as his own, it hardly matters how small it may be, the first thing he does is to plant fruit trees.

Now, without assailing the law, but taking it as we find it, and without taking cognisance of any possible compensatory code, a suggestion may at any rate be ventured. Considering the growing scarcity of fruit in village gardens, and the cause that has mainly contributed to it, would it not be well if the landlords could see the expediency of furnishing a reasonable number of well-selected kinds of useful fruit trees to the gardens of their tenantry? The first cost to them would be a mere trifle, and even this would not be lost, as the annual rental would in time, with justice, be increased, and would even then be an advantage to the rentpayer. The extensive adoption of this plan would not only benefit those directly concerned, but would also confer an important advantage on the nation at large. Trees for this purpose should be of the old-fashioned standard type, requiring little or no trouble to keep in order. Let those possessing cultural knowledge plant bushes and pyramids to their heart's content; but for the inexperienced the old-fashioned standard orchard trees will, in the end, give the greatest amount of satisfaction.

The point to be kept in mind in selection is to plant as few kinds as possible. Early Codlin Apples as Domino and Lord Suffield, and later ones as Blenheim Pippin and Dumelow's Seedling, and Victoria Plums—such as these planted in duplicate would, over and over again, be of more real service than calling into requisition fifty or a hundred varieties.

The same with regard to dessert kinds. The best way to ensure profit is to select a very few of the very best, and of these plant largely. A hundred trees of Cox's Orange Pippin and Sturmer Pippin, for instance, would give a better return than planting the same number in as many or half as many varieties.

Limitation in selecting trees is not quite so much recognised generally as it should be. It is easy to err in planting too many sorts. It is well that this be impressed on young gardeners especially.

I would also call attention to another point. Many persons would plant trees who do not do so if they had a site whereon to plant. The point I conceive to be worth a thought is the advisability of planting fruit trees in and about shrubberies. Now that Beet and Kale are considered legitimate subjects for flower-garden ornamentation, surely fruit trees will not be voted incongruous as shrubbery decorative objects. Indeed, they cannot with much reason be objected to for this purpose, seeing they are prepared for and admitted into the conservatory for the sake of their floral effect. On the merits of their profuse and delicate tinted blossom alone, fruit trees are submitted as fit and proper subjects for extensive association with evergreen shrubs. Then there are the additional ornament, and, what is more to the point, the usefulness of the fruit. In the vicinity of large towns every

piece of ground is, in numberless instances, devoted to flower garden and shrubbery. The occupiers are large fruit-consumers. They have it all to buy, but most would prefer growing it. Shapely pyramids of Pears, Plums, and Apples, intermixed with shrubs, would give them fruit and flowers too, and could hardly offend the taste of even the most rigid æsthetic. Whether the "good and bad neighbour" theory has anything to do with it or not I cannot tell, but I observe that fruit trees, in common with deciduous trees generally, invariably flourish admirably amongst evergreen shrubs. The only really good crops of Apples I have this year seen were amongst shrubs, where the branches were literally bowed to the ground by the heavy tresses of excellent fruit. "Sheltered from frost," perhaps some may say. Well, if so, recognise its value. On this point alone the subject is worth consideration.

In reference to the devastation of fruit blossoms by spring frosts something may be done in plantations to lessen this by those who are able and yet do not pay attention to it, and that is the grouping of fruit trees among forest trees. It is quite common to see plantations of forest trees contiguous to country residences. The primary object of these is shelter. If in the centre of such plantations a place were planted with fruit trees, as an orchard, the shelter would be just the same, and the outward appearance would be just the same, while much valuable fruit might be drawn from the interior, especially in such seasons as this, when the blossom on exposed trees and orchards is killed by spring frosts. I have in my mind's eye a large wood on a gentleman's estate. Some years ago one of the workmen took a fancy to put in some grafts of Apples on the wild Crab stock growing about the wood. These trees eventually bore fruit, and what is more to the point, gave useful crops when the trees in the gardens were bare, in consequence of a lack of shelter, which was afforded to the trees in the wood. In my very limited travels this summer I have only seen one really well-laden orchard, and it was in a plantation surrounded and sheltered by Fir trees. My remark at the time, spontaneously uttered, was that "If I had a plantation of my own, but I never shall have, I should grub up some of the trees in the interior and plant fruit trees." On reflection I firmly adhere to that remark, feeling confident that if put into action I should often have plenty of fruit when I should otherwise have none at all.—J. W, *Lincoln.*

THE MADRESFIELD COURT GRAPE.

A most excellent Grape in some respects, being a good grower, of free habit, and a good setter, with large berries and good colour; but the most important quality it lacks—it will not keep after it is ripe more than three weeks or a month. I have tried it two years, last year in a late house, and this year in an early house. In the first, or early house, it was very fine and handsome, with very large berries of good flavour and good colour, but would not keep three weeks after it had become ripe. I kept one bunch four weeks, but it was not fit to send to table. That was in June. At present (November 1) I have some in a late house; they have been ripe since the end of September; now there is not a bunch fit for use. It is not so good as the Hamburgh as regards keeping qualities. I would earnestly advise anyone having a large demand in the autumn to plant a good number of it for its beauty and flavour. I am disappointed in it only in one respect—namely, that it was said to be a good late Grape.—J. Freeman, *Knowsley, Prescot.*—(*Florist and Pomologist.*)

ROYAL HORTICULTURAL SOCIETY.

December 6th.

Although the weather had been very cold for two or three days previously, there was, notwithstanding, a good show for this time of year, and especially was this the case with the fruit and vegetables. In the floral department the novelties were but few, and the certificates fewer still; yet as a whole this meeting, the last of the present year, afforded most encouraging prospects of what we may expect next season with the enlarged and more liberal schedule of awards which the Society has offered.

Of Tree Carnations there were no exhibitions in Classes 1 and 2.

In Class 3, for twenty-four Japanese and late Chrysanthemums, Mr. E. Rowe, gardener to Mrs. Lewis, Rochampton, was first with very good examples of John Salter, Lady Harding, Mrs. Halliburton, Princess of Wales, Venus, Nil Desperandum, Mr. Brunlees, Isabella Bott, Miss Mary Morgan, Yellow Perfection, Princess Beatrice, Nonpareil, Mr. Gladstone, Jardin des Plantes, Abbé Passaglia, and Lady Slade; of Japanese, Dr. Masters and Red Dragon, large. Second, came Mr. Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, with very fine blooms of Princess Teck, Pink Perfection, Miss Maréchaux, Mrs. Pethers (Anemone-flowered); and of Japanese kinds, Red Dragon, very fine in colour; Dr. Masters, Bronze Dragon, Grandiflorum, Magnum Bonum, and others. Mr. Goddard, gardener to H. Little, Esq., Cambridge Villa, Twickenham, who was third, had excellent examples of Red Dragon, Comet, The Daimio, and Aurantium (Japanese varieties), and good blooms of the incurved kinds. Mr. Hobbs, Lower Easton, Bristol, and Mr. George, gardener to Miss Nicholson, Putney Heath, also exhibited. Messrs. Jackson & Son, of Kingston, had a special certificate for a stand of twenty-four, shown not for competition. In this were remarkably fine examples of The Daimio, Red Indian, Aurantium, and Madame Godillot, Japanese kinds, and some large blooms of the incurved kinds, notably John Salter and Golden Beverley. Mr. Shrimpton, gardener to Mrs. A. Doxat, Putney Heath, had also a special certificate for some very large blooms, amongst which were the finest examples of Jardin des Plantes and Empress of India we have seen this year. John Salter and others were likewise very fine.

Class 4 was for the best collection of Hardy Evergreens bearing berries, exclusive of Hollies. Messrs. Standish & Co., of Ascot, were the only exhibitors, and took a first prize with beautifully grown little plants of varieties of Pernettya mucronata, P. pilosa, the cheerful Skimmia japonica, berry-bearing Aucubas grafted as half-standards, and Cotoneaster Simmondsii. Prizes were also offered for collections of nine Hollies and of six Box, but no exhibitors came forward.

Class 7 was for nine Hardy Evergreens of the Yew or Cypress tribe in 12-inch pots. Messrs. Standish had the first prize. Foremost amongst their collection were Taxus fastigiata aurea, a beautiful Golden Yew never browned by the sun; Cupressus Lawsoniana fragrans, finely furnished, and more glaucous than the type; and Retinospora lycopodioides, one of the handsomest of the new Japanese Conifers, and this one of the best specimens in the country. The others were Retinospora obtusa alba variegata, R. pisifera stricta, R. obtusa; Taxus coriacea, very distinct; and T. adpressa stricta.

Mr. George had an extra prize for a box of cut flowers, consisting of Cypripediums, Camellias, Azaleas, &c.

Prizes were offered for collections of hardy herbaceous plants, also for Endive and other Salading, but no one came forward to claim them. Mr. Meakes, gardener to R. Fowler, Esq., Petersham, sent a small collection, but as it was not entered it could not take a prize. Messrs. Carter & Co., High Holborn, offered prizes for collections of vegetables. There was only one exhibitor, Mr. Pragnell, Castle Gardens, Sherborne, who took the first prize with a large and very fine collection. His Carrots of various kinds, James's Keeping Onions, Hollow-crowned Parsnips, Salsafy, Scorzonera, Savoys, Kale, Cabbages, &c., were most praiseworthy.

Fruit Committee.—G. F. Wilson, Esq., F.R.S., in the chair. Messrs. Crescuolo, Kay, & Co., of Gracechurch Street, sent fine specimens of Globe Tripoli Onions, grown in Italy. These imported Onions are said to be free from the strong disagreeable flavour of Onions when used in salads. Mr. P. J. Perry, of Banbury, sent some very fine specimens of the pure White Spanish Onion, which were much admired and commended. Messrs. Sutton & Sons, of Reading, sent roots of New Orange Naples Garlic, a remarkable new variety of a round regular form like an Onion, and not in the form of separate "cloves" as in the old sort, and of a peculiar orange colour. There was no information in regard to their culture, and as they were imported roots the Committee reserved an opinion till they had been grown in this country. Mr. William Jones, Kelvoy, Nenagh, Ireland, sent specimens of Leathercoat Potatoes as an example of the crop grown on the reclaimed lands of Ireland. A winter Radish from California, received from Mr. Robinson, was exhibited from the Society's garden at Chiswick. It is white and like the Teltaner Turnip in shape, very tender and succulent, and was considered useful for winter salad. It was awarded a first-class certificate. Mr. Sidney Ford, The Gardens, Leonardslee, Horsham, sent bulbs of Veitch's Red Globe Turnip, sound and succulent. Mr. Sage, The Gardens, Ashridge, sent roots of "Table d'Hôte" Potato, a long, small, deep-eyed variety, much used in Paris. Mr. Piccirillo, of Wigmore Street, sent heads of the Naples Champion Cauliflower, a variety very similar to Veitch's Autumn Giant. Mr. Parsons, The Gardens, Danesbury, sent six sorts of Celery for the Committee to distinguish their several merits. They were Grove White, Hooley's Conqueror, Williams's Matchless, Matchless White, Henderson's White, and Matchless Pink. Mr. Cadger, The Gardens, Luton Hoo, sent a quantity of fruit of Luton Hoo Cucumber, which were much commended as being excellent for the season of the year.

Mr. Young, gardener to Lionel Ames, Esq., The Hyde, St. Albans, sent a very fine dish of Marie Louise Pears.

Mr. G. Johnstone, gardener to Earl of Strathmore, Glamis Castle, N.B., sent two handsome Smooth Cayenne Pines, weighing in the aggregate 16 lbs. A special certificate was unanimously awarded. Mr. W. G. Pragnell, gardener to G. D. W. Digby, Esq., Sherborne Castle, also sent a Smooth-leaved Cayenne Pine, weighing 7 lbs., but it was a little defective in growth. Colonel Wallace, of Lochryan, Cairnryan, N.B., sent fruit of Golden Hamburgh Grape, with the following communication:—

"30th Nov., 1871.

"Sir,—I send you by post to-day in a small box some berries of Golden Hamburgh Grape, which I will be glad if you will show to your Fruit

Committee, and kindly let me know their opinion of. They have been ripe since the beginning of August, and so I fear may not carry very well; but I send them, as I think we always succeed in growing that Grape here very successfully both as to size and finish, and we sent them even finer than those to the International Show in Edinburgh in 1869. I attribute it to the borders being thoroughly aërated, and to there being no manure of any kind in them, as they are composed of ten parts rotted sods, one part of broken bones, and one part of lime rubbish, and nothing else whatever. The Vines are now bearing the fifth crop, and so they are, of course, at their best; but as the bones were broken very large, and there is no manure to be speedily exhausted, I expect they will remain equally good, if moderately cropped, for many years. We have grown White Tokay to 14, 16, 18, and 19 lbs., and never less than two bunches on a Vine. On one Vine this year we had the largest and smallest of these weights—14 lbs. and 19 lbs.

"Your obedient servant,
"WILLIAM S. F. A. WALLACE."

These, when they arrived, were large, handsome, and sound berries, but as they came some days before the meeting they had decayed considerably. Mr. A. Ingram, The Gardens, Alnwick Castle, sent bunches of Mrs. Pince, Lady Downe's, and a seedling. Mr. William Paul, of Waltham Cross, exhibited a bunch of his new Grape, Waltham Cross, in splendid condition. The bunch was very large, and the berries immense. This received a first-class certificate at a former meeting, and it was again much admired. E. Hubbard, Esq., exhibited a fruit of the Osage Orange, grown in the botanic garden at Parma. Messrs. Lane & Son, of Berkhampstead, sent a grand collection of Grapes, consisting of Alicante, Trebbiano, Gros Guillaume, Muscat of Alexandria, Bowood Muscat, Duchess of Buccleuch, Lady Downe's Muscat Hamburgh, Black Prince, Foster's Seedling, Frankenthal, and Black Hamburgh. The bunches were splendid specimens of high cultivation, and the collection received a special certificate.

From Messrs. Stuart & Mein, Kelso, came a quantity of Borecole, distinguished as Stuart & Mein's Extra Curled. This was as densely and beautifully curled as the finest curled Parsley. Unfortunately, it arrived too late to be submitted to the Committee.

FLORAL COMMITTEE.—W. Marshall, Esq., in the chair. Mr. Lee, florist, Arundel, sent blooms of several seedling tree Carnations, one of which, Mars, was a showy crimson scarlet. Mr. Clark, market gardener, Twickenham, exhibited a collection of Cyclamens raised from seed sown January 28th, and in very good bloom. Mr. Goddard, gardener to H. Little, Esq., Twickenham, also sent a collection of Cyclamens. Queen of Crimsons, rich deep crimson, had a first-class certificate.

A first-class certificate was also given to Mr. Green, gardener to W. Wilson Saunders, Esq., Hillfield, Reigate, for Argyroxiphium Douglasii, with silvery long-lanceolate leaves, an ornamental little plant from the Sandwich Islands. Yucca longifolia also came from the same exhibitor. Mr. Chambers, gardener to J. Lawrence, Esq., Beddington, sent flowers of Ipomæa cœlestina, large, and of a beautiful azure blue. Messrs. Standish & Co., of Ascot, sent a very graceful plant, Asparagus decumbens, with white and orange flowers, a native of the Cape of Good Hope, but long known in this country. It would be a pretty plant for table decoration.

Mr. Kerr, gardener to J. G. Shephard, Esq., Wickham Market, exhibited tree Carnations, and Messrs. Downie, Laird, & Laing a good white Chinese Primula, called New White. Mr. Rowe exhibited a fine white sport of Chrysanthemum Venus.

From Messrs. Veitch, of Chelsea, came several plants of a yellow-fruited Capsicum, called Yellow Gem. These were admirably grown on single stems of a foot or so high, and each had from eighteen to twenty-four fruit. A fine collection of hybrid Solanums, covered with berries, from Mr. Williams, of Holloway, had a special certificate. Mr. Williams also exhibited a variety of Lycaste Skinneri, with two flowers borne so closely together that they almost resembled a doubled flower.

Mr. Freeman, gardener to Sir J. Sebright, Bart., Beechwood, sent five fine cones of Picea nobilis from a tree fifty-eight years old. Models of Umpleby's hot-water circulator, and of Rendle and Burrow's system of glazing without putty, were also exhibited.

THE dates of the Committee Meetings and Shows for 1872 are January 17th, February 14th, March 6th and 20th, April 3rd and 17th, May 1st and 15th, June 5th and 19th, July 3rd and 17th, August 7th and 21st, September 4th and 18th, October 2nd, November 6th, and December 4th. The second May Show will last two days, and the first June Show three days.

CUT FLOWERS FOR TABLE DECORATION.

IT is said in the cookery-books:—

"If the woodcock had but the partridge's breast,
'T would then be the finest bird ever was drest;
Or the partridge had but the woodcock's thigh,
'T would sure be the finest bird ever did fly."

And so it is with the arrangement of flowers. The exhibitor of Roses is fain to add the graceful frond of the Maidenhair Fern to back the brilliant Rose-bud, notwithstanding "the veil of moss around it thrown;" but as the frond of the Maidenhair Fern bears no resemblance to the natural foliage of the Rose, if a pinnate leaf could be found equal to the Fern frond in gracefulness, it would be a very desirable acquisition for table decoration. For since Nature has generally supplied leaves of more or less beauty as a back or foil to flowers, we cannot greatly err in imitating so good an example in our artificial combinations. We have, moreover, in Nature a very notable example of this principle holding good, for we see in the fair colours of the rainbow that this glorious messenger rides upon or spans a dark cloud, and its beauteous tints are thereby enhanced in brilliancy. The leaves of the plant that I am about to recommend are not by any means tenacious of life, for if they are left out of water for a very short time they quail and dry up beyond all power of revival. It is a British plant, fond of rich soil and plenty of water; but when used for house decoration with flowers that are to stand in water, this failing of fondness for water becomes a virtue, and the leaves really enjoy the in-door life and the water so much, that after a week in a living-room I found that they had not only kept fresh, but had curled up to the light, and felt quite firm and crisp, unlike most leaves when kept a week in-doors. This is no other than one of the Cinquefoils, Potentilla anserina, the Goose Tansy of the older botanists and the Mossies of the north of Scotland. The leaves being silky on the under side, elegantly cut, and interruptedly pinnate, seem by Nature meant to adorn, and as the plant belongs to the Rosaceæ, the leaves fall in admirably with Roses and all the Rose tribe in table decoration. It is no matter which side of the leaf is seen, as the back is a silvery grey, and the face a light green. The foliage of this plant should be treated as an aquatic when in-doors, and it will then feel quite at home, and form a nest, or bed, or back for naked flowers, especially Roses, whose stems must of course be immersed in water.

So much for the wet medium in which to keep flowers, but there is also a dry one for a very elegant tribe of plants which are also extremely useful for table decoration—viz., the Grasses. These should be raised high enough to let their graceful curves and bends be seen to advantage, and should consist of mixed species, not, as we frequently see them, a bundle or sheaf all of one sort, and not only so, but caricatured and dyed red, blue, mauve, magenta, or some other unnatural colour—for it is just the unnatural arrangement of natural materials that is to be reprobated in ordinary house and table decorations.

Some may think the arrangement of flowers an easy matter, and of little importance; but if so, why are premiums offered at exhibitions for the best? and what becomes of the millions of nosegays that the Hebrew maidens manufacture in London, in what one might term the "button-hole" business, where a single Pelargonium leaf is the background, and any showy flower, however plain, in red or yellow, is very unnaturally mated to form the face? I have watched the craft at work, and have seen sprigs of Asparagus tied firmly and fast to a shabby truss of Tom Thumb Pelargonium flowers, to form a "posey knot" wild and disorderly. Now the flower of the Potentilla anserina has five golden petals, and is of nearly the same size as that of the wild Rose; indeed, it is as like a single Rose as it well can be; it is, therefore, in every way a meet companion for any of the members of the Rose tribe.

Those who admire Ferns have to sober down their ideas from gaudy flowers, for the flowerless Fern tribes expend all their energies on the fronds, and therefore they can afford to rise high in the leafy line. The Grasses, on the other hand, with a few notable exceptions, have inconspicuous flowers, but their habit and manner of flowering are exceedingly graceful, and they have no need of water to preserve their beauty when kept in-doors. This is no small recommendation to many parties, who are so peculiarly placed that they could not keep flowers in water; for I must not hide the fact that the water in which decaying flowers are kept becomes exceedingly offensive: hence the importance of dry flowers where there is any risk of flowers kept in water being neglected. The three Brizas—maxima, media, and minor—are, when in flower, very attractive, and may serve as examples of beauty in our native Grasses. When we see their hearts of chaff dangling in the meadow, we would gladly carry them home and admire their beauty for years to come, for they are veritable immortelles, and when enclosed in glass cases with stuffed birds they will last a lifetime. I mention these well-known species to show the sweet and cleanly character of Grasses when adopted for house decoration.

Let no one think, much less speak, lightly of cut flowers to make home look cheerful and happy. And this luxury is within the reach of thousands, wherever there is a roadside or hedge-bank or a common. I have used bushels of cut flowers, grown on purpose, to adorn the apartments of noblemen's

mansions, and I have carried a few cut flowers to the table by bedside of an invalid to cheer the dull surroundings of the sick-room by their lively looks and sweet odour; but it is on festive occasions that the decorations of the table rise in the esteem and play an important part in the merrymaking; and, like the music and the dancing, they are really part of the get-up, since the setting-out of the table on such occasions would be the talk of the guests for many years to come. It was only following the true spirit of merrymaking that made the Northern minstrel say—

"A Christmas gambol oft would cheer
The poor man's heart through half the year."

—Alex. Forsyth, *Salford.*—(*Florist and Pomologist.*)

TEA ROSES IN THE OPEN AIR.

As regards Tea Roses and Hybrid Perpetuals I do not think there is so much difference in their hardiness as many suppose, at least I do not find it so. Much, of course, depends on the soil and locality, yet I think more on the former than the latter. I have read with much interest the lists given from time to time in the Journal of the twelve best Roses, and, as I fully expected, the lists vary considerably, which, I think, may be accounted for as much by the soil on which they are grown, as the taste of the selector. Roses that do well with me are but poor in comparison in the gardens of some of my friends, and also, on the contrary, those which thrive well with others, in some instances I cannot induce even to grow. Take, for instance, that fine Rose Maréchal Niel, I have tried it on the Briar, on the Manetti, on Gloire de Dijon, and on its own roots, and it will not do. Some of the Hybrid Perpetuals serve me the same way. Lord Macaulay will not do with me, and I have seen it strong in other grounds. But what I wanted to say is that the few Tea Roses I have are in the most exposed position in my grounds, on the slope of a hill that has a north-east aspect, and no protection from the winds coming for miles and miles over the valley of the Medway, and I have not lost one from the cold or wet. I had one blown off close to the ground, but it did not break again, and that has been my only mishap. It was the Duchesse de Cazes, and had become a good-sized bush. I have Bougère, Souvenir d'Elise, Souvenir d'un Ami, Comte de Paris, Madame Willermoz, Madame Labonté, Ducheese de Cazes, President, with others, doing well, and seldom cut up by the frost; in fact, not so much so as my Hybrid Perpetuals, some of which I lost last winter, and others nearly so. I have a pillar of Céline Forestier, 6 feet high, in a most exposed position, and it only, as a rule, loses the tips of the shoots each winter. Gloire de Dijon does wonders, and is, I think, one of the hardiest Roses I have, and one of the most beautiful. My soil is a kind of loam on a dry subsoil, and I think the dryness of the roots helps much to my success with the Tea Roses. All the protection they have is a little rough stable straw shaken in between the branches. I am of opinion that Tea Roses in the south of England are much more easy of cultivation than is generally supposed, and I have just ordered a number of other varieties than those I now possess on purpose to test them, but I have no fear of the result. I do not think they will do well out-doors on wet clays, but on light or high land I think the grower will be very agreeably disappointed with them.

I shall not attempt to scrutinise the various lists of twelve Roses that have appeared, for, as I have said at the commencement of this, soil and situation have a great influence, but I may say some mentioned I shall not grow any longer, as they will not do well with me, while others not noticed have with me been fine. In the Rose it is so much a matter of taste.

I write the foregoing with the hope that other amateurs, as well as myself, will try the capabilities of the Tea Rose for out-door cultivation, and if they do I shall be pleased to learn from them their experience, as by such means we can help each other.—Harrison Weir, *Weirleigh, Kent.*

MANCHESTER BOTANIC GARDEN.

It is certainly much to be regretted that the term Botanic Garden is often given to a place widely different to what one would suppose it to be from its name. Sometimes a fashionable resort for those who care no more for plants than the colour of the flowers they bear, is unduly dignified by the name of "The Botanic Garden;" or it may be that some garden, once deserving that name, has through the force of circumstances, descended into the condition of a plot of ground devoted solely to the display of showy summer-flowering plants. There are, however, exceptions to this, and now and then we meet with a place where the legitimate purpose of cultivating a collection of plants having permanent botanical character and distinction about them is still pursued, whilst sufficient attention is paid to the more showy ornaments of the present time. In other words, Botany and Floriculture are united, and work pleasantly and well together; the mere sight-seers are delighted with the blaze of floral beauty, and the studious botanist has also a regard paid to his wants. Taking into consideration the many natural disadvantages it has to contend against, the Manchester Botanic Garden is one of the most successful of its kind, especially in the cultivation of potted and out-door bedding plants. Shrubs and trees, owing to the proximity of a large town, it is impossible to grow well, but all that it is possible to do in that way is done.

The site of the Manchester Botanic Garden is about a mile from that city, by the side of one of the many thoroughfares leading out to the south-west. The appearance of the imposing-looking gate and lodge, which strike the passer-by as being a likely entrance to some place of importance, is further enhanced by another gate (differing in detail but yet artistic) on the other side of the road, leading to the mansion of Sir Humphry de Trafford, Bart. Unfortunately the presence of houses on both sides destroys the quiet seclusion of the garden, and their rapid approach threatens at no distant day to swallow it up. Even now it is hemmed-in nearly on all sides, and the difficulty of growing good specimens of shrubs and trees is increasing every year. We fear that department of the garden will not be pleasing to those who reside where a purer atmosphere prevails, and before proceeding to details we must remark that everything is being done to mitigate an evil which no one deplores more than the worthy curator, Mr. Findlay. Indeed, the wonder is how he manages to present such a healthy collection of exotic plants under glass, and also to furnish such a rich display in the flower beds, which are both numerous and full-sized.

The garden is on that tract of land extending some miles to the south of Manchester, which is very dry, and consists chiefly of a black sandy soil, very productive and absorbent. On entering the garden, the first thing we see is a large and somewhat open grass plot. On this the Manchester horticultural shows are held. There is a peculiarly-constructed glass house of large size, some of its details certainly having an oriental rather than an English outline. This building, I believe, was originally intended as a conservatory, but owing to some cause has never been heated, and is now used to hold the horticultural shows in. Adjoining and leading out of it, the ground has been formed into a series of turf-covered stages for plants, much in the same way as at the London Botanic Society, Regent's Park. This, of course, at show time is covered with canvas, and with gravel paths between must look remarkably well. Even at the time of my visit Mr. Findlay had turned some of the circular stages to account by planting upon them Gladiolus and other showy plants, which were doing well, and showed to advantage. Fronting this was the flower garden proper—a series of beds laid out on grass, not crowded, yet ample in size as well as in number, and with the exception of Calceolarias, which in some places showed symptoms of disease, everything was in as promising a condition as could be wished. This geometrical garden was, of course, planted with the ordinary bedding plants, which by conventional usage are supposed to be best adapted for such purposes; and other beds scattered promiscuously over the ground, contained plants interesting to the lover of novelties as well as the studious botanist. The ground in this direction is bounded by a piece of ornamental water and some shrubbery, with some rustic-work, and only requires the shrubs to thrive better in order to look well.

Pursuing our walk to the left we come upon the range of plant houses, and here is ample scope for the lover of Cape and New Holland plants to indulge his tastes. It is a singular thing that so many fine plants of this class are omitted in private collections, as many of them possess beauty of foliage equal to that of some more recently introduced. Plant stoves are also to be seen, and two or three Orchid houses lower than those we have been in before. Mr. Findlay makes a great distinction between tropical and temperate Orchids, and although he by no means goes the fullest extent in cool treatment, on the other hand he considers that most of them require a warm temperature at the proper growing sea-

son; in fact, he thinks the difference between the hottest and coolest temperatures they are subjected to in a general way might be increased. We next follow him into some Fern houses, which are also mostly low structures, as best adapted for maintaining the required moisture. Here there was one small house devoted almost entirely to the cultivation of that class of Ferns requiring constant moisture, and amongst them were some choice specimens. On coming out we found ourselves near to a collection of herbaceous plants, which Mr. Findlay observed were but little looked at—a fact much to be regretted. The whole collection, in-door and out, was in a most praiseworthy condition for such a place, and if the shrubs were not all that could be desired, it was from causes beyond control. This is easily understood, and Mr. Findlay may justly claim a great amount of credit for the good condition of the plants in the houses, and also for that of the flower beds on the lawn.—J. Robson.

Royal Horticultural Society's Examination of Gardeners.—We have to remind young gardeners that the next examination in Fruit and Vegetable Culture and Floriculture is to be held in the Council Room, South Kensington, on the 12th inst., at 10 o'clock A.M. Those intending to compete should write at once to James Richards, Esq., Royal Horticultural Society, South Kensington.

A FEW WORDS ABOUT LILIES.

I wonder what the honest opinion now is about Lilium auratum? We were all taken by storm by it; but after all, was there not a little of the barbarian element in our admiration? Did not size captivate us more than beauty? and can it be true that, with all our civilisation, if you scratch the skin the old untutored nature comes out? When Bishop —— went out to Sierra Leone the natives crowded down to the beach to see their great preaching chief; what was their disgust, instead of seeing a tolerable-sized giant, to behold a diminutive dapper little man, whom we even should have called small! And this element of size is, I fear, far too much regarded amongst us. Big Pine Apples, big Potatoes, big bunches of Grapes with big berries; and so it runs through the gamut. "I have Celery that weighs I do not know how many pounds; Potatoes of which half a one is enough for a man's dinner," and so on. Yes, and in nine cases out of ten lose flavour to gain size. Not but that Lilium auratum is very beautiful, but can it be compared in beauty and elegance with L. lancifolium, which is beginning again to assert its position as the elder and better of the two? and it is mainly in reference to it that I have a word or two to say about Lilies.

There is unquestionably much confusion in the catalogues with regard to the nomenclature. Speciosum, by which name it is called in some, is, we are told, totally incorrect, and that it has never yet been introduced into Europe; while we find roseum, rubrum, cruentum, and a number of names applied to it. Desirous of unravelling some of this mystery if possible, I received through the kindness of the following firms bulbs of the different varieties in their possession—viz., Messrs. Carter and Sons, Holborn; Messrs. Sutton & Sons, Reading; Messrs. Veitch & Sons, Chelsea; and Messrs. W. Cutbush and Son, Highgate.

The impression that has forced itself on my mind is simply that it will be hopeless to determine now which is roseum and rubrum. Album is, of course, plain enough. Punctatum, which I believe when correct to be white with very pale pink spots, is also not difficult to determine, although sometimes it is called roseum, and the term punctatum does not appear with it; but beyond this all is confusion. The fact is, that large quantities have been raised from seed; that, like all seedlings, they vary somewhat in the marking; and that they have been placed indiscriminately under rubrum, roseum, or cruentum, according as they were more or less dark in their markings.

I feel a great affection for these Lilies. They are associated with pleasant thoughts of the first sight of them I had—dear me! how many years ago!—of the triumph I felt in the possession of a small bulb, and of the excitement connected with its growth and flowering. Ah! how very difficult to feel now as one did then! and what a very fine flower it would be that could excite the enthusiasm of those days! And so one feels in reading "At Last." Fine as are the descriptions of tropical scenery, one cannot help asking, What would Kingsley have written if he had visited Trinidad when he wrote "Alton Locke?". But to return to the Lilies. In beauty of marking they are quite equal to auratum; they excel in the contour of the flower, in the permanence of bloom, and in the delicacy of its perfume. Auratum is so strong that it is almost impossible to keep it in-doors, and in a room it is intolerable. It would ill become me to say a word on the tribe in general, but is it not a question whether auratum itself is not a natural hybrid between lancifolium and longiflorum? Again, can anyone grow Brownii? Everybody that I have ever met with speaks of it as almost hopeless. M. Jean Verschaffelt told me that there was some one in Germany who used to be able to do so, but he is dead, and his secret died with him. I may say that I have never seen L. auratum growing in greater perfection than amongst the Rhododendrons in the peaty light soil of Weybridge Heath, where I saw it last summer in the garden of George F. Wilson, Esq.; and the mention of his name leads me to say that he would confer a great favour on all admirers of the Lily if he would give in the Journal some popular notes on the flower. Mr. Baker has given a very elaborate synopsis in the pages of a contemporary, and most valuable it is; but the general lovers of the flower would like much, I am sure, some descriptive and cultural notes from one who loves and knows the tribe so well as Mr. Wilson.—D., *Deal.*

FLOWERING PLANTS FOR DECEMBER.

December—dreary, the fag-end of the year, midwinter, and a whole catalogue of dismal associations—has yet its cheerful aspects. Christmas, like May, is said to be merry, as we wish all our readers will be at that season. From a floral point of view, we are not by any means certain that December is the most dismal month of the year. November, and even October, are often greater floral blanks; we appreciate all evergreens more in December, especially those with berries, and in-doors there is a greater wealth of flowers.

We purpose to take a survey of the plants which occur to us as being in season at that time, with comments; and first we shall begin with stove flowers, as they present themselves to our mind's eye. One of the finest of all stove climbers for winter is Thunbergia Harrisii, a most chaste and grand flower, the colour a delicate blue, produced in large clusters; flowers all winter, and of the easiest culture: a cutting of September, 1870, planted out covers more than 50 feet of rafter with abundance of its racemose clusters. Next comes Passiflora kermesina, with clouds of crimson bloom on its elegant spray: the flowers make an elegant margin to a basket of cut flowers.

Ipomœa Horsfalliæ will be at its best in December, an immense grower and bloomer, producing heavy bunches of flower-buds at every joint, which open in succession; it also is crimson. The crop of Passiflora princeps will not be over until December; it is, perhaps the prince of Passion-Flowers. Bougainvillea glabra beats the Fuchsia as an accommodating plant: it blooms perpetually, or may be had perpetually in bloom. Our largest supply of it will be in December. A cutting of September twelvemonths is now an immense plant, and has literally bushels of bloom on it; it is one of the very best plants for cut flowers, as the flower-stalks can be cut any length. The last winter climber we shall mention is Manettia bicolor, a very elegant plant with a profusion of orange-scarlet flowers, after the style of a Cuphea or Libonia. This is really a very beautiful plant, and can be had in 6-inch pots. Staked with a few twigs of Birch, it is an elegant vase plant.

Of stove flowering plants for pot culture there are abundance. Gesnera elongata, an old and showy plant easily made into a specimen for a vase: small plants for furnishing can be easily propagated in spring, when the old plants should be well cut back: it is a woody plant. The various herbaceous Gesneras are now in perfection; we specially like the green-foliaged varieties. Thyrsacanthus rutilans, a noble plant for the centres of stands, should be grown in a moist cold pit in summer. Sericographis Ghiesbreghtiana, not so much grown as it deserves. Justicia formosa, which few new plants will equal when well done, can be made into a huge specimen or tiny plants for edging vases. Eranthemum pulchellum, of which the same may be repeated. Both have flowers of the richest colour. Libonia floribunda, not strictly a stove plant, but requires a warm place in winter. This, with a lot of other things, we intend growing all summer, planted out in a cold pit, potting them up in September. Cypripedium insigne and venustum, Calanthe Veitchii and vestita, may be all classed with ordinary stove plants for December. Begonia fuchsioides, Saundersii, and insignis, the last especially, are fine December plants, and should be grown in quantity: insignis is a most useful plant

for dinner-table decoration and housework. Epiphyllums of every shape, size, and variety can be had in perfection in December, and answer every purpose. Euphorbia jacquiniæflora is the prince of pot stove-plants for winter: we grow it in battalions of different sizes; it does for any sort of work. Specimens are elegant for the centres of vases, edged round with something, say Panicum variegatum, to contrast. It answers for edging small baskets by cutting the curved spikes and pegging them down. Its brilliant colour enlivens any place where it may be put; we also plant it out largely, which makes it show itself to advantage. It is by no means a shy plant, and will grow against the back wall of a conservatory or intermediate house if the roots be in well-drained soil. The Poinsettia is for December what scarlet Geraniums are for the flower garden in summer, and zonals for the conservatory. It can be started and grown in a cold pit in summer, and from the 1st of October and onwards in the stove. It is best propagated from the young wood in July and August. In September four or five cuttings may be put in 4-inch pots for dwarf plants. We have grown it from 6 inches to 16 feet high. For the decoration of staircases, halls, &c, large plants are invaluable; indeed, it can be used for any decorative purpose. It soon loses its leaves, however, in a cool conservatory. Heat is essential in winter.

Turning to greenhouse plants, we know of a large plant of Tacsonia Van-Volxemi, trained over a roof, which will be covered with blooms all December. We have it planted out-doors like a Vine, its head being trained to the rafter inside. We have it also inarched on the T. manicata for a stock, and also on its own roots inside. Hyemalis, Wilmoreana, and gracilis Heaths are easy of culture, and can be had in quantity for the conservatory, or single specimens for rooms: the first mentioned is really superb. For December there are other Heaths, but these are the best. They should not be crowded amongst other plants, nor do we care about them for cutting. Epacrises must be placed on a par with the Heaths just mentioned: they are all exceedingly bright and showy, but not well suited for cutting from: at least, we like to cut them as little as possible. The Camellia is in full force in December, even out of doors, in the south: any gardener with a lot of Camellia blooms in December will know well what to do with them. The Chinese Primula is perhaps the next plant we should mention as being of a staple character. Large plants, well bloomed, are exceedingly neat for small vases. Small plants in 4-inch pots are excellent for edging: these should be grown in battalions for various purposes.

Tree Carnations of different colours are a leading feature for December, and of easy culture. Large plants which have been well attended to out of doors on a sunny border, pinched and watered, lifted in October full of buds, make a fine display in winter; the blooms last a long time after being cut. Spring-struck plants grown in small pots are useful for mixing in stands in the conservatory. Cyclamens of sorts come-in in quantities for all purposes, like Primulas. Small seedling plants make neat edging-plants for small stands; and the pretty little Oxalis tricolor is, if possible, more showy for winter, but does not last so long. This is a plant which should also be grown in quantity, and managed along with the Cyclamens. Cinerarias early sown will be in bloom in quantity, in light airy houses, and are of great use as conservatory plants. The plant does not stand the heat of rooms, and the flowers soon fade when cut. Schizostylis coccinea will be at its best in December. This is an exceedingly easily-managed plant, and very showy, planted out in spring and lifted in October when the flower-spikes are up. Ours were not lifted until the month of November, and are now in a cool orchard house, waiting their turn of the conservatory in December. This plant can soon be got up in quantity from seed. Angelonia anguatifolia, another perpetual-blooming plant, with strong purple spikes of flowers, should be grown from cuttings in spring, planted out and lifted; it wants a dry airy house; it can also be had early from seed.

Mignonette, of which we cannot discover more than one sort, although we have sown several, only just wants to be mentioned, because it must never be forgotten for the winter. Trees trained umbrella-shaped in the usual way can be used in stands, with the surface dressed with smaller flowering plants, otherwise they are rather gawky. We have a plan for tree Mignonette, where the shoots are not tied down, but tied to wires which are made to radiate from the top of the centre stick, like a chimney-sweep's brush. The trees do not look so stiff, and the blooms are bristling outwards in a round head, like little standard trees. Roses of the Tea section will have a sprinkling of bloom, and even the Hybrid Perpetuals housed in October with the buds formed. Souvenir de la Malmaison, old though it is, is most useful in this way; also Madame Bosanquet and Gloire de Dijon. Heliotrope, with a little forcing, will, like Mignonette, be in in quantity, and never fails to be useful and admired. Neapolitan Violets are, like the Tree Carnations and the two last-named flowers, always in demand, and most appreciated in December. The bulk of them will be in cold pits and frames, but a few dozens are useful in pots for the conservatory, if the foliage be green and crisp, and the plants bristling with flowers. They are best potted-up in October. This is a moisture-loving plant, and we never had it in such fine condition as on the south coast, approaching the climate of Nice and Mentone—big fat blooms on stalks as long as a black-lead pencil.

Forced flowers still remain, which come in easily in December; and first of all is the White Indian Azalea, which contrasts so well with the scarlet Poinsettia. Hybrid Rhododendrons, especially Nobleanum, Persian Lilacs, Deutzias, Jasminum nudiflorum, Forsythia viridissima, Spiræa prunifolia, &c., all come in flower early in December with little forcing, if the plants be well prepared. Roman Hyacinths with almost no forcing, Dutch Hyacinths, Van Thol Tulips, and Narcissus also come in easily if potted in time, and plunged deep in sawdust in the open air in the full sun, care being taken not to over-force when taken under glass, as that will retard them more effectually than cold. A few Hotcia japonica and Lily of the Valley will come in about the end of the month.

We might still return and enumerate more plants of the various sections noticed which now occur to us, but enough are mentioned for the floral illustration of the month. We mention only one more, Luculia gratissima, a grand winter plant; we have it against a back wall, also as a tree planted out with Hydrangea-like leaves and blooms, and we mean to try it out of doors against a wall.—(*The Gardener.*)

ENTOMOLOGICAL SOCIETY'S MEETING.

The second meeting of this Society for the season was held on November 20th at Burlington House, the President, A. R. Wallace, Esq., being in the chair.

With reference to Professor Westwood's exhibition at the previous meeting of a number of specimens of Formica herculeana found in a perfectly uninjured condition in the proventriculus of a great black woodpecker, Picus martius, said to have been killed near Oxford, and brought to the physiological department of the new museum for dissection, Mr. Dunning remarked that (from information which he had received) several examples, presumably of foreign origin, of this bird were exposed for sale in the London markets at the precise time one was said to have occurred near Oxford. Professor Westwood said that he had received information from Mr. C. Robertson, the anatomical demonstrator at the Oxford Museum, that he had repeatedly seen the bird in the woods at Clovelly; and W. Jackson, Esq., F.L.S., who assisted in the dissection of the specimen, also stated positively that he had seen the bird creeping up the stump of a tree in another wood in Devonshire. As many as thirty instances of the occurrence of the bird in this country have been recorded, as stated in Mr. Gould's fine work on British birds now in course of publication. One of these is recorded to have been shot by the grandfather of the present Lord Derby, but doubt existed as to this fact, and no specimen indisputably shot in this country is known to occur in any English museum. Mr. Edward Sheppard could not reconcile the occurrence of a gigantic species of Ant, not hitherto actually known, although reputed, to be a British species, in the digestive canal of a bird, the origin of which was also open to doubt as a British species or specimen, with an idea of the former being a native insect. Professor Westwood stated that he was making further inquiries on the subject.

Mr. Frederick Bond exhibited some specimens of Lasiocampa Trifolii, a number of which of uniform small size and dark colours, had for several years past been taken in the caterpillar state in Romney Marsh, where no papilionaceous wild plant occurs, the larva feeding on grass growing in the shingle, the perfect insects from which thus seemed to constitute a distinct race; also specimens of Lithosia caniola, and some remarkable specimens of Clisiocampa castrensis, having the hind wings on one side marked like the fore wings. Mr. Stainton exhibited a specimen of Triphæna orbona (Agrotis comes) from the neighbourhood of Exeter.

Mr. McLachlan exhibited specimens of two American species of Dragon Flies, Libellula pulchella, *Drury*, and Plathemis trimaculata, *De Geer*, which, although belonging to different genera, were so much alike as to be easily mistaken for the same species. A long discussion took place as to the cause of this mimicry, as it is now the fashion to term such resemblances, some of the members considering that the smaller species put on the appearance of the larger in order to deceive birds, which would scarcely dare to attack the larger ones.

A letter was read from Mr. Miskin, of Brisbane, desiring to enter into correspondence with English entomologists, and to exchange specimens of Australian Lepidoptera and Coleoptera for English ones.

Mr. F. Smith exhibited some cocoons of Tiphia tarda, a sand Wasp of North America, received from Mr. Riley; they were double, consisting of an external thin pellicle and a hard internal oval cocoon. They had been found by Mr. Riley under cow dung, a situation in which the cocoons of the British species, T. femorata, had been found by Mr. Smith, who had no doubt that they fed on the larvæ of the dung Beetles, Aphodius, in the same manner as the larvæ of the allied genus Scolia fed on those of the genus of Beetles Oryctes.

Mr. Albert Müller stated that he had in the preceding summer detected a species of Thrips attacking the pods of the edible Pea, forming large white patches and preventing the growth of the seeds, as many as fifty or sixty of the larvæ feeding on a single pod.

Mr. McLachlan read some notes on the nomenclature of the two species of European Ant-lion Flies which had been confused together by Linnæus.

The President announced the publication of a further portion of the proposed catalogue of British insects, containing the Aculeate Hymenoptera by Mr. F. Smith.

GROUND LEVELLING AND PRACTICAL GARDEN PLOTTING.—No. 25.

DRAWING PLANS.

Fig. 50 is of too complicated a character to be defined in the same manner as the foregoing, the letters and figures required for reference being so numerous that they might lead to confusions in a limited space. If the figures previously given are well understood there will be no difficulty in finding the manner in which this plan is drawn. The means employed for transferring centres and lines from one side of the paper to correspond on the other have been already explained. The transferring of the designs to the ground will follow as a matter of course. The lines and dotted parts of *fig.* 50 indicate Box; *g*, gravel; B, beds; *c*, coloured materials or bulbs. — M. O'Donnell, *Gardener to E. Leeming, Esq., Spring Grove, Richmond.*

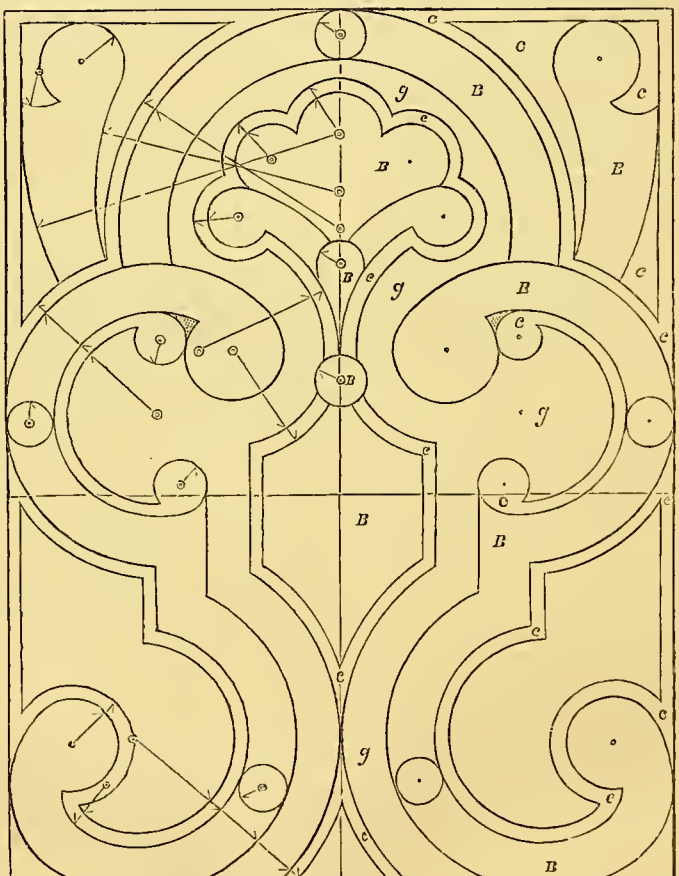


Fig. 50. Scale 24 feet to the inch.

VINE EYES ON TURF.

This mode was recommended by Mr. Thomson. Last February I put in eighteen eyes on pieces of turf, and started them in the Cucumber house. When about 6 inches long, to give them a fair trial, I built three brick pits about 3 feet square, in one of our Muscat houses, filling up with loam. I transferred my eighteen plants into these pits, placing six in each. They made excellent growth, although planted so thickly. This day I have taken all up save one in each pit; all three were admirable plants. In taking the others up I was quite delighted to see the roots more like ladies' fans than Vine roots, and that they were in the best possible condition. I should strongly advise my gardening friends to adopt the system, for which I have to tender my best thanks to Mr. Thomson. It is what I should term the common-sense principle.—R. Gilbert, *Burghley.*

A GARDENER'S HOLIDAY.—No. 3.

A very pleasant journey from Kelso by North British Railway brings you to Galashiels, celebrated for its woollen manufactures; from thence by a single line of rails to Clovenfords, which will very soon be equally celebrated for its Pine Apples and Grapes. It is here that Mr. William Thomson, late gardener at Dalkeith Park, has established himself. A wild out-of-the-way place it looks at first sight, but the air is pure, and the fine turfy loam with which the hillsides are covered is peculiarly adapted for Vine and Pine Apple growing. It resembles very much the loam which we procure from Wanstead and Epping, but is more friable.

Mr. Thomson's vineyard is close to Clovenfords railway station, and on getting out of the train you are at once struck by the large size and arrangement of the houses. I was conducted over every part of the establishment, and all the details of heating and ventilating were pointed out to me in the kindest manner.

The principal feature at present is three span-roofed vineries, each 200 feet by 24 feet. The first house I entered was almost exclusively devoted to Lady Downe's Grape. Here you are at once struck, not only by the strong short-jointed growth of the Vines, but also by their even appearance, not one seeming to be different from the other, when the varieties are the same, and their strength and vigour being astonishing; all through there does not seem to have been a single failure. The permanent Vines are planted between the hot-water pipes and the side walls, whilst a row which was bearing a fine crop of highly-coloured fruit is planted on the inside of the hot-water pipes. These will be removed as soon as the permanent Vines come into bearing. The middle house is planted with a mixed collection, the greater portion of them being Black Alicante. This is the true variety, and is easily distinguished by the leaves, which are very downy underneath, and by the stout short-jointed canes which it produces. I mention this because the Morocco, a very inferior Grape, is very often sent out as the true Alicante.

Dr. Hogg, in the "Fruit Manual," states that a very fine example of Morocco was named Alicante (Kempsey), hence the confusion, but he also states that it has no claim to the name. I saw a magnificent bunch of the true Alicante exhibited under the name of Kempsey at the International Fruit Show, October 4th. Gros Colman is also planted to a limited extent. It seems to be a very late sort, as the berries of Alicante were quite black when it was just showing signs of colouring. When quite ripe it is a good-flavoured sort, and serves well for market purposes, the berries being very large, quite black, and taking on a beautiful bloom. There are a few rods of Seacliff Black, which is worth growing as a variety. It resembles Black Prince, except that the bunches are more shouldered, more compact, and the berries are larger. It takes its name from Seacliff in the East Lothian. Burchardt's Prince [Aramon] Mr. Thomson thinks a desirable variety. It has large, well-shaped, tapering bunches, large jet black berries of good flavour, and keeps well. Madresfield Court Black is also grown in this house, with Mrs. Pince's Black Muscat close to it. The former Mr. Thomson considers one of the best new Grapes, an opinion which is being confirmed on all hands by the best Grape-growers in the country. The bunches of Mrs. Pince in this house were very poor, and wanting in finish; the berries did not seem to have set well. Mrs. Pince is sometimes good, and I grow it on its own roots, when the berries always set well; the bunches are also large, well-coloured, and the berries of good flavour, but it does not keep so well as Lady Downe's, the berries being so liable to shrivel.

The next is a Muscat house, the varieties being Tynningham Muscat and Muscat of Alexandria. The first is larger in berry, and ripens before the old Muscat. A new variety of which I had no previous knowledge, named Scott's Muscat, is very promising, and there is a large demand for young Vines of it. It was exhibited in Edinburgh, at the autumn exhibition of the Royal Caledonian Society, and obtained the highest award for flavour. These three varieties, and a plant or two of Trebbiano, are the only kinds grown in this house.

All through these vineries the same vigorous growth is noticeable, and is, no doubt, due to the fine turfy loam, this and a few crushed bones being all that the borders are composed of. Much of it is also due to the new system of raising young Vines, which Mr. Thomson has explained at length in the columns of this Journal (see vol. xx., page 61), and which at once commends itself to the notice of every intelligent cultivator. All the pot Vines are grown on the same system, and it is also worthy of note that both fruiting and planting canes were struck from eyes during the spring of this year. I am perfectly satisfied that all fruiting canes should be grown from eyes struck in the season of planting them. I have pursued this practice for the last seven years with invariable success, never failing to obtain a good crop of fruit, and that from plants which had no bottom heat from the time they started into growth. My plants were, of course, grown in pots from the first.

I was particularly pleased with the system of ventilation, all the side sashes opening simultaneously outwards by lever and screw, and they can, therefore, be fixed at any distance; even a child could move the whole length of 200 feet. The top is made to act upon the same principle. One thing more I must notice, and that is the watering of the inside borders. These are watered by an india-rubber pipe and hose in the following manner. At the highest end of each block of hot-water pipes is fixed an iron tank, which is filled from them with water of the same temperature. Part of the india-rubber tube is coiled into this warm tank, and the remaining portion carried down amongst the hot-water pipes, so that the cold water flowing through this tube is warmed to a considerable extent before it reaches the surface of the border. At the time of my visit they were giving the house water that was flowing through a rose fixed to the tube on the hot-water pipes, which still further warmed it before reaching the roots. There was an iron support to carry the rose, which was moved to a fresh position every ten minutes by the young man in charge, and who occupied himself with some other work while the house was being watered.

If the vineries contain some remarkable examples of skilful culture, one is equally astonished by what is to be seen in the fruiting Pine house. This is a lean-to, 150 feet by 12 feet, and contains such examples of Pines, mostly of the Smooth-leaved Cayenne variety, as are not to be seen in any other establishment in Britain. The Pine houses of T. N. Millar, Esq., of Bishop Stortford, under the care of Mr. Ward, are a sight not soon to be forgotten, but as the plants are grown in large pots 13 and 15 inches in diameter, and are allowed plenty of room to develope, under proper treatment one does not wonder that Cayennes are sometimes cut weighing 10lbs. each. Here at Clovenfords, 10-inch pots are the greatest size even for such robust-growing sorts as Charlotte Rothschild. There was ripening in these small pots fruit in plenty, which would weigh from 8 lbs. to 10 lbs. each. The pots used are rather different in construction from those usually employed, being almost as wide at the bottom as they are at the top. In the succession houses the young plants are all that can be desired, clean, and in sturdy, luxuriant health. No doubt, with the Pine Apples, as with the Vines, the rich, turfy, virgin loam is one reason of their success, but it is evident that to grow Pines in very large pots is sheer waste. There are plenty of places in England and Scotland where the loam is equally good, and equally well adapted for growing Pines as that obtained by Mr. Thomson. I shall certainly not use such large pots in future, and I thank Mr. Thomson for the lesson I obtained in Pine-growing from my visit to his establishment.

This attempt of Mr. Thomson at Clovenfords is a vast undertaking, but much more remains to be done, and let us hope that his efforts will meet with the success they deserve.—J. Douglas.

DRAUGHT OF FLUES TOO POWERFUL.

Since the cold weather has set in and the fires have had to be lighted, I have experienced some difficulty with the draught. I will preface my remarks by stating that, for economy's sake, I was obliged to content myself with a lean-to on the south side of the house. The fireplace is constructed at the extreme south-east side of the house, with the door and stokehole facing the south; whilst the flue runs along the south and west side, continued, with glazed pipes, about half way up the original south wall of the dwelling-house. As the greenhouse stands almost in the centre of the grounds, it would have presented an unseemly appearance if the chimney had been run up according to the usual manner—straight up for a short way above the greenhouse. Accordingly I deemed it less unsightly to run the flue into the chimneys of the dwelling-house, thus doing away with all obtrusion of a greenhouse chimney stack, and hence, I believe, arises the difficulty which I have hitherto been unable to cope with. As, of course, the chimney stack of the dwelling-house is carried much above the roof, it acts as a complete shaft to the greenhouse flue. Even if the one damper I have is only half way out, the fire roars out in an hour; in fact, it is impossible to keep in a slow fire during the whole of the night. Even if I put the damper in all but an inch, the house becomes full of smoke, whilst if the damper is much out, the fire roars up, and requires constant replenishing. The consequence is that the house partakes more of the temperature of the stove house and is rather injurious to Geranium and other cuttings, for which it was principally constructed. Another obstacle to the chimney being carried up in the ordinary way is that the chances are that the smoke would beat down into the drawing-room windows, to say nothing of how the house walls would be disfigured by the smoke whenever the wind blew from the south-west, a by-no-means unprevalent wind. Would you, therefore, assist me in solving the difficulty? I will only add that, as my tenure of the house (for I am only curate and not vicar) is precarious, I should not wish to incur any more expense than I could reasonably help.—Viridis.

[Your trouble is very different from other cases that have come before us—namely, want of draught. There seems to be no objection to the flue of the greenhouse going into the chimney of the dwelling-house. In some cases when we have advised such a course we have found it did not always answer unless a fire was kept in the fireplace in the room communicating with the chimney which received the flue from the greenhouse, as otherwise, by a back draught, the smoke would find its way down the chimney into the room. You seem to have no trouble in this respect, but from the great draught you cannot keep a slow fire, and you obtain far too much heat. We think you may manage what you want without any extra expense. More experiments with the damper would show you what was wanted. After your fire heated the flue a circular opening in the middle of the damper of 1½ inch in diameter, would very likely be sufficient to keep up a slow combustion. However, we place little value on a damper in a flue. We would place more dependance on banking-up the fire the last thing at night with

damp ashes, and more still on having close-fitting furnace and ashpit doors—the ashpit door being especially close-fitting. However high your chimney, there will be no such tearing draught, if no direct air, or the least possible amount, reach the fuel through the grate bars. One precaution more. In making up your fire for the last time under such circumstances, do not stir up or put the poker through the fire, rather take the shovel and beat down the fire to the bars—this will lessen the air passing—then put on what you want, and cover over with ashes. Lastly, do not suppose that you want a constant fire in a flue in a greenhouse unless the frost is keen and continuous. For several nights in winter, with merely a little frost, if the flue is properly heated, little more heat will be required, as the flue will retain its heat a long time.

We think that by acting on these hints you will manage the house at less expense, and we should be obliged if you will let us know how you get on, and what plan was the most successful. We say, Try the close ashpit door after the flue is becoming hot, and do not seek to keep a constant fire.—Eds.]

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 23.

The proverb that the most insignificant foes are sometimes most to be dreaded is rather hackneyed, yet it is true. The gardener meets with a constant proof of it in the injury and annoyance which the hosts of aphides, *alias* smotherflies, *alias* plant lice, *alias* blight—the last name being certainly the most vague—inflict upon him. There are many other species of insects whose ravages are a great deal more observable; there are some species which at times work much more mischief than the aphides ever do, but the latter are an ever-recurring pest, sparing few plants either in the kitchen or flower garden, frequent in their visits to conservatories, and from their small size and the tenacity with which they adhere to their various food-plants, and their ingenuity at concealing themselves, are not easily hunted out and destroyed. Has any poet ever sung the praises or dispraises of the aphis tribe? I find one notice regarding them in the "Insect-Hunters," couched in the peculiar Hiawathan metre in which that entomological poem is composed :—

"The noisome plant lice—
Smo'therflies the farmers call them—
Smothering all the growth of summer,
Crowd'ng till the shoots are hidden.
Leaves and buds concealed by numbers,
Anchored by their beaks sap-sucking,
Winged and wingless all together.
Their antennæ long and wavering,
Gradual taper to the summit.
All their wings are quite transparent
When they have them, and not folded;
All their feet are but two-jointed,
And their legs not formed for leaping."

Does some critic remark that this is but lame verse? Let it be remembered that it is written for beginners in entomology, and the description has at least this merit, which cannot be claimed for some very melodious poetical performances, that it is according to nature and fact. But it may be queried, What special end is subserved by these tiny insect hosts? They act not as scavengers, nor have they any particular beauty in their appearance, nor do they, like some species of coccus, yield any product important to man. (It is just possible, however, that aphides do some good after all, in the way of removing plants which are already diseased by accelerating their decay. They swarmed upon the Potato plants which were affected by the murrain, and hence were unjustly accused by some persons of being a cause, if not the principal, while they were only an effect). One of our most excellent of Scotch gardeners gives it as his opinion that Providence sends aphides to make gardeners more watchful, and also more patient, than they would otherwise be. Yet for all that he has no partiality for them, and has often declared to me that he greatly prefers honest caterpillars, which feed openly upon plants, to such sneaking fellows as aphides generally seem to be. But one of his puzzles is this, that he cannot find any allusion in Scripture o sot memorable an insect plague as the plant louse. His son, who attends evening classes, and is keeping himself up to the latest movements in science, has suggested to his parent that probably these insects did not occur in eastern climes at the time the Bible was written, the temperature not being congenial to them, but I don't think the old man received this solution with any favour.

But cannot aphides be turned to some account, for, though small, they are plentiful enough? My slight acquaintance with Sharpe Schemer, Esq., of this city, enables me to state that he was engaged some time ago in a series of experiments, with a view to the extraction of some peculiar dye from their carcases. He dropped this, however, and from his observations upon honeydew, and the relations existing between the ants and aphides, having come to the conclusion that aphides convert the juices of plants into sugar, he has now engaged in the promotion of a company, the "Aphis Sugar Company," capital £100,000, in 10,000 shares of £10 each, half to be paid on allotment, and the remainder when the first specimens of aphis sugar enter the market. Further particulars can be obtained at the temporary—very temporary—offices of the Company. As Mr. Schemer, however, was heard to remark the other day, that as soon as he had received all that seemed likely to be paid down on allotment he contemplated a journey to America, it is most likely that the second payment will not be called for in a hurry.

Two very troublesome species of the aphis genus are those known as A. Rapæ and Brassicæ. The former of these also bears the name of vulgaris, and is also, I believe, the vastator of some authors. A few entomologists doubt the distinctness of these two species, but I think it is unquestionable, though both may be found occasionally haunting the same plants. Some of the differences may be thus stated. In A. Rapæ, if it be examined by a hand-magnifier, it will be seen that the collar is brown, the abdominal tubes long; the iridescent wings have lightish brown nervures. A. Brassicæ has a black collar, the tubes are much shorter, and the wings, also iridescent, have stouter nervures, which are of a brownish black. The females of Brassicæ are also slightly mealy, the abdomen seeming larger than in Rapæ. The economy of both is very similar. Unlike many other aphides, they are most active towards the end of the summer. A. Rapæ is rarely noticed much before midsummer, and though we can hardly suppose that the first brood hatched from the eggs laid in the autumn is only then appearing, it is evident that their multiplication goes on but slowly for a certain time. I have not myself observed any males of the species in the spring or summer, and suspect that in both this and Brassicæ there is a succession of female broods until towards autumn, when the winged males appear. The "lords of the creation" in the domain of aphis life are not in request until the succession of broods has nearly reached its close. Brood after brood appears without the intervention of males, the wingless females producing their young alive, and these, if the weather is favourable, increase rapidly in size, and are soon able to be themselves parents. From September, on until nearly the end of November, we find A. Brassicæ abroad with a commingling, then, of all sizes, winged and wingless, feeding amicably together, and sheltering in the curled leaves of Cabbage and Broccoli plants when the weather is cold. The different species of aphis apparently stand cold better than do most other insects. Dry weather is much in their favour, there is no doubt.

Many years ago Mr. Curtis noted the fact that A. Brassicæ was partial to Swedish Turnips. Messrs. Hardy and Langland report that in 1870 it did much injury to these in the Border counties, confirming Mr. Curtis's observation. Only a few stragglers were seen at first, but they increased rapidly just as the plants were throwing off their outer leaves. The dry weather and mildew then kept back the young leaves, and as they slowly developed they were drained of their sap by the aphides, which now seemed to defy all attempts made to diminish their numbers. One man, indeed, tried the experiment of cutting off the tops and clearing them away; the plants sprouted again, and were none the worse, but others did not like to venture on so unusual an expedient. The later sowings suffered very little. At the same time that Aphis Brassicæ was infecting the Swedes, the white and yellow Turnips were furnishing food to crowds of Aphis Rapæ. A migration of the Turnip aphides was noticed by Mr. Hardy; this occurred at the end of September. Concerning this he says, "For more than a week during the calm and genial weather they rose in succession from Turnip fields along the valleys until they were almost incorporated with the air, so intensely crowded did they become. At night, or during dull days, they stuck to the threshold, to the grass by wall sides, or gathered upon hedges or trees. Many fell into the waters, or were swept from the grass on the brink. At length came some heavy showers of rain and hail, which cleared the air, and the insects mostly perished."

On the question as to the cause and extent of the migrations

which these insects perform every year more or less, we are hardly yet prepared to give thoroughly satisfactory answers. The opinion held by some that the swarms which pass through the air occasionally are made up of males only, which are either in search of females, or, having performed their customary office, are going out on a tour for recreation, has been rejected by Loudon and others. It has been pointed out that were this the case such a thing could not occur as the sudden appearance of hosts of juvenile aphides in spots where there had been none before, winged or wingless, until a migration brought a "flying party," who thereafter becoming parents proved that the wanderers must, in part at least, have been females. In reply to a communication made to "The Entomologist" this year, Mr. Walker, who is no mean authority in the matter, states his belief that the migrations of the aphis tribe do not carry them any great distance, and he thinks also they prefer peculiar states of the atmosphere for the purpose, when the sky assumes that appearance which is commonly termed "a blight." No doubt they pass at times from the fields to the adjacent gardens and *vice versâ*; but the evidence we have now before us leads us rather to doubt the stories told regarding their taking extensive journeys. Indeed, the very structure of an aphis, even in the winged condition, indicates that it is not adapted to travel very fast or far.

It is acknowledged by all practical men that the destruction of aphides which feed on low plants is no easy matter. With reference to Turnips, from the circumstance that the aphides especially haunt the lower leaves, fluid applications are generally deemed of little value, and as Professor Westwood points out, the removal of these by children, and their immediate destruction, is one of the best remedies. I do not know, however, whether the application of warm water, could it be obtained in sufficient abundance, might not be serviceable to Cabbages and Turnips in some instances. Though some persons have been incredulous, it has been proved that many plants thus infested have been greatly benefited by being immersed in water of from 120° to 150° Fahrenheit, which suffices to destroy the life of aphides. Books recommend "dusting" the plants with snuff, hellebore, lime, &c.; these are of partial utility, but not always easy of application. Tobacco, indeed, in several modes, dry, vaporised, or in solution, must be admitted to have its value. A solution of salt is also death to the plant lice.

I hope, in a future paper, when discussing other species of this tribe, to offer some further remarks on the transformations of aphides, and on their friends and foes in the insect world.—J. R. S. C.

SUCCESSIONS OF VEGETABLES.—No. 4.

CABBAGE.

Atkins's Matchless.—This is a small Cabbage, but one of the best; it turns in quickly, forming a good heart, and is of delicate flavour. With me it is the earliest variety, and very hardy. It is difficult to obtain true. Veitch's Improved is an excellent stock. Sow July 10th, and plant out on a warm border early in September, at 15 to 18 inches apart.

Cattell's Reliance.—An excellent, close-heading, and good Cabbage, being one of the best and earliest. It produces a fine crop of sprouts after the heads are cut. Sow July 10th, August 10th to 15th, and May 5th.

Williams's Early Nonsuch.—Dwarf, close, and early-hearting, of good flavour. Sow July 10th and August 10th to 15th.

Enfield Market.—A fine, large, good-hearting sort, and early. Sow August 10th to 15th, and April 10th to 15th.

Early Dwarf York or Barnes.—Early, dwarf, compact, hearting closely. Sow August 10th to 15th, and May 5th.

Wheeler's Cocoa Nut.—An early close-hearting Cabbage, the best flavoured of any. Sow July 10th, August 10th, and April 10th to 15th.

These are the best six Cabbages I have grown. The plants of the July sowings are pricked-off when large enough to handle, and are finally transplanted in the first or second week of September on a warm border with an east or west exposure, and which is sheltered from cutting winds. Atkins's Matchless, however, has a south border, and there it is fit for use a fortnight or three weeks before the others. The plants are hoed frequently, and earthed well up before winter. Atkins's Matchless will come into use at the end of April, sometimes a fortnight earlier, and as frequently later, for the time of the crop becoming fit for use is regulated by the weather. The July sowing will keep up a supply until the end of June.

The plants of the August sowings are pricked-off, when they have two or three rough leaves, into beds in an open situation but sheltered from winds, and there they remain through the winter. If the weather is mild, the best of them are planted after the middle of February, but if frosty or very wet not until the middle of March. A succession is planted about three weeks afterwards. The August sowings, planted in spring, come into use about the middle of June or a little later, and with successional plantings continue the supply until the close of July.

The April sowing, pricked-off and planted-out at the close of June, will come in during September, and the May sowing in November.

Except the first early crop, or that of Atkins's Matchless, I leave all the others for sprouts, consequently they are planted further apart than if the ground were intended to be cleared as soon as the crop is cut. Two feet apart every way is not too great a distance when the plants are allowed to remain for sprouts. The heads being cut when the sprouts are distinctly visible, the old leaves are cleared away, the soil stirred, and a dressing of two parts of guano to one of salt given between the rows. From the July sowing there are fine sprouts in August next year, and even in July; indeed, the sprouts follow the August-sown Cabbages, and will afford a succession of Coleworts up to Christmas, but I clear them off in November—manuring, and turning up the ground roughly for the winter. The August sowings, besides heads, produce fine sprouts from the end of the next August. I consider the small Cabbages, which are put forth after the hearted ones are cut, to be superior to a hearted Cabbage or Savoy, especially after they have had frost. Tastes will of course differ, but I have always found it desirable to have from the end of April until November a good stock, not only of Cabbages but also of sprouts. Cabbages, if not intended to remain for sprouts, may be planted much more closely, but to have good hearts a distance of 18 inches each way must be allowed between them.

Deep rich soil is necessary for the growth of Cabbages. They amply repay any waterings of liquid manure in dry weather.

For small gardens I recommend Atkins's Matchless and Little Pixie, a small but close-hearting, good-flavoured, early Cabbage. Sow July 10th, August 10th, and on April 5th for autumn. Both do well at 15 inches apart, and the same between the plants.

One ounce of seed of the kinds named is sufficient for a garden of two acres, and half an ounce for a garden of one acre.

Red Dutch Cabbage forms a fine close heart, and is the best for pickling, though any other close-hearted white sort is just as good, except in point of colour. Sow in the second week of August, prick-off when large enough, and plant out in March in good rich soil, at from 2 feet to 2½ feet apart, in rows 2½ feet from each other. Fine heads will be produced in the autumn.

Coleworts, or open-hearted Cabbages, are by some much esteemed.

Rosette Colewort.—Very hardy and dwarf, producing small dark green heads; very tender. Sow in the first week of June, July, and August, and when the plants are large enough to handle plant out at 1 foot apart in rich soil and in a sheltered position. They should be cut before they form close hearts, and are then the most tender of all autumn, winter, and spring Greens. The cuttings from the several sowings will form a succession from autumn until late in spring.

London Colewort is also an excellent sort, but not so hardy as the preceding. Sow in the second week of May and June. It will produce Coleworts from August to early winter.

Sandringham Sprouting is an improved Thousand-headed, in fact a sprouting Sugarloaf Cabbage. It hearts like any other sort from a sowing made in March or April, and whether the head be cut or not the stalk is clustered with compact little Cabbages throughout the winter. It is well, however, to cut the head, and the sprouts then grow larger and more rapidly.

It is hardly necessary to say that the soil between all the crops should be frequently stirred with the hoe, and some soil drawn to the stems, earthing well up, especially for those that are to stand the winter.—G. Abbey.

THE LAPSTONE POTATO.

Very wonderful was the account of the produce of the Lapstone recorded at page 400. But is it correct? I do not, of course, impugn the truth of the statement that a hundred Potatoes were dug up from one stock, but were they Lapstones? I ask this because it has come to be pretty well recognised that this is the best of all Potatoes for a gentleman's table. Many kinds go by the name which have no right to it whatever. The other day my neighbour Mr. Woodford, the Duke of Abercorn's gardener, told me he had seen such a fine crop of Lapstones at Lord St. Vincent's, and was good enough to promise me a few to look at and taste. They were unquestionably very

fine Potatoes, not Lapstones, but a very fine kind of Flake. And then it is said these hundred Potatoes were from a grain of seed; but Potatoes, like most other plants, do not come true to name from seed, so here, again, a doubt is thrown upon their being Lapstones. Fine as this Potato is, I have never seen it anything like the example stated in productiveness, and I should be glad to hear that it had gained in this point also. —D., *Deal.*

LATANIA BORBONICA.

The subject of the present illustration, although usually known by the above name, is, nevertheless, incorrectly so-called, and, in fact, does not belong to the genus Latania. Its more correct name is Livistonia chinensis, but as the former is better known amongst plant-growers, I have retained it in this place. It is a most beautiful object for decorative purposes, either in the stove, the greenhouse, the drawing-room, on the dinner-table, or in the open air during the summer months. Those who use it for the last purpose should endeavour to place it in such a position that it may be shaded during a part of the day from the direct rays of the sun, and if properly grouped I have no hesitation in saying that it will afford one of the most pleasing contrasts in the whole garden.

Latania borbonica.

The genus Livistonia, to which this plant properly belongs, is characterised by terminal fan-shaped leaves, divided into segments round the exterior, these segments being divided more or less deeply in the various species. The footstalks of the leaves are stiff and stout, having their edges armed with strong spines and their bases enveloped in a dense mass of coarse-netted fibre. The plant may be at once distinguished by its one-seeded fruit, whilst the genus Latania with which it is so commonly associated is three-seeded.

The plant is one which I would like to see grown to a greater extent than it hitherto has been; indeed, there are an immense number of Palms admirably adapted for the decoration of our apartments, halls, and corridors which are entirely neglected for a class of plants, which, as a rule, conduce but little towards beautifying a room. We are a progressive race, however, and I am pleased to see us awakening to the fact, that our houses are capable of being put in better order in this respect.

Livistonia borbonica is a plant within the reach of nearly everyone, as it can be purchased for a few shillings, and, therefore, no excuse can be made for neglecting its culture. Although a native of the East Indies, it may be grown either as a stove or greenhouse plant. In the former case, as a matter of course, it will increase in size much quicker, but should this not be desirable, then it will be best to grow it in the cool house. The soil I have used for it is a mixture of two parts peat, one of loam, and one of sand, and this I consider best when the plants are in the young state, because they will grow more quickly in it. As they increase in size, half loam and peat will be best, and if the plant has arrived at such a size that its rapid increase would be objectionable, then use nearly all loam. A liberal supply of water should be given, and avoid over-potting, as the plants can be used to much greater advantage in small pots.—Experto Crede.

[The name *Latania*, as was observed by the late Sir J. E. Smith, was barbarously constructed by Commerson from the French word *latte*, a lath, referring to its slim straight stem. *Borbonica* refers to the Isle of Bourbon, where it was first found. It was first introduced to Europe in 1816. M. Rothschild, of Paris, has obliged us with the portrait we now publish. It is one of the illustrations of "Les Promenades de Paris."—Eds.]

SUNFLOWERS.

Other countries have not been so backward as England in recognising the useful properties of the Sunflower. In the north-west provinces of India it is cultivated to a considerable extent, and with much success, in swampy districts; and it is asserted that the Sunflower plantations exercise a beneficial influence on the health of the neighbourhood, by tending to check the malarious fevers so prevalent in those parts. The Agri-Horticultural Society of the Punjaub, in a recent report, advocates the more general cultivation of the Sunflower for utilitarian purposes, and also enumerates some of the advantages which would attend it. We find that the flower leaves, removed without deranging the seeds, may be used as fodder

for cattle, and with great success; the stalks, when burnt, produce large quantities of potash; and the seeds, besides their use in feeding poultry, already mentioned, may be made to yield a large per-centage of oil.

In that practical country, the United States of America, where Sunflower cultivation is carried on to a considerable extent, principally on account of the value of the plant as an oil-producer, as much as 40 per cent. of oil is, on an average, obtained from the seed. After the process of expressing the oil, the refuse, under the name of "marc," is largely used as a fattening food for oxen, hogs, &c. More than this, the leaves also may be utilised; for, by parching and powdering them, and then mixing with bran, it is said that a food is produced to which cows are especially partial. Even if it had none of these useful qualities to recommend it, the excessive fondness of bees for the blossoms of the Sunflower would alone repay all owners of apiaries for the trouble of cultivation.—(*Food Journal.*)

VAN MONS.

Jean Baptiste Van Mons, one of the most distinguished pomologists of the present century, was born at Brussels on the 11th of November, 1765. From his earliest youth he showed a taste for gardening, and used to amuse himself in sowing and watching the growth of flowers and fruits. So ardently and successfully did he follow up the arts of cultivation and selection, that in the year 1815 his nursery at Brussels contained more than 80,000 fruit trees, most of them the result of his own sowings.

Van Mons.

About this time began those disappointments and crosses with which the career of Van Mons was chequered. In 1819 he received notice to quit his nursery of La Fidélité in the space of two months, because the ground he occupied was required for public purposes. This was, unfortunately, in the depth of winter, and Van Mons had only two days of the week at his disposal; he was, therefore, only able to collect grafts, mark the most valuable of his trees, and save, as nearly as possible, a twentieth of what he possessed. He conveyed the remains of his nursery to Louvain, where fresh vexations awaited him. In 1832, at the time of the siege of Antwerp, the ovens for the cooking of the soldiers' bread were set up in his garden, and a great part of the trees destroyed. Any other person would have been disheartened by these misfortunes, but not so Van Mons. He rented two other plots of ground, to which to remove his young plants, and congratulated himself on having had time to collect grafts from those he was forced to sacrifice. But the public good had not yet vented the whole of its severity upon him. In 1834 the engineers of the Government cast their eyes about, and fixing them on the nursery of Van Mons, decided that there was the most suitable spot for the erection of a gaswork. The gaswork was erected, and the engineers execrated. A year after this event he published the first volume of his work, "Arbres Fruitiers, leur Culture en Belgique et leur Propagation par la Grain, ou Pomonomie Belge experimentale et Raisonée." The second volume appeared in the following year.

Until 1842, when he died, Van Mons continued to cultivate the wreck of his nursery, but grief at the death of his second son and failing health prevented him from paying it the same attention as formerly. After his death the nursery was broken up, and the greater portion of the trees taken to Geest-St. Remy, where there is now an experimental garden of the Society Van Mons.

When we consider that Van Mons received but a moderate classical education, and at first only followed the vocation of an apothecary, the enumeration of his accomplishments, his works, and his honours will be the more striking. He made himself acquainted with the principal living languages, and with the science of physics. At twenty he published his first work, entitled "An Essay on the Principles of Antiphlogistic Chemistry." He was elected a corresponding member of the Institute of France, and like honours were heaped upon him by many other learned European societies. He was a Doctor of Medicine of the Faculty of Paris, occupied for fifteen years the professorial chair of Physics and Rural Economy at Louvain, and, last of all, was decorated with the Order of Leopold. His original works and translations are numerous, whilst the fact of his having produced 405 new varieties of Pears, and 200 more of different fruits, bears witness to the practical benefits he bestowed upon horticulture generally.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The presence of crops suitable as food for insects brings in the course of time a great number of such depredators about a garden. The invention of methods for their extirpation often taxes the ingenuity of a gardener to a considerable extent. There is, however, one substance not open to any objection, and it may now be used with advantage on land whence the crop has been removed—viz., lime. Ground cropped the preceding season with Carrots, Parsnips, or Potatoes, and found, as is frequently the case at this time, infested with insects, should have a good dressing of lime dug in, or, if that cannot be done, the soil should be turned up in ridges for the winter. Such an exposure will benefit the land if at all stiff, and cause the destruction of many insects. Birds are the natural enemies

of grubs; the services of a few rooks or seagulls, where they can be secured, would be found of no inconsiderable value. Surface-stirring amongst young growing crops of *Cauliflowers*, *Cabbages*, *Lettuces*, &c., must be as diligently followed-up now as in the summer when vegetation is more rapid; indeed, there is no season when these important operations can be neglected with impunity. Frequent pulverisation of the soil greatly checks the penetration of frost during winter, and the evaporation of moisture in summer. The ground must never be trodden on after the operation is completed. Continue to take up *Endive* and *Lettuce* on dry days, and store them in a dry airy shed; they will keep much better there than out of doors. If very severe frost comes on, protect *Celery*, *Parsley*, and late *Endive* for spring use. *Mint*, *Tarragon*, *Burnet*, *Basil*, &c., will require to be placed in a little heat to bring them on. Plant a quantity of the Early Ashleaf or some other good early *Potato* in small pots for turning out into a pit, or into larger pots, in January. The Mushroom-house will serve to sprout them. The first crop of forced *Rhubarb* and *Asparagus*, if growing under glass, should have a little air every fine day after they are started; the latter especially should be exposed to all the light possible. Keep up a mild steady heat, and prepare beds for second crops. *Sea-kale* should be kept dark and quite dry, as it is liable to damp-off. In cutting, leave the side shoots for a second crop; remember the more slowly it is forced the finer and more tender it will be. Give air on mild days to young *Cauliflowers* and *Lettuces* under glass. A sprinkling of soot now and then will keep out slugs and help to improve the growth.

FRUIT GARDEN.

Proceed with the pruning of Pears, Apples, Plums, and Cherries at all opportunities, taking those in the open quarters first, and afterwards the espaliers and wall trees. As soon as the quarters are done let the ground have a dressing of rotten cow dung or fresh loam, and afterwards dig it over for the winter. If the land is of a heavy nature leave it as rough as possible. Espaliers should be looked over after pruning, the stakes made good, and the trees securely tied to them. Where permanent iron-wire railing is used for espaliers, a coat of mineral black or anti-corrosion paint should be laid on it when the wire is dry before the trees are trained. Cherries, Gooseberries, and Currants have often their buds destroyed in severe weather by birds. Take the opportunity of a damp day, and dust the shoots with a mixture of dry soot and quicklime sufficiently to cover the buds. Two or three dustings during the winter will in a great measure prevent the ravages of these pests.

FLOWER GARDEN.

Beds of the choice kinds of Lilies and Cape bulbs should have a covering of sawdust or leaf mould to exclude frost. Roses may be planted wherever the ground will permit, and pruning the more hardy and common sorts may be commenced. Let the shrubbery borders after they are cleaned from leaves, &c., be forked over for the winter; the leaves and rubbish of each year should be preserved in a by place to rot, and should be spread over the ground for a dressing before they are forked over. Let the gravel walks be well rolled before frost comes on.

GREENHOUSE AND CONSERVATORY.

The conservatory should now be kept as gay as the limited number of plants in bloom at this season will permit. Remove Chrysanthemums as their flowers fade, so as to make room for other subjects. The earliest-started Camellias and Epacrises will be advancing into bloom, also the useful Erica hyemalis and Wilmoreana. Oranges and Daphnes should be introduced as they show bloom. Their fragrance is very desirable at this season. Neapolitan Violets, Mignonette, Cyclamen persicum, and the most forward of the Roman Narcissuses will assist in making the house agreeable till the more showy forced plants come into flower. Let the borders be frequently stirred and raked over to preserve a fresh appearance, and attend to the greatest cleanliness in every part. The night temperature may stand at 45°, and range up to 60° on sunny days. Let the ventilation be regular, avoiding currents of cold air. To obtain as much light as possible the climbers under the roof may again be reduced and tied closer together, washing the glass at the same time if necessary. Where stove plants are largely grown there will be a considerable number at this season which, after flowering and ripening their wood, will require to be wintered in a moderate and dry temperature. If the collection is extensive there should be a house devoted to this purpose; and as light is not essential to plants at rest, it might have a north aspect, where it would prove equally useful in the summer, either for retarding plants in bloom or for growing such tender-leaved plants as are injured by exposure to the direct rays of the sun. Where such accommodation does not exist, late vineries will answer for keeping Clerodendrons, Allamandas, Justicias, &c., while in a dormant state, as well as Hedychiums, Alpinias, Gesneras, and similar plants. The fire heat required to preserve the Grapes will generally prove sufficient, unless during frost, when a little extra heat should be put on to keep the thermometer at not less than 45°. The woody plants should be watered very sparingly, but the bulbous-rooted and herbaceous sorts may be allowed to get nearly dry. In the mixed greenhouse, see that the young stock of Heliotropes, Scarlet Pelargoniums, Persian Cyclamens, and other flowers grown especially for winter have light situations, and regular attention as regards watering. Let Ericas have close attention in watering if they stand unfortunately near flues or pipes that may become suddenly very dry. Keep up a quiet ventilation day and night if possible; let the air steal in moderately, and dispense with strong fires, or, indeed, fires of any kind when the temperature can be kept within proper limits.

FORCING-PIT.

This is a good time to introduce the following plants, provided, as before observed, they have received the necessary treatment during the summer—Rhododendrons, Azaleas, Persian Lilacs, Perpetual Roses, Sweet Briar, Moss and Provence Roses, Ledums, Kalmias, Anne Boleyn Pinks, Wallflowers, Sweet Williams, and Dutch bulbs. As soon as the more forward are moved into warmer houses or the conservatory, fill up the spare room with a fresh supply, so as to keep up a regular succession. If fire heat is employed be very moderate in its application to plants recently brought in.

PITS AND FRAMES.

If former directions have been carried out the plants in these structures will have a dwarf and robust growth, well fitted to bear deprivation of light for some time if severe weather should come. Damp has accumulated very much of late owing to the dense fogs with which we have been visited. It may be removed by giving air at the front and back on sunny days, but where the pits are heated with flues, a dry atmosphere may be obtained by putting on slight fires, and at the same time allowing a free circulation amongst the plants.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Protecting.—The very changeable character of the weather rendered protection all the more necessary, for sometimes an hour will do much harm, as in the case of the sharp frost a little before daybreak on the morning of the 2nd inst. after the mild evening of the 1st. Where neatness is not a special object, nothing is better than dry litter for keeping out frost. For efficiency and cleanliness combined, a clean open material to go over the glass or plants, and then a waterproof covering over all, will be the best means of protection. If made to fit closely, though a little expensive at first, nothing is better than light wooden shutters, painted, tarred, or pitched, and thoroughly dried previous to use.

We used to do much with straw frames neatly made, even when mats were not much above half of the present price, but employing the steam engine for threshing renders the straw not fit for making the best work. We do not think that a straw cover made with threshed straw is half so good and lasting as one made from drawn straw, and the heads of wheat then cut from the straw. Each straw then consisted of a number of perfect unbroken tubes. Threshed straw is more or less broken, and every tube becomes a receptacle for moisture, making each cover more heavy and unwieldy, and less useful as it becomes wet. We are sure that straw covers would be exceedingly useful if the straw could be drawn before it was threshed. Where many men are employed, making straw mats neatly gave plenty of work in wet weather. Straw mats are likewise very useful, and lasting too, if, when done with and dry, they can be put away where mice and rats will not burrow in them. We like good wheat straw better than reeds for covers. At first when we used to make covers we had three longitudinal pieces the length of the sash, placed so as to take in the width, and a piece across at each end, then cross pieces every 12 or 15 inches apart. The frame being reversed, the straw was packed neatly in, and then other cross pieces about 2 inches wide placed opposite the under ones, and nailed

to them. These cross pieces on the upper side we found to be disadvantageous, as the damp lodged against them, and the frame was made heavier.

For many years we made the under side of the frame as above described to keep the straw from the sash, but after packing with straw, on reversing the frame we merely put a cross piece of wood at each end, chiefly with the view of affording a hold in lifting, and took a string, firmly secured with tacks, across just above the lower cross piece. This made the cover lighter, and the rain passed off more freely. These strings can be made rather tighter if stout cord instead of tar string is used, and they may soon be run across with a small brush and tar to prevent their decaying. In fact, when there was an opportunity of well drying them previous to use, we often painted all the upper surface of the straw with warm tar, just having a little grease or oil in it to make it run freely. These made the covers almost waterproof, but they hardly lasted so long as those untarred, as the tar rendered the straw more brittle. We are now nearly out of such covers, but for protection we consider them second only to wooden shutters. We think some years ago we mentioned as a proof of their efficacy to convince one who could not believe in their utility, that in a low house, divided in the middle, the division that was required to be hottest was covered with these straw covers, one to every sash. There had been a sharp frost, and 3 inches of snow during the night. On the uncovered part the snow was all melted a little after ten o'clock. On the covered part the snow was not at all touched at that time, and to afford a little more light the covers were pulled down, and put on again in the afternoon with the snow lying on them. The glass beneath the covering was much warmer than the exposed glass, but the heat from the former could not pass through the straw to the snow. What will keep heat in will keep cold out.

The only drawback to the free use of such straw covers and wooden shutters, is the simple fact that there must be two men to carefully put them on and take them off, but the work can be done with great rapidity. Such covers with us usually lasted on an average three years, some much longer, with a little looking-over. Even if matting, calico, tarpaulin, or frigi domo is used, and where two men are available for the purpose, it is best when such covering is fastened to poles, so that in the case of pits and frames one man may move or roll the covering behind, and another in front. They are thus more easily dried and rolled up ready for use. All protecting material will be effectual in proportion to its dryness.

We write these details for the benefit of those who wish to know how to do things with the greatest present economy. Hot water might be cheaper in the end, but there are thousands who can stand much work, and a small present outlay, but who cannot make a large outlay at once. Even in the case of low pits and low houses heated by hot water, and where a high temperature is necessary, a little protection over the glass will often be found of great advantage, as wherever there is only a small amount of air shut in the changes from heat to cold, and from dampness to dryness, are more frequent than in larger houses, and not so uniform in either as when a little covering over the glass is used. Even a piece of calico strained or pulled tightly outside the glass makes a great difference on the internal atmosphere in a frosty night.

FRUIT GARDEN.

Fruits, especially Pears, are keeping rather worse than usual, chiefly owing to the dampness of the autumn. Apples, though on the whole smaller than usual, are keeping better, and are of good flavour. Used a little brisk fire every day in the late vinery to prevent damp, allowing the pipes to become somewhat cool before night, and then leaving the least amount of air on to prevent moist vapours collecting. In order to be sure we have taken a good many boxes of cuttings into the house. Pruned, nailed, and prepared sites for trees; the last can be done in the most frosty weather. Placed all the Strawberry plants in earth pits, so as to give them a little protection. This season we have taken out a trench at one end, deep enough to set a row of pots in up to the rims, packed them round with earth, and followed with another row, and so on. Round the ends, back, and front of this bed of pots in the earth pit, we left a breadth of about 6 inches, which we patted-down smooth, and then poured some tar along from the spout of an old pot, which neither rat nor mouse will care to pass while moist. Such a cordon of tar would not do in a heated building, but the fumes of the tar will do no harm in a cold earth pit. We might have kept the plants, as we have done, uninjured in beds in the open ground until now, but we feared lest one night of keen unexpected frost should injure the roots and the consequent crop if little or no protection were given. No better place can be found for such a purpose than an orchard house, but ours are at present too crowded to place them there. We have tried numerous plans, such as building the pots up like the roof of a span house, packing them layer above layer; but the buds are apt to turn to one side and the roots at times to become too dry, and even then the vermin would get at them. Whatever rest the crowns may have, the freeher and less injured the roots are when forcing is commenced the better chance is there for free blooming and free fruiting.

Insects attacking Strawberries.—From a leaf bed that afforded the slightest bottom heat we last week filled five lights of a pit nearly 6 feet wide, and which had been appropriated to Cucumbers, the pit being heated by hot water, though not enough for Cucumbers. A high temperature and a dry atmosphere soon bring on attacks of red spider on Strawberry plants. In low pits they are also liable to suffer when in bloom from too much humidity in the atmosphere, which clogs up the pollen and prevents free-setting. For the latter more dryness and more air are the best remedies, and at the worst times covering the glass at night to prevent condensation of moisture. Such an evil is seldom felt in large houses. In all cases, however, it is well to use preventives against the coming of insects. When the place is empty sulphur-smoking may be resorted to; but our chief reliance is washing the walls and woodwork with water as warm as it can be made—if containing some soap in solution all the better—and painting the walls with quicklime and sulphur. The part of the wall above the Strawberry pots we frequently paint over again with a solution of soft soap and sulphur in warm water. This adheres well, and as the sun plays on it slight fumes of sulphur will be emitted. In such small places where the air shut in is very limited it is better to place sulphur in water in evaporating pans than on a heating medium, be it flue or hot-water pipe. Before putting-in the plants most of the old leaves are removed, the pots are washed, and a little rich top-dressing given. Attention to these minor details will help to secure success, more especially if the rise of temperature is very gradual.

Cleanliness as a Preventive of Insects.—We have not had the opportunity of trying the efficacy of many insecticides, because we would rather prevent insects coming than kill them when they come, and run a risk of injuring the plants too. Whenever we change crops in pits, frames, and houses, we place great reliance on the free application of hot water, as hot as it can be used, if with soap in it all the better. A syringe is generally first used with a thick glove or a piece of cloth to protect the hand, whilst sending water not far from the boiling point into every crevice of the wall and woodwork, not using it quite so warm for the glass. The walls are then scrubbed, and a fresh application of the hot water made. In addition to this, if a pit or frame stands apart from others, we often put the lights on and burn some sulphur. This cannot be done unless the place contains no growing plants, and has no connection with others. It is true economy, as well as prudent, to do all this even when there has been little or no appearance of insects. Considerable practice has led us to the conclusion that it is better to prevent than to cure.

Temporary Stages for Strawberry Pots in Pits.—In building new pits we have several times alluded to the importance of leaving out a ledge of bricks an inch or so in width all round inside, so that by placing stout boards across one could either use the bottom of the pit or one or more platforms nearer the glass to accommodate dwarfer plants, unless in a span-roofed house or pit with glass at the sides as well as roof, and nothing to shade the plants.

Strawberry plants will not force well if placed at a great distance from the glass. From 12 to 15 inches from the glass to the top of the pot may be considered a good average distance for most kinds of Strawberries. The above mode will give a good base for easily forming a sloping stage. It is a good arrangement to have stages formed for the purpose to lift out when done with; but even with all advantage they require much storage room in summer when the pits are used for other purposes. As a makeshift we often lay bearers across, say old rafters or poles 2½ inches in diameter, and on these rest the shelves lengthwise. At times we have fastened a rail at the requisite height back and front for the cross-pieces to rest on, but we do not consider that necessary. The simplest plan is to take a line and measure the exact length from the front to the back wall where you wish the bearers to rest; and then, cutting the ends of these bearers a little diagonally, they will

rest at that place as firmly as a rock against the walls. Then, according to the number of shelves you place on these bearers, you will need as many wedge-like pieces of wood fixed on each bearer and fastened near the thin end with a small nail, so that when one side of the shelf rests on the cross bearer the other side will rest horizontally on the wide end of the wedge. The inexperienced will easily see how well the system will act by making a cross section of a bearer for themselves. When Strawberry-forcing is over and the space is wanted for something else than very dwarf plants, all that is necessary is to pull back the lights, remove the shelves to a place of safety, give an upward stroke with a mallet to each end of the cross bearers, remove them too with the wedges attached, and but little room will be wanted for storage for another season.

Let us add a few words of caution to inexperienced enthusiasts who intend to achieve great results by what they term a rush of forcing high temperature. Be assured that a gentle and gradual increase of temperature are the conditions of success. The plants, likewise, should never be quite dry, though they should be somewhat so rather than wet, until the flower buds and trusses appear, and anything like standing water in saucers or otherwise is the abomination of the plants. Avoid, also, as much as possible keeping the bud of the plant or even the collar of the plant wet.

ORNAMENTAL DEPARTMENT.

Most of the leaves of deciduous trees having now fallen, we swept and cleaned the most prominent part of the lawn. The sweepings are generally put in a heap to heat for present use. Dry leaves we like to keep dry for future use, so as not to waste much by fermenting. A heap of such leaves, with a little litter thrown over them to prevent the wind blowing them about, will keep out much rain if made in the slightest degree rounded and pyramidal. But for their blowing about few materials would be a better protection against frost.

Auriculas, Polyanthuses, Carnations, &c., require plenty of air, but in drizzly weather it is safest to tilt the sashes back and front instead of taking the glasses off. Mice must be looked after where Crocuses and Tulips are growing. We put the most forward Hyacinths in a mild hotbed. We gave plenty of air to Calceolaria cuttings in a cold pit to prevent anything like drawing upwards, and to keep them hardy, as they can be kept with much less care if they do not strike until after the shortest day is passed. Unlike other things, mere moisture will not injure them, but dryness is their abomination. Calceolarias, large-flowered for pot-blooming, and Cinerarias, will succeed best in a somewhat cool airy atmosphere. If kept 5° or 10° above freezing they will thrive better with a cool moist surface to stand on than with much other coaxing. The leaves soon suffer in a dry warm atmosphere. Cinerarias, Chrysanthemums, and Camellias will delight in clear weak manure water as the buds are swelling.

Where a great variety of softwooded and hardwooded plants must be kept in one house, success will greatly depend on keeping them in groups. Thus—florists' Pelargoniums will require more air than Scarlets, and the latter will do with less watering; Chinese Primulas cannot have too much light, and the watering should be given to sail round instead of coming against the collar of the plant; Cinerarias may have a damp bottom, and be kept closer than would suit the hardiest winter Heaths, which must have air to keep mildew from appearing, and then the Epacris—the Australian Heath—will stand a higher temperature and a closer atmosphere than Heaths. By thus grouping the plants we can, even by the regulation of air in a house 30 or 40 feet long, do something to make different climates in the same house. A breeze of air that would be the very life of Ericas would soon prove destructive to the finer Hoveas, Gompholobiums, Boronias, &c. The position of a plant in such a house, therefore, demands a great amount of consideration. The greatest acquaintance with the physical geography and the circumstances in which certain plants will thrive, will all be required to make even the best arrangement of plants in a small mixed house.—R. F.

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Small Farms (*J. Taylor*).—Your communication is not suitable to our columns, wait until all the series has been published, and then if you like to write nothing but practical notes we may be able to spare space for them.

Maréchal Niel Rose (*L. G.*).—If, instead of putting Maréchal Niel into a pot, you were to plant it out in the border of the cold orchard house, and train it against the back wall, you would succeed with it better than in a pot. You can also have one in a pot for the conservatory heated with hot air. For planting in a house or a pot, Maréchal Niel does best either on the Manetti stock or on its own roots rather than on the Briar. Give plenty of well-rotted manure to the roots, as it is a strong feeder. Do not shorten the shoots in pruning, but thin out and encourage all the strong growth. Give plenty of air and water when growing, and syringe to keep down mildew, red spider, and green fly. A little guano water will be found most beneficial both for watering and syringing with. Have you tried Maréchal Niel against a south wall? We can see no reason why it should not succeed against a wall out of doors even in the north of Ireland.

Madame Sertet Rose (*J. H.*).—We have had no experience with this Rose. From flowers we have seen exhibited it seemed very similar to, if not identical with, Alba Rosea. We shall be glad of the opinion of Rose-growers who have tried it.

Chrysanthemums (*B. G.*)—The book is published by Messrs. Bradbury & Evans, Whitefriars, London. If you write to them they will give you full information. It ought to be advertised.

Animal Manures from Various Foods (*Agricola*).—We have seen in the Supplement to the "Agricultural Economist," exactly what you ask for. It gives in a tabular form the comparative fattening power of various foods and the fertilising power of the manures produced.

Greenhouse (*G. Robins*).—A house with its slope facing the west, but with little sun in winter, would do for flowering plants in general in summer, and would keep plants and grow Ferns and Mosses well in winter. We approve of the mode of using the gas air-stove, but you must be particular in joining the joints of the zinc pipes.

Cuttings of Evergreens (*W. B. A.*).—Except a small number of the commoner kinds, there are but few that will succeed in nursery rows without any protection. The common Laurel, however, will do well if the cuttings are taken off with a short heel—about 1 inch of the two-year-old wood. The Colchian Laurel will also succeed, as will the Portugal Laurel, Box of the various kinds, Privet, the Double Gorse, and Aucubas, but the last should have a sheltered situation. Hollies should be put in on the north or west of a hedge and covered with a close frame.

Cypripedium insigne Culture (*C. C.*).—It succeeds in a vinery or greenhouse, and should be potted in a mixture of two parts of turfy peat, and equal proportions of turfy loam, charcoal, and broken pots (crocks), with silver sand, affording more than a usual amount of drainage. It is necessary for the soil to be kept moist at all times, and when the plant is flowering water freely, and in summer sprinkle overhead and give shade from bright sun. The highest temperature from fire heat that you ought to have in your vinery is 40° at night, to 45° during the day. The Cypripedium will succeed in a greenhouse with a similar temperature, but the Stephanotis and Gardenia should not have less than 50°, though we have wintered both safely in a temperature of 40° to 45°, taking care to keep them dry. To induce the Begonias to flower well, you should give them a temperature of 50° to 55° from fire heat.

Hedaroma tulipiferum and Anthurium Scherzerianum to Bloom in August (*Wakefield*).—The flower-buds of the former will now be set, and in order to have it in bloom at the required time it will be necessary to keep the plant very cool, just avoiding injury from frost. When March is past place it in a cold pit, and retard the growth by placing it in a north aspect after May, by which means it may be kept back so as to bloom at the time required. The Anthurium should be grown in a brisk moist heat from January up to June, and then kept moderately dry for about six weeks, when it may again be encouraged with a good heat and plenty of moisture, and will most likely fulfil your requirements. It is a stove plant, and one of the finest-flowering ones. The Hedaroma is a fine greenhouse plant. The large Fuchsias will winter in a cellar, giving only sufficient water to prevent the wood shrivelling, should the air of the cellar be very dry.

Marantas in Winter (*M. W.*).—The Marantas should not be kept dry in winter like Caladiums, but should have the soil moist, and be sprinkled overhead once a-day. They will not, of course, require so much water as when they are growing freely; but, nevertheless, the soil must be so moist as to maintain the foliage in good condition. Alocasia metallica and A. zebrina also require to have sufficient moisture to keep the foliage fresh.

Bulbs to Flower at the End of March (*W. F. R.*).—Hyacinths, Narcissus, and Tulips potted at the close of last month we should place on a hard bottom, cover with fine ashes, or rather cocoa-nut refuse, about an inch deep, and place over them a frame to serve as a protection from wet. There they may remain until the middle of January, and then you may put them on the bed of leaves, made so high as to raise a gentle warmth, and with linings you may bring them into flower at the time you name. We should prefer moving them to a cool greenhouse in the middle of February. They all succeed under similar treatment.

Screen for Hotbeds (*R. J.*).—Arbor-Vitæ answers very well, and has an advantage over evergreen Privet, for it can be had as high as is wanted when first planted; but as you do not require a higher screen than 6 or 8 feet ultimately, we should plant evergreen Privet 2½ to 3 feet high, and 6 inches apart. If the ground is in good heart you need not give manure, though it may be mixed with the soil, and will assist the growth. The hedge you may cut as you like, but what you need with a screen 8 feet high we cannot comprehend, unless it is to shut out the view of the dung. Arbor-Vitæ should be planted 1 foot apart.

Caladiums in Winter (*T. R.*).—All Caladiums die down in winter, and should be kept dry, receiving only a gentle sprinkling from a syringe once or twice a-week. They would do better in a warm rather than a cool stove or intermediate house, but they will succeed in the warmest part of the latter. Marantas do not lose their leaves in winter, but should be kept moist, and have a gentle sprinkling overhead once a-day. The atmosphere in which they are growing is too cold and dry. Fittonias will start in growth again after losing their leaves, if kept only just moist. You can have all the works you name from our office for the sum named, and 6*d.* extra for postage.

Transparent Gage Plum and Figs in Orchard House (*An Amateur*).—With root-pruning and summer-pinching there can be no doubt that such Green Gage trees would be well stored with fruit buds. Are you quite certain you have no fruit buds now, as these buds will yet be small? However, after the treatment received, we have no doubt the trees will

bear out of doors the second season, and most likely the first season. If the small Figs are not larger than the largest Peas, let them alone. If larger than Mazagan Beans, and frost has access to them, the fruit will drop.

Chamber Over, or Rubble Round and Over Pipes for Bottom Heat (*York*).—We do not think there is much difference in practice, but we rather like the rubble best, and it is handiest and cheapest. Your proposed plan of covering the rubble with tiles (and if bedded in mortar all the better), is good. We generally use fine washed gravel for the surface. As to the pipes wasting and rusting where surrounded by rubble there can be no doubt, and so they would do in a shut-in chamber that you could not get at. How long they will stand the rusting process without wearing out we cannot say, but we know that some pipes covered over with rubble have been concealed and do their work after having been imbedded close on thirty years. Do you not think that five 4-inch pipes will be too much for a 5-feet bed? How about top heat in the house?

Lofty Glazed House (*A Subscriber*).—No doubt the house will be warmer with a double roof of glass. For Figs we should prefer the glass clear, but a slight green tint will do no harm. Would a little more heating power not do as well as the double roof? It is not easy to keep in all the heat at the top of a lofty house, but no doubt the double roof would keep the inner one much warmer, and especially if the space between them were nearly air-tight. We do not know of any powder that placed in vessels of small size would absorb the extra moisture of your fruit room. Quicklime will absorb a fourth of its own weight of moisture, and still remain a dry powder, but that would be useful chiefly for small places.

Boiler for Vinery (*A Subscriber*).—A common saddle-back boiler will do more than you require, but for one house we do not think you want any valves at all, though part of the pipes should be at the back and part in front, as when you do not want much heat you will use less firing. To do more justice to the roots of the Vines we should prefer planting them, as the roots are to be inside, 18 to 24 inches from the front wall, and have the under pipes a few inches from the wall. You need not, as you suppose, lose anything of the length of your roof by this mode of planting, as you can train the stems of the Vines to the front of the house before taking them up the rafter. When your Vines cover the roof, 3 feet apart, you will get no crop on the back wall. As you resolve to plant there likewise, we would plant them close to the wall, and have the pipes from 12 to 18 inches from it. With the two sets of Vines, we would plant in either case 6 feet apart, the back Vines to be trained down, the front ones up. Unless you are in a warm place you will not grow and ripen Oranges well, if they are kept in an unheated Orange house.

Heating a Small Lean-to (*Kettering*).—The cheapest way of heating such a house would be to have a small iron stove as often described, or, better still, a brick stove, with the pipe going through the glass roof or through the wall. It would be best to have a small flue passing beneath the pathway. A tile at bottom, and two bricks on edge 5 inches apart, so as to be covered with a 9 or 10-inch tile, would be amply sufficient if the tiles were placed close together at the joints. There is no neater nor better plan than this for small houses. The top of the flue should be in the centre of the pathway. You cannot heat a small place economically with hot water. The smaller the place the greater the waste.

Improving a Pasture Field (*D. C.*).—As you say the soil is shallow and upon the gravel, we do not suppose it wants draining; but if it does, let it be drained at once. The grass being coarse and rough, we would run a light harrow over it several times, which would tear up much of the moss and rough wiry grass. After doing this, give a dressing of manure or compost of a bulky kind—for instance, road scrapings, the parings of ditches, or soil of any kind, at the rate of from twenty to thirty one-horse cartloads per acre. The sooner this can be done the better, in order that frost may mellow any lumps that do not immediately pulverise. A good brushing in the spring will generally spread the mixture well, when the stones may be picked off and the roller passed over. It is a good practice to collect a large heap of rough earthy material in the summer and add some lime to it, which quickly decomposes the vegetable matter and forms a good compost for grass land. For thin poor land like yours we prefer such manure in large quantities to artificial manures, which are necessarily limited in bulk, and are of little service excepting in the season in which they are used.

Blood as a Manure (*J. L.*).—You may use blood for your Vine border in two ways—either by mixing it with eight parts of water and applying it in a liquid state; or, which is preferable, mix it with a quantity of spent frame manure, and spread the mixture 3 inches deep over the surface of the border. It would then be washed-in by the rains, or if necessary by water applied from a water-pot, using a coarse spreader. Apply it when the Vines are in active growth.

Vines for an Early Vinery (*Centurion*).—The following will suit you:—Three Black Hamburghs, one Muscat Hamburgh, one White Frontignan, one Buckland Sweetwater.

Pruning Young Vines (*E. P.*).—The canes should be cut back to three good plump eyes above the length required to reach the rafter or wires, or you will need 4-feet rods or canes to reach to within a foot of the glass, and three eyes beyond that. Of these two will form side shoots, on which you may allow a bunch each, and one the leading shoot. The Vines will be none the worse of bearing a bunch or two; in fact, we have some three-year-old Vines which in the second year were allowed to bear two, and this year half a dozen bunches each, and they are neither weaker in wood nor worse ripened than those that have not been permitted to bear. The main point is not to allow too heavy a crop. The pot Vines will, of course, render it less necessary to crop the permanent ones. The best covering for a Vine border is glass, but wooden shutters answer well, and so do straw mats over a coating of litter. Sheet iron, as represented in your sketch, will do to cover the heap of soil; but why cover it?

Soil of Faggot Heap (*J. A.*).—If the faggot heap is reduced to powder or soil, it is equal to leaf soil. It will not be peat, but decayed vegetable matter. It is an excellent dressing for beds of American plants, and useful for mixing with compost instead of leaf soil, but cannot be used in place of peat. It should be freed of the pieces of wood or sticks by sifting through a sieve.

Protecting Broccoli (*Idem*).—Tying the lower leaves loosely over the heads will not answer so well as laying down the plants, for in the former case only the head is protected, whilst it is the stem that is mostly destroyed. Lay them by all means, and without delay, and do not bring the leaves over the heart until the head is forming.

Storing Hotbed Materials (*An Amateur*).—Being short of horse manure for hotbeds, it will be an excellent plan to store the materials in a covered shed. Instead of throwing them in a heap, spread them out thinly so as to keep them from heating. The large bed you have made-up of three parts leaves and one part horse manure will be useful in March for mixing with fresh materials; indeed, just the thing to keep down violent heating, and for giving a steady, long-continued warmth. The horse manure, in consequence of its drying, will need watering when it is made into a hotbed.

Wintering Iresine Lindeni (*Idem*).—It would do better in a Cucumber frame kept constantly warm with fresh linings than in a sunny kitchen window, which has far too dry an atmosphere. The frame is just suitable provided you can exclude frost, but to do so the linings must be well kept-up in frosty weather, and the lights protected at night as well as by day if the frost is severe.

Wintering Geraniums in a Room (*Idem*).—Yours is the right plan of wintering them—that is, to give them plenty of air, and so keep them as sturdy as possible. Putting them out of doors every fine mild day for a couple of hours is quite right, and should be continued, only take care to protect them from cutting frosty currents. They will not be injured by a temperature of 35°, but we should not allow the air to fall much below 40°. Just give enough water to keep them fresh, but no more.

Protecting Peas (*Idem*).—When your newly-sown Peas are up, place some short sticks to them. Spruce branches without the leaves are the best thing you could use. In very severe weather you may employ full-foliaged spruce branches, but they must be removed whenever the temperature is above freezing.

Preparing Bones for Garden Use (*Ledbury*).—Sulphuric acid partly dissolves and partly crumbles the bones to which it is applied The process is fully detailed in "Manures for the Many," which you can have free by post from our office, if you enclose five postage stamps with your address. Bones so treated may be applied to Vine borders.

Insects (*B. & S.*).—The specimens of chrysalids sent as injurious to "Lettuce seed while yet in the pod," were all smashed in the post, but they are the immature states of a two-winged fly (Anthomyia lactucarum, *Bouché*), very closely resembling the common house fly. We can suggest no other mode of preventing their attacks than that of covering the heads of the plants with fine gauze bags.—I. O. W.

Names of Fruits (*D. R. K. B. M.*).—1, Norfolk Beefing; 2, Winter Greening; 3, Fearn's Pippin. The Potato is Lapstone. (*Alek Brown*).—7, Sykehouse Russet; 8, Surrey Flat Cap; 9, Golden Knob; 11, Margil. (*J. Rowland*).—Your Apple is the Cobham (*Jno. Green*).—3, Duc de Brabant Pear; 4, Belledge Pippin Apple; 5, Pearson's Plate Apple. We do not recognise the other two.

Names of Plants (*Sam or Tam*).—2, Nephrodium molle; 3, Adiantum hispidulum; 4, A. fulvum; 5, Asplenium attenuatum; 6, A. lineatum, var.; 7, Doryopteris pedata; 8, Asplenium flaccidum; 9, Probably Diplazium japonicum; 10, Asplenium filibelliforme; 11, Polypodium aureum. (*J. W. L.*).—1, Leucopogon Richei; 2, Not recognised; 3, Nerine pulchella; 4, Santolina pectinata. Santolina is a hardy border plant, but you are quite right in keeping Nos. 1 and 3 in the greenhouse. (*C.*).—The Fern is Cyrtomium falcatum, from Japan. The Conifer next week. (*Chas. Bennett*).—1, Gymnogramma, apparently G. Laucheana, but possibly one of the varieties of G. chrysophylla; 2, Microlepia novæ-zelandiæ; 3, Adiantum Capillus-Veneris; 4, Cheilanthes lendigera.

POULTRY, BEE, AND PIGEON CHRONICLE.

MOULTING FOWLS.

The moulting season is the most critical period of the year for old fowls; and yet in ninety-nine cases out of a hundred there is less care taken then than in the spring, when everything is in their favour. The idea seems to be, that now the young stock is out of harm's way, they can all shift for themselves.

Some have much more difficulty in moulting than others. Spanish are a long time naked. All the non-sitters feather more slowly than the others. It may be because they lay a greater number of eggs, and that the production of them causes more exhaustion of the system than the twenty-one days of the sitters. Certain it is, however, that moulting is an effort, and taxes the bird so much, that at such a time any old weakness or partially cured disease is sure to show itself again. Thus where roup has existed in a poultry yard, it always re-appears at moulting time.

Perhaps many readers have never considered the great drain upon the system of the fowl during this change of covering. Not only have the regular flesh-forming, life-giving processes of Nature to be fulfilled, but an entire new coat of feathers has also to be manufactured. These feathers consist not of flesh and blood alone, but of component parts of animal and mineral substances. These substances are assimilated from the food, and unless birds can obtain such food as contains the necessary qualities, the work drags, is prolonged, and the poor fowl droops and grows thinner in the vain endeavour to fulfil Nature's requirements, without the proper means to work with. I doubt if one person in twenty has ever given this a thought, and yet it is of the utmost importance to thorough and complete success in raising first-class stock.

Birds that have their full liberty and are well fed always moult well; but when they are kept in confinement, care and precaution are generally necessary. The effects of food may be proved by a fact. Quails are exceedingly fond of hemp seed. This is of a very heating nature, and if they are allowed to eat too much of it their plumage becomes nearly black. If they are fed entirely on it, their bodies are so heated that everything is dried up, and no nourishment is possible. The feathers, like plants, die for the lack of moisture. If proper food has this effect, then judicious feeding ought to assist. When birds are moulting they must have plenty of cooling food, and there is none so good as lettuce; if it has gone to seed and stalking so much the better. Sods of growing grass, and plenty of fresh earth with them, are also excellent.

A little treatment of this kind not only benefits the health of the fowl but shortens the period of moulting one-third. In addition to that, the growth of feathers is stronger and heavier, and the fowls are thus better able to stand the cold winter. The appearance of the fowl is also vastly better; the feathers are lustrous, and appear as if oiled; the bird takes on fat at once, and meets the cold weather with a vigorous health and strength which otherwise it might not have.

Sometimes a fowl will be seen while moulting to be continually pecking or scratching at one spot of its body. On examination it will be found that one or more feathers have failed in passing through the opening in the skin that is provided for the purpose. They keep on growing, but they grow beneath it. This causes much pain. It is common in the top-knots of Polands, but the remedy is a very easy one; take a stout needle and pass it under the quillend of the covered feather, then draw the feather from under the skin.

Not only is an abundance of warming nutritious food needed at this time, but a tonic of some kind may also be given. Stale bread sopped in old ale given two or three times a-week, is said to be beneficial; but perhaps one of the best things to use is one-half pound sulphate of iron (green vitriol), one ounce sulphuric acid, two gallons of water. Put a teaspoonful of this mixture to each pint of water in the drinking fountain, and keep it by them during the whole time of moulting.

One thing requires to be watched; they will sometimes, in a dissatisfied habit of body, begin to peck and eat each other's feathers. If a fowl does this it should at once be removed, as it will teach others the same habit.—(*American Stock Journal.*)

OVERWORKING THE JUDGES.

Permit me, as an old poultry fancier, to endorse most heartily the remarks which your reporter made at page 384 on the insufficiency of Judges at the Crystal Palace Show. It is most true that the work was "too arduous, the number of judges too small, and the awards made," as was well described in the Journal, "in failing light and other disadvantages, and with greater dispatch than advisable."

Were the Judges allowed more time, we should certainly hear fewer complaints, and read less severe criticisms afterwards in the leading poultry journals. Could we find a more palpable example of the effects of this haste than, for example, in the Light Brahma classes? There we beheld, to our amazement, cups awarded to a hen with vulture hocks, and a cockerel with a squirrel tail; prizes given to birds showing, as your reporter pointed out, a "tendency to white tails," while other old cocks, including the first and second-prize Southampton birds, were passed over for rivals seedy in health, dull in colour, or, as your reporter described one of them—a "bird we do not like in any way."—Brahma Pootra.

BIRMINGHAM POULTRY SHOW.

Little alteration has taken place in Bingley Hall since we last wrote on this subject. One of our humorous writers, recording the kind deeds of Toby Tosspot, speaks of some who "lose half man's natural estate of sun by borrowing too largely of the moon." Just so: the appearance of space, which has been diminished every year, has again been encroached upon by the erection of another gallery. The Hall has now galleries all round. That they were needed is evident from the fact that they are filled with goods and with buyers. If space were afforded we believe the four days of the Show would be a perfect fair. At present there are most things, from the cowhide of our relative across the Atlantic, to the composition for mending glass so strongly that the vessel cannot be broken again in the repaired part; there are foods so cunningly compounded by a master of the subject that it should cost nothing to fatten cattle, and the process should be a certainty; medicines that set sickness at defiance; gigantic roots that grow without reference to soil or manure; machines that so economise labour that, though all the cottages on the farm but two or three were vacant, yet men would not be wanted. Indeed, so much seems to be done to conquer everything that is antagonistic to the interest or the well-being of man, that it becomes a matter of surprise that poverty should still exist, or that man should not have everything he needs.

We do not wonder at these things. Although many visit these Shows determined to keep their pockets buttoned, it is by no means an easy task, especially if the visitor is blessed with the society of one of the fair sex. The man who visits this Show in such company is for the time invested with importance; he goes the round of the galleries, and is solicited at every step by vendors, and is, perhaps, coaxed by his better half. "Allow me, madame, to show you this washing machine, a child may manage it; it washes, wrings its own things, and positively costs but a few shillings." "Do, pray, come along," says Henry. "Well, but see, Mrs. Ruffdri is nearly worn out, and when she leaves off I don't see whom we shall get, unless we have Mrs. Uppish, and she eats and drinks so much, does so little work, and requires such extra pay, that I am sure this machine will be a great saving." Sooner or later Henry must buy it. His turn comes, for there are a chaff and turnip-cutter will save their cost in a month; for, says the vendor, "half the food is wasted, and the other half spoiled by the use of worn-out and antiquated machinery." Henry is sure of it. Better half says, "Do come along, do. You never go to a show but you buy something to economise labour, and I do not see you keep one man the less." "But," says Agricola, "I have never had such a machine as this." "No," says better half, "but you know there is an outhouse full of such things, and half of them have never been used." True, very true; but Henry *will* buy it. This goes on all day for several days. No wonder, then, if those who have goods to sell take standings, and thus from very small beginnings a monster Show has grown up.

In looking over the poultry that forms one part of this great Exhibition, it is impossible to avoid being struck with a great fact, that while there is an ebb and flow in those that make up the fancy classes, the breeds of practical utility, either as egg or meat producers, hold their own. Thus we find there were 280 pens of Dorkings, 261 of Cochins, 346 of Brahmas, 89 of French breeds, 86 of Spanish, 205 of Hamburghs, 58 of Polands, 382 of Game, 153 of Bantams, 103 of Ducks, 30 of Geese, 44 of Turkeys.

Seventy-seven pens of *Dorkings* were honourably mentioned by the Judges. The first-prize Dorking cock, belonging to the Countess of Dartmouth, was a bird of rare merit, and deservedly took an extra prize of ten guineas. Among the Silver-Greys there were more perfectly feathered birds than we have ever seen before. The White held their own, but no more. There was throughout these classes an entire absence of inferior birds, and the number of new names among the prizetakers was remarkable. We heard some remarks among the spectators that they seemed to make no progress, but we think it is unreasonable to expect increase upon increase. There must be, and there is, a limit. Having reached that, the aim must be not to lose ground.

We are bound to speak in very high terms of the *Cochin-China* classes. The silver-cup bird, belonging to Mr. W. Augustus Taylor, was a beautiful specimen of the bird of the year. We may notice here that in these, as in other classes, there was an absence of defects. This was especially true of the Grouse Cochins, where those disqualifying defects that help the Judges in their arduous tasks were not to be found. Weight, colour, and points were characteristic of every class.

The *Brahmas* were good, and some of them of great weight. Many were exquisite in colour, but in these, as in some of the Cochins, there is a tendency to breed vulture hocks. This is a mistake.

There was not only a good number of the *French* breeds shown, but they were birds of unusual merit. We must, however, except the La Flèche, which brought but ten pens into competition. This breed finds no favour, and it would seem advisable to distribute the money offered to them between the Crève-Cœurs and Houdans. Both these latter breeds have made great progress, and showed birds of large size and great beauty. We cannot help recollecting that only a few years since

the Brahmas and these breeds were confined to the Various class.

Spanish were good in quality, but not numerous. They do not make the progress they did years ago.

Hamburghs are up and doing, but in the Pencilled varieties the Golden still show better than the Silver. There were some unusually good Golden-spangled.

Polish fowls are decidedly looking up. We have not for a long time seen as many good Golden and Silver as at this Show.

It is unnecessary to make any mention of the *Game*. They formed magnificent classes. Some birds among them would by their weight have astonished the cockers of the last century. The Duckwings are still the weakest class.

Sebright *Bantams* will soon be things of the past. They brought but seven entries in two classes. The Black were excellent and the White good. The other varieties brought Cochins, Friesland, and Japanese. The Cochins were not so good as we have seen.

The Game Bantams were in themselves a show, and we thought a Duckwing cock one of the best birds we ever saw.

Ducks and *Geese*, with the exception of one class, were a continued but well-deserved triumph for Mr. Fowler. The same may almost be said of Mr. Lythall in *Turkeys*.

PIGEONS (*Concluded from page* 428.)

Runts.—Seven entries—viz., two pairs of Blues and five of Silvers. The winning pair were Blues of such size that they had scarcely room to turn in the pens. Their bulky forms likewise told well on the scales, the weight being 4 lbs. 6 ozs. The cock bird had unfortunately lost an eye, which loss with some Judges would have been a fatal objection, but the pair were worthy of their position. There were other good birds, but diminutive in comparison to the prizewinners.

Jacobins.—There were twenty-four pens of average merit; two were soon selected for severe criticism—namely, a handsome pair of Reds and a good pair of Yellows. The latter were chosen for the highest honours, though in our opinion Mr. Fulton's Reds were far preferable; they were perfect with the exception of a little blemish in the thigh of one bird. They were small, good in head, mane, and chain, sound in colour, compact in form, and in good condition. Mr. Thompson's Yellows, though very good, were larger, the cock foul in flight, and both birds somewhat out of condition; but in justice to the Judges we may state that there was a doubt as to the sex of the Reds, and this uncertainty might have influenced their awards. In the class for any other colour only seven pens were entered. The prize list was headed with a handsome pair of Whites of more than ordinary merit, good in the shape of the head and in general outline, clear white eye, hood and chain good. They were pure white, and did credit to the loft from which they came.

Fantails (White).—There were twenty-four pairs. It is proverbial that the Fantail classes are difficult to judge, for the worst pair in a class are often seen to the best advantage, whilst better pairs are crouching in corners of their pens. A very good pair was first. Second came a capital pair of birds, good in tail, make, and carriage. The hen showed to a disadvantage, as she is not quite through her moult, and when judged was bleeding from one of her half-developed tail feathers. A well-matched, unusually good pair came third. They had a full-feathered and expansive tail and carried it well, but were much soiled in appearance, otherwise they would doubtless have had a better place. Several other pens of good birds were shown, and among them a cock bird in a pen belonging to Mr. Yardley was noticeable as being of extraordinary merit. He had an immense tail, full-feathered, and well spread out into an almost circular form; he was otherwise good, but unfortunately was mated to a hen of the second order of Fans, so that pair were passed. The whole class was good.

Fantails (Any other colour).—Eight pens were exhibited—six pens of Blues and two of Blacks. An excellent pair of Blues were first. They were of a good pure colour, with regular and well-defined bars, good in tail and carriage, and without doubt the best pair shown. The same exhibitor also took the second prize with another pair of Blues, also good in colour and general characteristics, but they were ill-matched in eye, the hen having pearl and the cock red eyes.

Trumpeters (Mottled) were represented by six entries of capital Trumpeters, if not all proper Mottles. The first prize was awarded for a first-class pair of birds, good in feather, large, full in rose and well-feathered in leg. These birds well merited their position. The second prize was taken by a first-rate pair of birds, though scarcely entitled to be classed as Mottles. They were a perfect match, uniform black with mottled or sprinkled heads, good in every particular save their doubtful title as Mottles.

Trumpeters (Any other colour).—There were only three entries, but the quality of two pens amply compensated for the deficiency in numbers. First came a wonderful pair of Whites; second as wonderful a pair of Blacks. These two pairs were perfection, and one cannot help wondering at the marked improvement made of late years in the entries of this very attractive and prolific breed of Pigeons.

Owls (Foreign).—The first prize went to a splendid pair of birds, the second to a grand pair of Blues, pure and rich in colour, each pen remarkable (for coloured specimens) in head properties, and having, combined with other merits, the apparent vigour and vivacity of the larger kind. Mr. Fulton had an excellent pair of Whites, very short in head, very small in body, and very good in general characteristics. An unusually good pair of Blacks was exhibited by Mr. Joshua Fielding, jun. They possessed all the chief and essential features of the breed, but, as with most Blacks, they were of a bluish tinge. The jet black has yet to be obtained. The specimens were excellent.

Owls (English).—An admirable pair of Whites, that have won frequently, were first; though the cock bird does not show so well as formerly, yet that beautiful round head is still unchanged in either bird, but the cere around his eye has acquired a reddish tinge which is objectionable. There were ten entries in this class.

Nuns.—There were eighteen entries. All the prize birds were excellent, through to our mind a still more excellent pair belonging to Mr. E. T. Dew was passed over, we suppose, from the fact of being in a dark corner of the Show. The whole class was good. Three pairs of Yellows were shown, none of which found favour. Their tails were all of a faded washed-out colour.

Turbits (Red or Yellow).—In this class there was a good muster of birds (eighteen entries); though many of them seemed sadly out of condition, the quality of the birds was excellent. The first prize went to a handsome pair of Reds, the second to a pair of brilliant-coloured Yellows; in fact, rich and pure of colour, small and compact in form, but from having shell-crowns instead of peaks, they were destined for the second place. Mr. Horner showed a capital pair of Reds, but the hen, apparently about to lay, was quite out of form, and consequently showed to a disadvantage. Mr. F. Waitt also sent a first-class pair of Reds, but in rather a deplorable condition. Though they were very much soiled the colour was rich, and the line of marking distinct. Mr. O. E. Cresswell showed a very nice pair of Reds. The White class was good considering the disastrous season through which old birds have passed, and in which young ones have been reared.

Turbits (Any other colour).—Fifteen entries, among which were some splendid birds, the most conspicuous being the Blues that won the first prize—a really handsome pair, well matched, well frilled, good shape, good peak; sound, clear, and uniform colour, and in perfect health. The second prize went to a very pretty, neat, and compact pair of Silvers, well frilled and a good match. F. H. Paget, Esq., showed an excellent pair of Silvers. The class was good.

Dragoons (Blue).—This class was a large one, and owing to the diversity of opinion upon them, a difficult one to judge. The awards were not altogether in accord with our views. The first prize and silver cup went to a splendid, well-matched, and graceful pair of birds, which have been closely scrutinised many times and have always come off victorious. The same exhibitor took the second prize with a very handsome pair. The birds, ranged in a double tier, were either too high or too low to be properly seen.

Dragoons (Red or Yellow).—Thirteen entries. The first and second prizes were taken with two good pairs of Yellows. All the birds were too coarse and Carrier-like to be thoroughly good Dragoons.

Dragoons (Silver).—This class was unusually strong, Silvers being scarce and difficult to breed. There were, however, twelve pens of birds, most of which were very good, though too heavily warted to be satisfactory. The first-prize birds were good, though too heavy and coarse to be proper Dragoons. The same remark applies to the second-prize pen. These two pens were seen to advantage from their extra good condition. The bars of the second-prize pair are of too black a tint for Silvers. Mr. H. Allsop exhibited six good pairs, one of which should have been upon the prize list.

Dragoons (Any other colour).—Of these there were thirteen entries. Most of the birds were good, but many were out of plume and rather soiled.

Magpies.—Some excellent birds were shown. There were five pairs of Yellows, three of Blacks, and one of Reds.

Antwerps (Silver Dun).—This was a very large and excellent class, thirty-three pens appearing for competition. The fancy for this breed is extending every year, as the merits and value of the breed are more generally known. The first prize was taken by a very good pair of birds.

Antwerps (Blue).—There were seventeen entries, and the whole of the birds were good.

Antwerps (Red Chequered).—This was an excellent collection of thirteen entries. The first prize and silver cup went to a fine pair.

Antwerps (Blue Chequered).—There were twelve entries, all of good birds. The first prize went to a handsomely chequered and well-developed pair. The second prize was awarded to the same exhibitor for a pair infinitely superior in quality to that which won the first prize.

Archangels.—Of these there was a fair display.

Swallows.—Twelve pens of this kind formed the class, in which there were many very good birds.

Any other other New or Distinct Variety.—In this splendid class of various sorts it is usual to expect severe competition. This year there were thirty entries of beautiful pens of Pigeons. The first prize and silver cup were taken by an exquisite pair of delicately pencilled Brunettes, from a consignment of foreign Pigeons recently imported. A pair of handsome Ice Pigeons also took a first prize. A second prize

was awarded to a pair of very nice Ural Ice Pigeons, and a like award was made to a pretty pair of Satinettes.

NUMBER OF ADMISSIONS.

	1867.	1868.	1869.	1870.	1871.
Monday....	7,480	6,368	6,099	6,361	6,543
Tuesday ..	9,144	10,215	8,840	9,170	9,968
Wednesday.	16,670	16,970	13,494	14,082	16,252
Thursday..	12,270	10,370	12,336	14,661	14,698
Total..	45,654	44,283	40,759	44,174	47,461

SUMMARY OF POULTRY SALES.

1867...220 pens sold	£1,103	0*s.*	0*d.*
1868...203 pens sold	£1,004	0*s.*	0*d.*
1869...337 pens sold	£1,120	0*s.*	0*d.*
1870...300 pens sold	£1,043	5*s.*	0*d.*
1871...356 pens sold	£1,207	5*s.*	6*d.*

BRISTOL SHOW ENTRY FEES.

I HAVE been much pleased to see letters in your Journal directed against the large sum of £1 3*s.* being exacted for one pen of Pigeons; this being 6*d.* more than at Birmingham, while only two prizes are offered in a class. My advice to the Committee is to at once reduce the charge to 7*s.* 6*d.* for the first entry, and 5*s.* for every additional entry. I cannot see what they have offered for the extra charge. Take, for instance, cup No. 33; it is for Fantails any colour, Trumpeters any colour, English Owls any colour, Nuns and Turbits any colour. My reason for drawing attention to this is, that any young fancier who only keeps one of these varieties, may not notice that it is for the best pen in classes 79 to 83, as the Pigeon list does not say so, only the cup list.

The best plan is to say a cup for the best pen in so many classes. Some may say, All know better. I can assure you they do not. All old fanciers do, but many young ones do not. I know this makes the list look very attractive. My advice is, before fanciers enter only one or two pens, to count the cost. They will find it will not pay. As a young fancier and well-wisher of the Bristol Show, I now ask the Honorary Secretary and the six gentlemen upon the Committee to give the matter their most careful consideration, and hope they will come to the conclusion to reduce their entrance fees; and if so, I beg of my brother fanciers who have only sent one or two pens before, to send as many as they possibly can.—J. F. LOVERSIDGE, *Newark, Notts.*

I CONSIDER Mr. Cambridge's argument, in answer to "E.S.T." fails entirely to show that there is any advantage whatever to be expected from the £1 subscription fee. "E. S. T." may or may not be one of those who merely show for profit. If he is, I dare say he is not amongst those who are never disappointed. But be this as it may, the question appears to me to be this: What advantage do the Committee expect to gain from the £1 subscription? Surely the exhibitors who have only one or two pens, and they are many, will not give their support. The subscription applies very favourably to the large exhibitors and dealers, and will give the latter the chance of more than ever monopolising the prizes, as in the case of the Pigeon prizes at most of the shows lately. It is not that I look so much at the £1 as at the unjust way in which it is applied. If the Committee had adopted Mr. Sidgwick's plan and charged so much per pen, it would have been far more satisfactory, and would not have given an advantage to one which was a disadvantage to the other. Surely an entrance fee of 7*s.* 6*d.* per pen ought to support any show where there is so large a number of entries as at Bristol. And if I am rightly informed there was no loss, but a small balance on the last Show; and why not have continued the same rules as long as there was no loss? But the proof, I suppose, will be soon made evident; and if the Committee come out the gainers I shall be quite as pleased as though I had exhibited.—NON-EXHIBITOR.

I TRUST that you will spare me a small space to answer Mr. Cambridge's remarks upon a letter of mine on the Bristol entry fees, especially as he assumes that I am "one of those who look upon poultry shows merely as places to which they can send their birds with the hope of making a profit." This Mr. Cambridge assumes to be "evident." Well, I think that I can bring forward a little evidence the other way. Allow me to offer the following extracts from my poultry chronicle, a short record of the amount of prizes won, and of the amount of expenses incurred in showing, for the past four years; and surely if I began with a view to profit, I ought by this time to have moderated my views, at least during the past two years:—

Year.	Prizes. £ *s.* *d.*	Expenses. £ *s.* *d.*
1867	6 15 0	..... 7 12 10
1868	10 17 0	..... 19 2 9
1869	1 0 0	..... 7 2 2
1870	0 10 0	..... 13 5 10
Total....	£19 2 0	£47 3 7

I include in the expenses, of course, railway carriage; but as Mr. Cambridge will say that the committees are not benefited by that (although as surely I cannot include it in my profits), I have separated carriage and even payment for catalogues from the entry fees, and I find that entry fees amount to £29 17*s.* 6*d*, railway carriage and catalogues to £17 6*s.* 1*d.* I have thus to poultry shows paid more than £3 for every £2 received from them.

Mr. Cambridge goes on to say that at most of the five shows that have been held at Bristol the Committee have incurred considerable losses. Of course, I cannot tell what their expenses may be beyond the prize list, but I have seen it many times repeated, that the entries ought to pay the prizes, the admissions and sale of catalogues current expenses of the show, and the subscriptions to pay for cups. I have but one catalogue of Bristol by me, that for 1869, in which I find that Mr. Cambridge paid his expenses by his prizes; I am certainly did not. I see that the poultry entries numbered 1099, at 7*s.* 6*d*, the money prizes amounted to £293, the cups presented by the Committee to £73 10*s.* (other cups to the amount of £51, nine being presented by individuals), and the money saved in the first prizes, when cups were awarded, to £50. The account, therefore, will stand as follows:—

	£ *s.* *d.*
Entries 1099 at 7*s.* 6*d.*	412 2 6
Money prizes 293 0 0	
Committee cups 73 10 0	
366 10 0	
Less money where cups were awarded .. 50 0 0	
	316 10 0
Balance	95 12 6
	£412 2 6

So far, then, as entries and prizes, including cups, were concerned, the Committee had a surplus of £95 12*s.* 6*d.*, besides admissions, sale of catalogues, and 10 per cent. on sale of poultry, to provide for all other expenses. I certainly should not have expected that they would have found it necessary to increase the scale of entry, and I expect that they will find that the total amount received is very much less than under the old system, as there are many like myself, who, although not showing for profit, cannot afford to pay £1 6*s.* for the privilege of exhibiting one pen of birds.—E. S. T.

I THINK the different writers against the schedule of the Bristol Poultry Show are perfectly right in their objections. I for one intended to exhibit a few pens of poultry at the forthcoming Show, but when I saw that I should have to subscribe 20*s.*, besides paying entrance fees of 6*s.* for each pen, I gave up the idea. It is a pity that the committees of poultry shows do not hold out greater inducements to the exhibitors of French fowls; the present system of classifying gives no encouragement to fanciers (like myself), of such breeds. I would draw the attention of the different committees of English shows and that of exhibitors to the prize list now issued by the Grand National Poultry Show of Ireland, which does credit to the Committee in general, but especially to Mr. Zurhorst, the Chairman, who is well known as a fancier.—GEORGE A. STEPHENS.

LIGHT BRAHMAS.

MAY I crave a small space with regard to this subject, as my experience is not the same as that of your valued correspondent, Mr. L. Wright? I have been a breeder of Brahmas for some years. My first friends were the Light Brahmas, and excellent in all points I found them—good layers, hardy, and never despised when put on the table. Mine were white, and had well-marked black and white neck hackles, but, alas! they had single combs. At first this was no drawback, but an edict from the Judges went forth that Light Brahmas, as well as Dark, must have pea combs, and then my prizetaking ceased. Of course, when I found out the reason, I crossed with pea-combed birds from the two first yards of Light Brahmas in the kingdom, but I

found that when I obtained pea-combed chickens they either had no hackle worth the name or were cream-coloured, and frequently had white under feathers; for I venture to lay down as undeniable this trait in Light Brahmas—that if they are pure all the feathers underneath are of a darkish grey or slate colour, but if crossed with White Cochins, then they generally come white underneath. This I believe is an unfailing test, and I ask Judges when not satisfied as to the purity of a strain to make this one of their tests.

Your readers will now ask, "What does the writer want?" I ask Judges to declare that they will in future make no distinction between single and pea-combs in Light Brahmas; but that they will judge this class for colour, purity, size, and shape. For the last three years I have given up all my Light Brahmas, and do not feel inclined to breed them any more until this unfair favouritism of the pea-combed birds is relinquished, and a test as to purity of blood frequently made use of. The Dark Brahmas I still breed, and not always unsuccessfully, as Mr. Wright will testify.—F. P., *Yorkshire*.

DEALERS EXHIBITING.

I have come to the conclusion that exhibitions got up on the present system will not long be successful. Fanciers may buy the best birds dealers have at very high prices, and at the next show the same dealers beat them completely. I suggest to all secretaries and committees that, for the future welfare of their shows, dealers be restricted to exhibiting in the Selling class. Fanciers will then have a fair chance. If you refer to many shows of late, the prizetakers are confined to a few who really have no right to compete with amateur fanciers. I should be glad if any of your readers could make any further suggestion with the view of giving real fanciers a more open field amongst themselves.—John Ashworth, *Blackburn*.

A FEW WORDS ON POULTRY-KEEPING.

Thinking I am unusually successful in my management of fowls, and as I gained my knowledge from perusing your "Journal," I consider that I ought through it to inform other amateurs how to get a good many eggs from a small number of fowls. My poultry house consists of a wooden building with a slated roof, situated in a large garden, in an angle of a stone wall 12 feet high, and facing south-west; it is thus very warm. The roosting place is in the corner, and has about 8 square yards of floor; next to this is a small yard of about the same extent; both are covered-in and have a concrete floor. In the outer yard is a box containing about half a peck of sand, which is replenished about once a-month. The outer run wired-in consists of above 5 square yards, with ordinary soil for the floor. I never let the fowls out at any time, nor do I keep a cock, as I do not care to breed, my object being only to find sufficient eggs all the year round for my own house.

I bought four pullets, two Spangled Hamburghs and two Black Spanish, in October, 1870, and in February, 1871, they began to lay. I then killed off my other fowls. One of the Hamburghs died in August, thus I have only three hens at the present time. The following is the result:—

In March	79 eggs.	In July	66 eggs.
In April	68 eggs.	In August	23 eggs.
In May	84 eggs.	In September	36 eggs.
In June	71 eggs.	In October	50 eggs.

My system of feeding is as follows:—I feed twice a-day, at 9 A.M. and 2 P.M.; at each meal I throw down in the yard above a pound of paste made of barley flour or crushed oats mixed with kitchen scraps, also two or three handfuls of barley. At the same time I generally give them a four-tined forkfull of sods and with plenty of soil, which I dig up fresh out of the garden. I vary this with a supply of cabbage leaves, lettuces, or chickweed. About once a-month I break up very small about six oyster shells, which they soon pick up. If I find any food not eaten, I at once reduce the quantity. Half a stone of barley flour, or crushed oats, with the same quantity of barley, lasts one month, costing 1*s*. 3*d*., whereas the value of the eggs is at least 4*s*. I attribute my success principally to the warm roosting place, the green stuff, and sand bath, and also particularly to not over-feeding. On taking stock for the present month I have—November 1st, one egg; 2nd, two eggs; 3rd, three eggs; 4th, 0 eggs.—J. F. M.

Dublin National Poultry Show.—This Show is to be held on the 18th, 19th and 20th of January next, under the auspices of the Ornithological Society of Ireland. The working Committee comprise amongst them the same gentlemen who carried on the large Show of 1870. The advance made by all English shows has put Irish fanciers on their mettle. The best Judges in England will officiate; the poultry will be superintended by Mr. Shockley. When we mention this, and remember that at the last Show no loss nor death occurred, exhibitors will probably assist the Society. £550 are given in money, seventeen silver cups for poultry, fourteen for Pigeons, and £15 for cage birds. The entries close December 18th.

BIRMINGHAM FOR THE FUTURE.

In a communication I addressed to the Secretary before the entries closed, I explained my reasons for not entering, in the alterations the prize list contained, and my conviction that the Committee had taken measures this year that would lessen the entries. The catalogue proves I was correct; indeed, but for the wonderful entries in Brahmas (how these mongrels have held their ground!) the entries would have diminished very perceptibly. It would seem that Crêve-Cœurs and Houdans do not increase, whilst Malays have had a very great check. In this class the mistaken parsimony of the Committee certainly deterred me from entering four pens.

Birmingham, our old grandmother, it seems to me, should take warning from 1871. Some great alterations must be made if she is to remain at the top of the tree. Reverse the dates, and I fancy the Crystal Palace would have beaten her in entries, and I cannot but think that the London Show will in a few years outstrip her. What with darkness in the pens, and the utter disregard of friendly suggestions, I feel certain that without alteration Birmingham must soon resign "the pride of place." The treatment of the Variety class is shabby in the extreme, and this year it struck me that the prize list as regards poultry was very meagre compared to past years.—Joseph Hinton, *Warminster*.

PRIZE PIGEONS.

I heartily endorse the remarks of your correspondent with respect to the old diseased Carrier Pigeons shown at the Crystal Palace. I really could not see the least chance of a young exhibitor like myself ever attaining the honourable position of a prizewinner while such birds as the cup Black Carrier hen, diseased in her wing and eye, are to be specimens of high condition and perfect health as prescribed in the rules of the Show. The first-prize Dun Carrier cock was also diseased in the wing, his owner remarking to me that they were all a little bit queer at times.

Every bird that takes a prize should in my opinion be handled by the judge and the wing joints tried, also the eye well examined, as the grand object with most of our great exhibitors is to get their birds into the pens as short a time as possible previous to the judging, and whilst the sedative applied to the disease retains its effect; but an examination of the bird two or three days after tells the tale. I think a few exposures of this kind would put our shows in a more healthy position. The judges are, I believe, gentlemen of honour, and above all suspicion of the existing evils when they make their awards. Such a course would also give encouragement to young exhibitors.—An Old Subscriber.

AMALGAMATION OF COLUMBARIAN SOCIETIES.

The hint of "A Columbarian" (see page 404), is worth consideration, were it only from the fact that a great many of the best fanciers—fanciers in the truest sense of the word, who now never exhibit, would make an annual appearance at such a show as would practically be closed against all but the *élite* of the fancy. One of the great objects, as I think, of columbarian societies, is to oppose trickery and dishonest showing, and though it would be folly to expect to weed it out entirely, a single yearly show under the auspices of the amalgamated societies would do much for the fancy in that way, and bring to the fore many men who shrink from coming out at our ordinary shows, whose lofts contain the grandest specimens of their special fancy.

I would suggest here that at such an annual show, principally for birds of the year bred by the exhibitor, the prizes should be a gold and a silver medal, and that money prizes be not

offered. I shall be glad if there should follow some correspondence on the subject.—WEST RIDING.

AIRDRIE POULTRY SHOW.

THIS was held on the 2nd inst. There were upwards of 180 entries of poultry and Pigeons. The following is the list of awards :—

SPANISH.—1, G. F. Laing, Airdrie. 2, M. Clelland, Cambusnethan. 3, A. White, Motherwell. 4, J. Waddell, Airdrie Hill. *Chickens.*—1 and Medal, G. F. Laing. 2, J. Aitken, Losnhead. 3, A. Robertson, Kilmarnock. 4, J. Andrew, Clarkston.

DORKINGS.—1, Z. H. Heys, Farrhead. 2, J. Waddell. *Chickens.*—1, Z. H. Heys. 2 and 4, A. M'Donald, Easter Moffat. 3, J. Waddell.

GAME.—1 and 4, J. Waddell. 2, A. Mackie, Myvot. 3, Z. H. Heys. *Chickens.*—1 and Medal, J. Waddell. 2, R. Irving, Rockliffe, Carlisle, 3, Z. H. Heys. 4, J. Aitken.

BRAHMAS.—1, W. Good, Chapelhall. 2 and 4, E. Robinson, Airdrie. 3, J. Birch, Paillieston.

COCHINS.—1, J. Pollock, Bushby. 2, A. Crawford, Chapelhall. 3, J. Drinnan, Woodhall. 4, W. MacMillan, Bothwell.

SCOTCH GREYS—1, R. Gibb. 2, J. Meiklem, Hamilton. 3, J. Taylor, Johnstone. 4, J. Aitken, Johnstone.

HAMBURGHS.—*Golden-spangled.*—1 and Medal, F. Robinson. 2 and 4. M. Clelland. 3, T. Love, Chapelhall. *Silver-spangled.*—1, E. Robinson. 2, J. Aitchinson, Cambuslang. 3, J. Moodie, Paisley. *Golden-pencilled.*—1, J. Armstrong, Longtown, Cumberland. 2, M. Clelland. 3, H. Russel. 4, Beckmannan and D. Gibb. Motherwell. *Silver-pencilled.*—1, R. Crawford, Barrhead. 2, J. Pollock, Cumbuslang.

GAME BANTAMS.—1, J. Waddell. 2, G. Williamson. 3, R. T. Gemmell, Glasgow. 4, L. Douglas, Airdrie.

BANTAMS.—1, A. Robertson. 2, G. F. Laing. 3, W. Hardie. 4, W. Paterson.

TURKEYS.—1 and 3, E. Robinson. 2, G. F. Laing. 4, J. Gondie.

ANY OTHER VARIETY.—1, Z. H. Heys. 2, W. Gibb. 3, W. Linton, Selkirk. 4, A. Wylie, Johnstone.

DUCKS.—*Aylesbury.*—1, 2, and Medal, J. Meiklem. 3, Z. H. Heys. 4, J. Waddell. *Any other Variety.*—1, J. Waddell. 2, A. Robertson. 3, J. Meiklem. 4, G. F. Laing.

SELLING CLASS.—1, G. F. Laing. 2, J. Stevenson, Chapelhall. 3, Gow and Walker. 4, J. Wilson, Beith.

PIGEONS.

POUTERS.—*Blue* or *Black.*—1 and 2, J. Miller, Glasgow. 3, G. F. Laing. *Any other Variety.*—1 and 2, J. Miller. 3, E. Robinson.

FANTAILS.—1, R. Blair, Johnstone. 2, T. Imrie. 3, E. Robinson.

JACOBINS.—1, 2, and 3, E. Robinson.

TUMBLERS.—*Common.*—1, R. Blair. 2, H. B. Marshall, Motherwell. 3, W. Duguid, Motherwell.

ANY OTHER VARIETY.—1, A. Johnstone. 2, E. Robinson. 2, G. M'Adam.

JUDGES.—*Poultry:* Mr. J. Green; Mr. J. Hamilton; and Mr. G. Aitken. *Pigeons:* Mr. J. Sharp.

CANTERBURY (NEW ZEALAND) POULTRY AND CANARY SHOW.

I FIND from annually visiting this Exhibition that progress is very visible as regards better exhibits and better arrangements. I am a strict horticulturist here, therefore I do not interfere much with poultry matters, except in endeavouring to promote the success of such an exhibition in the province of Canterbury. I may, however, state my impression that if the poultry show were amalgamated with the dog show, the exhibition would be better in a financial point of view. I also find that new blood is being introduced very steadily but surely amongst our poultry—certainly at a very great expense—from the mother country especially; and I feel pleasure in stating that the Judges seem more capable than formerly, for we have had much less grumbling than there used to be. No doubt exhibitors take greater care in the selection of their birds for competition, and I may remark they meet with more civility from the Committee. Better pens, as well as in all respects better accommodation, have been provided, giving an appearance of neatness and care. Long may such an association prosper in a new country is the hope of one who is now an old settler in New Zealand.

I am able to write a few words about Canaries, for I was, when in England, a breeder of them. On this occasion (the fourth annual Show) the birds exhibited were of an excellence which far exceeded my expectations. They were nearly all young birds bred in the vicinity of Christchurch, and in number and quality far superior to those of other years. One fancier, Mr. T. Stapleton, who was a very old breeder of Canaries when in England, being afraid that some one would want to purchase his best cock bird, placed a card against the cage, fixing its price at £11 13s., and this he considered to be its full value to himself for breeding purposes this spring. I admit, being a fancier myself, that it is the best cock bird ever seen in Canterbury. As nearly as I can guess his length from head to tail was about 9 inches.

I am highly pleased that the Canary is becoming naturalised amongst us. Our native birds, though some of them are very pretty, I am sorry to say are mostly songless. I will do my utmost to cause the Canary, now it is one of ourselves, to fraternise with our native birds. If we can do nothing more, I hope some day we may be able to produce Mules similar to the Goldfinch and Linnet Mules at home, and that thus our woods and dells will resound with the warblings of birds—those having the Nightingale's song included. This aspiration may seem presumptuous in your mind, but it may be realised some day. Our native birds are very tame, the Canary we know all about, and what I have stated is not at all improbable. Canaries thrive and do well here. The following is a list of prizes awarded. —W. SWALE, *Avonside Botanic Garden, Canterbury, New Zealand.*

GAME.—*Black-breasted Red.*—1, 3, and Cup, presented by Mr. M'Callum also Cup, presented by Mr. G. Warner, A. Fraser. 2, D. J. M'Calmon. *hc*, W. James. *Brown-breasted and Ginger Red.*—Cup presented by Mr. J. G. Ruddenklan, 1st, 2nd, and 3rd, A. Fraser. *Duckwings.*—1 and Cup, presented by the Superintendent, G. A. Reade. 2 and *hc*, N. G. Glassford. *Any other Variety.*—2, D. J. M'Calmon (Blue Pile).

GAME.—*Single Cocks.*—*Black-breasted.*—1, A. Fraser. 2, W. James. 3, C. James. *Brown-breasted and Ginger Red.*—1, 2, and 3, A. Fraser. *Duckwings*—1, W. G. Walker 2, W. Calvert. 3, J. G. Ruddenklan. *Any other Variety.*—1, E. Deacon (White). 2, W. Calvert (Pile). 3, J. Hossack (Brchin Yellow). *hc*, G. Eares (White).

DORKINGS.—*Coloured.*—1 and Extra, presented by Mr. Sawtell, J. Hepworth. 2, H. Sawtell. 3, A. A. Fantham. *Chickens.*—1, C. Adkin.

SPANISH.—1 and Cup, presented by Mr. G. Warner, T. Stapleton. 2, A. Clark. 3, H. Sawtell.

COCHINS.—*Buff.*—1, 2, and Extra, T. Stapleton, presented by Mr. G. Gould. 3, E. H. Banks. *Any other Variety.*—2, E. Strange (Grouse).

BRAHMAS.—*Dark.*—Cup, presented by Messrs. Coates & Co., 1, 2, and 3, Wood Brothers. *Light.*—Cup presented by Mr. Wynn Williams, 1, 2, and 3, Mrs. R. W. Feroday.

HAMBURGHS.—*Golden-pencilled.*—2, T. Russell. *Silver-pencilled.*—1 and Extra, presented by Mr. G. Gould, H. Sawtell. 2, A. Todd. *Golden-spangled.*—1 and Extra, presented by Mr. G. Gould, T. Stapleton. 2, C. James. 3, W. Sneddon. *Silver-spangled.*—1 and 2, C. James.

POLISH.—*Golden.*—1, J. Fisher. 2, T. Abbott. *Silver.*—1, A. Fraser. 2 and 3, T. Williams.

CREVE-CŒUR.—1 and 2, Wood Bros. 3, W. N. Milton.

BARNDOORS.—1, R. P. Crosbie. 2, J. G. Palairet (Brahma and Dorking). 3, R. Bethell (Brahma and Dorking). *hc*, H. Sawtell.

GAME BANTAMS.—*Black-breasted Red.*—1, N. G. Glassford. 2 and *hc*, R. Kerr. 3, N. G. Glassford. *Duckwings.*—1, F. Biggs.

BANTAMS (Any other variety).—1, R. Kerr. 3, E. R. Deacon (White).

TURKEYS.—1, A. Fraser. 2, F. Pavitt (Buff).

GEESE.—1, Mrs. N. Gordon, Glassford.

DUCKS.—*Aylesbury.*—1, A. Fraser. 2 and 3, J. Hebden. *Rouen.*—1, G. Gould, 2, H. Sawtell. 3, J. Lane. *Any other Variety.*—1, J. Chegwidden.

PIGEONS.—*Carriers.*—1, T. Williams. *Tumblers.*—1 and 2, T. Williams. 3, F. Biggs. *Pouters.*—1, F. Biggs. 2, E. Strange. *Jacobins.*—1 and 2, T. Williams. *Fantails.*—1, G. Fletcher. 2, F. Biggs. 3, E. Strange. *Balds.*—1 and 2, T. Williams. *Beards*—1 and 2, T. Williams. *Nuns.*—1, T. Williams. 2, F. Biggs. *Owls.*—1, T. Williams. 2, F. Biggs. *Any other Variety*—1, E. Strange (White Trumpeter). Extra 1 and 3, F. Biggs (Turbits and Trumpeters).

CANARIES.—*Clear Yellow.*—1, 2, and *hc*, T. Stapleton Extra 2, J. Dunlop. *Clear Buff.*—1, J. Dunlop. *Yellow Variegated*—1, A. Wilson. 2, T. Stapleton. *Buff Variegated.*—1 and 2, T. Stapleton. *Mules.*—1, J. Dunlop (Linnet). *Any other Variety.*—1, E. Strange (Belgian). 2, G. Sadler (Goldfinch). Extra 2, J. Dunlop (Linnet).

AGGREGATE PRIZES.—A Silver Cup, presented by Mr. James Blake to the winner of prizes of the highest aggregate value in the poultry classes, A. Fraser. A Silver Medal, presented by Messrs. Peterson & Co. to the winner of prizes of the highest aggregate value in the Pigeon classes, T. Williams. A Silver Cup, presented by Mr. Sandstein to the winner of prizes of the highest aggregate value in the Canary classes, T. Stapleton.

JUDGES.—*Game and Game Bantams:* Messrs. Todd & Reese. *Dorkings, Brahmas, and Polish:* Messrs. T. Stapleton & W. Calvert. *Spanish, Cochins, Hamburghs, and Crève-Cœur:* Messrs. T. Williams and A. Fraser. *Barndoors:* Messrs. A. Fraser, T. Williams, & W. Calvert. *Turkeys, Geese, and Ducks:* Messrs. T. Williams, T. Stapleton, & W. Calvert. *Pigeons:* Messrs. Garrick & Bennett. *Canaries:* Messrs. R. D. Pirie & A. Clarke.

CHELTENHAM CANARY SHOW.

THIS was held on November 30th and December 1st. We must defer our comments until next week; but we can state that, though no official intimation is given as to who is the winner of the cup, the printed return shows that Mr. Ashton is winner by two points, and that Mr. W. Walter is second.

NORWICH.—*Clear Yellow.*—1, W. Walter, Winchester. 2 and 3, Bemrose and Orme, Derby. *hc*, Adams & Athersuch, Coventry; Bemrose & Orme; G. & J. Mackley, Norwich (2); Moore & Wynne, Northampton; W. Walter. *c*, E. Lulham, Brighton; Moore & Wynne; E. Mills, Sunderland. *Clear Buff.*—1 and *c*, W. Walter. 2 and *hc*, G. & J. Mackley. 3, Bemrose & Orme.

NORWICH.—*Evenly-marked Yellow.*—1, Adams & Athersuch. 2, Barwell and Golby, Northampton. Equal 3, Adams & Athersuch; Moore & Wynne. *hc*, Bemrose & Orme. *c*, E Lulham. *Evenly-marked Buff.*—1 and 2, Bemrose and Orme. Equal 3, Adams & Athersuch; Moore & Wynne. *hc*, S. Bunting, Derby. *c*, H. & J. Holloway, junrs., Stroud.

NORWICH.—*Ticked and Unevenly-marked Yellow.*—1, W. Walter. 2, Bemrose and Orme. 3, Smith & Preen. *hc*, Enoch & Chater. *c*, Moore & Wynne. *Ticked and Unevenly-marked Buff.*—1, J. Turner. 2, W. Walter. 3 and *hc*, Bemrose & Orme.

NORWICH.—*Yellow, with Clear Grey or Dark Crest.*—1, Moore & Wynne. 2, G. Mortimer, London. 3, Barwell & Golby. *hc*, J. Spence, Sunderland. *Buff, with Clear Grey or Dark Crest.*—1 and *c*, G. & J. Mackley. 2, E. Lulham. 3, S Tomes, Northampton.

NORWICH.—*Variegated Crested Yellow.*—1, Toon & Cleaver, Kettering. 2, S. Tomes. 3 and *hc*, Moore & Wynne. *c*, G. & J. Mackley. *Variegated Crested Buff*—1, W. Walter. 2, J. Mortimer, London. 3, G. & J. Mackley. *hc*, Barwell and Golby. *c*, J. Harrell, Sunderland; G. & J. Mackley.

BELGIAN.—*Clear and Ticked Yellow.*—1, H. Ashton, Polefield Hall, Prestwich. 2 and 3, J. Rutter, Sunderland. *hc*, W. Needles, Hull. *c*, S. Spinke, Chippenham. *Clear and Ticked Buff.*—1 and *hc*, J. Rutter. 2, J. N. Harrison, Belper. 3, J. Turner, Birmingham. *c*, Bemrose & Orme.

BELGIAN.—*Variegated Yellow.*—1, T. Turner. 2 and 3, J. Rutter. *hc*, T. Dove, Sutton, Mansfield. *c*, S. Brown, Handsworth. *Variegated Buff.*—1, S. Brown. 2, J. N. Harrison. 3, T. Dove. *hc*, J. Poole, Sutton-in-Ashfield.

COPPY.—*Yellow Manchester.*—1, M. Holroyd, Great Horton, Bradford. 2, H. Ashton. 3, L. Belk. *hc*, W. Walter. *Buff Manchester.*—1, H. Ashton. 2, Stephens & Leek, Middlesbrough. 3, — Fawcett Baildon, Leeds.

LIZARD.—*Golden-spangled.*—1 and 3, Smith & Preen, Coventry. 2, H. Ashton. *hc*, Rev. V. Ward, Hythe. *c*, R. Ritchie, Darlington. *Silver-spangled.*—1, H. Ashton. 2 and 3, Smith & Preen. *hc*, R. Ritchie. *c*, W. Jerram, Nottingham.

CINNAMON.—*Yellow*—1, C. Gayton, Northampton. 2, J. Harrell. 3, Barwell and Golby. *hc*, Toon & Cleaver. *c*, Moore & Wynne. *Buff.*—1, Barwell and Golby. 2 and *hc*, J. Tear, Northampton 3, S. Tomes. *c*, E. Mills.

CINNAMON.—*Variegated Yellow.*—1, J. Spencc. 2 and *hc*, Cox & Hillier. 3, M. Holroyd. *Variegated Buff.*—1 and 3, L. Belk. 2, M. Hoyroyd. *hc*, R. Hawman, Middlesbrough.

CLEAR GREEN.—1 and 2, Stephens & Leek. 3, G. Atkinson, Gateshead. *hc*, Holmes & Doyle, Nottingham.

ANY OTHER VARIETY.—1, E. Stansfield. 2, W. Walter. 3, T. Mann. *hc*, R. Hawman, Middlesbrough *c*, T. Swaine, Cheltenham.

MULES.

GOLDFINCH AND CANARY.—*Evenly-marked Yellow.*—1, H. Ashton. 2, E. Stansfield, Bradford. 3, Stephens & Leek. *hc*, M. Holroyd. *c*, L. Belk. *Evenly-marked Buff.*—1 and *c*, J. Baxter, Newcastle. 2, H. Ashton. Equal 3, W. Needles; L. Belk, Dewsbury. *hc*, W. Smith.

GOLDFINCH AND CANARY.—*Any other Class of Yellow.*—1 and *c*, H. Ashton. 2, E. Lulham. 3, E. Stansfield. *hc*, J. Baxter. *Any other Class of Buff.*—1, 3, and *hc*, H. Ashton. 2, Enoch & Chater, Coventry. *c*, E. Lulham.

GOLDFINCH AND CANARY. *Dark.*—1, *hc*, and *c*, E. Stansfield. 2, Stephens and Leek. 3, Cox & Hillier, Northampton.

LINNET AND CANARY.—1, J. Spence. 2 and 3, Stephens & Leek

ANY OTHER VARIETY.—1, E. Stansfield. 2 and *c*, H. Ashton (Bullfinch, Goldfinch, and Linnet). 3, A. Webster, jun., Kirkstall, Leeds (Bullfinch and Goldfinch). *hc*, T. Willsher (Siskin and Canary).

BRITISH BIRDS.

GOLDFINCH.—1, S. Bunting, Derby. 2, F. Woodward, Litchurch, Derby. 3, Stephens & Leek.

LINNETS.—1, A. Webster, jun. 2, Fairclough & Howe, Middlesbrough. 3, J. N. Harrison.

ANY OTHER VARIETY.—1, A. Webster, jun. (Mountain Finch). 2 and 3, Col. Tickell, Cheltenham (Starlings and Song Thrush). *hc*, T. Willsher, Chichester (Yellowhammer).

FOREIGN BIRDS.

PARROT.—1, J. S. Harrison. 2, W. Walter. 3, Mrs. Drayton, Cheltenham. *hc*, Col. Tickell, Cheltenham. *c*, G. Hodge.

COCKATOO.—1, W. Walter. 2, Col. Tickell.

PARAKEET.—1, Mrs. Drayton. 2, H. Ashton. 3, Capt. Acklom. *hc*, W. Walter. *c*, Miss M. Baksr.

ANY OTHER VARIETY.—1 and 2, W. Walter (Pintail Wydah and Madagascar). 3, Mrs. Drayton.

EXTRA CLASS.—1, Mrs. Stephenson, Cheltenham. 2, S. Tomes (Black Gold finch). 3, J. Baxter (Pied Lark).

SELLING CLASS.—1, G. Gayton. 2, Moore & Wynne. 3, G. & J. Mackley; W. Walter.

JUDGES.—Mr. W. A. Blakston, Sunderland, and Capt. Hawkins Fisher, Stroud.

KILMARNOCK ORNITHOLOGICAL ASSOCIATION'S SHOW.

(*From a Correspondent.*)

MUCH interest was excited among local fanciers from the fact that Mr. Teebay, the well-known English Judge, had been appointed Arbitrator. His decisions, after being severely scanned, were found, in the main, to be in harmony with the received opinions of the North, and gave general satisfaction.

Spanish.—This was allowed to be the best class in the Show, and judging from the time spent on it, Mr. Teebay must have found it nice work to adjust the winning cards. The prize birds merited their positions. Pen 32 was considered by good judges deserving of notice.

Brahmas.—No fewer than nineteen entries, all Dark. Quality on the whole very fair. Considerable diversity of opinion was expressed on the winning pen, which was entered at £2 and immediately claimed. The hen was of the close-pencil type, much inferior in marking to the one which stood next her in honour.

Cochins.—A very good class. Winners, large birds and fine in colour. The unnoticed pens of Messrs. Paton and Campbell were not in condition.

Dorkings.—A very fair class. The *Silver-Grey* cock in the winning pen beautiful in colour but very deficient in feet, while the second-prize hen was as near an approach to perfection as we have seen for years.

Scotch-Greys.—This breed, though pre-eminently national, appears to be falling off in quality and quantity. None deserve special notice with the exception of the winning pen, which contained a well-mixed hen.

Golden-spangled Hamburghs.—Hens on the whole not up to the mark. Both birds in the prize pen were tipped with white, and before a Scotch judge would have run a narrow risk of being left out in the cold. No. 89 contained a good cock badly mated, and No. 104 perhaps the best cock in the class. It is deserving of mention that Mr. Jardine, a local breeder, has carried off the timepiece in this class for three successive years.

Silver-spangled Hamburghs.—Scarcely a bad pair shown. The hen owned by Mr. Pickles, of Earby, was awarded the timepiece for the best *Hamburghs* in the Show, a decision acquiesced in by all.

Silver and Gold-pencilled Hamburghs.—*Silvers* were not numerous. But this drawback was more than balanced by the *Goldens*. A good deal of dressing of comb was observable, but the prize list showed that Scotch Judges are rather straight-laced on this point. Pen 147, containing a fine specimen of the "tailor's art," was instantly disqualified.

Game.—A good class, containing some splendid birds. The judging here gave eminent satisfaction.

Game Bantams.—No less than fifty-one pens. As was to be expected, many were indifferent and some positively bad. The timepiece cock in this class was a superb bird, though a severe critic might have objected to the colour of his saddle.

Black and White Bantams.—This class has shown a decided tendency for the last few years to merge its characteristics into those of the preceding class; the conceited carriage and trailing wing being conspicuous by their absence. The prize pens were good in other respects.

Bantams (Any other variety).—Sebrights, as usual, claimed the honours. The lacing and ground colour of Mr. Robertson's *Silvers* were simply unsurpassable.

Ducks.—The *Aylesbury*, though a good class, were fairly eclipsed by the *Rouen*, where the first, second, and third positions were barely secured by a neck.

Any other variety.—This class proved very attractive to the visitors, the beautiful plumage of the *Shells* and *Mandarins* exciting universal admiration.

PIGEONS.

The *Pouter* entries were not numerous, but of first-rate quality. The timepiece fell to a Blue cock, which showed a fine proportion of limb and feather. Pen No. 386 contained a stylish Mealy cock, imperfectly mated. *Carriers* formed a good class. The first prize went to a splendid pair of Duns, unfortunately not entered for the timepiece. No. 405 contained a hen, the best bird in her class. The young class showed a decided improvement on last year. The first place was gained by Mr. Laurie with a promising pair of Blacks. Short-faces formed a very fair class. Mr. Miller succeeded in carrying off the timepiece with a pair remarkable for skull and beak. In *Barbs* Mr. Yardley would undoubtedly have figured on the prize list, had not his birds been disqualified as both cocks. *Trumpeters* were the best ever shown in Kilmarnock. Mr. Rule's hen will be found hard to beat. *Jacobin* fanciers were delighted at the turn-out of their favourite variety, which they had well-nigh despaired of. A capital pair of Whites occupied No. 130. Much dissatisfaction was occasioned by the hurried manner in which the Judges discharged the latter half of their duty. The winning *Owls* were exceedingly foul, and in the other classes it was observable that a revision would have been more satisfactory, if not to the Judges, at least to the majority of the exhibitors.

CANARIES.

The Clean classes contained many good birds, but the Piebalds were very inferior in quality. The Buff cock in Class B was generally allowed to be a much superior bird to the Yellow cock which carried off the first honours. *Mules*, both Buff and Yellow, formed an extra good class, in fact the winning Buff cock could scarcely be equalled. On the whole, however, the Canary classes were not up to the standard of some preceding years.

[We published last week the list of the awards and the names of the Judges.—EDS.]

NEW BOOK.

Profitable and Ornamental Poultry. By H. PIPER. Groombridge & Sons, London, 1871.

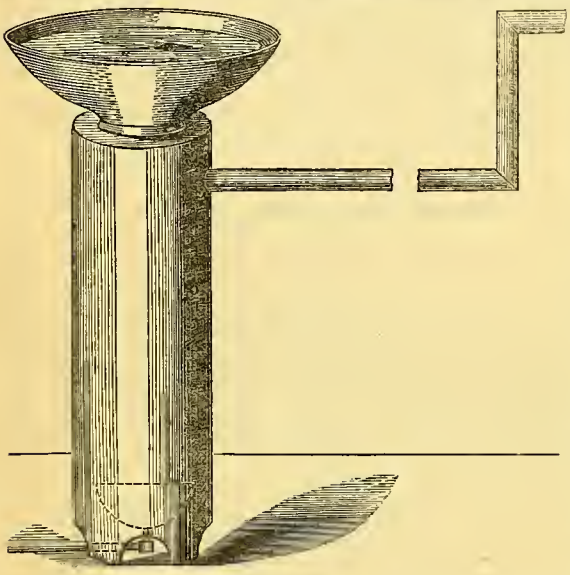
"SUCCESS," said somebody, who no doubt had himself been successful, "is the gauge of merit." That poultry have been successful during the last twenty years is undoubtedly true; the number of poultry shows and their vastness, as witness especially the recent Show at the Crystal Palace, prove it. Thus, the more in number the shows, and the greater the number of birds entered, prove the larger the number of possessors of poultry. Now-a-days in all neighbourhoods you find poultry-fanciers—in some neighbourhoods many. There were those who lamented the legal prohibition of cock-fighting, who themselves never saw or would see a fight, but because they thought that one very beautiful class of birds would become extinct. Yet what is the result? Instead of beautiful birds being disfigured, and made to resemble the first efforts of a school-boy in drawing a bird, Game cocks appear by hundreds in all their beauty of plumage at our shows. Certainly poultry as a fancy, and as producing exquisitely-shaped and plumaged birds, has been a wonderful success.

But there is another evidence of its success—viz., the number of books issued from the press as guides and instructors in the art of rearing, keeping, and exhibiting. The contrast, too, is very great between the poultry handbook or guide of twenty years since and that of the present time. It is quite certain that publishers, the most canny of men (if you doubt me, try them with a book which they think will not sell), would not go on issuing year after year new and attractively got-up works on fowls. The last new venture is the book at the head of this article. The true word in criticising it is to describe it as "pretty." The outside is "pretty," very pretty—blue and gold, and good taste outside. Within, excellent paper, pretty coloured plates, and clear pleasant reading type. As to the matter, there is nothing new, and our own two principal poultry writers, Messrs. Baily and L. Wright, are extensively quoted, so there can be nothing for us to condemn. Many of the coloured plates have the usual fault of the colours being too bright, as particularly in the Rouen drake and the Duck-winged Game cock, and they are on too small a scale to give more than an idea of what pencilled feathers are, as shown in the Gold-pencilled Hamburgh hen. The Golden and Silver-spangled Polish are the gems of the plates, and very pretty they are. The Black Polish are too green, as also the Black-breasted Red Bantam cock. The Malay, ugly rascal as we all know he is, has scarcely justice done him. The picture of the Turkey is again excellent. Some of the portraits are of birds which would not take a prize; others, again, are just what we wish to see in a pen.

The letter-press speaks of fowl-house and yard, of food, eggs, sitting, &c., but as there is nothing new, no remark is called for, save that all is well put together. Then the book proceeds with the breeds of fowls, Turkeys, Ducks, and Geese, with a final chapter on diseases. It is emphatically and especially a "pretty" book, and well suited as a present to a lady; and if the lady had no taste for poultry before she saw this pretty book, the pretty pictures, and the pretty reading, and the pretty outside, would, unless I greatly mistake, turn the lady into a poultry-fancier.—WILTSHIRE RECTOR.

HEATING A SMALL AVIARY.

I HAVE turned to the number of the Journal referred to in a letter from "A SUBSCRIBER" for further information on the subject of his query, as his last communication scarcely put me in possession of all the details. Of the merits or demerits of gas stoves and boilers I know nothing, nor have I had any experience in the heating of aviaries, and, therefore, am as much in the dark as "A SUBSCRIBER" himself on some points on which he seeks enlightenment. But I can reply confidently to the one question, as to whether it will be safe to put a heating apparatus in the compartment of the aviary occupied by the birds if a chimney be provided "to carry off the products of combustion?"—Perfectly safe, if that condition be complied with.



Aviary Gas Stove.

And with regard to the method of heating, I do not see any necessity for a complicated or expensive apparatus. A large room can be heated by simply inserting a common gas-burner in the mouth of an ordinary cast-iron rain-water pipe. We call them down-corners. The pipe must be placed with the lower end about a foot from the ground and inclined at an angle of about 45°, taking care that the heated air and products of combustion are conveyed outside the room into some receptacle not exposed to draughts, as any down-draughts will extinguish the light and cause unpleasant results. I have seen a roomy office heated in this way by a single burner (and a small burner too) attached to a pipe with a twist-about-every-way joint, and heated so rapidly that the gas, though turned on full at first, had soon to be reduced to a pressure so slight that it was difficult to imagine so small a flame could produce such results. The little gas stove of my Canary room is an adaptation of the same contrivance. A sheet-iron cylinder, about 2 feet high and 5 or 6 inches in diameter, perforated with four large holes at the bottom to admit of a continued supply of air, stands in a corner of the room over a common bat's-wing burner fastened on the floor. A stout tin chimney is inserted on one side of the top of the cylinder, and continued across the room to the opposite wall, through which it passes into an empty space under the roof of my house, where all noxious fumes are effectually dispersed. This is all the apparatus I have, and it does its work well, is quick in its action, and can be regulated to a nicety. Try it. The accompanying is a sketch of my "multum in parvo." The basin of water is to correct any dryness of the atmosphere. The chimney may be conveyed anywhere out of draughts.—W. A. BLAKSTON.

FOUL BROOD.

I HAVE been anxiously waiting for some of your correspondents taking the hint of "B. & W." relative to foul brood, but as no one appears to think the subject of sufficient interest, I conclude that the disease is not very prevalent with your scientific readers. I am sure if the reverse were the case we should have no lack of very interesting information. I have kept bees about ten years, have taken very great interest in them, and, notwithstanding many losses from various causes, I have never been disheartened until now, when the disease has attacked my stock, destroyed three good hives, and how many more it may take it is of course impossible for me to say.

I sent you a small piece of comb in August, asking at the same time your opinion and advice; a month later I examined my hives and found three of them suffering. I immediately took all the combs away, and joined the three lots of bees together, capturing the three queens, destroying two, and placing the third, an Italian, at the head. The three lots combined I put into a small cigar box, fitted with two pieces of perfectly new comb from an old-fashioned straw hive which had contained a swarm forty-eight hours, and they no more than half filled the box. I then took the queen from another black stock which was perfectly healthy, and placed the box over the hole in the top; the bees of the healthy hive ascended into the cigar box, and I then shook them out amongst the healthy combs. All this was done without losing a handful of bees. When I examined the two pieces of comb above mentioned, I found one full of honey, the other full of foul brood, the bees having carried the disease with them; some of the brood had escaped the infection, and had matured (the young bees being drones from worker cells), and this feature of the disease is, I think, very peculiar.

Of course I cannot expect the hive which now contains the bees to escape, but I intend making an inspection early in the spring, and if I find the disease, I shall have to take the combs away, and let the bees start life afresh.

When the disease first makes its appearance, it does not destroy the whole of the brood at once, but in each batch there are some cells that remain sealed, after the majority have hatched, and these sealed cells go on increasing, until by degrees the whole are closed. The bees will not leave them, as a bird will her young when they are dead, but will cling to the diseased brood although there is other comb in the hive free from taint. There is no unpleasant smell that I can detect, until long after the disease has spread through the combs; and so very unlike itself is the first appearance of the disease, that I recollect taking the trouble to pick the dead brood out of the cells with a pin, thinking they were merely chilled.

With regard to the cure of the disease, I do not think that anything would be gained by retaining the combs which contain the dead brood, even supposing the infection could be destroyed, because it would cost the bees more in time and labour to clean them than it would for them, with liberal feeding, to make new ones; but I think something might be done to disinfect the combs which are empty, and with that view I have kept fifteen, and shall be very glad if some one will make a suggestion for the purpose.—T., *Highgate, Middlesex.*

HEREWITH I send a piece of comb taken out of a strong stock. The stock is in a twenty-frame Woodbury hive, and was very full of bees all the season. I could only rob them of about 6 or 8 lbs. of honey owing to the poor season we have had in this county (Cheshire). The piece of comb I suspect to be foul-broody. I have had bees now for four seasons, and if this is foul brood I never have seen foul brood before. I first perceived it last spring in an Italian hive. The queen was an imported one twelve months ago; the box she came in emitted a strong and disagreeable smell not to be tolerated in the house, and I put it and the comb into the fire. I washed the box in several waters. All my stocks except one with combs are similar to the piece sent. Two stocks have dwindled entirely away. They do not smell so badly, but have not the fine aroma of a healthy stock.—JOHN ROBINSON.

[The comb sent for inspection exhibits undoubted signs of being badly affected with virulent foul brood. No doubt the infection was introduced into your apiary from the foul-broody condition of the comb which accompanied your Italian queen. Although you very judiciously burnt the comb as soon as you

perceived its diseased state, yet the queen and her bees must have carried the infection with them into the receptacle prepared for them. Your other pieces must have had access to the contents of this and of the other diseased stocks that have dwindled away. We have little faith in any remedial measures, particularly at this time of the year, short of absolute destruction of the bees, combs, and hives, or, if not of the hives, at least of all the bars and frames which may have been used by any much-affected colony. The hives, if too valuable to be sacrificed, must be scalded out with boiling water, scraped clean in every part or crevice, and well saturated with a concentrated solution of chloride of lime.

If you do not like to proceed to such extreme measures for the purpose of "stamping out" this dreadful malady, you can wait until April, keeping your stocks as strong as possible by judicious feeding if necessary until that time; then drive the bees out into empty hives—straw skeps or plain boxes are best—joining two or three stocks together. Give them some food, and in the course of a few days transfer them into clean frame hives, burning any comb that may have been built in the interior, and taking care to scald out and treat with chloride of lime the hives or boxes used for their temporary homes. You will then require to feed liberally until the season is sufficiently advanced for the bees to take ample care of themselves.

The chief objection to this plan is, that some of these infected hives you have now may perish during the winter or early spring, when they will be visited by hosts of robbers both from your own and neighbours' apiaries, thereby spreading the disease far and wide. Another objection is, that after all your trouble one or more of the expatriated colonies may convey some traces of the malady with them, either by means of honey with which they may have filled themselves prior to their exodus, or from actual contact with the disease, so that you may find that you will have taken all your trouble to no purpose. It seems a very hard measure to have to go thoroughly to the root of the evil and utterly destroy everything that has come in contact with this disease; but we are quite sure that it is the soundest and safest policy in the end, unless the bee-master has most abundant time and leisure for constant and unremitting attention and supervision. The late Mr. Woodbury certainly did succeed in eradicating foul brood from his apiary after it had established a firm footing, but very few apiarians would, like him, have the requisite time and leisure at their disposal, or, if they had, would be disposed to undertake the very considerable trouble that the experiment would involve.]

BEE-KEEPING IN CHESHIRE.

I HAVE been somewhat surprised that none of your bee-keeping readers have found time to give their experience of the past season, so acting on the friendly "provocative" of "B. & W." I forward an account of my doings for 1871.

May found me with eleven stocks, one having perished through loss of queen. Of these, three were in Woodbury hives, the rest in straw hives as described by me some time ago. The spring up to this time had been rather backward, cold winds and wet prevailing, but after May 3rd things looked brighter, and I observed honey glistening in the cells. On May 14th drones were visible, and breeding going on very fast. On the 16th I supered several, which took to their boxes at once. Towards the end of the month nearly all my stocks showed symptoms of swarming, though I did all I could to prevent it.

June was a most annoying month, though honey was plentiful, for the little rascals had made up their minds, and swarm after swarm issued from supered hives, though they had ample room and had stored a tolerable quantity of honey in the supers, so that by the middle of July I had fourteen swarms, and the honey season almost over. It generally ends with us about the 20th of July. I found that the honey in the supers, which were all removed, did not exceed 30 lbs.; and as I had no idea of giving a hundredweight or two of syrup to make a lot of weak stocks carry through the winter, I resolved to make my first trip to the heather, which was blooming finely on the ranks of the Dee, six miles away.

On August 5th I took eleven of the lightest hives, including a double swarm in one of Mr. Pettigrew's 16-inch hives, which issued at the end of June and had done little or nothing up to that time. I got them down very nicely, and for a month they did capitally. I brought them home on September 16th in fine condition (the Pettigrew hive weighed 50 lbs.), the average being 38 lbs. I obtained nine stocks of condemned bees for the trouble of driving, so that on the whole my trip to the heather was satisfactory.

Taking the whole year I find the general results to be good, for I have sold a few swarms and given one away. I have had about 125 lbs. of honey, maintained a unicomb hive, and at this date (November 27th) have fourteen very strong stocks, nearly all of which have had one or two stocks of bees added, and plenty of stores to last till spring.

I do not consider this district by any means first-rate for bees, and with almost the single exception of myself, the bee-keepers of our neighbourhood are content to do things in the old way, taking a hive or two when an unusually good season occurs and losing stock after stock through the want of attention in autumn. I am in hopes, however, of inducing a better state of things in time, as no one that I can hear of has taken any honey about here, and my results will set them thinking a little, I imagine.

Talking of results compels me to allude to the case of an old cottager on the hill to whom I took my bees. He commenced the year with three stocks, which had increased in September to thirteen, nine of which I drove for him. They all weighed well, so that he did wonderfully; but had he not lived in a good heather district of course all his swarms, as they were mostly late ones, would have come to grief, and so would have done harm instead of good.—WILLIAM BROUGHTON CARR, *Higher Bebington.*

OUR LETTER BOX.

OAKHAM SHOW.—"I obtained the second prize in the class for Game Bantams, best two hens or pullets.—JOSEPH OLDFIELD, *Bradford, Yorkshire.*"

CATCHING WILD PIGEONS ALIVE (*Columba*).—We know of no plan of doing this; there is, indeed, an old story of a man plagued with Wood Pigeons, who made small sugarloaf cones of stout brown paper, put some bird-lime inside, and some grains of corn at the point of the cone, and the birds trying to get at the corn became hoodwinked, and were so caught. We never tried the plan.

DORKINGS IN A GENERAL CLASS (*Surrey*).—Cuckoo Dorkings may and should be entered in a general Dorking class. They are as pure as any others, and are much prized in some parts of Surrey. You can enter in the Variety class any breed that has no class of its own. In a list where there is a class for Bantams of any other variety, Bantams must be entered in it. If there were no such class they would go in the "Any other variety."

MILK FOR FATTENING CHICKENS—PURIFYING ROOST HOUSE (*R. E. H.*).—Milk is better than water for fattening fowls. Your fowl house should not smell if your fowls are properly fed. See that the door is kept open all day, and ventilate it by removing bricks or boards immediately under the roof, that all vitiated air may be carried away, and that the draught may be above the roosting birds. Lime slaked on the floor will sweeten, but it should not be required in a well-kept house.

SILVER-PENCILLED HAMBURGH COCK'S TAIL (*J. W. W.*).—The entire tail of the Silver-pencilled Hamburgh cock should be black, save the silvering or edging of the sickle feathers.

SCOTCH GREYS, OR OLD SCOTCH BREED (*X. T.*).—The old Scotch Greys are the barndoor fowls of some parts of Scotland. They are somewhat akin to the Cuckoo of England, but they are smaller in size and bone, and lack the fifth claw. They are little kept or known in England, but are useful, hardy birds.

SCARCITY OF EGGS—FATTENING CHICKENS (*R. G.*)—Eggs have never been so scarce as they have been this year. Your fowls do not fatten because they have too much liberty. Shut them up in a small coop in a dark warm place, and they will then not only put on flesh, but in a fortnight they will fatten sufficiently for any useful purpose. They must not have food by them, but they must be fed three times per day.

BLACK RED GAME BANTAM PLUMAGE (*Far West*).—Any tinge of brown on the breast, or of white in the tail of a Game cock, Bantam or otherwise, is fatal to any hope of success if shown in a class for Black-breasted Reds. As the description implies, in such a class the breast must be black, and it is not so if there are brown feathers in it. If there be any difference in the colour of the legs you have no chance; unless the leg match you have no hope of success. If then, only one of the three hens has legs the same colour as the cock's, you must show her. A slim body is preferable, and a large comb is by no means an advantage. If it is possible to fulfil these conditions, join them with wings well clipped up to the body, and with hard feathers. If the class is for "Black-breasted and other Reds," you may show the cock in it; if not, you must show in Brown-breasted Reds. The white downy feathers do not much matter at the insertion of the tail; but if any of the tail feathers have white in them, it is a disqualification.

SEASONING FOWLS' FOOD (*C. M. S.*). — We are not friendly to any of these condiments. Good plain feeding has always answered our purpose. As in duty bound, we have tried experiments, and our belief is—that spices are injurious. Pullets well fed with good food will lay at this time of year if they are old enough. Whatever forces laying injures the fowl and lays the foundation of many diseases. It is with fowls as with human beings—the faster you live the sooner you wear out. The most useful food for hard weather is table and kitchen scraps, and in very hard weather, with snow on the ground, a little strong beer mixed with their food is often beneficial.

SELECTION OF STOCK (*Idem*).—To breed prize birds, select the parents carefully, hatch early (say March), and feed well from their entrance into life. Never let them go back; a chicken that has been checked is seldom a prizetaker in after-life.

DIARRHŒA IN FOWLS (*L. H. R.*).—Change your food. Give ground oats slaked with milk, and add some pounded chalk to it. Supply them plentifully with road grit.

AIDING MOULTING (*Lemon Buff*).—If your fowls have a good grass run, all they require to promote growth is to be fed well and regularly on ground oats. It is an advantage for growing cocks to have kitchen scraps. The great secret of rearing large and strong birds, is to feed them as well as possible from the first.

HOUDANS MOULTING SLOWLY (*X. Y. Z.*).—What age are your cocks, and how are they fed? The cock is longer than the hen in getting the new plumage, and the older they are the slower the progress. The reparative process is slower and weaker. We know nothing you can do, except to avoid heating and stimulating foods; they cause a feverish state of body, and the feathers, lacking moisture and nutriment, die away instead of growing into maturity. Fowls were never intended to take physic; they seldom injure their constitutions when they are young, and Nature is a better manager of these matters than we are. When fowls are properly judged, those who officiate should be able to make a right award, though the plumage should not be mature.

PENCILLED FEATHERS (*Amateur*).—You do not name the breed of your fowls. We presume from the feathers they are Brahmas. We prefer the feather No. 2 from the hen; but we like neither her long back nor her crooked breast. If you want a positive answer, we should, in spite of her faults, put her, being two years old, with the young cock. Either alter your perches or remove them, but fowls never do so well as when they perch.

COMPARATIVE WEIGHTS OF LIVE AND TRUSSED TURKEYS (*T. I. C.*).—Much would depend on the condition and fatness of the bird. A lean bird would lose much more in the trussing than a fat one; but as an average you may put it that a bird weighed alive and full, and afterwards weighed drawn and trussed, will be found to have lost a fourth, and sometimes a third of the weight.

LIGHT BRAHMAS DARKER (*Ignoramus*).—Your hen is cross-bred, and we do not advise you to breed from her at all if you wish for pure birds; but if you are careless of festher, it matters not which coloured cock you put her to. A Light Brahma cock should have dark flights, dark tail, striped hackle and saddle. Select the bird that comes nearest to this description

UNDUBBED GAME COCK (*W. H.*).—An undubbed Game cock, whether Bantam or otherwise, is disqualified.

ROUEN DUCK'S PLUMAGE (*G. A.*).—Rouen Ducks and drakes should be the exact representations of Wild Ducks and Mallards, differing only in size. No deviation, however trifling, should be admitted.

GOLDEN-PENCILLED HAMBURGH'S PLUMAGE (*Idem*).—The richer and fuller the colour of Golden-pencilled Hamburghs, the better they are; the "washed-out" plumage that seems akin to a dirty buff is inadmissible, but no richness of colour can be allowed to palliate a bad comb or mossy plumage.

PULLETS FOR WINTER LAYING (*Idem*).—Laying in the winter depends on the age of pullets. Hens do not lay in the winter. The best breeds we know for winter laying are the Brahmas and Cochins. Hatched in March or April, they naturally begin to lay in November and December.

GOLDEN-SPANGLED HAMBURGHS LIGHTER (*Hamburgh*).—It is by no means an uncommon thing for old Hamburghs to moult pale feathers, and even to show white spots in various parts of the body. You do not state their age. The production of feathers out of season is by no means favourable to colour or strength; thus in any bird, of whatever colour it may be, if you will pull out a patch of feathers on a certain spot repeatedly, they will at last come white; but that will not account for it in your case, the plumage was there destroyed at the natural season. All breeding hens at that period have the same broken plumage. It may be attributed partly to its brittle and worn-out condition. We do not believe the separation of the sexes would help you in the way of plumage.

GOLDEN-SPANGLED POLAND PLUMAGE (*H.*).—The feather you enclose is not such as should come from a Spangled bird. It is laced. In the earlier days of exhibitions such feathers would have disqualified, now they take prizes. Such marking is objectionable; if you can, replace it with spangles. A hay tail tipped with black is a very serious fault in a Golden-spangled Hamburgh cock.

SCURFY LEGGED FOWLS (*Amateur*).—There are two treatments. One is to keep the legs constantly wetted with oil, the other to rub sulphur ointment in very frequently, and to introduce it between the projecting scales with a feather. This disease has only been known of late years.

MALAYS' LEGS (*E. M.*).—There are very good Malays with white legs. Your fowl has incipient roup. Treat either with Bailey's pills, or try bread and ale for food, and doses of camphor, two pills each the size of a garden pea for a dose every twelve hours until relief is visible.

WEIGHT OF BANTAMS (*An Old Subscriber*).—The original weight of these birds was limited to 17 ozs. for the cock, 14 ozs. for the hen. Recent decisions have allowed an increase, and in the present day the Sebrights weigh at least 3 ozs. each more than that allowance. Till within the last ten years no Bantams were ever weighed but Sebrights. Black, White, and Game now outnumber them greatly, and they also come far closer to the limits of weight.

COCHIN COCKEREL PARALYSED (*Mrs. B.*).—We are afraid we cannot point out any cure. If the paralysis arise from an injury in the back, which is very possible, he will speedily recover, but if it be cramp he will not. We know nothing better than to give him a table-spoonful of castor oil every other day, and to give each night two pills of camphor the size of a garden pea. We have, however, small hope.

DEFECTIVE GAME BANTAMS (*W. Powell*).—It is never safe to breed from a faulty bird. A defect is always hereditary, and none more certainly so than a wry tail or a hump back.

BANTAM CATARRHED (*Game Bantam*).—Discontinue the fire in the fowl house; and if it has stone, brick, or wooden floor, cover it 6 inches deep in gravel or road grit. You may discontinue the pepper and substitute some bread and ale for barley at the midday meal. This is only necessary while they appear out of health.

GREY EGGS IN DEAD HEN (*M. H.*).—The grey-coloured eggs you mention are very common in old hens, but not in birds of the age you mention. All you complain of may be safely set down to Potato-feeding. It makes internal fat to such an extent it impedes the due action of the different organs. Thus, the liver, instead of being very dark, becomes of a pale buff colour, a fat liver, the celebrated "Foie gras;" the gall bladder no longer performs its functions, but disperses its contents at random. All the inside becomes yellow. Jaundice is the next symptom. The patient still makes a little fat, but loses flesh daily. All the Geese and Turkeys we get from Ireland are potato-fed. They are deficient in meat, and they have fat livers. Discontinue the Potatoes. Substitute good barley meal or Indian corn for them.

HOUDANS (*J. H.*).—You will do well to examine the list of Birmingham winners in our last number for an answer to your first question. Your cross is not one that we fancy, because sitters and non-sitters should not be put together. We should put the Brahma cock to the Houdan hen.

POULTRY CHRONICLE—POULTRY COMPANY (*S. Greenwood*).—No such "Chronicle" nor other serial devoted to poultry is published in England. The Company was a total failure. The work you mention is to be published in parts commencing with the next year.

SHOW AT EDINBURGH (*M. G. W.*).—There are several societies there; we believe all right.

TAKING SUPERS IN NOVEMBER (*H.*).—The objection to taking off supers so late as you mention is that the bees are apt to take down all the honey which is not sealed over, and often they will rifle and spoil the sealed honeycomb in the spring. In either case your honey harvest will be diminished. Of course it may happen that they are so well supplied below as not to be tempted to touch the honey in the supers. In this case the entire honey harvest above will be at the service of the bee-owner. We prefer to plunder in July, for another reason—to allow the bees to store up below for their own use as much of the later honey as possible, which is apt to be thin and poor.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

DATE. 1871. Nov. & Dec.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	IN THE DAY. Shade Temperature. Max.	IN THE DAY. Shade Temperature. Min.	IN THE DAY. Radiation Temperature. In sun.	IN THE DAY. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 29	29.892	35.3	34.2	N.	39.4	40.5	30.6	70.6	26.8	—
Th. 30	29.846	35.6	34.7	N.	39.2	38.4	33.4	48.3	29.9	.090
Fri. 1	29.937	37.1	34.5	N.	38.4	44.0	33.2	6 .0	31 9	—
Sat. 2	30.331	33.4	32.4	N.W.	38.8	39 9	31.2	67.5	25 8	.(2)
Sun. 3	30.056	35.4	34.8	W.	38.5	39.8	31.3	63.8	28.0	—
Mo. 4	30.155	31 1	30.8	N.W.	37.5	35.7	27.7	68.0	23.9	—
Tu. 5	30.304	27.6	25.2	N.	37.3	36.6	24.6	68.3	20 2	—
Means	30.081	33.6	32.3		38.4	39.3	30.1	63.2	26.5	0.119

REMARKS.

29th.—White frost in morning; fine day, sometimes very bright, clear evening, a few drops of rain at 10.30 P.M.

30th.—Fine morning, becoming more and more damp, till noon, rain the remainder of day and night. Strong wind at night.

1st.—Very fine till noon, then alternately fine and cloudy, clear evening and night.

2nd.—Beautiful morning, and till early afternoon, then rather dull.

3rd.—A little snow, either in the night or early morning, fine but frosty all day.

4th.—White frost in morning, fine but frosty all day, a few snow crystals at 11.30 A.M.

5th.—White frost in early morning, beautifully bright till 2 30, then getting rather dull and thick, slight fall of sleet at 8 P.M., but not a measurable quantity.

The dry cold weather which prevailed during November continues, and by its duration becomes remarkable. The total fall of rain in November (0.69 inch) was unusually small. Gale on north-east coast on the night of November 30th.—G. J. SYMONS.

COVENT GARDEN MARKET.—DECEMBER 6.

MARKETS very quiet, and no alteration worth notice, the frost not yet having any effect upon the supply. A considerable quantity of rough goods have gone over to-day for another market, in the expectation of better prices.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ..... ½ sieve	2	0	to 4	0	Mulberries ..... lb.	0	0	to 0	0
Apricots ..... doz.	0	0	0	0	Nectarines ..... doz.	0	0	0	0
Cherries ..... lb.	0	0	0	0	Oranges ..... ₱100	4	0	10	0
Chestnuts ..... bushel	10	0	20	0	Peaches ..... doz.	6	0	12	0
Currants ..... ½ sieve	0	0	0	0	Pears, kitchen ..... doz.	2	0	4	0
Black ..... do.	0	0	0	0	dessert ..... doz.	2	0	6	0
Figs ..... doz.	0	0	0	0	Pine Apples ..... lb.	3	0	5	0
Filberts ..... lb.	0	6	1	0	Plums ..... ½ sieve	0	0	0	0
Cobs ..... lb.	0	6	1	0	Raspberries ..... lb.	0	0	0	0
Grapes, Hothouse .... lb.	2	0	5	0	Strawberries ..... lb.	0	0	0	0
Gooseberries ..... quart	0	0	0	0	Quinces ..... doz.	0	0	0	0
Lemons ..... ₱100	8	0	12	0	Walnuts ..... bushel	10	0	26	0
Melons ..... each	2	0	3	0	ditto ..... ₱100	1	0	3	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes ..... doz.	0	0	to 0	0	Leeks ..... bunch	0	3	to 0	6
Asparagus ..... ₱100.	8	0	12	0	Lettuce ..... doz.	1	0	2	0
Beans, Kidney .... ½ sieve	0	0	0	0	Mushrooms ..... pottle	1	0	2	0
Broad ..... bushel	0	0	0	0	Mustard & Cress .. punnet	0	2	0	3
Beet, Red ..... doz.	1	0	3	0	Onions ..... bushel	2	0	4	0
Broccoli ..... bundle	0	6	1	0	pickling ..... quart	0	3	0	8
Brussels Sprouts .. ½ sieve	2	0	3	0	Parsley ..... sieve	3	0	4	0
Cabbage ..... doz.	1	0	2	0	Parsnips ..... doz.	0	3	1	0
Capsicums ..... ₱100	1	6	2	0	Peas ..... quart	0	0	0	0
Carrots ..... bunch	0	6	0	0	Potatoes ..... bushel	1	6	3	0
Cauliflower ..... doz.	3	0	6	0	Kidney ..... do.	3	0	6	0
Celery ..... bundle	1	6	2	0	Radishes .. doz. bunches	0	6	1	0
Coleworts .. doz. bunches	2	0	4	0	Rhubarb ..... bundle	0	0	0	0
Cucumbers ..... each	0	6	1	0	Savoys ..... doz.	1	0	0	6
pickling ..... doz.	0	0	0	0	Sea-kale ..... basket	2	6	3	0
Endive ..... doz.	2	0	0	0	Shallots ..... lb.	0	6	0	9
Fennel ..... bunch	0	3	0	0	Spinach ..... bushel	2	0	3	0
Garlic ..... lb.	0	3	0	0	Tomatoes ..... doz.	2	0	0	6
Herbs ..... bunch	0	3	0	0	Turnips ..... bunch	0	3	0	0
Horseradish ..... bundle	3	0	4	0	Vegetable Marrows .. doz.	0	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 14—20, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years. Days.	Sun Rises. m. h.	Sun Sets. m. h.	Moon Rises. m. h.	Moon Sets. m. h.	Moon's Age. Days.	Clock after Sun. m. s.	Day of Year.
14	TH		46.9	34.3	40.6	21	1 af 8	49 af 3	37 af 10	19 af 6	2	5 14	348
15	F		47.0	33.6	40.3	19	2 8	49 3	20 11	41 7	3	4 45	349
16	S	Cambridge Michaelmas Term ends.	46 5	32.9	39.7	15	3 8	49 3	54 11	5 9	4	4 16	350
17	SUN	3 SUNDAY IN ADVENT.	45.9	34.0	39.9	20	4 8	49 3	after.	25 10	5	3 46	351
18	M	Oxford Michaelmas Term ends.	45.8	33.7	39.7	20	5 8	50 3	37 0	42 11	☾	3 17	352
19	TU	Twilight ends 5.57 P.M.	45.4	32.5	39.5	16	5 8	50 3	53 0	morn.	7	2 47	353
20	W		44.1	33.6	38.9	16	6 8	50 3	8 1	56 0	8	2 17	354

From observations taken near London during forty-three years, the average day temperature of the week is 45.9°, and its night temperature 33.5°. The greatest heat was 59°, on the 15th, 1868; and the lowest cold 7°, on the 16th, 1853. The greatest fall of rain was 0.87 inch.

SMALL FARMS—HOW THEY CAN BE MADE TO ANSWER.—No. 3.

By Rev. WILLIAM LEA, *Vicar of St. Peter's, Droitwich, and Hon. Canon of Worcester.*

PLUMS.—We will now pass on to the larger kinds of fruits, from bushes to trees, such as Plums, Apples, Pears, and Cherries, and I put Plums first of all in my list, because they produce a much earlier return than the others; indeed, so much so that it would pay a tenant to plant them on a fourteen-years lease, whereas the others if planted on the usual orchard stocks, are a landlord's improvement, and in most cases are planted for the benefit of the next generation. The Apple, Pear, and Cherry, on the usual orchard permanent stocks, do not become sensibly profitable till they are twelve or fifteen years old; whereas the Plum will produce a good return after six or seven years, and some sorts even earlier than this.

The most profitable way of planting Plums will be to put them in together with Currants or Gooseberries at intervals of 24 feet, which will take seventy-five trees to the acre, or even at intervals of 12 feet, which will take 300 trees to the acre. When the Gooseberries or Currants are wearing-out, which will be in fifteen or twenty years, the Plums will have covered the ground, and will bring an ample profit. I find that trees of the Pershore Egg Plum, which I planted in 1865, have this year produced on the average 30 lbs. weight of fruit each, which, at the rate of 5*s.* per pot of 90 lbs., is a return of 1*s.* 8*d.* each tree. The mention of this pot reminds me that in the midland counties all fruits and vegetables are sold wholesale by the "pot," as it is called. A pot is an oblong basket with a handle at each end, and without a lid. All the pots have these points in common, and being in such universal use, one would have supposed that they would have a still more important point in common—I mean a fixed and definite capacity; but this is not the case, there are pots and pots. This was one of the first lessons I learnt in farming; on going to buy some pots I was asked by the maker whether I wanted buyers' pots or sellers' pots, and on inquiring the difference, I was informed that buyers' pots were larger pots, and sellers' pots smaller pots, and that there was a difference of nearly a peck, or one-fifth, between them; and the different capacities of pots are so well known, that a remedy has been invented which is almost as bad as the disease. A certain conventional weight is required for a pot of every variety of fruit or vegetable; and if these weights were the same in different districts, there would only be the trouble of keeping the different weights in one's head. But this is not the case—the weights vary in different parts just as much as pots do; a pot of Potatoes is 95 lbs. in one place, while twenty miles away it is only 80 lbs. A pot of Plums varies even more than this—in one part it is 90 lbs, in another 72 lbs. The true remedy would be to buy and sell everything by weight, irrespective of these fictitious measures, which vary in every district. So much for pots. The question we have to consider is, What varieties of Plum will fill them soonest, and bring the best return to the planter?

Now, this question will be answered differently in different districts. In some it will be the Prune Damson, in others some other variety which has proved itself most congenial to the soil; but wherever the soil is strong and retentive the Pershore Egg Plum should form a considerable portion of every plantation. It is the hardiest of all Plums, the surest cropper, and the wood is tough, and the branches will bear an enormous weight of fruit without breaking. It is said to be a short-lived tree; but I know trees in full vigour which have been planted at least a quarter of a century. It brings a lower price than other Plums, but I think, in the long run, it will pay better than any other on the average. In fact Plums for market purposes may be divided into two classes—yellow or Egg Plums and coloured Plums; the latter in most years are worth nearly double the price of the former. Among coloured Plums the best are the Victoria, the Prince Englebert, Pond's Seedling, the Black Diamond, Belgian Purple, Kirke's Plum, Cox's Emperor, commonly called Jemmy Moor, Prince of Wales, Cluster Damson, Mitchelson's Damson, and the Belle de Louvain. The Victoria is a bright, large, pink Plum, an enormous cropper, always in demand, good for eating or cooking, still better, I am told, for bottling for use in the spring, but it has one most serious drawback—the wood is extremely brittle, and my trees break every year under the weight of fruit. This, perhaps, may be in part owing to their being what is technically termed "standards for orchards," and if I were to begin again I would have nothing but "half-standards" grafted about 3½ feet from the ground, and then I should prune back till the lower branches were strong enough to support the fruit. But notwithstanding this disadvantage, the Victoria should have a place in every plantation for its beauty and productiveness. I once saw long lines of this Plum alternating with Pond's Seedling; they were both ripe, and as the sun shone on their large pink fruit which hung the size of eggs from the boughs, I thought I never saw a more beautiful sight. The old Greek sailors never imagined anything finer in the gardens of the Hesperides.

Pond's Seedling has the reputation of being an uncertain cropper, but with me it always bears freely, and produces finer fruit than any of the thirty sorts I have in my plantation; its wood, too, is tough, and will bear a large crop without breaking. Prince Englebert is an excellent black Plum, and an abundant cropper. The Black Diamond possesses the last of these qualifications, but after all it is a monstrous abomination. Rivers's Early Prolific is in some places a profitable variety, and being the first in the market usually realises a high price to the grower, but I cannot speak much of it myself, as I have been unfortunate in my trees. The nurseryman from whom I bought them sent them on what I believe to be Almond stocks, and the result is that they have not made any growth in the six years, and I am now about to root them up and burn them.

This and other like experiences in buying trees lead

me to offer a word of advice to intending planters on this head. I know nothing more disappointing when a plantation has been made, than to find when your trees come into bearing at the end of three or four years, that the nurseryman has sent them on bad stocks, or sorts untrue to name. It has been my misfortune to find this to be the case on several occasions. When I began, I ordered trees from several nurserymen, and after waiting some years I found, to my disgust, that what ought to have been choice Pears, are in some cases nothing better than perry fruit, and Plums in like manner untrue to name. I should therefore recommend purchasers to visit the nurseries when the trees are in fruit, and select for themselves.

As I have mentioned the enemies of the Gooseberry, it may be as well to say a few words on the enemies of the Plum. The blackbird as usual is very mischievous, and in August and September the wasps and hornets are troublesome; but the most destructive of all enemies is the grub of the Cheimatobia brumata, or Winter Moth. This moth makes its appearance about the end of October, and continues on the trees till the end of the year. The male is a small-winged moth, the female a wingless abomination, not unlike a bug, but longer in the leg and lighter in colour. She lays about two hundred eggs, either round the buds of the Plum or Pear, or in the cracks of the bark. These eggs are hatched in April, and a small caterpillar appears which eats its way into the centre of the opening bud, and destroys all prospect of fruit. By the end of May it is full grown, and then lets itself down by a thread to the ground and buries itself in the soil, where it becomes a chrysalis. In this state it remains till the end October, when it emerges again in its winged state.

This grub is the Plum-grower's greatest enemy, and many plans have been attempted for its destruction, the most successful being the encouragement of small birds, and if they were sufficiently abundant I question if anything further would be required. In 1865 I bought some trees from the neighbourhood of the Vale of Evesham, which is the head-quarters of this Winter Moth, and on examining them in December I discovered that I had bought some moths with them, for I caught ten female Cheimatobias one morning, but since that year I have never seen a specimen of them, and I conclude that the small birds, which are plentiful, have completely extirpated them, but where they are not so abundant artificial means must be adopted. The fruit-farmers and their men turn out at night in November, with lanthorns, and kill the moths by hundreds on the stems of the trees. Hundreds more of the females are caught, as they climb the trees, in a mixture of tar and grease, with which the stems are smeared, and in some instances it is found necessary to pick the trees and destroy the caterpillars by hand; but all these means are troublesome and expensive, and I think would be unnecessary if a sufficient number of small birds could be induced to settle in the plantation.

(To be continued.)

GOLD AND SILVER FERNS.—No. 1.

I HAVE of late had several letters from Fern-growers, and all ask information respecting those species which are clothed with gold or silver farina. Now, as I am aware that the majority of the inquirers are readers of the Journal, I purpose saying a few words through its pages upon the management of these plants. The number of species coming under this heading is now somewhat numerous, and includes many plants that are veritable gems; still, there are many more known to science which have not yet been introduced into cultivation.

ADIANTUM.

This is a favourite genus with all growers of Ferns, and that deservedly, for the majority of the species are really beautiful, easily grown, and admirably adapted for combining with flowers either in bouquets or in vases. Two species only come under this heading: the first,

A. SULPHUREUM, is a native of Chili, and is usually considered difficult to cultivate, which I believe is due to the fact that most gardeners and amateurs keep it with their stove Ferns, whereas it will thrive only in a cool house. In such a situation I have grown this beautiful species to great perfection, the fronds being dense and about 9 inches in length. In a young barren state the pinnules of the tripinnate fronds are round, but when fertile the edges of the indusium give them the appearance of being somewhat serrate. The colour is bright green above, whilst the under side is clothed with a golden farina, and has a most beautiful appearance when grown as recommended above. The pinnæ, and indeed the whole fronds, form charming ornaments for a lady's hair.

A. SCABRUM.—This differs from the previous-named plant in its larger pinnules and somewhat more robust growth, as well as in the farinose substance, which is scattered over both the upper and under side, being of a waxy white instead of golden colour. It is an exceedingly pretty plant, a native of Chili, and succeeds best grown in a cool house as before described. As far as I am aware, it and the previously mentioned are the only two species known to be adorned in this manner.

CHEILANTHES.

This genus, taken as a whole, contains more really beautiful plants than any other with which I am acquainted. They are however, not generally well grown; in fact, they are usually stewed to death in hot moist stoves, while they mostly require a somewhat cool house. They enjoy moisture, but, like all the plants treated under the heading of this article, they will not suffer watering overhead with impunity. There are several species remarkable for the gold and silver covering of the under sides of the fronds, and most of them are furnished with a dense covering of scales on the under side. To grow them successfully, use a compost of peat and sand, with an equal quantity of sandstone, some of which should be broken fine, and the remainder disposed in pieces about the size of a walnut throughout the soil and upon the surface. Many of the species should be slightly elevated above the rim of the pot. Those species I shall refer to in this place are

C. ARGENTEA, known also in some gardens as PTERIS ARGENTEA, but by whatever name it is recognised, it cannot fail to be universally admired. This exquisite little plant seldom exceeds 6 or 8 inches in height. The fronds are triangular in shape, tripartite, bright green on the upper side, whilst below they are clothed with a pure white powder, to which the black marginal sori afford a beautiful contrast; and the jet black footstalks also add materially to the general elegance of the plant. It is a native of Siberia, and I have received specimens also from Japan. These latter, however, appear to be rather more robust in growth.

C. BORSIGIANA.—In general appearance this resembles the preceding, but it is taller, the fronds are larger, and the under side is clothed with a dense covering of pale golden yellow. It is one of the most beautiful little Ferns in cultivation, although through bad treatment it has obtained the character of being extremely difficult to cultivate. It is a native of Peru.

C. FARINOSA.—A noble-growing plant, yet so seldom does it receive suitable treatment that I have heard it condemned as worthless. When well grown it attains a height of from 18 to 24 inches. The fronds are somewhat triangular in a young state, becoming bipinnatifid as they increase in size; the upper surface is dark green, whilst below there is a dense covering of white farinose powder set off with a broad band of black marginal sori. I have found this plant succeed best when grown entirely in rough fibrous peat and sand, the pots well drained, and an abundant supply of water administered to the roots, but the syringe should never be used. The plant is a native of the East Indies, and requires the temperature of a stove.

C. PULVERACEA.—A plant similar in habit and general contour to C. farinosa, but less robust in growth, and its fronds less massive in appearance. It also differs from the last-named plant in having the upper side of the fronds dusted over with a white farinose powder in addition to that below. It should be treated like the preceding species, but special care must be taken to prevent its being watered overhead, or it will present a miserable appearance. Native of warm parts of Mexico.—EXPERTO CREDE.

LAXTON'S NEW PEAS.

BEING a neighbour of Mr. Laxton, and enjoying his friendship, I have on many occasions inspected his Peas. My opinion of William I. is very favourable; I think the same of Popular, which is, I believe, allied to Alpha, the latter being a very great favourite here. Superlative, however, throws all Peas that I know in the shade. I have read of the delight felt by plant-collectors in foreign countries when they met with some remarkable flower, and enjoyed the description of the pleasure they experienced, but even Mr. Fortune himself could not have felt more pleasure in one of these lucky finds than I did on first seeing Superlative Pea. With the other varieties I am not so well acquainted.

The arrangement of Mr. Laxton's crossed Peas, when they are seen growing, is a sight. They are not all mixed-up to-

gether, but plotted systematically. In No. 1 plot we see all the dwarfs, type Little Gem; No. 2 plot, type Veitch's Perfection; No. 3 plot, type Champion of England. Mr. Laxton's garden is full of interest to both the professional and amateur gardener.—R. GILBERT, *Burghley*.

SELECT GLADIOLUSES.

HAVING taken great delight for a good many years in growing the Gladiolus, all the remarks which have appeared in your Journal bearing on my favourites have been eagerly scanned to find something new regarding them.

Like many of your other correspondents, I have found Gladiolus cultivation very perplexing; indeed, some years ago I lost my entire collection. Shortly after that I had another garden, where they grew very well, but still not without many failures. From my experience, and the experience of others in the same locality as my first garden, I should say that in some soils they will not succeed at all; our subsoil was a cold heavy clay, and although deep digging and mixing sand and moss were resorted to, all would not do, and in similar soils no one should try any but the cheapest varieties, so that they could be renewed every year.

It was with much pleasure I read the reports of "D., *Deal*," and Mr. Douglas on some of the new varieties, and perhaps your readers might like to hear the experience of one living in a different locality. From some of the kinds named by "D." and Mr. Douglas as the best, proving with me only indifferent, we must conclude that certain varieties succeed much better in one locality than they do in another, notably Le Titien, James Veitch, Marie Dumortier, Reine Victoria, and Madame Basseville. All these I have grown, but I could never obtain from them a good spike.

Amongst last year's new kinds Aramis was with me very fine, and produced the largest spike I ever grew. It is a good variety, and when at its best there were fourteen blooms open, and the spike was fully 20 inches long. I do not know what length the spikes attain in the south, but here such a length is exceptional. Another cheap new variety was Colbert, tall, strong-growing, in the style of Horace Vernet, and not greatly inferior. Condé had a very showy spike, although the shape of the individual blooms was not all that could be wished. Horace Vernet is first-rate; of it I need not say more. Talisman is very good. Phèdre would be beautiful if it made a strong spike, but I fear it is delicate. Sir John Franklin was very good, but I failed in getting a long spike through the lower blooms failing too soon.

Of the varieties of the year before, Delicatissima carried off the palm: it is rightly named, because of the delicate tinge of lilac suffusing the white and the delicate streaks of the same colour; it has a strong-growing massive spike, and no one could wish for a finer variety. Armida is also a fine flower, but it did not equal the preceding. Of Elizabeth I did not think much. La Candeur I grew the first year it was sent out, and I consider it was nearly as good as that old variety John Bull. Rosa Bonheur was very fine, producing a long spike, and being new in colour—a lilac, instead of the common carmine or pink shades.

Of older varieties, Cornélie has a fine long spike, and is good in style, and Isabella is a fine white with a large dark carmine stain. Of La Favorite I had several very fine spikes; it is a strong grower, and a very distinct variety, the petals rather pointed, but altogether there are not many better. La Fiancée is the purest white grown, has a good spike, but is hardly so robust as could be wished. Le Poussin is a very good old variety, and, as I saw it exhibited this year, very large and handsome. Lord Raglan is an old favourite here, and often very good. MacMahon and Neptune are two very old varieties, but still so good that I had them in a stand of twelve, which took a first prize, despite a pretty strong competition. Michel Ange had the finest spike I exhibited; it produces a large spike and large blooms, and its colour is a beautiful contrast to the paper white under petals. It has a fault in the flowers not being at right angles to the stem, but growing upright; I had to put something behind each bloom to press it downwards, so as to meet the eye. The individual blooms on the same spike are likewise not all alike, some having only one segment white, others three, and one bloom had no white division; the blooms with three white divisions were the best. I am doubtful as to its constancy, for last year it was not nearly so fine as this; last year's bulb was imported, this year's was of the previous season's growth, but I am afraid that the same bulb's produce will never flower owing to the disease. Semiramis I have tried to grow for two years, but unsuccessfully; it is evidently a very shy variety; I must try it again, as I have seen it twice very fine. Thunberg is a very good sort, fine spike of a pleasing colour.

I had fine examples of many others named by "D." and Mr. Douglas, but I will give a list of those I think good and well worth growing, although some may be cheap old sorts. I have marked with an asterisk (*) those which are extra fine:—*Aramis, Colbert, Condé, *Horace Vernet, Sir J. Franklin, Talisman, Adanson, *Armida, Delicatissima (very fine), Orpheus, Rosa Bonheur, Argus, Cornélie, Diomède, Dr. Lindley, Eurydice, Homer, Horace, Isabella, *La Favorite, La Fiancée, Le Poussin, Lord Raglan, MacMahon, Madame Desportes, Madame de Vatry, Madame Furtado, Madame Vilmorin, *Maréchal Vaillant, *Mary Stuart, *Meyerbeer, Michel Ange (very fine), *M. A. Brongniart, *Legouvé, Mozart, Neptune, Princess Mary of Cambridge, Racine, Shakespere, Sir J. Paxton, Sir W. Hooker, Thomas Moore, Thunberg, Velleda, and *Virgile. —AYRSHIRE AMATEUR.

HARDY HEATHS.

IF the individual flower of the Heaths is of less size than that of the Pelargonium, Calceolaria, Verbena, and other plants used in massing, the number of the bells, their exquisite beauty, gracefulness, and diversity of colouring are ample compensations. No one would think much of a plant of Lobelia speciosa in a mixed border, but where a number of plants are required to form a line or mass, the individual flower is of little consequence; we judge them by the great mass of bloom produced, and the distinctness of colouring. Than the Heath there is no more profuse-flowering shrub, nor one which in my opinion is better suited for arrangements for effect. Taste, of course, differs, and I may be set down as having "very limited views" of what a massing plant should be, but those who form their ideas from seeing Heaths in a mixed arrangement have no conception of the effect produced by such plants when in a mass of as many square feet or yards as the individuals composing it cover square inches. Everybody knows the effect of the Heath on a moor. I am within easy distance of one of very many (too many, for some of the soil is fit for agricultural crops) square miles in extent, I believe the largest in these islands, and to produce an effect like that, but of course on a very much less scale, is the object of this paper. I may say that we have cultivated clumps of Heaths in varied forms and sizes, ranging in extent from a square rod to a quarter of an acre.

Very effective beds, nay, Heatheries, may be formed by selecting those hardy Heaths which bloom at the same time, and planting each separately in beds of almost any design, for design is not so material as the arrangement of the plants as to height, colour, and period of bloom.

Hardy Heaths are also extremely ornamental as bands or borderings to clumps of American plants—as Rhododendrons; and they have one other recommendation—they endure the smoky atmosphere of towns. Within three-quarters of a mile of the centre of one of our largest manufacturing towns, I have grown a collection amounting to upwards of fifty species and varieties of hardy Heaths.

They prefer a sandy peat soil well drained, but if the latter condition is secured the former is not imperative; for they will grow well in a soil containing vegetable matter, or such as may be found in most woods of some standing, where Foxgloves abound, mixed with an equal quantity of very sandy loam. They flourish in a humus soil, but are impatient of stagnant water, and if the site is low and wet—which is anything but good for them, as they delight in fresh air, and the cutting blast—put on a layer of stones as rough as possible, and about 6 inches deep, not raising them into a cone in the centre but with a gentle rise, and cover with from 6 to 9 inches of soil. To the soil may be added one part in four of stone, and if the soil is not sandy, add one part of sand to four of the compost. This may be used rough, but the surface should be fine and not rise more than 1 foot in 3. I know it is a practice to raise rockwork for these plants, and it is all very well to do so where there is an unlimited supply of water to prevent the plants dying from drought, which they are apt to do on rockwork. On low rockwork they succeed fairly, but on well-drained soil gently raised they do far better. Whatever soil be used let it be sandy, for silica is essential to the healthy growth of the plants and their profuse blooming.

The situation should be open. Shaded places answer for Ferns, but not for Heaths, and if there is a spot that is exposed to every breeze, there have the Heathery. Heaths like air, sun, and moisture, but will also live in shaded places, for I know several acres of Scotch Fir and Larch, where the ground is covered with a close carpet of Heath, but in the sunny open spots the bloom is best.

The best time to plant is, perhaps, February, but from October to March inclusive will answer. To give an immediate effect plant thickly; very little of the bare soil need be left, whilst the greatest distance apart should be equal to the height of each kind.

The after-treatment is very simple; all they want is to be kept clear of weeds, and to be pruned occasionally to preserve them in form, for however much irregularity of growth may break the monotony of the effect in a wild state, in a cultivated one irregularity of one form is not admitted. Pruning is best done just before the plants commence growth. If it can be afforded, top-dress with any grass-edging parings, thin turf reduced to soil, cocoa-nut refuse, old cow dung, or the short grass of the lawn. Half an inch deep of any of these materials applied in October will be sufficient for a year; it is then that they put out roots innumerable, and not only Heaths, but every kind of American plant. From my observation of the state of the roots, the end of September is the best time to remove this class of plants, but if they have been grown in sheltered positions, as they are in nurseries, with the view, no doubt, of obtaining a saleable plant in the least time, they are best removed in spring, when danger from sharp weather is past, and they can establish themselves before the return of severe weather.

Hardy Heaths look best in an arrangement of beds on grass, and may enter into geometrical or symmetrical combinations along with summer bedding plants, for I do not know by what law Heaths, and other profuse-flowering low shrubs, which are as effective by their foliage as their flowers, should be excluded from flower-garden arrangements. A few good beds of Heaths, if only for their light and elegant foliage, ought to be acceptable, as taking away or toning down those glaring masses of bloom for which our flower gardens are remarkable—or were, for thanks to the introduction of fine-foliaged plants, this dazzling brightness has been toned down considerably, and is now tolerable, which is more than could be said a few years ago.

The best arrangement of Heaths, is, perhaps, in the picturesque style, and associated with other shrubs not necessarily American, for they never look so well as with Furze (nothing makes a finer mass than the Double-flowered Furze, a mass of golden colour, and afterwards a mass of glaucous green, which will set-off bedding flowers better than nine-tenths of the plants used for the purpose), Andromeda, Cistus, and the like, and even with others they are well adapted for the most refined arrangements.

I shall not propose any particular mode of arrangement, for one cannot well be decided on without a knowledge of the ground, and it is best left to individual taste. I will now give a list of the best, freest, and most constant-flowering Heaths:—

Erica vulgaris alba, white.
flore-pleno, pale purple.
tomentosa, pale red.
argenteo-variegata, white variegated leaves.
aureo-variegata, gold variegated leaves.
Erica vulgaris coccinea, red.
Alportii, red.
rubra, reddish purple.
pallida, pale purple.
Hammondii, flesh.
stricta, reddish purple.
tenella, pale red.

These are all of very close stiff growth, and attain a height of from 1 to 3 feet. They usually flower towards the end of June, are a mass of bloom at the beginning of August, and the flowering is continued until the end of September. The variegated kinds are of lower growth, and form fine edgings to clumps of the other kinds. E. vulgaris stricta is of erect growth, and is suitable for dotting in the picturesque style.

Erica cinerea, pale purple or grey.
alba, white.
rubra, red.
carnea, flesh.
Erica cinerea atro-purpurea, purple.
rosea, rose.
coccinea, bright red.

These have all small flowers, and form a dense carpet about a foot high. They commence flowering in June, and continue in bloom up to September inclusive.

Erica Tetralix, pale flesh.
alba, white.
Erica Tetralix rubra, red.
carnea, flesh.

These are rather loose-growing plants, with graceful flowers from the early part of June until the end of August.

Erica vagans, pale red.
alba, white.
Erica vagans carnea, flesh.
rubra, deep red.

These are of rather straggling growth, but, nevertheless, form good masses about 1 to 1½ foot in height, flowering from July to October.

E. ciliaris, pale purple, of fine and neat habit, 1 foot high; July to September inclusive.

E. multiflora alba, white, and multiflora rubra, red. These are fine, and flower from July to November.

E. stricta, pale purple, of stiff erect growth, flowering from August to November; height, 2 feet.

E. Mackiana, reddish purple, flowering from June to September.

The preceding are summer-flowering kinds; they form very effective small or large groups, and are very hardy, except E. stricta, which is from South Europe, and in a moist soil the growth sometimes suffers from frost.

Erica carnea, flesh with purple, about 6 inches high, dense close growth, and covered with flowers from December to April. It is well adapted for edgings, forms a fine group, and may be effectively employed for winter and spring flower-garden decoration.

Erica herbacea, flesh.
alba, white.
carnea, deep flesh or pink.

These flower from December to April, and are similar to the preceding. The last-named does not flower until March.

Erica arborea, white. February to May. It is of tall growth, 4 to 5 feet, and requires a sheltered spot, but open.

Erica codonoides, pale rose, with larger flowers than E. arborea, of more slender growth. It grows 6 feet high or more in sheltered places, which it requires. February to April.

Erica australis, pale purple.
nana, pale purple and very dwarf.
rosea, rose.

These are of very close growth, and attain from 9 inches to a foot in height. They flower from March to June.

Erica scoparia, tall and slender, sometimes attaining from 4 to 6 feet in height.
nana, dwarf, about 1 foot to 1 foot 6 inches.
minima, attains to 2 or 3 feet.

All have greenish flowers in April and May.

Erica mediterranea, purple, 3 to 4 feet.
glauca, foliage glaucous.
hibernica, erect stiff habit.
nana, dwarf, but stiff habit.

Flower from February to May, and require sheltered places.

Menziesia polifolia, purplish red.
alba, white.
atro-purpurea, deep reddish purple.
pumila stricta alba, white.

The first three attain a height of 1½ to 2 feet, and produce their fine showy flowers in July and August, but the last attains a leaf-growth of not more than 9 inches, seldom that, and sends up very many spike-like flower-shoots 1 to 1½ foot high, or more, and on these are borne fine large white Lily-of-the-Valley-like bells. The effect is good from July to November; indeed whilst I write (November 2nd), the plants are conspicuous by their pure white flower-bells. It flowers more or less all the year round, and a mass of it is fine. I have it in patches of half a dozen, or a dozen, up to fifty, planted at about 2 feet apart in ordinary loamy soil on the margin of Rhododendron beds, not in a line, but as a mass next the grass, where it serves to break the outline of a plain figure of shrubs, and it has a good effect. Sandy well-drained soil is most suitable. Where common shrubs grow it will succeed, only it must have light to flower.—G. Abbey.

THE THIRTY-SIX BEST ROSES.

I have given the names of what I consider the best twelve Roses; I will now make the number thirty-six. I have left out some beautiful Roses because of their deficiency in growth or hardihood, or both—such as Louis Van Houtte (Lacharme), Marie Baumann, Marquise de Mortemart, Madame Furtado (the best specimen of an exhibition Rose), and Madame Vidot and Madame Rivers, the best Hybrid Perpetual light Roses. The above Roses are suited only to amateurs, or rich people who can afford to replace them from time to time. They are a paradox; they will win all hearts and break a good many. Marie Baumann is a most beautiful and perfect Rose, but at this place a miserable grower on the Manetti stock. I have for three years had twenty plants of this variety, which have become small by degrees and miserably less. Moreover, it has the

sad fault of turning its face to the antipodes. "*Se tenant bien*," or erect habit, is essential to constitute perfection in Roses, except lofty wall Roses.

The following Roses can be well recommended both for the garden and for exhibition. Making allowance for Tea Roses and Tea-scented Noisettes, they are hardy, free-blooming, free-growing, and an admirable set of Roses. In the case of duplicates and triplicates the reader may select which he likes without harm. They are placed from beginning to end in alternations of colour.

1, Maréchal Niel; 2, Pierre Notting; 3, Madame Chirard; 4, Charles Lefebvre; 5, William Griffiths; 6, Alfred Colomb; 7, Edouard Morren; 8, Perfection de Lyon; 9, Marguerite de St. Amand; 10, Madame Victor Verdier; 11, John Hopper; 12, Maurice Bernardin; 13, Gloire de Dijon in its globular form; 14, Marie Rady; 15, Devoniensis; 16, Prince Camille de Rohan, or Empéreur de Maroc; 17, Duchesse d'Orleans; 18, Dr. Andry; 19, Triomphe de Rennes; 20, Marquise de Castellane, a splendid Rose; 21, Duc de Cazes; 22, Elie Morel; 23, Maréchal Vaillant; 24, Souvenir d'Elise; 25, Leopold Premier, or Duchesse de Caylus; 26, Souvenir de Malmaison; 27, Madame Boll; 28, Céline Forestier; 29, Sénateur Vaisse, Lady Suffield, or Prince de Portis; 30, Madame Willermoz; 31, Felix Genero, or Madame Fillion; 32, Madame Boutin; 33, Abel Grand; 34, Gloire de Ducher, lake, a grand Rose; 35, Cécile de Chabrillant; 36, Rêve d'Or, choice and a real beauty, golden yellow with coppery centre.

Now, if the reader can bring these out well for the exhibition table he will have no occasion to be ashamed to meet the distinguished rosarians of England. There are other good Roses besides those named.—W. F. Radclyffe.

A GARDENER'S HOLIDAY.—No 4.

About one mile from Kelso is Floors Castle, the seat of the Duke of Roxburghe. A magnificent view of this noble mansion is obtained from the bridge in passing into the town. A new kitchen and flower garden, with very extensive ranges of forcing and plant houses, were laid out about thirteen years ago under the direction of Mr. Rose (now gardener to Her Majesty at Frogmore), a full description of which appeared in this Journal when Mr. Rose left the service of the Duke. The extent and arrangement of the houses, and principal features of the gardens, were detailed at that time.

The vineries, Peach houses, and principal plant houses are in one range, and consist of seven large span-roofed houses running north and south, connected with a long corridor at the north ends. The upright sashes are quite 6 feet high; such high upright sashes I do not think desirable, as they are not well adapted either for plant or fruit-growing. The Vines at Floors this year were making fine, strong, short-jointed wood. In previous years, when visiting at this place, I had remarked the heavy crops of Grapes in all the houses, but this season the crop was not so heavy. I learned that it was found necessary to undercrop the Vines this year, in order to recruit their energy from the exhausting effect of heavy cropping; and to improve them further some of the old canes were being removed and young ones trained up on the extension system. A very large number of Lady Downe's Grape is grown, which is everywhere held in much esteem as the best late-keeping variety. Black Hamburgh and Muscat of Alexandria are grown to the largest extent, the next best black being Black Muscat of Alexandria; and Foster's Seedling was stated to be the best white not Muscat-flavoured. I have always preferred the Buckland Sweetwater to this, because when well grown it has quite as good a flavour, and has a finer appearance on the dish than Foster's Seedling, which rarely finishes off well, the berries when ripe being more often of a green than a golden colour.

In passing through the large block of span-roofed houses, I noticed in one devoted to stove plants a very fine form of Anthurium Scherzerianum, the spathes of which were darker than usual, and peculiarly ribbed, which may to some extent be owing to the treatment. They were as large as any seen at the London exhibitions this year, and there are evidently many forms of this plant, some of them being far superior to the others. In another house was the best collection of Tree or Perpetual-flowering Carnations I have yet seen, and comprising many new and little-known varieties. These plants would supply a large quantity of cut flowers from October far into winter; probably Mr. Knight is cutting these flowers all the year round. Most of the plants were two years old, and seemed to grow very strongly. In such large houses these plants are, perhaps, the best, whereas in small houses cuttings struck in February and March are best adapted for supplying a succession of flowers the following winter. I noted the following as being valuable and distinct:—Beauty, scarlet flake; Comte de Derby, a large flower with a peculiar shade of bronze in its composition; Rembrandt, crimson maroon, a very fine flower; Brilliant, very dark, fine; Henshaw's Scarlet and Hector, scarlet flake. In front of the large block of houses is a terrace, at the base of which is the flower garden. This has been a very bad season for flowers in the north, and some of the more tender subjects have failed entirely. Conspicuous from the terrace, and forming the centre to two large beds, was an excellent strain of Beet; it was exceedingly effective, much more so than Perilla for ribbon work. I was informed that it was Dell's. Golden Gem has proved to be the best yellow bedding Calceolaria, and had been selected as the best out of a very large number of different sorts. Christine was the best rose-coloured Pelargonium for bedding. This variety seeds so freely in the south, that unless the pods are frequently picked off, the plants look unsightly; this objection is not urged against it here. Polemonium cæruleum variegatum was very effective in several combinations, and a very chaste and pleasing effect was produced by planting a bed with Purple King Verbena, and an edging of Mangles' Variegated Geranium, allowing the one colour to run into the other.

A substantial wall divides the flower from the kitchen garden, in which there are also fine ranges of houses, and some low span-roofed pits devoted to Melons. Of these a pit in three divisions contained Melons grown in three different ways: one set was trained to a trellis fixed about a foot from the glass; another was also trained to a wire trellis raised a foot or more above the surface of the bed, and at equal distances from it; the third set was merely trained over the surface of the ground, as is usual in ordinary dung frames. The largest crop was obtained from those trained over the surface of the bed without a trellis, the largest and best fruit being obtained from the trelliswork. In an adjoining house was a very good crop of the Currant Tomato. It was an instance of the combination of the ornamental and useful well worthy of imitation. The fruit was very beautiful as it hung from the trellis to which the plants were trained. I also noticed a vast improvement in the appearance of the Pines, they were planted out in beds instead of being grown and fruited in pots as was usual here. Smooth-leaved Cayenne and Queens were the principal sorts grown.

From Floors Castle it is but a short distance to Newton Don, the seat of Charles Balfour, Esq. The mansion is substantial and well built, commanding a very extensive view of the surrounding country. It boasts of a picturesque waterfall and extensive woods clothing to the summit precipitous banks, at the base of which an extensive stream abounding in trout glides rapidly onwards. Mr. Thom, the head gardener here, is a most worthy representative of the craft. The flower garden is not large, but it is laid out with great taste, and is beautifully kept, although Mr. Thom labours under difficulties. The soil is unsuitable, but this difficulty has been overcome by removing it to the depth of 18 inches, and replacing with suitable material. It is also overshadowed by surrounding trees, especially a row of Limes on the south side, so that the flowers are liable to decay from damp early in the autumn. A small flower garden in front of the mansion continues gay for weeks after the beauty of the other is past. The terrace wall in front of the mansion was planted with Roses and Tropæolums. I suggested to Mr. Thom that Clematis Jackmanni would be a good substitute for the Tropæolum, and I found he had already prepared plants of this type of Clematis for that purpose. This beautiful class of plants is now being extensively planted for covering low walls or old decayed stumps of trees; and as a new and striking feature in flower-garden work they are, as they deserve to be, the subjects of universal admiration.

In the kitchen garden there are some well-arranged mixed borders planted with Antirrhinums, Phloxes, Pentstemons, and the showiest of herbaceous plants, a class which has always found a place here. These are backed up by Dahlias and Hollyhocks, the borders being divided from the kitchen-garden quarters by rows of Sweet Peas. The heavy loam of this garden is peculiarly adapted for the Hollyhock, and I have never seen such spikes in England as those with which Mr. Thom used to carry off the principal prizes at Kelso fifteen years ago. I noticed one border which used to be devoted to the show Dahlias. It was now filled with Gladiolus and Carnations, both of which were doing well, the Gladiolus being a healthy

even lot. My first question was, Are these imported bulbs? "No, I have bought none for three years," and yet, strange to say, the soil is not what is generally considered suitable to this plant, being a somewhat heavy loam. The bed is raised considerably above the surrounding level, so that the bulbs have every chance of ripening well. The soil is also a good loam for Grapes and every description of stone fruit, the flavour of the Grapes being unsurpassed.—J. Douglas.

CALIFORNIAN CONIFERÆ.

Commencing in the southern part of the State, we meet in her littoral belt, a little north of San Diego, a small species of Pine, known to botanists as Pinus Torreyana. I have thus far not been able to learn its vernacular name.

The trees are small and few in number: they resemble most the so-called Digger Pine (P. Sabiniana) of our interior valleys. The leaves are in fives and pretty long.

The seeds are about as large as those of P. Coulterii. The locality mentioned is the only one known. It has not been tested long enough in our gardens to know what may be expected of it as an ornamental tree. In a practical point of view it is unimportant.

Going northwards and keeping close to the sea coast, we find at San Simeon Bay, at Monterey, and at a place a little south of Pescadero, the so-called Monterey Pine (P. insignis). The latter-named place is its most northern limit. It seems to occur only on the immediate coast, on bituminous slate. Monterey is the oldest seaport and the oldest point where botanists began their labours in California. Already, towards the close of the last century, it was visited by Menzies, an English botanist. Our species in question, being variable in the form of its cones, and the form of cones being one of the chief characters relied upon in a botanical description, gave rise to quite a number of synonymes.

In Captain Beechey's work we find it figured under the name P. Sinclarii. Later, it is again described by Loisleur, and called P. californica. Don described it even twice, calling it one time P. radiata and another time P. tuberculata. The name P. insignis, given to our species by Douglas, who visited Monterey in 1830 or 1832, is the one now generally used. The name cannot be considered as settled; for according to the laws of nomenclature adopted by botanists, it must retain its first name, P. Sinclarii.

This species attains a height of 80 to 125 feet, and a thickness of 2 to 4 feet. In old age its shape is very irregular and anything but beautiful. Its cones, three to five in a whorl, are persistent for many years. The leaves are in threes. Its timber is of little value when better can be had. In dry protected places it is pretty durable; but exposed to the vicissitudes of climate, it perishes soon. The tree, when young, is undoubtedly beautiful. It is extensively found in our gardens, and is known to every one as the Monterey Pine.

Mixed with the species just treated of we find another two-leaved one, P. muricata. The vernacular name in the southern portion of the State is Bishop Pine; in the northern, Pitch Pine. It occurs near San Luis Obispo at an altitude of 3,000 feet; near the Mission La Purissima, where it forms a small grove near Monterey, as just mentioned, sparingly; near Tomales Bay, scattered over hills; facing the ocean; near Point Arenas; also at the Albion River, extending northward to the Ten Mile River (Mendocino county). Its cones are in whorls of two to four, persistent for many years. Some trees, 2½ feet in diameter, had cones on the lower branches partially overgrown by the bark. In some trees we find a series of cones of twenty-five or thirty years. This species has not yet found its way into our gardens. When young it is beautiful, and apparently of a quick growth. The old tree is irregular in outline, mostly weather-beaten and unsightly. It attains a height of 50 to 80 feet. Its wood is fit for fuel only.

At the Albion River P. muricata is mixed with another two-leaved species of Pine, P. contorta, *Dougl.* (P. Bolanderi, *Parl*). It attains a height of 30 to 50 feet. On the upper drier portions of the so-called plains of that region it bears cones when it is about 5 feet high and 1 or 2 inches thick. The cones, several in a whorl, are also persistent for many years. Its small size and slender upright branches, its short and densely set bright green leaves, render it desirable for ornamental purposes. It evidently requires a sandy soil, whether wet or dry; it grows in both as its natural haunts. In the vicinity of Fort Bragg this species forms a perfect barrier and shelter against wind and drifting sand. Nature here hints at a remedy for us. This species used with the Monterey Pine and Cypress, would protect our city from drifting sand and fix the sand and soil. The people in that section of the country have no vernacular name for it. In any other point the tree is unimportant. It extends along the coast northward up to Alaska. On the sierras it occurs between 3,000 and 11,000 feet, descending, however, gradually to the north. This gradual descendance of all our trees on the sierras towards the north is readily explained; yes, it is self-evident. On the sierras, opposite Visalia, our big trees set in at 8,000 feet altitude. The Mariposa big tree is found to be 6,500, and the Calaveras 4,700 feet above the level of the ocean. On the sierras, P contorta or Twisted Pine grows on the banks of streams, on wet and moist flats, and in the higher portions of the mountains on moraines. Here it attains a height of 150 to 200 feet, and a thickness of 3 to 4 feet. Its outline is strictly cylindrical. Its wood is, owing to the frequent storms on the mountains, twisted, and therefore hard to split. It is principally used for building log houses and railway ties. The vernacular name applied is Tamarack. The application undoubtedly arose from the resemblance in form and habitat this species presents with our eastern Larch (Larix americana, Tamarack, Hackmatack) growing chiefly, if not exclusively, in swamps. The identity of the coast and mountain form is not altogether safely established.

Receding from the coast towards the east, we meet on dry hillsides a small tree, generally known as P. tuberculata. It attains a height of 20 to 40 feet, and a thickness of 10 to 20 inches. Its outline is conical. The leaves are in threes and the cones persistent. In gardens it does well, and as an ornamental tree is preferable to the Monterey Pine. I have not been able to learn its vernacular name. Being small and unsightly in its natural haunts, farmers never made any use of it, and therefore give it no vernacular name. It occurs on the coast mountains on the road to Santa Cruz, on the Oakland hills, on the mountains around Ukiah, on the Red Mountain, Humboldt county; also near Forest Hill, at Cape Horn, and further up near Alta in the dry slopes of the canon of the American river. In most cases this small tree forms a small grove by itself. After the trees have attained a height of 20 to 40 feet they die and decay.

Continuing our march eastward, we next meet, although sparingly at first, our well-known Yellow Pine (P. ponderosa). This species attains a height of 150 to 250 feet. Its form is cylindrical in outline. The branches are short and generally deflexed. The leaves are in threes and cones deciduous, falling every winter to the ground after they have opened (about the 1st of September) their scales to allow the seeds to be spread by the winds. In gardens it cannot be called an object of great beauty. But on the higher mountains, where it developes its full colossal growth, it is certainly a grand object to behold, and I can well see why Douglas called it ponderosa, the mighty. Generally speaking its timber is rather inferior, being too coarsely grained, and therefore subject to early decay. It must be mentioned, however, that there is considerable difference in the quality of the wood in different localities, yes, even in trees standing side by side. The timber from Truckee, so called Truckee Pine, belongs entirely to this species. The species in question is one of the most widely distributed trees of the western coast of North America. It grows on all higher and drier points of the coast ranges, and it descends even into their dry gravelly valleys, as is the case a little north of Ukiah, Mendocino county. It occurs on the Sierras from 1,500 to 9,000 feet, in great abundance; in fact, it is the principal component of that mighty belt of timber extending from south to north along the western slope of the sierras, between 2,000 to 7,000 feet, a belt of timber whose equal cannot anywhere elee be found. It extends from the Colorado north throughout the Rocky Mountains, and occurs also in the higher mountain ranges of the Great Basin. Its northern limit is unknown. This immense diffusion over so large a territory, exhibiting so many different expositions and climatic differences, must naturally cause a great variation in form and size of the tree and in the quality of its timber. Its very botanical history proves this assertion, for there are few trees that have more synonymes than the one in question. Besides the name above given there are the following synonymes: P. Engelmanni, P. brachyptera, P. Benthamii, P. deflexa, and P. Jeffreyi. The cones of trees in a dense forest are usually small, while those of isolated trees standing in alpine meadows or on bare rocky slopes of mountains, or on wide sandy plains

(Mono Lake), are from four to six times larger. This larger size of the cone is perhaps due to the intense reaction of the atmosphere caused by bare rocks, wet meadows, and dry sand. Considering the quick radiation of heat in such localities towards evening and shortly after sunset, which cools the air and causes a heavy dewfall, we may be able to understand this phenomenon.

Ascending the highest points of the Coast Ranges, we meet the well-known Sugar Pine, P. Lambertiana. But the Sugar Pine of the coast ranges is not that colossal structure of the higher or rather middle sierras. Its beauty, size, and length of cones are inferior. This tree yields an excellent timber, and attains a height of 150 to 200 feet. The outline is cylindrical, the branches are short, dense, and much divided into spray. A characteristic exception, make the topmost branches, which spread in a loose irregular manner, almost horizontally. These are the cone-bearing branches, which attract the attention of everybody by their clusters of pendulous cones, 15 to 18 inches long. The cones open about September to emit their seeds, and fall then themselves during winter to the ground. This noble tree has its leaves in fives; they are comparatively short and of a glaucous green colour. It ranges throughout the entire length of the sierras north to the Columbia river between 4,000 to 10,000 feet. I have not yet observed it in any of our gardens. The resinous matter exuding from burnt spots of the trunk hardens into a whitish mass, sweet as sugar.

Descending into the more easterly valleys of the coast ranges we meet a very peculiar Pine, the Digger Pine (P. Sabiniana). This species attains the height of 40 to 60 feet and a thickness of 2 to 3 feet. Its outline is irregular; the trunk is generally low. Its branches are characterised by a few main leaders and by the paucity of their spray. The foliage is light and quite glaucous green. The leaves are in threes and the cones persistent, although not to the extent of some other species. The seed is the largest of all our Pines. The testa of its seed is very hard and bony. This species occurs in the driest portions of valleys and hillsides, even up to 4,000 feet of the sierras. It forms very seldom small groves. On account of its irregular form it is not a desirable tree for gardens. Its wood is useless except for fuel.

In similar localities we find growing with the Digger Pine, although less frequently, another Pine, P. Coulteri. This species attains the height of 30 to 50 feet, and a thickness of 2 to 3 feet. It has a broad oval outline. The branches and branchlets are thick and clumsy and few in number. The leaves are very long, bright green, and in threes. The cone is the largest produced by our Pines. It occurs at Pass Tejon, on the Santa Lucia mountains, and at Mount Diablo. In our gardens it does well.—(*Professor Bolander in California Horticulturist*)

DRAUGHT OF FLUE TOO POWERFUL.

If your correspondent "Viridis" banks up his fire with a mixture of sawdust and coal dust, using a larger proportion of the former than of the latter, he will be able to maintain a slow fire for a considerable time. The above fuel can be used in quantity, and yields comparatively little heat, so that there is no risk of scorching the plants with it. It will keep up a smouldering fire for nine or ten hours, and is occasionally very useful to deaden the fire. "Viridis" had, however, better take your advice and look to the draught from his ashpit door. It is surprising how little air a greenhouse fire often requires, an opening the size of a fourpenny-piece is frequently sufficient, as in the improved Arnott stove. I am the fortunate possessor of a flue with a tearing draught, but can always regulate it to a nicety by means of the ventilator in the ashpit door. A small pin is so fixed that the ventilator cannot be entirely closed by one-eighth of an inch, and this small opening admits air in sufficient quantity after the fire has burned up well. A few days ago, on looking at the fire for the last time at night, I found it roaring furiously, the door, &c., red hot, and soon discovered that the stopping round the door had fallen down and that air was admitted freely. I had no sawdust handy, so I smothered the fire with ashes.

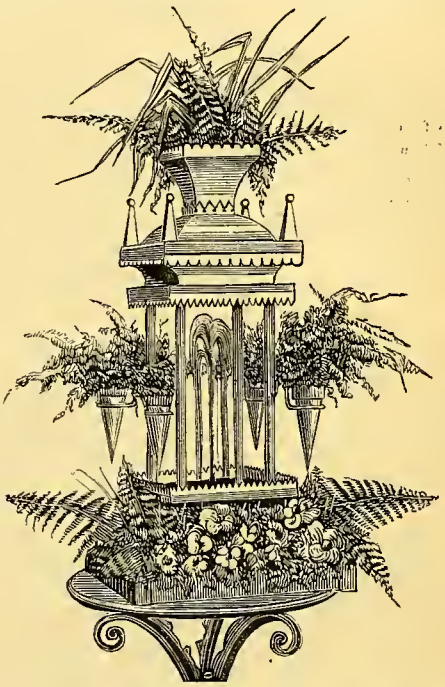
Many amateurs take much more trouble than is necessary with their greenhouse fires. I cannot now help smiling at my own care some years back. I used carefully to make up the fire between 10 and 11 P.M., visiting it again the next morning at 6 o'clock. For some time past I have banked up at 8.30 P.M., and not troubled myself about the greenhouse until a comfortable hour the next morning, feeling sure that though the fire might have burned out hours before daybreak there would be heat enough in the flue to exclude the frost, however severe.

In conclusion, I will just add that a continuous small fire can be more easily kept up if the furnace be not too large, as the fuel will lie in a compact mass.—John Marshall.

[We are very much obliged by your note. It is a great mistake to think that such "simple" information is not valuable; all success is secured by a knowledge of small facts.—Eds.]

SELF-ACTING PORTABLE FOUNTAIN.

My new portable table fountain will play from one to three hours, according to size. The top part acts as a cistern, and when the water has run out I unscrew the jet, screw it into the cistern and reverse, both top and bottom being alike. The



whole operation can be performed in half a minute without spilling one drop. The flower-vases are moveable for reversing. The idea is entirely original, as far as I know. I have never seen anything of the kind before. I took my idea from an hour-glass.—T. Wood.—(*English Mechanic and World of Science.*)

ROYAL HORTICULTURAL SOCIETY.

Report to the Council on the Permanent Exhibitions, and International Competition, 1871.

As regards the permanent exhibitions in the arcades of the Royal Horticultural Society, we have to report, that the display made by the several exhibitors has been examined by us on the first meeting day of each month, according to the conditions of the Society's Schedule, and speaking in general terms we may *state* that the exhibitions have been well kept up from the beginning to the end of the season. Mr. W. Paul, who has in our opinion earned the first place, had in the beginning of May a magnificent display of pot Roses, such as were probably never brought together before by one exhibitor, and we have proposed to mark their excellence by the special award of a gold medal. Mr. Paul also made an excellent display of cut Roses in May, June, July, August, and September, those in July being considered especially good; and these were supplemented by ornamental evergreens, and in their respective seasons by Lilies, Pelargoniums, Hollyhocks, Asters, &c.; while in September the collection contained some excellent pot Vines.

Messrs. Lane & Son occupy the next place, their exhibition being of a more miscellaneous character, made up in the main of fine specimens of hardy evergreens, enlivened in May and June by Rhododendrons and Azaleas, of which they had a good display. Later on we found a good collection of Ivies, and in September several very interesting Conifers bearing fructification.

Almost on an equality with this was the display made by Messrs Standish & Co., in which a more decided attempt at effective arrange-

ment has been fairly successful, and has been estimated in the award. This exhibition was made up of a miscellaneous background of evergreens, varied from month to month in the more prominent parts by groups or specimens of flowering plants, amongst which we may particularly mention Eucharis grandiflora, Anthurium, Bouvardias, and towards the close of the exhibition, Gladioli. A handsome bush of Skimmia oblata attracted a good deal of notice, and some of the novelties among Coniferæ received much attention from the foreign Jurors associated with us.

Mr. Wills's exhibition was of a different character altogether, consisting mainly of the class known as furnishing plants, and its chief merit consisted in the arrangement, which was the most tasteful and effective in the whole exhibition, though of much less extent than those previously adverted to. As part of this arrangement he had a revolving stand, which we consider deserving of special mention and approbation.

Messrs. Paul & Son's exhibition consisted mainly of Hollies, Conifers, and other evergreens, and was generally set off by cut Roses, and in September by a group of Vallotas.

Messrs. Kelway & Son showed only Gladioli, but they were of so much merit that we have proposed to award to them a Silver Flora Medal.

Deducting the cost of the medals, we understand that we are to allot £243 between the exhibitors, according to the total number of marks obtained, and, based on this understanding, we have made our awards as follows:—

Mr. W. Paul	285 marks	..	£72	10	0	and Gold Medal.
Messrs. Lane & Son	243 ,,	..	62	0	0	
Messrs. Standish & Co.	228 ,,	..	58	0	0	
Mr. Wills	98 ,,	..	25	0	0	
Messrs. Paul & Son	61 ,,	..	15	0	0	
Messrs. Kelway & Son	40 ,,	..	10	0	0	and Silver Medal.

Thomas Moore, *Reporter*.
Robert Hogg.
Maxwell T. Masters.

INTERNATIONAL EXHIBITION, 1871.

In the case of the international competitions it was ascertained that previously to the organisation of the Jury, to which we were appointed to act as Secretaries, certain foreign novelties had been exhibited at the meetings of the Society, and with a view to completeness we have here included the awards made to these subjects by the Floral Committee. Subsequently the awards have been made by an International Jury constituted in accordance with paragraph 4 of the annexed printed paper, which formed the instructions under which we have acted.

[Horticultural Department of London International Exhibition, 1871.

1. By a Minute of Council, dated April 6th, 1870, the following gentlemen were appointed, with the sanction of Her Majesty's Commissioners for the International Exhibition, to act as Permanent Secretaries of the Horticultural Section of the London International Exhibition, the management of which is vested in the hands of the Society—namely,

Dr. Hogg, F.L.S., for the Fruit Department.

Dr. Masters, F.R.S., for the Foreign division of the Floral Department.

T. Moore, Esq., F.L.S., for the Home division of the Floral Department.

These gentlemen have been accordingly deputed to carry out all the necessary arrangements, and to conduct all correspondence relating thereto.

2. Foreign Horticulturists may enter and exhibit novelties or any other objects of interest at any meetings of the Fruit or Floral Committee.

3. Such Foreign Horticulturists as may be accredited to represent their respective countries at the London Exhibition, or who may attend in the capacity of distinguished visitors, will be installed *pro tem.* as members of the Scientific Fruit or Floral Committee, and will be invited to join in their deliberations, conforming at the same time to the general regulations of the respective Committees, which require that members should retire while subjects in which they are personally interested are being adjudicated upon.

4. The Secretaries will form, *ex officio*, the nucleus of an International Jury for the adjudication of all Foreign novelties exhibited in this department; and in order that nothing of importance may be overlooked, or may fail to receive full consideration, they will at each meeting during the season (May to October) invite the assistance of such members (Home or Foreign) of the Fruit and Floral Committees respectively as may be known to be authorities on the merits of the particular classes of flowers or fruits to be exhibited.

5. The Permanent Exhibitions will be judged in the manner already indicated, so far as the conditions will admit. They will be examined at the first meeting in each month (May to October), and marks will be recorded at each examination in favour of the meritorious features of each competing exhibition, which marks will be summed up at the end of the season, and the rewards distributed accordingly. In addition to this, a medal may also be awarded to any exhibitor for any specially meritorious display noted during the season.

6. The awards made to novelties shown by Foreign exhibitors will consist of the usual certificates (First and Second-class) granted by the Society for similar subjects.

7. When Foreigners exhibit in the classes defined in the Society's Schedule, they must conform to the general regulations, but those who compete successfully may, if they desire it, on notification to the Secretary, obtain Medals instead of the Money Prizes.

8. The Prizes awarded for the Permanent Exhibitions, as well as those to foreigners for Special Exhibitions, *hors de concours*, such as (1) Groups of New Plants, Orchids, Palms, Apples, Pears, or any similar prominent subjects; (2) Miscellaneous or mixed Groups of Plants, Flowers, or Fruits; or (3) Remarkable Individual Specimens, will consist of Medals. Those who may desire to commute the Medals for Money or Articles of Value, must notify the same to the respective Secretaries before the close of the season.

9. In forwarding objects for exhibition (especially flowers or perishable fruits), when they are not accompanied by a person in charge, exhibitors are advised to take especial care to forward the bill of lading in due time to the Assistant-Secretary, James Richards, at the Society's Offices, South Kensington, as in default of the receipt of this document delay has already in some cases taken place in the delivery of perishable objects sent for exhibition.

10. In all other respects, and in so far as they apply, foreigners will be guided by the general regulations of the Society's Exhibitions, as printed in the Schedules. By Order of the Council,

Henry Y. D. Scott, C.B., Lieut.-Col. R.E.,
Secretary to the Royal Horticultural Society, and to Her Majesty's Commissioners of the Exhibition of 1851.]

The awards made on the respective days of meeting have been as follows:—

April 19th.

Silver Flora Medal to M. Van Houtte, Ghent, for a fine group of new Indian Azaleas.
First-class Certificates to the same for Azalea Comtesse de Beaufort.
Azalea President Ghellinck de Walle.
Azalea George Loddiges.
Azalea Alice.
Azalea Marquis of Lorne.
(The certificates awarded by Floral Committee.)

May 3rd.

Silver Floral Medal to M. Dallière, Ghent, for group of Palms and other plants.
Second-class Certificate to the same for Azalea La Reine.
(Awarded by Floral Committee.)

June 7th.

Silver Flora Medal to M. A. Dallière, Ghent, for a group of twelve Palms.
for pair of pyramidal Bays.
Bronze Medal to M. Linden, Brussels, for group of Japanese Acers.
First-class Certificate to the same for
Xanthosoma Lindeni.
Dracæna lutescens striata.
Acer palmatum crispum.
Acer palmatum roseo-dissectum.
To M. L. Jacob-Makoy & Co., Liege, for
Lycopodium dichotomum.
Lycopodium mandioccanum.
Lycopodium taxifolium.
Tillandsia Morreniana, subsequently published as T. staticeflora.
Second-class Certificate to M. Linden for Epidendrum paniculatum.

June 21st.

First-class Certificate to M. Linden for Verschaffeltia melanochætes.
Thrinax elegantissima.
Calamus sp. Menado.

July 5th.

Silver Flora Medal to M. Linden, Brussels, for
Collection of Orchids.
Collection of Dioscoreas (new).
Collection of Marantas (new).
To M. A. Dallière, Ghent, for Collection of finely grown Marantas.
Bronze Medal to M. A. Dallière, for Collection of greenhouse plants.
To M. Jos. Hermans, Herenthals, for cut Roses.
First-class Certificate to M. Linden for
Alloplectus vittatus.
Dioscorea chrysophylla.
Dioscorea prismatica.
Dioscorea Eldorado.
Dioscorea meleagris.
Dieffenbachia imperialis.
Maranta Mezellii.
Maranta Wallisii discolor.
Epidendrum Frederici-Gulielmi.
Second-class Certificate to the same for Aralia japonica aureo-reticulata.

July 19th.

Silver Flora Medal to Mr. Wendland, Herrenhausen, for Æchmea Mariæ Reginæ.
To M. Jean Verschaffelt, Ghent, for Group of twelve Agaves.
Twelve standard Orange trees.
First-class Certificate to M. Wendland for Æchmea Mariæ Reginæ.
To M. Jacob-Makoy & Co., Liege, for Tillandsia complanata.
To M. J. Verschaffelt, Ghent, for
Zamia sp. nov. New Caledonia.
Dicksonia sp. St. Catherine's.
Encephalartos Vroomii.
Agave sp. nov.
Agave Regelii macrodonta.
Agave Mescal fol. variegatis.
Agave elegantissima.

September 6th.

First-class Certificate to M. J. Verschaffelt for
Agave Celsiana albida.
Agave Toneliana.
Agave Mescal nigrispinis.
Agave dealbata compacta.
Second-class Certificate to the same for Agave dealbata compacta angustifolia.

The following foreigners of distinction have assisted in making these awards:—

Dr. Regel	M. Wolkenstein	M. Glover
Prof. Koch	M. Linden	M. Doucet
Prof. Morren		

And the services of the following members of the Floral Committee, in addition to the Secretaries, have been rendered:—

Mr. H. J. Veitch	Mr. J. Fraser	Mr. C. Pilcher
Mr. W. B. Kelloch	Mr. J. Standish	Mr. C. Penny
Mr. W. Bull	Mr. C. Green	Mr. F. P. Smith
Mr. C. Lee		

Thomas Moore, *Reporter*.
Robert Hogg.
Maxwell T. Masters.

Pomological Report.

Although it was late in the season before it was decided upon to hold an International Fruit Show, the success which attended that which took place on the 4th of October exceeded the most sanguine

expectations. If a longer notice had been given, and more time afforded to have communicated with the fruit-growers of other countries, the exhibition would, no doubt, have been much more extensive than it was; but even with the short notice no less than upwards of 1500 dishes of fruit were exhibited. From almost all parts of the southern counties of England collections more or less meritorious were produced, and notably among these were upwards of one hundred varieties of Apples from Messrs. Lucombe, Pince, & Co., of Exeter; 130 varieties from the gardens of W. Egerton Hubbard, Esq., of Leonardslee, Horsham; 171 varieties from Mr. Wm. Paul, of Waltham Cross; and very considerable collections from the gardens of H. Allsop, Esq., Hindlip Hall, Worcester; Richard Webb, Esq., Culham House, Reading; Alfred Smee, Esq., F.R.S., Carshalton; J. H. Houblon, Esq., Hallingbury Place, Bishop Stortford; H.R.H. The Prince of Wales, at Sandringham; D. W. Digby, Esq., Sherborne Castle; Messrs. Rivers, of Sawbridgeworth; Messrs. J. & C. Lee, of Hammersmith; and many others whose collections were not so numerous.

In Pears the Exhibition was equally rich; the same exhibitors being found in this class of fruit as in the Apples, with the addition of very choice specimens from the gardens of Lord Eversley, at Heckfield; E. P. Shirley, Esq., Lower Eatington Park, Stratford-on-Avon; and William Thompson, Esq., Ilford.

The only foreign exhibitors were Messrs. Baltet, of Troyes, who contributed much towards the interest of the Exhibition, both in the quantity and quality of the Apples and Pears they exposed. Of Apples there were 150 varieties, and of Pears upwards of 300; and these were, without doubt, the finest contributions to the Show of that description of fruit.

In Grapes the Exhibition was such as never to have been equalled on any previous occasion. The collections of Messrs. Lane & Son, of Berkhampstead; of Mr. Meredith, of Garston; of the gardens of the Society at Chiswick, together with the minor exhibitions from the gardens of Lord Bagot, Blithefield, and other private gardens, combined to illustrate Grape-growing as practised in this country in a manner which cannot be surpassed, and is rarely equalled.

From the gardens of Lord Carrington, Wycombe Abbey, there came a Smooth-leaved Cayenne Pine, weighing 9¾ lbs., from a plant nineteen months old; and Mr. Terry, of Peterborough House, Fulham, sent three Queen Pines, weighing respectively 4 lbs. 6 ozs., 4 lbs. 11 ozs., and 5 lbs.; while from Earl Vane's garden at Wynyard Park there was a fine specimen of the same variety which weighed 5 lbs. 13 ozs.

The awards which were made on this occasion were:—

Class 1.—The most complete Collection of Apples, three Fruits of each Variety.—1st, William Paul, Paul's Nurseries, Waltham Cross, gold medal. 2nd, Messrs. Baltet Frères, Horticulteurs, Faubourg Croncels 14, Troyes, France, silver gilt medal. Extra, Mr. C. Chaff, Wallington, Carshalton, Surrey.

Class 2.—Collection of Dessert Apples, three Fruits of each Variety.—1st, Mr. C. Chaff, silver gilt medal. 2nd, Mr. R. Webb, Culham House, Calcot, Reading, large silver medal.

Class 3.—Collection of Culinary Apples, three Fruits of each Variety.—1st, Mr. S. Ford, gardener to W. E. Hubbard, Esq., Leonardslee, Horsham, Sussex, silver gilt medal. 2nd, Mr. C. Chaff, large silver medal.

Class 4.—The most Complete Collection of Pears, three Fruits of each Variety.—1st, Messrs. Baltet Frères, Troyes, France, gold medal. 2nd, Mr. C. Chaff, silver gilt medal. Extra, Mr. E. Spivey, The Gardens, Hallingbury Place, Bishop Stortford, Essex.

Class 5.—Collection of Dessert Pears, three Fruits of each Variety.—1st, Messrs. Baltet Frères, Troyes, France, silver gilt medal. 2nd, Mr. A. Moffat, gardener to H. Allsop, Esq., Hindlip Hall, Worcester, large silver medal.

Class 6.—Collection of Kitchen Pears, three Fruits of each Variety.—1st, Messrs. Baltet Frères, Troyes, large silver medal. 2nd, Mr. W. Earley, The Gardens, Valentines, Ilford, Essex, bronze medal.

Class 7.—Collection of Grapes, two Bunches of each Variety.—1st, Messrs. H. Lane & Son, gold medal. 2nd, Mr. J. Meredith, silver gilt medal.

Class 8.—The Largest Bunch of Grapes.—1st, Mr. T. Bannerman, silver medal. 2nd, Mr. P. F. Le Sueur, bronze medal,

Class 9.—Collection of Oranges, Lemons, Citrons, Limes, &c.

Class 10.—Miscellaneous Fruit, not mentioned in either of the above. Extra Prizes.—Mr. W. G. Pragnell, Castle Gardens, Sherborne, Dorset, Collection of Fruit. Mr. W. Jones, gardener to Earl Vane, Wynyard Park, Co. Durham, one Queen Pine Apple. Mr. G. T. Miles, gardener to Lord Carrington, Wycombe Abbey, Bucks, one Smooth Cayenne Pine. Mr. T. Jack, gardener to the Duke of Cleveland, Battle Abbey, Sussex, eight dishes of Peaches. Mr. A. Moffatt, three Melons.

Robert Hogg.

FRENCH DESCRIPTIONS OF ROSES.

I find that Mr. A. Kent has disputed the correctness of the translation which I have always given of the words "*belle tenue;*" and although I felt convinced that my version of it was correct and as likely to be so as Mr. Kent's, yet I thought it better to be on the safe side. I therefore wrote to my friend M. Guillot fils, of Lyons, to know what he meant by it. Here are his words—"*L'explication que nous donnons à nos Roses, au mot belle tenue, cela veux dire que le pédoncule est ferme, et que la fleur se tient drôite.*" I hope Mr. Kent will not be offended if I protest against endeavouring to retain the French expression "remontant" instead of Hybrid Perpetual. Granting that the latter is an unfortunate one, it is too late now to alter. "Fancy," as a good rosarian wrote to me, "saying to one's garden boy, 'Jack, water those remontants.'" Many abortive attempts have been made to alter existing names, but custom is too strong, and Hybrid Perpetual will remain to the end. —D., *Deal.*

BEST ROSES IN IRELAND.

I have read with interest the various notices of Roses in your Journal for the past season, and remarked with surprise the comparatively low position and small attention given to Fisher Holmes, which I can only account for by suitability, or the contrary, of the soil it is grown in. La France, Marie Baumann, Baroness Rothschild, and others have blown peculiarly well amongst a considerable lot of healthy and luxuriant plants here; but Fisher Holmes, for beauty of shape, colour, richness, and consistence of petals, has far exceeded all others, not only in my estimation, but in that of the best growers of this district. In fact, all admit it to be about the best Rose they know. The soil here is a warm sandy loam.—Samuel Riall, *Annerville, Clonmel.*

CUT FLOWERS IN WATER.

In an article, taken from the "Florist and Pomologist," in last week's Journal, Mr. Forsyth refers to the unpleasant smell from water in which cut flowers have stood for some time. Now this great objection to cut flowers so preserved in invalids' rooms may be obviated by putting a small teaspoonful of sulphate of iron (copperas) in every pint of water. The only effect this will have is a beneficial one on bloom and foliage. A few drops of Condy's disinfectant fluid, or a few grains of permanganate of potass, will answer the same purpose, used in the same manner.—Far West.

ICE STORING.

Sufficient ice in good clear condition was secured last week to last the whole season. It is seldom that we can collect ice clean enough for putting in water or wine, as we have only ponds of small size. Most of the country ice will not bear comparison with Wenham Lake, ice nor will it stand exposure so long, as the blocks are much smaller. For consolidating such things as butter in summer, ice is very advantageous, but neither vegetables, meat, nor fish can be long kept fresh by ice without deteriorating in flavour.

Most people now have ice-preservers. Some are made of wood inlaid with cork, and have a double top, with a tap at bottom to let off what water collects. I think nothing better than a double box or barrel, with an empty space of some 2 inches between the two vessels made air and water-tight. In such vessels ice will keep a long time, and be most useful for cooling wine and other things. In all cases where the ice is not pure enough to be used in lumps, it is a good plan to have a vessel of tin or zinc—I prefer the latter as being free from rusting—and place it near the centre of the tub with a small pipe passing from near the bottom through the tub, and furnished with a small tap outside for drawing off the iced water.

In storing the ice last week I did not pound it so much as is usually done, because I have often found that if there is just enough of well-broken ice to pack the larger pieces firmly, without leaving air-spaces between them, it keeps as well as when a double or treble pounding has been given. Collecting the ice clean is of more importance than extra pounding, as every bit of wood, mud, or litter acts as an air-holder.

For many years I have never used anything for covering the sides of the ice-well, or the surface of the ice when the house is nearly full. I object to straw, chiefly because as soon as it gets damp, vapour is given off, which tends to melt the ice. If we had to open the ice-house several times a-day instead of for large quantities two or three times a-week, then a dry straw covering on the surface often renewed—especially if there were a small air-pipe above the covering to allow any moist vapour to escape—would be an advantage.

Ice will keep all the better if placed together in good large quantities, say from fifty to a hundred loads or more, as a few loads will melt away sooner in proportion. We would have little faith in an ice-heap out of doors, however well protected, that did not contain from twenty to thirty loads. Whether in heaps out of doors or in a house, it will keep all the better if exposed to severe frost before being covered over or shut up. For a covering out of doors nothing is better than dry tree leaves put on at different times, so that they may not become damp, and heat. I remember a case of an ice-heap carefully

made that melted away from being covered over with oat straw to a depth of 18 inches. The straw had been imperfectly threshed, and mice and rats so hunted after the grain left, that the rains penetrating by the holes, made the covering damp, set it heating, and the ice soon disappeared. Even when heating does not take place, ice-stacks out of doors are liable to have rat-holes made in the covering, through which the warm air obtains rather too free an entrance. I believe that the heating of the covering is the chief reason why farmers who have tried ice-heaps for various purposes, have so often failed. The covering should be dry and put on twice or thrice instead of all at once. From 24 inches of dry straw or leaves ought to keep out any heat of our summers.

Not choosing the position either on a mound or a steep incline, so that no water can stand near the ice-heap, is another cause of failure. When once double walls and double roofs, with a space of confined air between them, come to be rightly valued as non-conductors of heat, it will be quite as common to see an ice-house above as below the general surface of the ground.—R. F.

PHŒNIX DACTYLIFERA—THE DATE PALM.

I wish to draw the particular attention of both amateurs and gardeners to the merits of this plant, as it is an excellent subject for decorative purposes, independently of the immense benefit which man derives from it.

The genus Phœnix is distributed over northern Africa and tropical Asia, although one or two species seem to have strayed from their original home, being found in south-eastern Africa. All the species have long pinnate foliage, the lower pinnæ in some of the species being reduced to mere stout spines. Some have tall and stout stems, whilst others are dwarf, and in some instances stemless. The plant under consideration belongs to the arborescent section, and although numerous varieties are distinguished by the Arabs, and each named after some peculiarity, in every case it is a tall handsome tree, attaining a height of from 50 to 80 feet, bearing an immense quantity of nutritious fruit, and yielding most of the articles of life necessary to the Arabs and their domestic animals.

Phœnix dactylifera—the Date Palm.

I have remarked that stating the height which Palms and various other tropical trees attain, often has the effect of deterring many from commencing their culture. This is because they imagine they cannot accommodate them, quite forgetting that under cultivation it frequently takes very many years before the plants reach their greatest altitude. And so it is in this case; when about three years old the Date Palm is an elegant plant for the dinner-table, and the remarks it excites among the guests upon its products and their application might conduce considerably to the entertainment of a number of intelligent persons. Then for an amateur who desires a good window plant, here is Phœnix dactylifera, which will grow and thrive in a sitting-room, and will always have a cheerful effect. As it increases in size our fair readers may wish to have it removed for something smaller, but it by no means follows that the plant must be discarded. It will form a magnificent ornament for the hall or the landing upon the top of the staircase during the winter months, and in summer it may be planted, or rather plunged, out of doors in the garden, either as a single specimen on the lawn, or as the centre of a group of broad-foliaged plants, in which positions it will be at home, and very much enhance the tropical appearance of the summer garden. I must, nevertheless, not ignore its beauties as an in-door plant, for if grown in a stove it affords a pleasing contrast to other subjects—those having gay flowers, or those whose chief attraction is the ornamental character of their leaves—and when well grown it is a telling plant either in a collection of Palms or a mixed collection of stove and greenhouse plants.

Much more could be said respecting this most interesting Palm, but I must conclude this brief summary with a few remarks upon its cultivation, and this to anyone having a little acquaintance with plants will be found of the simplest character. The soil I prefer for potting is half loam and peat, with a liberal allowance of sand, and if a little fine cocoa-nut fibre refuse can be added it will materially encourage the roots. Soil such as that described, good drainage, plenty of water, and stove heat, are the leading features of the system I adopt with Date Palms until they are about three years old, at which time they should have assumed their normal state, and be neat little plants, with several of their distinct-looking pinnate leaves fully developed. Some may then be gradually inured to the temperature of the greenhouse, and when this is effected they may be used for window decoration, or any other purpose, in a low temperature, as the taste of the owner may dictate. The others, if required for stove decoration, or if it is essential that they should be grown quickly, may be kept in the hothouse, supplied with an abundance of water, and repotted from time to time as may be necessary.

I have found that as the plants increase in size it is beneficial

to decrease the quantity of peat, and substitute loam for it. For old plants about one part of peat mixed with three of loam forms a very good and nutritious compost, in which not only the subject of the present paper, Phœnix dactylifera, but the other species of the genus in cultivation, will be found to flourish.—Experto Crede.

A GOOSEBERRY DISEASE.

Æcidium (Persoon), a genus of plants belonging to the natural family of Fungi, or the Mushroom tribe, and to the class Cryptogamia of Linnæus. This Fungus consists of small membranous sacs or protuberances, which are found parasitic on the leaves, bark, fruit, &c., of several plants; such as the Fir, Violet, Berberry, Hawthorn, Primrose, Nettle, &c. The membrane forming the sac has received the name of peridium. It pierces the bark or epidermis of the leaves, and encloses very minute dust-like seeds or sporules, which are ultimately discharged by an opening in its side or summit. In consequence of the seeds being contained in a membrane, the genus has been referred to a division of Fungi that has been denominated Angiocarpi. There are upwards of thirty known species of the genus, and they receive their names from the plants on which they are found. Link has divided this genus into three sub-genera, the Æcidium properly so called, the Rœstelia, and Peridermium. The Æ. cancellatum here represented belongs to the second of those divisions. It is often found on the leaves of Pear trees. To the third division belongs the Æ. pini, remarkable for being the largest species, and for growing not upon the leaves but upon the bark of the Pine tree. They vary in colour. The species that grow on the Gooseberry and Berberry leaves are red; that found on the Scotch Fir is yellow, and that on the Meadow Rue bright orange. The Æcidia cause considerable deformities in the plants on which they grow, and some of them are decidedly injurious and poisonous. The Gooseberry Æcidium is said frequently to destroy the young fruit of that plant, which we are quite satisfied to believe; the species found on the Berberry has been stated, though perhaps erroneously, to be hurtful to corn growing near it; but as some of our horticultural friends may be desirous to know how to subdue this pest, and eradicate it from their Gooseberry plantations, I will give my experience on this point, and how I have gained a perfect cure. In 1868 and 1869, about one-third of the fruit here (Mouswald Gardens, Dumfries, seat of Sir James J. Reid) become blotched very much by this fungus. I give the ground amongst the bushes a liberal dressing with lime in the autumn, and syringed them over with a compound of alum 1 drachm, tobacco essence 2 ditto, flowers of sulphur ½ oz., common salt ¾ oz., all mixed in 3 gallons of rain water; this was done twice before the expanding of the leaf, and again as soon as the fruit appeared fairly set. This first destroyed the mycelium in the soil, and the syringing cleared the bark of its sporules; and my Gooseberry bushes are now free from all trace of fungus. — John Graham (in *The Gardener*).

Æcidium cancellatum,—*a*, a berry upon which it is seen growing in its natural size; *b*, leaf cut showing the part where the peridia are magnified; *c*, a full-sized leaf affected as the berry, appearing like a drop of red paint at a distance.

WORK FOR THE WEEK.

KITCHEN GARDEN.

The Celery ground will answer well for a new plantation of *Asparagus;* the soil should be ridged-up to mellow as the Celery roots are taken up. The best policy with *Lettuces* for the supply next spring, is to allow them to freeze tolerably firm before covering them up. A very light screen of straw should be shaken over them at first, and when this is frozen add a little more, the object being to keep them frozen as long as possible. Above all, do not uncover them when a thaw arrives, but let them remain until completely thawed. These remarks will bear equally on all other tender vegetables. The tool-house should always be in good order, and the tools clean and in good repair. Those with long handles should be hung upon the highest hooks or pegs, the others at convenient distances, finishing with the water-pots and other small-handled tools on the lowest hooks. Every tool or utensil should have its place and be put away clean when done with.

FRUIT GARDEN.

It may appear somewhat early to offer advice with regard to preparations for spring, but such is the pressure then that anything which can be done now to forward work should not be deferred. If it can be avoided let no alterations, planting, &c., interfere with the ordinary work at that busy season. All the pruning, excepting of Figs and Apricots, and most of the nailing of wall trees, as well as the training of espaliers, should be finished if possible by New Year's-day, and the same may be said of bush fruit. Making borders or stations for fruit trees should be autumn work; indeed, where new soil is to be introduced, September or October is the most fitting time, as the best of soils may be seriously injured by moving them in a wet state.

FLOWER GARDEN.

In favourable weather transplanting shrubs, trees, &c., should be carried on. See that all the principal and choice plants in this department have sufficient scope to develope their true character. There are few situations in a garden more interesting than a well-arranged shrubbery, where every plant from the largest to the smallest had sufficient room to form a perfect specimen. Collections of shrubbery plants appear to be much less attended to than their true merits entitle them to. Little can be done now except by way of preparation. Should the present frosty weather continue it will afford an opportunity of having all the compost heaps thoroughly frozen. By repeatedly taking off the encrusted surface and piling it up every morning, many of the insects and their eggs will be destroyed. It will also be a good time to cut turf sods, peat, &c., and to lay in a

good stock of soils most essential for the growth of various plants and flowers. If leaden pegs are used for layering Carnations (and these we should always recommend in preference to Bracken or Fern), a fresh stock may be prepared and the old ones cleaned and straightened. If the florist can mend his own hand-lights and shades, this ought now to be done, and the metallic wire which has been used for attaching the stems of Carnations or Tulips to their supports, should be made ready for use and stored away in its place till the returning season renders it necessary. Rabbits during severe weather will be apt to attack Carnations and Pinks; it would be worth while to try the plan of dipping small square pieces of cloth into brimstone, tying them to sticks, and inserting the sticks in the ground round the beds.

GREENHOUSE AND CONSERVATORY.

Camellias now swelling their flower buds will require a liberal supply of water. When they are planted out in the open border of a conservatory, regard should be paid to their state of moisture. If any signs of overdryness be apparent, get the soil forked-up as deeply as the situation of the roots will permit, and give them a good soaking of soft or rain water. Two or three of such applications at short intervals will do no harm, provided the flower buds are fast swelling. The same kind of treatment may be given to many plants in similar circumstances. In the greenhouse a free admission of air at all times, if the weather is favourable, will be advantageous, at the same time care should be taken to prevent as much as possible strong currents of dry cold winds from passing through the house, as they are invariably injurious to vegetation. A few of the earliest and strongest Calceolarias, Cinerarias, and Geraniums used for forcing may now have their final shift, giving either 6 or 8-inch pots according to the size of the plants. After potting, let the shoots of the Geraniums be carefully pegged down as near as possible to the rim of the pot without breaking. They will require to be sparingly watered for a time, and placed as near the glass as possible. The general collection of Geraniums should now be stopped-back for the last time, unless required to flower very late in the season. Azaleas which set their buds early, will soon come into flower if placed in a warm, moist temperature, and some of the early-blooming Rhododendrons require very little forcing to bring them into bloom at any time after this season. When, therefore, there is a good stock of these, and of Ghent and other hardy Azaleas well set for bloom, a portion of the plants should be placed in heat at intervals of about three weeks, and as they are very showy and last long in bloom, they will be invaluable. Winter-blooming plants in borders, such as Acacias and Luculias, must be well supplied with water at the roots, but plants which are a trest, especially deciduous plants, and such as are scarcely hardy in the temperature of the conservatory, cannot be kept too dry at the roots just now. Remove decaying leaves daily, and re-arrange the plants in bloom frequently.

COLD FRAMES.

These afford the best accommodation for the culture of all greenhouse plants in summer, but unless furnished with pipes, so that a little heat may be had to dry the atmosphere occasionally, and also to exclude frost, they are not fit quarters for many plants in winter. Plants which are impatient of damp will not bear being covered and shut up in severe weather, as must be done to exclude frost; and although, in mild winters, most greenhouse plants may with care be wintered in cold frames, still such plants as Boronias, Leschenaultias, Gompholobiums, &c., should be removed to safer quarters at once. Water cautiously, keeping rather on the dry side, but not to excess.—W. KEANE.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

LITTLE has been done except wheeling-out manure, and laying it down in lines. A good rubbish-heap supplies valuable manure, and should contain a large amount of litter and short grass to make it heat well, with earth to absorb the fertilising gases. A little salt is a good addition, and a little lime accelerates decomposition. It is always advisable to have several rubbish-heaps, and to cover the oldest one with soil; then leave it for some time before using it. We are careful of placing in it any plants or seeds which are likely to resist the influence of the heat and disseminate themselves as noxious weeds. Thus managed a good rubbish-heap is much better than manure taken from an open exposed yard.

Protection.—As regards protection, where there was no heat to cause growth, we did not uncover even in the coldest, dullest days. In some cases where litter was scarce, we broke the surface with a light fork night and morning to prevent radiation. When there was the likelihood of sunlight, frames with a little heat below them were partly uncovered, and a little air given at the top to dissipate condensed moisture. Protected hardy plants where there is no artificial heat, should not be exposed to the sun when the temperature is from 6° to 10° below the freezing point on the north side of a wall.

Cleaning Glass.—At no time when the weather is favourable is clean glass more important than now. If the water is heated a little the cleansing will be done all the more easily, using cloths and brushes. If anything interrupts it is well to wash the inside of the glass in preference to the outside, which can be cleaned down without taking off the sashes. Great care should also be taken not to break any glass now, and also to keep it clean, as much of the success of early crops depends on the transparency of the glass.

FRUIT GARDEN.

Preparations may be made for all kinds of planting where the ground is not too hard, but planting itself cannot be safely ventured upon in such frosty weather. Thinning and pruning may be freely proceeded with, but if any large branches are cut off it is well to daub the cut parts with clay or paint to keep out the wet and prevent decay. Dwarf trees may also be mulched to keep the roots near the surface, and root-pruning and replanting will thus be rendered almost unnecessary.

ORNAMENTAL DEPARTMENT.

Looked over and tied Azaleas and other plants. We do not like to see plants with more sticks than are absolutely necessary, and with a little looping and a ring of wire at the base, it is seldom that more than one stick is required. The right way is to conceal as much of the supports as you possibly can. Many plants in pits ought to be in houses, but we prefer that those which are in the pits should become somewhat dry instead of being exposed much to the air in such weather. Poinsettias and Euphorbias are in their glory, and Camellias opening well. Scarlet Geraniums, doubles and singles, have as yet yielded a fine mass of flowers. To have them at all good in the dark months, whether the plants are in 4, 6, or 10-inch pots, they should not be allowed to bloom much in summer and early autumn. Brought in plenty of soil for potting, so that it might become mellow, as much of the future health of plants and their freedom from insects will depend on the warmth of the soil used for potting. When the frost goes, the harvesting heaps of good soil might be proceeded with. We find that by building in narrow stacks we can always have the soil dry, when it is an easy matter to damp it if too dry. If there is a deficiency of good fibrous soil, it is a good plan to char turf at once on an iron plate or over a fire, and then expose it to sweeten well before using.

We would again remind our readers that it is better to cover a little, or even to let houses and pits get 5° to 10° lower in temperature in this severe weather, than give too much fire heat. Of course the plants must be kept safe, and except in the case of those blooming or swelling their buds, a comparative state of rest will be best, and if they are closer than usual, should be kept cooler. We are often surprised to see so large an amount of air admitted in cold weather, as we believe that less air and less artificial heat would be better for the plants, and they would be more able to endure and benefit by a bright sun. Looked over Achimenes, Gesneras, Gloxinias, Caladiums, &c., laid down in a dormant state. Now is a good time to place hardy shrubs, Roses, &c., in a gentle bottom heat, beginning with but little top heat.—R. F.

TRADE CATALOGUES RECEIVED.

Joseph Schwartz (late J. B. Guillot père), Rue du Repos 43, à la Guillotière, Lyon.—*Catalogue of Roses*, 1871-2.

Martin & Son, Cottingham, and 7, Market Place, Hull.—*Catalogue of Forest, Fruit, and Ornamental Trees, Shrubs, &c.*

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

ROSES ON THEIR OWN ROOTS (*E. T. H.*).—Roses on their own roots require great care for three years till their roots are strong. You will see select lists of thirty-six Roses in last and this week's Journal. From those lists you can select with safety. The easiest way to obtain Roses on their own roots is to buy them on the Manetti stock and cover the

point of union 2 or 3 inches with soil. They will require to be mulched in winter and summer to defend the young rootlets. In addition to those in my list, if you need more you may buy of *Tea Roses*—Adam, Souvenir d'un Ami, Madame Margottin, Adrienne Christophle, Madame Trifle, Marie Sisley, Madame Hippolyte Jamain, and Sombreuil. *Hybrid Perpetuals*—Souvenir de Dr. Jamain, John Keynes, Fisher Holmes, Madame Clémence Joigneaux, Baronne Prevost, Comte de Nanteuil, Duke of Wellington, Baroness Rothschild, Gloire de Vitry, Baron Adolphe de Rothschild, Madame Charles Verdier, Madame Charles Wood, Madame Knerr, Madame Jacquier, Comtesse d'Oxford, and Dupuy Jamain. *Bourbons*—Acidalie, Baron Gonella, Sir J. Paxton. The thirty-six named, and these, are all good growers and free bloomers.—W. F. Radclyffe.

Diseased Horse Chestnut (*W. Hartnup*).—The only remedy we can suggest for your tree is to scrape off all diseased bark and coat the injured parts with a mixture of slacked lime and soot of the consistency of thick paint. A mixture of tar and train oil has been recommended to destroy the larvæ of insects in forest trees. We would use Stockholm tar, as gas tar is injurious if not fatal to plant life.

Small Fruits for Wet Ground (*An Old Subscriber*).—Black Currants and Raspberries are the most suitable fruits for such ground. Celery would be the best vegetable.

Propagating Vines (*St. Asaph*).—If you have a glass frame and can make a hotbed of leaves and stable manure so as to obtain a gentle bottom heat, that would be the best place to start your Vine eyes. If you have not a frame you should raise them in the greenhouse; better plants are obtained from single eyes than from cuttings.

Syringing Azaleas (*Julia*).—At this season, or from the time the buds are set until after flowering, it is not desirable to syringe Azaleas, though syringing may occasionally be practised to free the leaves from dust. The plants should be supplied with water when the soil is dry, before the foliage becomes limp, and then enough should be given to show itself at the drainage.

Old Garden-wall Pointing (*G. R.*).—The best thing you could do would be to have all the loose old mortar picked out, and to repoint, filling up the face of the bricks, where broken, with Portland cement. Damp the brickwork or joints before pointing, which must be done in mild weather. Two parts of sand, one of lime, and one of Portland cement make a very good pointing material. The lime and sand should be made into mortar in the usual way, and the cement added and wrought up as required for use. To preserve the wall from destruction by nailing after the pointing, it would be well to have it wired, so as to dispense with nails and shreds.

Cosmos bipinnatus atro-purpureus not Flowering (*M. E.*).—The cause is probably the dull, wet, cold summer, and yet we do not remember seeing these plants in better foliage. Your treatment was quite right. The seeds require to be sown, and the seedlings forwarded, in gentle heat, and planted out in summer.

Pegging-down Gorse (*J. N. P., of York*).—The clump of Gorse having grown very tall and straggling you may peg down the shoots, layering them in the soil, and they will root if not very old. If they are old, and there is any difficulty in layering them, we should cut the plant down to within 6 inches of the ground, and it will push again strongly from the root. This is the way we treat ours, raised from seed and young shoots, and we have a fine dense mass in a year or two. The best time to cut Gorse is just after cold weather in March and up to April. Have you tried the double-flowered Gorse planted out from pots? We plant out ours at from 3 to 4 feet apart, and they meet in about three years; rabbits do not touch them. We plant in February or March.

Poinsettia pulcherrima Bracts Imperfect (*A Limerick Gardener*).—We presume they are twisted and curled—very often a result of bringing the plants forward too rapidly, and not affording sufficient air, with a light position, a moderate degree of moisture, and a temperature of 50° to 55° at night. If you have a little patience we think your plants will do better than you anticipate.

Cottage Gardeners' Society Rules (*T. T.*).—If you enclose four postage stamps with your address, and order No. 538 of this Journal to be sent, you will find a detail of rules, &c. A small stove with a funnel would warm your aviary.

Morris's Nonpareil Russet.—"W. K." wishes to know where he can procure trees of this Apple.

The Best Roses (*G. S., Rosarian, &c.*).—Several correspondents have written to inquire what is implied by the descriptive word "best," and we can perceive no difficulty in explaining it. The desirable qualities in a Rose are vigorous growth, free and successive production of flowers in the plant; fine form, size, fragrance, colour, and strength of petal in the flowers. Those Roses which possess all or the most of these qualities in the highest degree are "the best." Mr. Peach's list combining the testimony of many rosarians in widely-separated localities is by much the most reliable, for flowers commended by all these rosarians may most justly be expected to succeed in the garden of an intending purchaser. A great mistake is made by an amateur who concludes because a Rose is excellent in his garden that it will be equally excellent everywhere. We have seen Julee Margottin in Devonshire unsurpassable by any variety, and in a lighter soil in the east of England we have known it a miserable object which no culture would invigorate.

Seedling Geranium (*J. H. B.*).—Your seedling having the foliage of Golden Chain and double crimson-scarlet flowers is worth preserving and testing. We know of none like it.

Covering an Outside Vine Border (*J. Booth*).—As a rule we do not approve of covering outside Vine borders with glass; but in your case, if you had moveable lights to take off in summer, the enclosed space, if heated, would be useful for wintering bedding plants. More attention will be necessary in watering the Vines. Your Grapes are affected by mildew; this ought to be destroyed at an early stage of its development by painting the hot-water pipes or flue with flowers of sulphur, brought with water to the consistency of paint, taking care not to overheat the flue or pipes. When the disease has made much progress dust the bunches with sulphur, but we think then the cure is as bad as the disease.

Pruning Fruit Trees—Planting Asparagus, &c. (*A constant Reader*).—Your trained fruit trees newly planted should be pruned in spring as soon as the buds begin to move. Cut the young shoots back to two-thirds of their length; any weakly trees may be pruned-in closer. For a north-east aspect Morello Cherries would be the best, and only the hardy sorts of Pears and Plums. The beginning of April, generally speaking, is the best time to plant Asparagus, Sea-kale, and Globe Artichokes. They require light rich soil, well trenched, and thoroughly drained. Asparagus requires a large quantity of stable manure; as much ought to be trenched in as would cover the ground to the depth of 9 inches. If the ground will admit of it, trench it 3 feet deep, placing a good layer of manure at the bottom of the trench. Lay the ground out in 4-feet beds, with 2-feet alleys between. Plant in April one-year-old plants, at a distance of 18 inches from plant to plant. For Sea-kale the soil ought to be light and rich, but it does not require so much manure as Asparagus, nor does the ground require to be so deeply trenched. Plant in rows 20 inches apart, and 12 inches between the plants March is a good month to plant in; one-year-old plants are the best. Globe Artichokes are propagated by suckers, taken off with a portion of roots attached. Plant them 3 feet between the rows, and 2 feet apart in the rows. They are rather tender, and some rough litter should be placed round them as a protection in winter.

Saddle Boiler's Heating Power (*W. M.*).—The boiler 20 inches long, 16 wide, and 14 deep, would heat from 150 to 200 feet of 4-inch piping, but we would never heat pipes to near the boiling point. You had better have mere piping, and never keep the pipes above 170°. The proposed boiler will do all you require, if well set and well managed.

Stove for Orangery (*R. D. Long*).—We have used open charcoal stoves in emergencies, but always to the injury of everything at all tender. Why not have an iron or brick stove, shut up in the usual manner, with a pipe to take off the fumes, and then you may burn charcoal, coke, or cinders with safety?

Heating Pits (*Camjee*).—Much has been said in recent numbers, and also in the present on the subject. If we knew exactly what you wanted it for, we could advise better. In a small pit, a stove fed from the outside would keep out frost, and be cheaper than a flue. It will be an advantage if you can take the flue into the chimney of the greenhouse. All books with coloured plates are costly.

Boiler for 2000 Feet of Piping (*A. B.*).—As you find a saddle-back boiler answer so well, we would take that as a hint, and for the 2000 feet of piping have one of wrought iron 5 feet long. If you want much more piping heated the boiler should be larger. If you do not want all the 2000 feet well heated at once, then a 4 or a 4½-feet boiler might be sufficient—we should say 5 feet. Smaller boilers, up to 3 feet in length, we prefer to be of cast iron; when about 5 feet long we prefer wrought iron.

Pit and Flue (*B., Knowle*).—If you want your pit for propagating, the arrangement with sand over the flue would be best, with the side of the flue next the pathway. If for strong plants, the other would be best, without ashes between the flues. For such a narrow house—7 feet wide—for growing plants, we should have a pathway in the middle, a platform on each side, and a 6-inch-wide flue beneath the centre of the pathway. That would be quite sufficient to keep out frost. We are saying this in the belief that you can walk through your pit. If not, then the arrangement of a flue round close to the sides, with a floor all over them, would be better. If so, a flue 5 inches wide, inside measure, would enable you to keep up what heat you wanted. Merely to keep out frost, a flue 5 inches wide inside, once through the house, would be sufficient, but it is always well to have the command of heat, whether it be wanted often or not. For general purposes, the larger and wider the flue the less will it require to be heated. A flue retains heat so long, that, except in severe continuous frosts, a constant fire will not be required.

Heating a Boiler by an Oven (*Amateur*).—If you have a boiler in your kitchen range you could heat your house better from that than from your oven. We presume you made the hole in the oven close to the top; if not, it should be as near the top as possible, and a 2-inch pipe would not be too large. Even that would not do well, unless you had another hole and pipe entering close to the bottom of the oven; and whilst the upper pipe was turned upwards at the point, the lower one should be turned downwards. We should then expect a free circulation of air from the oven, the cold air of the house going in at the bottom of the oven, and the hot air going out at the top. That air will be dry. In similar cases we have seen every purpose answered by taking out part of the wall opposite the kitchen range, and fixing an iron plate 30 inches or so square. In all such cases the heat will be dry. When heat is wanted in the oven and not in the house, plug up the pipes on the greenhouse side. Let us know the result.

Utilising Sashes (*Subscriber*).—To make a small house of your sashes you will require a plate for the back and front wall; the back wall 7½ feet in height, and the front one 3 feet; a narrow walk at back, and a platform in front. We would, under the circumstances, plant the Vines against the back wall and train downwards. When once the Vines reach to the roof you could have four or five shelves against the back wall in winter. The rafters should be 3½ inches by 2 inches to support the sashes. We would have ventilators in the front and back wall. A small flue along the front would keep all secure. We would have no front sashes, but if you raised the walls higher they would be necessary: in that case the house also should be wider to be at all economical.

Newtown Pippin (*South Wales*).—You can obtain a tree of this variety of Apple from any of the large nurserymen who advertise in our columns.

Ferns not Growing (*A Lover of Ferns*).—We are surprised you cannot make these plants flourish in a stove heated with hot water. Of course your plants are in pots, though you do not say so. The compost should be three parts fibrous peat full of fine white sand, one part light turfy loam, one part sandstone broken up rather small, and half a part of silver sand, the peat and loam broken up small, and the whole well mixed. The pots must be well drained. If the Ferns are growing in soil of this description they will not require to be repotted till the beginning of March; at that time remove from the roots any compost that comes away freely, and place them in pots of sufficient size to admit the fingers all round. Pot rather firmly, keep the soil in a healthy state of moisture, giving a good supply of water when it is required. Sprinkle the floors, walls, and other surfaces with water morning and evening, and in very hot weather the plants may be lightly sprinkled overhead morning and evening, except Gymnogrammas, Nothochlænas, and Cheilanthes. Maintain a temperature of 60° to 65° at night from April to October, and 55° to 60° from October to April, allowing a rise in summer to 75° and 80°, and to 65° or 70° in winter. Shade from sun from March to October.

ANTHURIUM SCHERZERIANUM CULTURE (*S. T.*).—It should be grown in the warmest part of the stove. Use for it a compost of two parts fibrous peat, one part fibrous loam, half a part lump charcoal, and a like quantity of silver sand, just potting so as to cover the roots, and surfacing with sphagnum. The plant requires moisture both at the roots and in the atmosphere.

LILIUM GIGANTEUM CULTURE (*Idem*).—We presume you grow it in pots in a greenhouse or conservatory. It ought now to be kept rather dry and safe from frost. In February pot it and encourage it with plenty of moisture, shifting into larger pots in May. Continue to give water abundantly up to August, then place it out of doors in an open situation and keep it dry, returning it to the protection of a pit or house in winter, and keeping it moderately dry. It will flower when strong enough. It will thrive well in soil consisting of two parts fibrous loam and one part leaf soil or well-rotted manure, with a free admixture of sand.

LIQUID MANURE FOR AZALEAS (*George*).—Indian Azaleas may safely have liquid manure when they are swelling the buds. There is no better manure for this purpose than one pack of sheeps' droppings to thirty gallons of water. Stir well up before use, and apply the liquid at every alternate watering, taking care that it is at the same temperature as the air of the house. An ounce of guano to a gallon of water is also a good application; so is a peck of soot to twenty gallons of water.

CHRYSANTHEMUMS AFTER FLOWERING (*B. B.*).—We should cut away the old stems, place the plants in a cold frame, and insert cuttings from them singly in small pots. They will root well in the house in which the plants have flowered. Choose for cuttings the stiff shoots that come from the base and are 3 to 5 inches long. The old plants will afford a number of cuttings from now up to April, and when you have as many as you require you may turn out the plants into the open borders. The cuttings will form better plants than old plants retained for another year.

PRIMULAS WITH SHORT FLOWER-STEMS (*St. Honoré*).—Your fine plants with numerous trusses only need a temperature of 45°, and weak liquid manure once a-week, to make them all that could be desired. We have a practical illustration of this in about a hundred plants in 7-inch pots on the shelves of a Peach-house, where they have grown well and are covered with flowers, but these are lost in the foliage. In a greenhouse we have twice that number of plants, and they are far more effective from having much longer flower-stems, and the difference in temperature is only 5°.

OXALIS CULTURE (*E. H.*).—You do not say what varieties you cultivate, but we presume they are the ordinary greenhouse kinds, as O. Bowsi, floribunda, rubella, speciosa, &c. If so, place several bulbs in pots 6 or 7 inches in diameter, well drained, using two parts light turfy loam and one part leaf soil, with a free admixture of sharp sand. They require to be kept near the glass, and to have an abundant supply of water when growing, with slight shade from bright sun. The kinds rest at different times, and ought at those periods to be kept dry, but not dust-dry, therefore water occasionally. Repot when they begin to grow.

STOCKS FOR PYRAMID PLUMS (*Amateur*).—Plums are not successfully grafted, but are best budded—the general practice. The Brussels stock is most commonly used; but for your purpose the Mussel is preferable, especially for strong-growing kinds, as Golden Gage, Magnum Bonum, and Victoria.

PRUNING CUPRESSUS AND ARBOR VITÆ (*Idem*).—You may cut them in as much as you like, removing the strong growths in April. The upper part will need to be the most restrained, and there you should leave the weaker growths, as well as in other parts of the trees. They are kept in bounds as easily as the Yew, and form quite as handsome bushes. The pruning should be done with a knife.

PEACHES UNDER GLASS (*Idem*).—Three good sorts are Noblesse, Grosse Mignonne, and Malta. Barrington is also excellent. We presume they are to be planted out.

PICEA NOBILIS.—The cones shown before the Floral Committee on the 6th inst. by Mr. Freeman were from a tree 58 feet high, not fifty-eight years old.

NAMES OF FRUITS (*T. V.*).—1, Alfriston; 2, Scarlet Leadington; 3, Surrey Flat Cap; 4, Beauty of Kent; 5, Sir William Gibbons'; 6, Dutch Mignonne; 7 and 9, Dumelow's Seedling; 10, Ross Nonpareil.

NAMES OF PLANTS (*C.*).—Biota orientalis, also called Thuja orientalis. (*G. B.*).—1, Eupatorium glabratum; 2, Duranta Baumgartii. Its flowers are by no means attractive, and are, we believe, very rarely produced. Its foliage is its chief attraction. (*J. J. D.*).—1, Polystichum angulare, var. proliferum; 2, P. angulare, typical state; 3, P. aculeatum, in a young condition. (*E. S.*).—1. Pteris semipinnata; 2, Asplenium flabelliforme; 3, Polypodium vacciniifolium. The Fungus is a species of Clavaria.

POULTRY, BEE, AND PIGEON CHRONICLE.

CAMBRIDGE POULTRY SHOW.

IN spite of the great number of long-established poultry shows now taking place almost daily, the Cambridge Poultry Exhibition, though a first attempt, proved a most successful one. More than seven hundred pens were entered, chiefly from the most renowned of our poultry yards.

Game were so good throughout, that they appeared to excite more public interest than any other division of the Show. A remarkably fine pen of Brown Reds were the cup-winners, very closely pressed, however, by another pen of the same colour, exhibited by Mr. J. Fletcher, of Manchester. By some neglect in the entries, Mr. Mathews's birds were entirely thrown out of competition. In both *Cochins* and *Dorkings* the chicken classes were very far preferable to the adults, most of the old birds having as yet scarcely recovered from their moult. *Brahmas* throughout formed a strong feature of the Show, the dark-feathered, as a whole, being the most praiseworthy of the two breeds; nevertheless, in an open class for Brahma chickens of any colour, and with a very good entry, a really good pen of Light ones were the winners. As generally of late, the entry of *Spanish* fowls was very limited, but all the winning pens of this breed were much better than those exhibited at even the largest of our recent shows. The Game *Bantams* were not only of great merit, but there was an unusually large entry. In the Selling classes were to be found many pens of unexceptionable quality, and as the Show was well attended by a large number of anxious purchasers, a very fair proportion of the pens in each of the Selling classes changed hands.

We never remember seeing so many pens of Carrier *Pigeons* all in such high condition at any show, and among so many and all good, great must have been the difficulty of judging. Almonds and Ponters were also very fine, and the Dragoons and Antwerps well deserve our favourable mention.

DORKINGS.—1, R. Wood, Clapton, Thrapstone. 2, Mrs. G. Clarke, Sutton Marsh, Long Sutton. 3, Henry Lingwood, Barking, Needham Market. *Chickens.*—1, F. Parlett, Great Baddow. 2, Rev. E. Bartrum, Great Berkhampstead. 3, R. Wood. *hc*, A. Darby, Bridgnorth; J. Watts, King's Heath, Birmingham.

COCHIN-CHINA (Cinnamon or Buff).—1 and Cup, H. Lloyd, jun., Handsworth. 2, Henry Lingwood. 3, J. K. Fowler, Aylesbury. *c*, E. R. Gray, Kensington.

COCHIN-CHINA (Any other variety).—1, C. Howard, Peckham. 2, H. Lloyd. 3, P. H. Jones, Fulham. *hc*, Horace Lingwood, Creeting, Needham Market; J. K. Fowler. *c*, Rev. C. H. Lucas, Edith Weston, Stamford.

COCHIN-CHINA (Any colour).—*Chickens.*—1, J. Long, Plymouth. 2, Horace Lingwood. 3, Henry Lingwood. *hc*, H. Lloyd, jun. *c*, A. Cole, Colchester; J. K. Fowler.

BRAHMA POOTRA (Light).—1, H. Dowsett, Pleshey, Chelmsford. 2, M. Leno, Markvate Street. 3, J. Long. *hc*, J. Moore, Rothwell, Northampton.

BRAHMA POOTRA (Dark).—1 and Cup, T. F. Ansdell, Cowley Mount, St. Helen's. 2, W. Adams, St. Clement's, Ipswich. 3, J. Watts. *hc*, T. Norfolk, Bury St. Edmunds; W. Stevens, Northampton; J. H. Cuff, Holloway; Horace Lingwood. *c*, W. Cutlack, jun., Littleport; F. R. Coales, Longstanton.

BRAHMA POOTRA (Any variety).—*Chickens.*—1, P. Haines, Palgrave, Diss. 2, Dr. Holmes, Whitecotes, Chesterfield. 3, J. Watts. *hc*, Rev. J. D. Peake, Laleham; J. Bloodworth, Cheltenham; B. S. Lowndes. *c*, T. F. Upsher, Sutton, Isle of Ely.

GAME (Black or Brown Red).—1 and Cup, A. Fludyer, Uppingham. 2, J. Fletcher, Stonecliough, Manchester. 3, W. Boyes, Beverley. *hc*, J. Fletcher; A. C. Swain, Buckingham; R. Postle, Gazeley, Newmarket. *c*, H. E. Martin, Sculthorpe, Fakenham; S. Matthew, Stowmarket; R. Hall, Cambridge.

GAME (Any other variety).—1 and 3, R. Hall. 2, E. Winwood, Worcester. *hc*, J. Fletcher; W. Bullen, Cambridge (2).

GAME (Any colour).—*Chickens.*—1, H. E. Martin. 2 and *hc*, J. Fletcher. 3, R. Hall. *c*, Hon. Mrs. Paget, Hoxne, Scole.

HAMBURGHS (Gold-spangled).—1 and 2, L. Wren, Lowestoft. 3, S. & R. Ashton, Mottram. *hc*, C. Plimley, Wolverhampton; T. Love, Kingsthorpe. *c*, W. K. Tickner, Ipswich; J. Watts; T. Walker, jun., Denton, Manchester.

HAMBURGHS (Silver-spangled).—1 and Cup, Ashton & Booth, Broadbottom, Mottram. 2 and *hc*, J. B. Bly, Lowestoft. 3, A. Ainslie.

HAMBURGHS (Gold-pencilled).—1, W. K. Tickner. 2, R. R. Parker, Ipswich. 3, J. Walker, Birstwith. *hc*, A. Cole, Long Sutton; C. W. Gibbs, Sutton Bridge.

HAMBURGHS (Silver-pencilled).—1, J. Walker. 2, N. H. Scott, Northampton. 3, W. Mansfield, Cambridge.

SPANISH.—1, Nichols Bros., Camberwell. 2, H. Brown, Putney Heath. 3, H. F. Cooper. *hc*, Burch & Boulter, Sheffield. *c*, W. R. Bull, Newport Pagnell.

FRENCH.—1, J. J. Malden, Biggleswade. 2, W. Dring, Faversham. 3, J. K. Fowler. *hc*, J. S. Price, Potter's Bar; E. Pritchard, Tettenhall; Mrs. J. Cross, Appleby Vicarage, Brigg; C. H. Smith, Radcliffe-on-Trent; W. O. Quibel, Newark. *c*, W. Burrows, Diss; W. Cutlack, Littleport.

ANY OTHER VARIETY EXCEPT BANTAMS.—1, W. K. Patrick, West Winch, Lynn. 2, R. Wilkinson, Guildford. 3, T. Walker. *hc*, Miss E. J. N. Hawker, Tunbridge Wells; G. Boothby, Louth; Miss Mill, Rickmansworth; P. H. Jones.

GAME BANTAMS (Black or Brown Red).—1, W. B. Jeffries, Ipswich. 2, Hon. Mrs. Paget. 3, T. Sharples, Forest Bank, Rawtenstall. *hc*, C. H. Webb, Chelmsford (2); H. L. Cocksedge, Woolpit, Suffolk; T. Barker, Burnley; W. B. Jeffries, Ipswich; Bellingham & Gill, Burnley; J. Eaton, Farnsfield. *c*, G. B. Francis; H. C. Hill.

GAME BANTAMS (Any other variety).—1, J. Eaton. 2, Bellingham & Gill. 3, T. Sharples. *hc*, Rev. F. Cooper, Ampney Crucis; T. Barker; Bellingham and Gill; A. Ainslie.

BANTAMS (Any other variety).—1 and Cup, B. S. Lowndes, Stony Stratford. 2, M. Leno. 3, C. Reed, Cambridge. *hc*, J. Bloodworth; C. Read (2); M. Leno B. S. Lowndes. *c*, C. Reed (2).

SELLING CLASS.—*Cock.*—1, W. K. Patrick. 2, Miss Mill. 3, F. A. Cole. *hc*, Rev. C. H. Lucas (2); H. Lloyd, jun.; C. Bayes, Kettering; W. King, jun., Cambridge; A. Darby, Bridgnorth; F. Parlett; A. C. Swain; C. Howard; P. H. Jones. *c*, Mrs. F. Stevens; H. L. Cocksedge; W. Mansfield, Cambridge; J. S. Price; W. Burrows; W. K. Patrick; H. P. Moore, Langley Lodge, Chippenham (2); Dr. Campbell, Brentwood; J. J. Maldeu; R. Hall (2); W. Burch; H. Dowsett; T. M. Derry, Gedney.

SELLING CLASS.—*Hens or Pullets.*—1, P. Passmore, Northampton. 2, H. Griss, Ipswich. 3, C. Bayes. *hc*, Rev. C. H. Lucas (2); W. K. Patrick; T. M. Derry; T. Boulter; H. Dowsett. *c*, J. Walker; Lord G. Manners; H. Lloyd, jun.; W. King, jun.; W. Mansfield; R. Hall; A. H. Moyes (2); T. Love, Kingsthorpe; J. F. Loversidge, Newark; J. B. Lakeman, Ipswich; O. W. Hoare, Woolaton, Southampton; Rev. F. Tearle (2); C. Howard; Nichols Bros.

DUCKS.—1 and 2, J. K. Fowler. 3, Rev. J. Richardson, Sandy Rectory. *hc*, T. F. Upsher; W. Burrows; J. King, jun. (2); U. Marshall, Cambridge; H. Dowsett; Miss Mill; C. Thurnall, Whittlesford (2). *c*, W. H. Baker (2); W. King.

PIGEONS.

CARRIERS.—*Cock.*—1 and Cup, E. Walker. 2, W. Massey. 3, H. M. Maynard, Holmewood, Ryde. *hc*, F. W. Metcalfe, Cambridge; W. Woolley. *c*, L. Wren; C. Minson.

CARRIERS.—*Hen.*—1, Cup, and 3, F. W. Metcalfe. 2, E. Walker. *hc*, J. Baker; F. W. Metcalfe; H. M. Maynard; W. Woolley. *Disqualified*, E. Walker (beak wattle cut).

CARRIERS.—*Young.*—1, E. Walker. 2 and 3, F. W. Metcalfe. *c*, J. Baker; F. W. Metcalfe; R. Hall; W. Massey, Spalding; H. M. Maynard.

POUTERS.—*Cock.*—1 and 3, F. Gresham, Shefford. 2, Spence & Styles, Kettering. *vhc*, P. H. Jones. *hc*, G. H. Gregory; J. E. Palmer, Peterborough; T. Adams; T. Rule; G. Sturgess, Leicester (2); P. H. Jones. *c*, J. Barbor, Kettering; T. Adams; W. Nottage; W. B. Van Haansbergen, Newcastle-on-Tyne; P. H. Jones.

POUTERS.—*Hen.*—1 and 3, F. Gresham. 2, G. Sturgess. *hc*, J. E. Palmer; W. Nottage, Northampton.

TUMBLERS.—*Almond.*—1, 2, 3, and Cup, J. Braid, Cambridge. *Any other Variety.*—1 and 3, W. J. Woodhouse. 2, R. Minnitt. *hc*, W. J. Woodhouse; J. Watts; W. B. Van Haansbergen.

BARBS.—1 and Cup, W. B. Van Haansbergen. 2, J. & C. Ballen. 3, H. M. Maynard. *c*, R. Hall; P. H. Jones.

JACOBINS.—1, W. Massey. 2, J. Thompson, Bingley. 3, T. Adams, Northampton. *hc*, F. Wait; W. B. Van Haansbergen. *c*, J. Thompson; W. Bishop, Dorchester.

FANTAILS.—1, W. B. Van Haansbergen. 2, J. T. Cater, Colchester. 3, J. Walker. *hc*, J. Walker, Newark; J. F. Loversidge. *c*, H. Yardley, Birmingham.

TURBITS.—1, E. T. Dew, Weston-super-Mare. 2, G. South, London. 3, W. and J. Cutler. *c*, W. Goddard, Stanhope Street, London; P. H. Jones.

DRAGOONS.—1, G. South. 2, W. Bishop. 3, P. H. Jones. *hc*, W. Massey; H. Yardley. *c*, F. Graham, Birkenhead; G. H. Gregory.

ANTWERPS (For flying purposes).—1, J. J. Sparrow, London. 2, Spence and Styles. 3, T. King. *hc*, J. J. Sparrow (2); J. W. Collinson, Halifax. *c*, J. S. Dew; F. Harwood, jun., Colchester (2); F. W. Metcalfe.

ANY OTHER VARIETY.—1, W. Goddard. 2, J. S. Price. 3, J. & C. Bullen. *hc*, J. S. Price; C. Norman; W. Gamble, Thorpe Satchville, Melton Mowbray. *c*, W. Gamble; G. H. Gregory (2); W. Bishop; J. Watts; T. Rule; W. B. Van Haansbergen; H. Yardley.

SELLING CLASS.—*Single Cock or Pair.*—1, W. Nottage. 2, F. Waitt, King's Heath, Birmingham. 3, T. Rule, Durham. *hc*, J. Braid, Cambridge; C. Norman, Westerfield, Ipswich (2); J. Barber, Kettering; J. T. Cater (2); J. Thompson; J. E. Palmer. *c*, J. S. Price; F. Graham; J. T. Cater; H. Thurlow, Burnham Market, Lynn.

Members' Cup for the best pen of Carriers—F. W. Metcalfe.

Members' Cup for the best pen of Tumblers—J. Braid.

Prize for the best pen of Pigeons exhibited by any member—F. W. Metcalfe.

RABBITS.—*Lop-eared.*—1 and Cup, H. Thurlow. 2, Lewin & Robinson. 3, H. Cawood, Thorne, Doncaster. *hc*, J. E. Palmer; C. King; J. Quick. *c*, T. E. Terry, Shawfield, Tong; R. Hall; Mrs. Passingham, Milton; J. W. B. Rooke; J. A. Clough; J. Quick. *Any other Variety.*—1, W. Cory, Northampton. 2, A. B. Simpson, Trumpington. 3, J. Allen, Ampthill. *hc*, T. E. Terry; W. W. Robinson, Cambridge; A. H. Easten, Hull. *c*, T. Adams.

The Judges were Mr. Edward Hewitt, of Birmingham, and Mr. Tegetmeier, of London.

DORKING POULTRY SHOW.

THE twelfth annual Show of Dorkings, Ducks, Geese, and Turkeys took place on the 7th inst. The awards were as follow:—

DORKINGS.—*Coloured.*—1 M. Putney, Dorking. 2, J. Smith, Shillinglee Park, Petworth. 3, F. Parlett. *hc*, H. Humphrey, Ashington; W. H. Robson, North Reston, Louth. *c*, Miss A. Brassey, Normanhurst Court, Battle. *Chickens.*—1, Mrs. Wheatley, Ingatestone. 2, J. Clift, Dorking. 3, Rev. E. Bartrum, Great Berkhampstead. *hc*, Miss A. Brassey; G. Ellis, Ashcroft, Betchworth; H. S. Fraser, Headley, Petersfield; H. Humphrey; M. Putney. *c*, W. B. Boxall, Strathfieldsaye; H. S. Fraser; H. Humphrey.

DORKING (Coloured).—*Cockerel.*—1, Rev. E. Bartrum. 2, J. Clift. *hc*, J. Clift; G. Cubitt, M.P., Denbies, Dorking; Mrs. Meek, Brantridge Park, Balcombe; M. Putney; Mrs. Wheatley. *Pullets.*—1, Mrs. Wheatley. 2, W. B. Boxall. *hc*, Miss A. Brassey; Mrs. Meek; Miss J. Millward, Newton St. Loe, Bristol; M. Putney. *c*, H. Humphrey.

OPEN TO MEMBERS.

DORKINGS.—*Coloured.*—1 and Extra, M. Putney. 2 and Extra, W. Fell, Westcott. 3 and Extra, E. May, Dorking. *hc*, H. Mills. *Chickens.*—1, J. Clift. 2, W. Fell. 3, M. Putney. *hc*, M. Putney; J. Wood, Westcott. *c*, J. Clift; J. Constable, Leatherhead; G. Ellis, Ashcroft, Betchworth; T. H. Perks.

DORKINGS.—*Coloured.*—*Hens.*—1, G. Cubitt, M.P. 2, J. R. Corbett, Betchworth. *hc*, J. Clift; T. H. Perks; M. Putney. *c*, G. Hine; M. Putney; J. Wood. *Pullets.*—1, J. Clift. 2, W. Fell. *hc*, G. Ellis; H. Mills; M. Putney. *c*, D. B. Green.

DORKINGS.—*Coloured.*—*Cock.*—1, M. Putney. 2, E. T. Bennett, Betchworth. *Cockerel.*—1, J. Clift. 2, J. Wood. *hc*, M. Putney (2). *c*, J. Clift; W. Fell.

DORKINGS.—*Blue-speckled.*—1, Mrs. Mayo, Dorking. 2, G. A. Fuller, Dorking. 3, G. Hine, Westcott. *c*, W. Philps. *Chickens.*—1, G. Hine. 2, Mrs. Mayo. 3, W. Messenger, Wonersh, Guildford. *hc*, W. Griffin, Westcott. *c*, R. Eldridge, Westcott; W. Philps; J. Young, Dorking.

DORKINGS.—*Blue-speckled.*—*Cock.*—Prize, J. Rowe, Dorking. *hc*, R. Gamon, Westcott; Mrs. Mayo. *Hens or Pullets.*—Prize, J. Young. *hc*, G. Hine; Mrs. Ramsey, Shere.

DORKINGS.—*White.*—1, G. Cubitt, M.P. 2, W. Attlee. 3, Lady M. Legge. *c*, W. Attlee; W. F. Watson, Henfold, Capel. *Chickens.*—1, J. Attlee. 2, R. Wood, Betchworth. 3, C. Maw, Dorking.

DORKINGS.—*White.*—*Cock.*—Prize, H. Mills. *hc*, J. Attlee. *Hens or Pullets.*—1, W. F. Watson. 2, J. Attlee. *hc*, G. Hine.

DUCKS.—*Aylesbury.*—1, J. B. Nicholls. 2, W. F. Watson. *Any Breed.*—1 and Extra, G. Hine. 2, Extra, and *hc*, J. R. Corbett. 3 and Extra, Mrs. J. Sturgess, Leatherhead.

GEESE.—1 and Extra, J. Wood. 2 and Extra, Mrs. J. Sturgess. 3 and Extra, W. F. Watson. *hc*, W. Messenger. *c*, W. Attlee. *Goslings.*—1, Mrs. J. Sturgess. 2, G. Hine. *hc*, W. Messenger, Wonersh, Guildford. *c*, W. Attlee; H. Lainson, Reigate.

TURKEYS.—1, Sir R. A. Glass, Ashurst, Dorking. 2, W. F. Watson. *hc*, J. Constable; W. Messenger.

JUDGE.—Mr. Matthew Hedley, Redhill.

EDINBURGH POULTRY SHOW.

THIS was held on the 6th, 7th, and 8th inst. It should be considered whether more light could not be admitted to that portion of the building where the poultry is exhibited, so that the birds in the centre pens may be better seen by spectators. The pens were most injudiciously placed in tiers of three, the lowest being nearly on the ground; the birds in them could be seen with difficulty. The pens were also too small.

SPANISH.—*Cockerel.*—1, A. Shepherd. 2, R. Dickie. 3, Mrs. Gracie. *hc*, J. W. Will; Mrs. Gracie; W. Paterson. *Pullets.*—1, W. Paterson. 2, A. Shepherd. 3, W. Rutherford. *Cock.*—Cup, R. Waugh. 2, A. Shepherd. 3, Master A. Ridpeth. *Hen.*—1, A. Shepherd. 2, Mrs. Gracie. 3, W. Rutherford.

DORKINGS.—*Coloured.*—*Cockerels.*—1, Mrs. M'Donald. 2, D. Gellatly. 3, J. Robb. *hc*, T. Raines; L. M'Donald; A. Haggart; J. Rutherford. *c*, A. Haggart. *Pullets.*—1, J. Fetheringham. 2, Mrs. Morrison. 3, D. Gellatly. *hc*, A. Haggart; Mrs. Chalmers. *c*, D. Gellatly. *Cock.*—Cup, D. Gellatly. 2, J. Gibson. 3, J. W. Will. *hc*, D. Annan. *c*, A. Haggart. *Hens.*—1, A. Haggart. 2, D. Gellatly. 3, T. Briden. *hc*, Miss H. R. Lind. *c*, A. Shepherd.

DORKINGS.—*Silver.*—*Cockerels.*—1, J. Curror. 2, D. Forrester. 3, Lady G. Montgomery. *hc*, T. Raines; G. F. Lyon; W. Leslie. *Pullets.*—1, J. Cunningham. 2 and 3, J. Curror. *hc*, A. M. Sanderson; W. Meff. *c*, Lady G. Montgomery. *Cocks.*—1, — Chalmers. 2, Sir J. D. Wauchope, Bart. 3, Lady Baird. *Hens.*—1, T. Raines. 2, W. Meff. 3, D. Annan. *hc*, Lady G. Montgomery; Lady Baird.

COCHINS.—*Cockerel.*—1, R. Williamson. 2, J. Sichel. 3, J. W. Will. *hc*, R. Boyle; W. Fraser. *Pullets.*—1, J. W. Will. 2, H. White. 3, C. Sidgwick. *hc*, Mrs. Oswald; J. Sichel. *Cock.*—1, C. Sidgwick. 2, J. Sichel. 3, J. W. Will. *Hens*—Cup, J. Sichel (White). 2, J. W. Will. 3, C. Sidgwick. *hc*, J. Sichel; W. Meff.

BRAHMAS.—*Cockerels.*—1 and 3, Mrs. Gillison. 2, R. Brownlie. *hc*, T. Raines; Mrs. Harvey; J. Stuart. *c*, J. W. Will. *Pullets.*—1 and 2, J. Stuart. 3, J. W. Will. *hc*, J. W. Will; Mrs. Gillison; J. Stuart (2). *c*, T. Raines. *Cocks.*—1, R. Brownlie. 2, Mrs. Gillison. 3, Lady Baird. *Hens.*—1, J. Sichel. 2, T. Raines. 3, J. W. Will. *hc*, Commander G. F. Lyon.

GAME.—*Black and other Reds.*—*Cockerel.*—1, T. W. Mitchell. 2, R. Stewart. 3, J. Scott. *hc*, D. Harley; J. Rooch. *Pullets.*—1, D. Harley. 2, C. Jamieson. 3, T. W. Mitchell. *hc*, J. Scott; J. Wishart; J. W. Will; H. Archibald. *c*, D. Harley; J. Blair. *Cocks.*—1, A. Stephens. 2, J. W. Will. 3, A. S. Brewster. *Hens.*—1, D. Harley. 2, J. W. Will. 3, J. Aadersoa. *hc*, D. Harley.

GAME.—*Any other Colour.*—*Cockerels.*—1, D. Harley. 2, W. Scott. 3, J. Blair. *Pullets.*—1, J. Lyall. 2, A. Milne. 3, D. Harley. *hc*, A. S. Brewster. *Cocks.*—1 and Cup, D. Harley. 2, J. Anderson. 3, A. Milne. *Hens.*—1 and 3, D. Harley. 2, H. Goodal. *hc*, J. W. Will.

HAMBURGHS.—*Spangled.*—*Cock.*—1 and Medal, W. R. Park. 2, Mrs. Brown. 3, J. Watson. *hc*, W. M'Intosh. *Hens.*—1, S. & R. Ashton. 2, J. W. Will. 3, J. W. Blakey. *hc*, D. Annan; R. Dickson.

HAMBURGHS.—*Pencilled.*—*Cock.*—1, J. Kerr. 2, D. Cheyne. 3, A. Pratt. *hc*, L. M'Donald; J. W. Will; W. R. Park. *c*, A. B. Cranston. *Hens.*—1, R. Dickson. 2, W. R. Park. 3 and *hc*, J. Walker.

BANTAMS.—*Game.*—*Cock.*—Cup, J. Barlow. 2, G. Hall. 3, G. Todd. *hc*, G. M'Millan; G. Bell; J. Scott; E. & J. T. Hudson (2); G. Dowie; T. C. & E. Newbitt (2); R. Brownlie. *c*, F. L. Roy; R. Brownlie. *Hens.*—1, J. W. Will. 2, G. Todd. 3, G. Hall. *hc*, J. W. Will; J. Archibald; Bellingham & Gill; Miss R. C. Frew. *c*, G. Dowie.

BANTAMS.—*Any other Variety.*—*Cock.*—1, J. W. Will. 2, T. Watson. 3, J. Sichel. *hc*, A. Johnston; W. Rutherford (2); S. & R. Ashton. *Hens.*—1, Miss P. P. Frew. 2, T. Watson. 3, S. & R. Ashton. *hc*, J. W. Will; J. Sichel.

SCOTCH GREYS.—1, W. Coke. 2, W. Gibb. 3, D. Waldie. *hc*, T. Lawrie.

ANY OTHER VARIETY.—1 and Cup, J. Sichel (Crève-Cœur). 2, C. Sidgwick (Black Hamburgh). 3, W. R. Park (Crève-Cœur). *hc*, Mrs. Cross; Miss Drummond; J. Sichel.

DUCKS.—*Aylesbury.*—1 and Cup, E. Leech. 2, J. W. Will. 3, Commander G. F. Lyon. *hc*, Commander G. F. Lyon; J. W. Will; W. Rutherford. *c*, J. Fotheringham.

DUCKS.—*Rouen.*—1, W. Rutherford. 2, H. Stephenson. 3, E. Leech. *hc*, W. Thomson; J. Thomson.

DUCKS.—*Any other Variety.*—1, W. Burns. 2, T. Clarkson. 3, H. B. Smith. *hc*, H. B. Smith; S. & R. Ashton; S. H. Stott. *c*, J. J. Maldeo.

TURKEYS.—*Norfolk.*—*Young.*—1, J. Wilson. 2, Miss M. R. Melrose. 3, Duke of Buccleuch. *Old*—1 and 2, J. Wilson. 3, Duke of Buccleuch.

TURKEYS.—*Any other Variety.*—*Young.*—1, E. Leach. 2, Lady G. Montgomery. 3, Mrs. Somerville. *Old.*—1 and Cup, E. Leech. Lady G. Montgomery. 3, T. L. M. Cartwright.

GEESE.—1, S. H. Stott. 2, E. Leech. 3, H. Stepheason.

Mr. Teebay was the Judge.

HYDE POULTRY SHOW.

CONSIDERING that none of the acting Committee had previously been engaged in the management of a poultry show, the general arrangements of the Hyde Show were very creditable. Messrs. Turner's pens were engaged for the occasion, and so far as the Concert Room is suited for the purpose, the position of the pens could not have been improved.

Strange to say, *Dorkings* were a very limited entry, though the prize birds were very good, and yet more singular, only a solitary entry was made in the class for *Cochins*. Mr. Ansdell took both prizes for *Brahmas* with his well-known Dark birds, but there were many excellent pens of this breed shown, even in the Selling classes. A few good *Game* fowls were exhibited, but the cream of the Show were the *Hamburghs*. In Black Hamburghs it is very questionable if such good pens were ever seen side by side at any show. The Spangled, also, of both colours were quite equal to the reputation of the breeders of Hamburghs in this district; the "spangling" of the majority of those shown was such as once seen could never be forgotten. Mr. Peter Unsworth contributed much to the general attractions of this first Show, by the entry of several pens of very excellent *Polands*. The *Ducks* were particularly good, and the winning *Geese* and *Turkeys* were pens from the noted yard of Mr. Leech, of Rochdale.

The music gallery formed a very good position for the display of a large and excellent collection of *Pigeons*, but a side light from each direction rendered somewhat obscure this division of the Show. Few of the visitors anticipated seeing so perfect a collection of Pigeons, supported by many of the most distinguished breeders in the kingdom. No committee could devote more willing and earnest attention to the well-doing of the birds under their care, and no doubt annual and successful meetings will be the result.

DORKINGS.—1 and *hc*, W. H. King, Moss Mills, Rochdale. 2, E. Smith, Pass mans, Rochdale.

COCHIN-CHINAS.—1, J. Railton, Manchester. 2, No competition.

BRAHMA POOTRAS.—1 and 2, T. F. Ansdell, St. Helens (Dark). *c*, J. Finchett, jun., Chester (Dark); J. Railton (Dark); G. B. Goodfellow, Hyde (Dark).

GAME.—*Black or Brown Red.*—1, J. Jones, Nantwich. 2, J. Frith, Chatsworth. *Any other Variety.*—1, C. Travis, Thurgoland, Sheffield. 2, J. Frith. *c*, G. Frith.

HAMBURGHS.—*Gold-spangled.*—1 and 2, J. Buckley, Taunton. Ashton-under-Lyne. *hc*, W. A. Hyde, Hurst, Ashton-under-Lyne. *c*, S. & R. Ashton, Mottram; N. Marlow, Denton. *Silver-spangled.*—1 and 2, Ashton & Booth, Broadbottom, Mottram. *Gold-pencilled.*—1, Ashton & Booth. 2, S. & R. Ashton. *c*, R. Pickles, Edenfield, Bury. *Silver-pencilled.*—1, G. Furness, Rawtenstall. 2, Ashton and Booth. *c*, E. Siddall, Rawtenstall.

FRENCH.—*Any Variety.*—1, C. H. Smith, Radcliffe-on-Trent (Crève-Cœur). 2 and *c*, G. W. Hibbert, Manchester (Crève-Cœur). *hc*, J. Railton.

POLANDS.—*Any Variety.*—1, 2, and *c*, P. Unsworth, Newton-le-Willows.

ANY OTHER VARIETY EXCEPT BANTAMS.—1, H. Hoyle, Lumb, Newchurch, (Black Hamburghs). 2, N. Marlow (Black Hamburghs). *hc*, Stott & Booth, Huntley Brook, Bury (Black Hamburgh).

GAME BANTAMS.—1, G. Furness. 2, Rev. F. Cooper, Ampney Crucis, Cirencester. *hc*, J. Frith (3).

BANTAMS.—*Any other Variety except Game.*—1, S. & R. Ashton. 2, J. R. Jessop, Hull. *hc*, R. Brown, Cheadle Hulme, Stockport. *c*, S. & R. Ashton.

DUCKS.—*Aylesbury.*—1, E. Leech, Rochdale. 2, J. Fogg, Reddish, Stockport. *Rouen.*—1 and *hc*, P. Unsworth. 2, A. Haslam. Hindley, Wigan. *c*, E. Leach. *Any other Variety.*—1, S. & R. Ashton (Mandarin). 2, No competition.

GEESE.—1, E. Leech. 2, W. Hibbert.

TURKEYS.—1, E. Leech. 2, E. Ryder, Hyde.

SELLING CLASS.—1, G. B. Goodfellow (Dark Brahma). 2, K. Dawson, Shaw, Oldham (Black Hamburghs). *hc*, C. Travis (Game); A. Haslam (Brown Red Game). *c*, G. W. Hibbert (Houdan); J. Frith; G. Fletcher (Buff Cochin); E. Smith (Dorking); J. Booth (Black Red Game).

PIGEONS.

CARRIER.—*Cock.*—1, H. Yardley, Birmingham. 2, E. C. Stretch, Ormskirk. *Hen.*—1, B. Consterdine, Littleborough. 2, E. C. Stretch.

POUTER.—*Cock.*—1 and 2, W. T. Richardson, Oldham. *Hen.*—1 and 2, W. T. Richardson. *hc*, H. Yardley.

TUMBLERS.—*Almond.*—1, J. Fielding, jun., Rochdale. 2, W. A. Hyde. *Any other Variety.*—1, J. Fielding. 2, A. Ashton, Parkfield, Middleton. *hc*, R. G. Teebay, Ormskirk.

RENTS.—1 and *hc*, W. Taylor. 2, H. Yardley.

JACOBINS.—1, F. Waitt. 2, H. Yardley.

BARBS.—, H. Yardley. 2, E. C. Stretch. *hc*, H. Smith. *c*, Mrs. Hunt.

FANTAILS.—1, H. Yardley. 2, A. Ashton.

DRAGOONS.—1, F. Graham, Birkenhead. 2, P. Unsworth. *hc*, A. Ashton; J. Holden, Heaton Norris; J. Westwood, Bredbury; T. J. Caparn; F. Graham. *c*, J. Chatterton; Mrs. Hunt.

ANTWERPS.—1 and *hc*, W. J. W. Pass, Bury. 2, J. T. Cook, Denton. *hc*, R. Brierley, Fishpool, Lancashire.

ANY OTHER DISTINCT VARIETY.—1, H. Yardley. 2, J. Fielding. *hc*, A. Ashton; H. Eaton, Manchester.

SELLING CLASS.—1, B. Consterdine. 2, T. Moore, Birkenhead.

LOCAL CLASSES.

GAME.—*Cock.*—1, W. Warburton. 2, J. Arrandale. *Hen.*—1, W. Warburton. 2, J. Arrandale.

HAMBURGHS.—*Gold or Silver-spangled.*—1, Ashton & Booth. 2, T. Walker, jun. *hc*, S. & R. Ashton. *Gold or Silver-pencilled.*—1, S. & R. Ashton. 2, Ashton & Booth.

BANTAMS.—1, Ashton & Booth. 2, S. & R. Ashton. *hc*, J. H. Howe. *c*, H. Hague, Hyde.

ANY OTHER VARIETY EXCEPT BANTAMS.—1, T. Walker, jun. (Black Hamburgh). 2, E. Ryder. *c*, C. B. Cooke (Dark Brahmas).

CROSS-BRED.—1, W. W. Cooke. 2, Ashton & Booth.

DUCKS.—*Any Variety.*—1, G. B. Goodfellow. 2, S. & R. Ashton. *hc*, H. Smith.

PIGEONS.

CARRIER.—*Cock.*—1, W. A. Hyde. 2, J. Ainsworth, Hyde. *hc*, G. B. Goodfellow. *Hen.*—1, J. Ainsworth. 2, W. A. Hyde.

DRAGOONS.—1, G. W. Hibbert. 2, T. Wardle.

ANY OTHER VARIETY.—1, J. Armitage (Blue English Owl). 2, J. Swan (Owl).

CROSS-BRED.—*Cock.*—1, J. Smith, Hyde. 2, J. Ainsworth. *Hen.*—1, J. Smith. 2, J. Ainsworth.

Mr. Edward Hewitt, of Birmingham, was the Judge.

YORK POULTRY SHOW.

THE fifteenth annual Exhibition of poultry and Pigeons was held in connection with the Yorkshire Agricultural Society, on the 5th, 6th, and 7th inst., and proved another success both as respects the quality and number of the birds and the amount of the receipts.

Dorkings numbered over thirty pens, and were good, the prizes going mostly to young birds. *Spanish* were very good, and the winning birds were much admired. *Cochins* and *Brahmas* were very fairly represented, but we did not consider the *Hamburghs* quite up to a Yorkshire competition. *Game* and *Polish* formed good classes, and that for Any other variety was well filled, chiefly with the French breeds; a good pen of Crêve-Cœurs were first.

PIGEONS.

THE show of Pigeons was beyond all comparison the best for the last five years, numbering 198.

The Carrier cocks were a good class of twelve entries, and the prize birds rightly placed. The Carrier hens numbered seven entries; they were a rather coarse lot with the exception of the first-prize Black hen, which was very fine. Of Carriers hatched in 1871 there were only six entries. I think exhibitors should support this class better. The first prize was won by a very fine Black cock; the second by a very good Dun.

Of Pouter cocks there were nine entries. The first prize went to a very good White cock; the second to a very inferior Blue cock. For Pouter hens the first prize and cup were given to a Red hen, good in limb and feather, but bad in colour, and inferior in crop. The second-prize Red hen was by far the best in the class; she certainly should have been first; her colour was very fine; she had great length of feather, good shape, and a grand crop. Two good Blue hens were shown.

The Almond Tumblers were easily judged. The first-prize pair was fine in colour and shape; the second-prize pair good in head and beak, but not so rich in colour as the first-prize pair. For Short-faced Tumblers, a pair of fine Black Mottles were first; and the second prize went to an odd-coloured pair, the cock being red and white, and the hen yellow and white. These birds were the best in head and beak, but I could not see their claim to the prize, not being of the same colours.

Of Fantails there were fifteen entries. This was a very fine class; I think the Judges could have given the prizes twice over. In the first-prize pair the cock was very fine, the hen rather out of condition; the second-prize pair was very good. I considered the best pair in the Show was Pen 602, which was overlooked.

Of Trumpeters there were only six entries, but the birds were of excellent quality. The first prize went to a remarkably fine pair, very large in rose and hood, and with capital feet. The highly-commended Blacks shown by Mr. Haansbergen should have had the second prize; the hen is the best I have seen.

Of Barbs eight pens were shown. The first prize and cup went to a pair of Blacks which really were perfect. The second-prize pair were very good Blacks.

Jacobins were an excellent class, numbering seventeen pens. The first prize went to Reds, the second to Whites. The best pair in the class was passed over, a pair of Yellows, good in hood and chain, rich in colour, and small. The Reds should have given way to the Yellows.

Of Turbits there were eighteen entries. The first prize went to Reds, the second to Blues, but the best pair was overlooked, Pen 649, a pair of Yellows. These birds should have been first, and the first-prize Reds second.

There were ten entries of Owls; the first-prize pair Whites, the second Blues. This class was good in quality and rightly judged.

Nuns, eight pens, were good. The first prize went to Black-headed, the second to Yellow-headed. The highly-commended pair, No. 666, was very fine—clean marked and with capital hoods; they should have had a place.

Antwerps numbered twenty-two pens. The first-prize pair were Silver Duns, the second Blue-chequered. Several other excellent pens were highly commended. I thought Pen 680 should have been second. They were short-faced and had well-shaped heads. Another pair shown was also equal to either of the prize pens.

In the class for any New or Distinct Variety there were fourteen pens. The first prize went to a pair of fine Ice Pigeons, which were claimed at £5; the second to a pair of White Dragoons. Pen 697 should have been placed second. They were a pair of grand Black Priests. Several other pens of excellent birds were shown, one being a splendid pair of Red Magpies, rich in colour and markings.

In the Selling Class there were twenty-three pens, but most of them very poor, and some of the winning pens were hardly worthy of notice.

The birds were well looked after, and had a plentiful supply of good food and clean water.—J. W. R., *York.*

RABBITS.

PERHAPS in no other place have admirers of these pets seen such a collection either as to number or value. Too much praise cannot be given to those on the Committee for their untiring efforts to insure success, and this was, indeed, the reward for their zeal. York now stands foremost in its show of Rabbits, and I feel assured other places will more patronise these interesting animals.

Of the Lops, the Grey Self-coloured eleven-months-old doe, justly the winner of the silver cup, had ears 23 inches by 5 inches, and Mr. Boyle's Sooty Fawn buck, seven months and a half old, was good in all points, and had ears 22¾ inches by 5½. In the class for Yellow and White Mr. Terry again stood first with a doe, ears 23¼ inches by 5⅝, and was closely followed in position by a beautiful young doe (seven months) of Messrs. Lewin & Robinson, ears 22¼ inches by 5½. In the Tortoiseshell Mr. Terry again won the first prize with a buck well found, ears 22½ inches by 5; and next in position was a seven-months-old doe, with ears 22¼ inches by 5¼, also a good specimen. In the Black and White class Mr. C. King stood first with a nine-months-old doe well marked, ears 21⅝ inches by 4¾; and Mr. T. Irving's buck, with ears 21¼ inches by 5, entitled him to the second position. The Blue and White are evidently scarce, as only one entry was made, and that a fair specimen, four months old, well marked, but rather short in ear (18¼), yet by no means unworthy the second prize awarded. The Grey and White class was good (seven entries), and Mr. J. Boyle's buck, seventeen weeks old, with ears 21¼ by 5 inches, is evidently a good specimen of a Lop, as his first position proves. Mr. Terry's buck, with ears 22 by 5 inches, was a well-formed animal, yet rather of an undecided shade for a Grey.

To speak of the Lops as a whole, we must in justice say they were very good, and it is not often that thirty-three Lops of such value, and possessing such points of excellence, are found. The longest-eared Rabbit in the Show had ears 23 inches by 5, a size not always to be met with, especially during the winter season, as December and June weather produce in all probability some slightly different results in this respect when the ears are measured, though the Rabbits were in a nice warm corner of the building, forming three sides of a square, with a fire in the centre.

The Himalayan next claim our notice, and to speak of them as a class (twelve entries), they were not quite equal to what I have seen; the want of equality of shade in the extremities was what we most complain of; in point of size I find no fault, as some of them were rather large for this variety; the ears and nose were of the right shade, but the feet rather too light in most specimens. Mr. W. H. Tomlinson's first-prize doe was an excellent Rabbit, as was also Mr. H. Cawood's six-months-old buck as second. Next comes the showy Angora in goodly numbers (twenty-two entries), and, perhaps, a better class is seldom seen. The large lamb-like doe of Mr. W. Whitworth was as good a specimen as we ever remember seeing, white and clean, with her wool evidently well cared for; Mr. C. Anton's buck, a fitting companion, was in the next pen as second prize, and perhaps a finer or more perfect pair are rarely seen. The pretty little Dutch (fourteen entries) were also good as a class. Some presented rather too much white around the neck, and too little about the feet, yet some almost perfect pens were found. A Blue and White buck was the fortunate first-prize winner, and Mr. S. G. Hudson's "wee" Grey and White buck was a worthy second-prize. The Silver-Greys (nine entries) were good with one or two exceptions. For equality of silvering, which we prefer, the prizetakers were what a Silver-Grey or Chinchilla should be. In the Any other variety class (thirteen entries) the large Patagonian, or "Ram Rabbit," buck, with his broad bull-dog-looking head, was entitled to the first position, and it is rare we meet with so good a specimen, as they are scarce, and Mr. J. Boyle's Belgian Hare Rabbit buck was a deserving second prize; with a pretty "silver cream" of Mr. S. G. Hudson as highly commended, and a Polish buck of Mr. C. King's, were novelties in the class, and both were good specimens. The Selling class (fourteen entries) presented some good Rabbits; Mr. Wharton's Sooty Fawn doe, with ears 21⅜ inches by 5, was a fitting first prize. This, a Silver-Grey as second, and a Yellow

and White Lop as highly-commended, ears 20¾ by 4½, formed a trio not always to be seen in a selling class.

The pens were roomy, and well supplied with hay, oats, and swedes, and a sort of well-to-do air seemed evident from the abundant supply of food and care bestowed upon the whole.

Mr. Millington judged the Lops, and Mr. C. Rayson the fancy varieties.—CHARLES RAYSON.

DORKINGS.—1, R. W. Richardson, Meaux Abbey, Beverley. 2, J. Newall, York. 3, J. Stott, Healey, Rochdale. 4, Miss Simpson, Rawcliffe, York.

SPANISH.—1, R. Smith, Norton, Malton. 2, H. Wilkinson, Earby, Skipton. *Chickens.*—1 and 2, J. Thresh, Bradford.

COCHIN-CHINA.—*Yellow or Buff.*—1, H. Mason, Drighlington, Leeds. 2, G. Speedy, Whitby. 3, C. Sidgwick, Ryddlesden, Keighley. 4, D. Ibeston, Whitby, *Any other Colour.*—1, T. Stretch, Ormskirk. 2, R. L. Story, Wensley, Bedale. 3, Miss J. Boulton, Beverley. 4, G. Calvert, Darlington.

BRAHMA POOTRA.—1, E. Corney, Whitby. 2, J. T. Travis, Rochdale.

GAME.—*Black-breasted or other Reds.*—1, G. Sutton, Bootham, York. 2, J. Watson, Knaresborough. *Duckwings.*—1, W. Fell, Adwalton, Leeds. 2, H. Mason. *Any other Variety.*—1, F. Sales, Crowle. 2, J. Smith, jun., Norton. *Chickens.*—1, G. S. Thompson, York. 2, G. Sutton, York.

HAMBURGHS.—*Golden-pencilled.*—1, J. Walker, Birstwith, Ripley. 2, W. Clayton, Keighley. 3, Pennington & Kidson, Thirsk. *Silver-pencilled.*—1, J. Walker, Birstwith. 2, H. Smith, Merton Banks, Keighley. 3, T. H. Readman, Whitby. *Golden-spangled.*—1, J. Rollinson, Lindley, Otley. 2, J. Walker. 3, W. Bearpark, Ainderby Steeple. *Silver-spangled* —1, G. Huby, Banninghrough, York. 2, Creekes & Beeth, Sheffield. 3, G. Holmes, Great Driffield.

POLISH.—1, W. Silveater, Sheffield. 2, G. Speedy, Whitby.

BANTAMS.—*Game.*—1, J. Rollinson. 2, W. Adams, Ipswich. 3, R. Bradley, Green End, Earby. *Laced* —1. F. Powell, Knaresbrough. *Any other Colour.*—1 and 2, G. Holmes, Great Driffield.

ANY OTHER VARIETY.—1, Mrs. E. Cross, Appleby, Brigg (French). 2, H. Chawner, jun., Uttexeter (White Leghorns).

TURKEYS.—1, J. Sterry, Tame Bridge, Stokesley. 2, H. R. W. Hart, Dunnington Lodge, York. *Poults.*—1, T. M. Derry, Gedney. 2, A. Reynolds, Morr Monkton, York.

GEESE.—1 and 2, G. Hustler, Stillingfleet, York.

DUCKS.—*Aylesbury.*—1, J. Sterry, 2, W. Stonehouse, Whithy. *Rouen.*—1, R. W. Richardson. 2, R. Gladstone, jun, Court Hey, Liverpool. *Any other Variety.*—1, R. W. Richardson. 2, S. Barn, Whitby.

SELLING CLASS.—1, H. Dale, Northallerton. 2, G. S. Thompson. 3, H. Judson.

PIGEONS.

CARRIERS.—*Cock.*—1, E. Horner, Harewood, Leeds. 2, J. Stanley, Blackburn. *Hen.*—1, J. Stanley. 2, E. Horner. *Chickens.*—1, E. Horner. 2, W. Campey. Beverley.

POUTERS.—*Cock.*—1 and 2, J. Hawley, Bradford. *Hen.*—1 and Cup, J. Hawley. 2, E. Horner.

TUMBLERS.—*Almond.*—1, E. Horner. 2, H. Adams, Beverley. *Any other variety, Short-faced.*—1, J. Fielding, jun., Rochdale. 2, H. Adams.

FANTAILS.—1, G. Fletcher, Acomb Landing, York. 2, J. F. Leversidge, Newark.

TRUMPETERS.—1 and 2, E. Horner.

BARBS.—1 and Cup, W. B. Van Haanshergen, Newcastle-on-Tyne. 2, J. Stanley, Blackburn.

JACOBINS.—1, R. G. Sanders, Leven, Beverley. 2, W. B. Van Haanshergen.

TURBITS.—1, J. T. Lishman, Girlington, Bradford. 2, W. Bearpark.

OWLS.—1, J. Fielding, jun. 2, J. Stanley.

NUNS —1, R. W. Richardson. 2, E. Horner.

ANTWERPS.—1, J. Stanley. 2, F. Woodhouse, Blackburn.

ANY OTHER VARIETY.—1, W. C. Dawson, Weston Hall, Otley. 2, J. G. Dunn, Newcastle-on-Tyne.

SELLING CLASS.—1, E. Horner. 2, J. Cundale, Copt Hewick, Ripen. 3, R. W. Richardson.

RABBITS.

LOP-EARED.—*Self-coloured.*—1 and Plate, T. E. Terry. Shawfield, Tong, Leeds. 2, J. Beyle, jun., Blackburn. *hc*, H. E. Gilbert, Rugby. *c*, J. Tring, Blackburn. *Yellow and White.*—1, T. E. Terry. 2, Lewin & Robinson, Kettering. *hc*, H. Cawood, Thorne, Doncaster. *c*, F. S. Arkwright, Sutton Scarsdale, Chesterfield. *Tortoiseshell* —1, T. E. Terry. 2, Lewin & Robinson. *hc*, C. King, St. John's Wood, London. *Black and White.*—1, C. King. 2, J. Irving, Blackburn. *hc*, Lewin & Robinson. *c*, A. L. Pearce, Thorne. *Blue and White* —2, W. Denkin, Driffield. *Grey and White.*—1, J. Beyle, jun. 2 and *c*, T. E. Terry. *hc*. A. H. Easten, Hull; J. G. A. Hillyard, York.

HIMALAYAN.—1, W. H. Tomlinson, Newark-on-Trent. 2, H. Cawood, Thorne. *hc*, Miss M. E. Boulton, Beverley. *c*, W. Whitworth, jun., Manchester; H. Myton, York.

ANGORA.—1 and Plate, W. Whitworth. 2, C. Anton, York. *hc*, J. Boyle, jun. *c*, T. E. Terry; G. T. Linfoot, York; G. Robinson, York.

DUTCH.—1, J. Boyle, jun. 2, S. G. Hudson, Hull. *hc*, W. Whitworth. *c*, W. Denkin; W. Merhey, Northampton.

SILVER-GREY.—1 and *hc*, T. E. Terry. 2, J. Beyle, jun. *c*, S. G. Hudson.

ANY OTHER VARIETY.—1, W. Whitworth. 2, J. Beyle, jun. *hc*, S. G. Hudson. *c*, C. King.

SELLING CLASS.—1, T. Wharton, York. 2, J. Beyle, jun. *hc*, T. E. Terry. *c*, A. Cattley, Barnsbury, London.

JUDGES.—*Poultry and Pigeons:* Mr. Teebay, Fulwood, Preston; Mr. W. Maesey, Spalding; and Mr. H. Brown, Walkley, Sheffield. *Rabbits:* Mr. C. Rayson, Ivy Lodge, Didsbury; and Mr. M. Millington, York.

TREDEGAR POULTRY SHOW.

THIS Show was held at Newport on the 12th and 13th inst. Although a slight reduction in the prize list had taken place, the number of entries was about the same as last year.

In the first section of the Show *Game*, *Dorkings*, and *Spanish* competed for the cup, which was won by a pen of adult Brown Red Game, the Duckwings running them closely for it.

The *Dorkings* were of only moderate quality, but the Buff *Cochins* were very large and true to colour, although several of the adult birds were scarcely in dry feather. Light *Brahmas* were greatly improved in both classes, as regards marking of tail, hackle, and size.

The cup for the second section went to a large well-marked pen of adult *Brahmas;* the young of this variety were also worthy of note.

Unfortunately many pens were empty, owing to the birds being too late for competition, and this remark applies particularly to the *Hamburgh* classes. In Pencilled, of both colours, only the winners were worthy of notice; but there were many excellent pens among the Gold, Silver, and Spangled. Of the *Polands*, the first were an extraordinary pen of Golden, to which the cup for this section was given, and the second a pair of White-crested Black of rare quality. The *French* class was very good. Crêve-Cœurs were first and third, and Houdans second. Game *Bantams* were badly placed as to light, were with difficulty judged, and our remarks must in consequence be limited. Blacks were good, and the Whites even better; but the gems of this section were a pair of Silver Sebrights, the name for once suggesting the true colour of the birds. In the Variety classes were Black Hamburghs, Sultans, and White Dorkings.

Both the Ronen and Aylesbury *Ducks* were good, but this applies to quality rather than to size.

The weight of the first-prize pair of *Geese* was 40 lbs., that of the *Turkeys* 41 lbs., and of the second-prize birds 38½ and 34 lbs. respectively.

There was a good display of *Pigeons*, the Pouter and Fantail classes being very good, although, owing to the use of small wickerwork pens, the latter were very difficult to see. The whole class was commended. There were no less than thirty-two entries in the Variety class; and many more prizes could have been well won. We should advise a reconstruction of the schedule for Pigeons for another season.

GAME (Black or Brown-breasted Reds).—Cup, J. W. Jones, Malpas, Newport 2, G. S. Cole, Llanelly. *hc*, W. Dunning, Newport, Salop. *c*, C. H. Myers, Crynant, Glamorganshire; H. Horten, Colwall, Malvern; J. Davies, Cwmpark, Treorky, Pontypridd.

GAME (Any other variety).—1, H. C. & W. J. Mason, Drighlington. 2, J. P. Moses, Llandaff. *Chickens.*—1, J. W. Jones. 2, Rev. C. T. Salisbury, Tredunnoc Rectory, Newport.

SPANISH.—1, H. F. Wells, Tredegar. *Chickens.*—1, Hon. Miss D. Pennant Penrhyn Castle, Bangor. 2, W. Nicholas, Caerphilly, Glamorganshire. *hc*, T. S. Barnett, Walford, Ross, Hereford.

DORKINGS (Grey or Coloured).—1, J. Watts, Kingsheath, Birmingham. 2, H. K. Jerdan, Bridgend. *hc*, T. Meore, Cardiff; A. Sperrin, Bitton. *Chickens.*—1, Miss J. Milward, Newton St. Loe, Bristol. 2, J. H. Watkins, Byford, Hereford. *hc*, Hon. F. C. Morgan, Ruperra Castle, Newport; A. Sperrin; J. Watts.

COCHIN-CHINA (Cinnamon and Buff).—1, H. C. & W. J. Mason. 2, C. Taylor, Gloucester. *hc*, T. Moore; D. W. J. Thomas, Brecon (3); T. A. Dean, Marden, Hereford. *c*, C. Bloodworth, Cheltenham.

COCHIN-CHINA (Brown and Partridge-feathered).—1, T. Moore. 2, J. Dyer, Pencoed.

COCHIN-CHINA (White).—1, J. Bloodworth. 2, Miss A. D. Berrington, Panty-Goitre, Abergavenny.

BRAHMA POOTRA (Light).—1, T. A. Dean. 2, W. J. Craddock, Maindee. Newport. *hc*, T. A. Dean; J. Bleedwerth. *Chickens.*—1 and 2, T. A. Dean. *hc*, F. H. Ricketts, Banwell, Westen-super-Mare; J. Watts; L. Dean, St. Arvans, Chepstow; H. Colley, Leominster.

BRAHMA POOTRA (Dark.)—Cup, Rev. J. Bewen, Talgarth. 2, G. Dornford, Bryn Hafed, Llandaff. *hc*, Hon. Miss D. Pennant; T. Moore, Cardiff; J. Watts; B. F. Parrott, Henbury, Bristol. *Chickens.*—1, J. Watts. 2, W. Sims, Strond. *hc*, Hon. Miss D. Pennant; Rev. J. Bewen; B. F. Parrot; B. Price, Pen-y-bont, Llanfeist; F. Stuckey, Merthyr Tydvil; E. Ensor, Bristol. *c*, G. Dornford.

HAMBURGHS (Gold-pencilled).—1, H. Belden, Bingley. 2, C. Bleedworth. *hc*, Rev. A. L. Willett.

HAMBURGHS (Silver-pencilled).—1, H. Belden. 2, H. Feast, Swansea.

HAMBURGHS (Gold-spangled).—1, S. & R. Ashton, Mettram.

HAMBURGHS (Silver-spangled).—1, H. Beldon. 2, Rev. W. Serjeantson, Acton Burnell Rectory.

POLANDS.—Cup, H. Beldon. 2, Mrs. J. M. Procter, Hull. *vhc*, F. Hopkins Llanarth, Raglan. *c*, C. Bleedworth.

ANY FRENCH VARIETY.—1, C. Homfray, Glen Usk, Caerleon. 2, D. Lane Hardwick, Gloucester. 3, Miss E. Williams, Henllys Berriew, Montgomery *hc*, C. Homfray (2); H. Feast; Mrs. E. E. Llewellyn, Court Coleman, Bridgend Miss J. Mortimer, Rudhall, Ross.

BANTAMS (Game) —1, T. Moore, Cardiff. 2, E. C. Phillips, Vennyvach, Brecon *hc*, P. J. Charles, Maes d'yr Haf, Neath; C. Parsons; E. Williams, Ebbw Vale Ashley & Waitland, Worcester.

BANTAMS (Black, Clean-legged).—1, E. Cambridge, Cotham, Bristol. 2, S. & R. Ashton, Mottram. *hc*, R. & D. Wingfield, Worcester.

BANTAMS (White, Clean-legged).—1, E. Pritchard, Tettenhall, Wolverhampton. 2, Rev. F. Tearle, Gazeley Vicarage, Newmarket. *hc*, S. & R. Ashton.

BANTAMS (Any other variety).—Cup, Mrs. J. M. Procter, Hull. 2 and *c*, J. Watts.

ANY OTHER VARIETY.—1, Rev. W. Serjeantson. 2, J. Watts. 3, C. Homfray. *hc*, Miss E. Williams; Mrs. E. E. Llewellyn, Bridgend; W. H. Tomlinson, Newark-on-Trent.

GUINEA FOWLS.—1, Hon. F. C. Morgan, Newport.

SELLING CLASS.—1, J. W. Jones. 2, T. A. Dean. 3, H. E. Thomas, Brecon. 4, J. McConnell, Ewias Harold, Hereford. *hc*, L. Dean, jun. (2); T. A. Dean; Rev. J. Bewen (2); Rev. J. J. Evans, Cantreff Rectory, Brecon; R. H. Nicholas (3); C. Homfray; J. S. Phillips, Newport; Mrs. J. Sperrin, Treston, Christchurch; W. Evans, Newport; A. Sperrin; J. McConnell; J. Skinner; D. Lane, *c*, J. F. Davies, Neath; J. McConnell; R. H. Nicholas.

DUCKS (Aylesbury).—1, J. Buckley, jun., Llanelly. 2, F. A. Seys, Newport. 3, Lord Tredegar, Tredegar Park, Newport. *hc*, H. Thompson, Tregrees, Bridgend; L. H. Ricketts, Banwell.

DUCKS (Rouen).—1, C. Homfray. 2, T. R. Hulbert, Old Alresford. 3, Rev. J. J. Evans, Crantreff Rectory, Brecon. *hc*, Lord Tredegar; Miss E. Williams; E. Ponting, Whatley, Frome.

DUCKS (Any other variety).—1, C. Homfray. 2, W. Binns, Padsey. *vhc*, N. Russell Bryngwyn, Oswestry. *hc*, C. Homfray (2); J. Watts.

GEESE.—1, A. Sperrin. 2, R. Rees, Abergavenny. 3, J. Skinner. *hc*, R. Rees; A. Sperrin. *c*, J. Watts.

TURKEYS.—1, Miss J. Millward, Newton St. Loe, Bristol. 2, E. Shaw, Oswestry. 3, Hon. F. C. Morgan. *hc*, Lord Tredegar.

SELLING CLASS.—1, D. Lane. 2, Rev. J. J. Evans. 3, C. Homfray. 4, J. Skinner. *hc*, H. Temsen; J. Skinner; Mrs. E. E. Llewellyn; T. R. Hulbert; T. Moore.

SWEEPSTAKES FOR SINGLE COCKS.

GAME.—1, T. Rees, Llandaff. *hc*, J. W. Jones.

COCHIN-CHINA.—1, H. Lloyd, jun., Handsworth. *hc*, C. Bloodworth.

ANY VARIETY.—1, C. Homfray. 2, L. Dean. 3, W. J. Dix, Maindee. *c*, W. J. Dix; T. A. Dean; Miss M. Evans, Newport.

PIGEONS.

CARRIERS.—1, T. Waddington, Fenniscowles, Blackburn. 2, H. P. Powel-Price, Castle Madoc, Brecon. *hc*, T. Waddington; W. Crook, Swansea. *c*, J. Goldman, Neath.

POUTERS.—1, J. Hawley, Bradford. 2, T. Waddington. *vhc*, H. Pratt, Lezells, Birmingham. *hc*, W. Crook (3).

JACOBINS.—1, T. Waddington. 2, H. P. Powel-Price. *hc*, F. Waitt, Kingsheath, Birmingham; T. Waddington.

TUMBLERS.—1, J. Watts. 2, Bodmer & Jones, Newport. *hc*, A. H. Oliver, Newport; T. A. Dean. *c*, Miss M. Evans.

FANTAILS.—1, W. H. Tomlinson, Newark-on-Trent. 2, Rev. W. Serjeantson.

TRUMPETERS.—1 and 2, T. Waddington. *hc*, G. H. Gregory, Taunton; J. Watts; *c*, R. H. Nicholas; W. Crook.

ANY OTHER VARIETY.—1, T. T. Lishman, Girlington, Bradford. 2, T. A

Dean. 3, W H. Tomlinson. 4, T. Waddington. *hc*, W. Latch, Newport (2); L. Dean; T. A. Dean; W. Crook. *c*, G. H. Gregory; L. H. Ricketts.

The Judge was Mr. E. Hutton, Pudsey, Leeds.

ASHFORD POULTRY SHOW.

The East Kent Poultry Show was held at Ashford on the 11th and 12th inst. Nearly four hundred pens were exhibited. The awards were as follow :—

Dorkings.—*Coloured.—Hens.*—1 and Cup, W. G. Greenhill, Ashford. 2, Mrs. Brassey, Normanhurst Court, Battle. *hc*, W. S. Marsh, jun , Winkland Oaks, Deal (2); E. Rice, Sandwich. *c*, Mrs. Brassey; A. Dering, Surrenden Dering, Ashford; R. Cheesman, Ashford. *Cock.*—1, G. W. Greenhill. 2, F. Murton, Smeeth. *c*, Mrs. Brassey; R. Cheesman.

Dorkings.—*Coloured.—Pullets.*—1, A. Arnold, Lamberhurst. 2, Mrs. G. Meek, Branbridge Park, Balcombe. 3, G. W. Greenhill. *hc*, R. Cheesman; W. H. James, Updown, Sandwich. *c*, Mrs. Lee (2); Mrs. Brassey. *Cockerel.*—1 and 2, E. Rice. *hc*, W. S. Marsh, jun.; Mrs. G. Meek; R. Cheesman. *c*, Rev. T. E. Cato, Wye Vicarage; Mrs. Brassey.

Dorkings.—*Silver-Grey.—Hens.*—Prize, F. Cheesman. *hc*, G. W. Greenhill. *Cock.*—Prize, Rev. T. E. Cato. *hc*, G. W. Greenhill. *c*, F. Cheesman.

Dorkings.—*Silver-Grey.—Pullets.*—1 and 3, C. J. Plumptre, Wingham. 2, F. Cheesman. *hc*, G. Court, Chillenden, Wingham; J. Scott, Elmsted, Ashford (2). *c*, Rev. T. E. Cato; F. Cheesman. *Cockerel.*—1, C. J. Plumptre. 2 and 3, Rev. T. E. Cato. *hc*, J. Scott. *c*, G. Court; C. J. Plumptre; F. Cheesman.

Spanish.—1, Mrs. Brassey. 2, C. W. Hammond, Ashford. *Chickens.*—1, J. Francis, Hildenborough, Tonbridge. 2, C. W. Hammond.

Cochin-China.—1, Miss Hales, Canterbury. 2, W. A. Winter, Canterbury. *Chickens.*—1, Miss Hales. 2, J. Body, Lloyd's Green, Wittersham. *hc*, R. S. S. Woodgate, Pembury, Tunbridge Wells.

Brahma Pootra.—*Dark.*—1, W. Dring, Faversham. 2, T. G. Ledger, Folkestone. *hc*, Mrs. Brassey. *Light.*—1, Miss Halea. 2, Rev. F. T. Scott, Shepherdswell Vicarage, Dover. *hc*, Rev. F. T. Scott (4); Miss Hales; J. H. Curling, Faversham. *c*, Rev. F. T. Scott (2).

Game.—*Black-breasted or other Reds.*—1 and Cup, G. Braham, Ashford. 2, J. Jeken, Eltham. *c*, W. Foster, Deal: T. L. Elliott, Ashford. *Chickens.*—1 and 2, J. Jeken. 3, T. L. Elliott. *hc*, G. Wise, Preston, Faversham; W. H. James, Updown, Sandwich; W. Foster.

Game.—*Any other Variety.*—Prize, J. Jeken. *hc*, E. Rice, Sandwich. *c*, H. Lowe, Chartham. *Chickens* —1 and *hc*, E. Rice. 2, W. Foster.

Game.—*Single Cock.*—1, J. Jeken. 2, G. Wise. *c*, T. G. Ledger; T. L. Elliott; J. H. Bayley.

Hamburghs.—*Gold-spangled.*—1, W. Taylor, Maidstone. 2, R. Fowle, Wingham. *Silver-spangled.*—1, M. Dorman, Ashford. 2, H. H. Stickings, Ashford. *c*, W. A. Winter; W. Taylor (2); H. H. Sticking. *Gold-pencilled.*—1, C. J. Plumptre. 2, J. Chapman, Ashford. *hc*, R. S. S. Woodgate; J. Chapman.

Polish.—1, G. Boothby, Louth.

Crève-Cœur.—1, W. Dring, Faversham. *hc*, T. G. Ledger. *c*, Rev. H. H. Dombrain, Westwell Vicarage, Ashford.

Houdan.—1, W. O. Quibell, Newark. *hc*, J. Marten. Chilham. *c*, W. Dring. *Chickens.*—1 and *hc*, W. O. Quibell. 2, W. Dring. *c*, Hills & Co., Brighton.

Bantams.—*Game.*—1, W. S. Marsh, jun. 2, H. Lowe, Chartham. 3, Rev. F. T. Scott. *c*, Rev. F. Cooper; W. White, Canterbury; H. H. Stickings. *Any variety.*—1, Mrs. Lee, Penshurst. 2, W. White.

Ducks.—*Aylesbury.*—1 and 2, G. W. Greenhill, Ashford. *hc*, W. Young. *c*, C. S. Hardy (2). *Rouen.*—1, J. Austen, Denton, Canterbury. 2, F. Cheesman. *hc*, F. E. Arter. *c*, J. Austen (2); W. F. Harvey; G. W. Greenhill.

Geese.—1, Mrs. Lee. 2, J. B. Plumptre. *hc*, W. H. Mold; Mrs. Powell. *c*, W. H. James; Mrs. Brassey.

Turkeys.—1, A. Warde, West Farleigh. 2, C. J. Plumptre. *hc*, Mrs. Brassey; Mrs. Deedes, Sandling Park, Hythe. *c*, H. Andrews. *Poults.*—1 and 2, C. J. Plumptre. *vhc*, A. Warde (2); H. Andrews, Great Chart, Ashford. *hc*, Mrs. Harvey.

Any other Variety.—1, Mrs. Brassey. 2, Mrs. Bacon, River, Dover. *hc*, R. S. S. Woodgate; W. F. Harvey, Thruxted, Chartham; Miss Hales.

Pigeons.—*Carriers.*—1, G. Wise. 2, J. Bowes, Herne Bay. *Pouters.*—Prize, J. Bowes. *Tumblers.*—Prize, J. Bowes. *Fantails.*—Prize, G. W. Greenhill, Ashford. *Any other Variety.*—1 and 3, J. Bowes. 2, W. S. Marsh, jun. *c*, W. P. Forth, Ashford.

DEVIZES POULTRY SHOW.

We must defer our remarks on this Show, held on the 12th and 13th inst., until next week. The following is the prize list :—

Dorkings.—*Coloured.*—1 and 2, J. Martin. 3, C. Cork. *hc*, M. Putney; Lieut.-Col. Lane. *Silver-Grey.*—1, O. E. Cresswell. 2, W. E. George. 3, Mrs. C. Smith. *Any other Variety.*—1 and *hc*, Mrs. Hayne. 2, O. F. Cresswell. 3, Miss E. Williams. *c*, W. May; F. F. Fowler.

Spanish.—1, Mrs. Allsop. 2, Miss E. Browne. 2, W. Paraley. *hc*, E. Gill; H. F. Cooper; Mrs. Allsop.

Cochins.—*Cinnamon and Buff.*—1, H. Lloyd, jun. 2, Mrs. Allsop. 3, D. Young. *hc*, E. R. Gray; J. K. Fowler; H. D. Dent; J. Sichel. *Partridge.*—1, Horace Lingwood. 2, J. K. Fowler. 3, Miss Allsop. *Any other Variety.*—1 and 2, J. Sichel. 3 and *c*, R. S. S. Woodgate.

Brahmas.—*Dark.*—1, T. F. Ansell. 2, J. Watts. 3, E. Pritchard. *hc*, J. Walker; J. H. Cuff; Horace Lingwood; W. E. George; J. S. Tainton. *c*, W. E. George. *Light.*—1, J. R. Rodbard. 2, W. E. George. 3, Mrs. T. Turner. *hc*, W. Hanks; H. M. Maynard; W. E. George.

Game.—*Black-breasted Reds.*—1 and 3, W. H. Stagg. 2, S. Matthew. *hc*, P. P. Cother. *Brown-breasted Reds.*—1, S. Matthew. *Any other Variety.*—1, S. Matthew. 2, G. S. Sainsbury. 3, F. Bailey. *Any Variety.*—1, W. H. Stagg (Black Reds). 2, H. Brown. 3, W. H. Stagg (Black Reds).

Hamburghs.—*Gold-pencilled.*—1, W. Speakman. 2, H. Pickles, jun. 3, Capt. F. G. Coleridge. *c*, Rev. F. Goddard. *Silver-pencilled.*—1, H. Pickles, jun. 2, W. B. Payne. 3, C. H. Mayo. *Gold-spangled.*—1, H. Pickles, jun. 2, Lady Vivian. *Silver-spangled.*—1, Mrs. Allsop. 2, H. Pickles, jun. 3, G. Slade.

Polands.—1, J. Hinton. 2, G. W. Boothby. 3, P. H. Jones.

Houdans.—1, J. Sichel. 2, W. Dring. 3, Hills & Co. *hc*, M. H. Sturt; J. K. Fowler.

French.—*Any other Variety.*—1, J. Sichel. 2, C. H. Smith (Crève-Cœur). 3, Rev. N. J. Ridley (La Flèche). *hc*, Rev. N. J. Ridley (Crève-Cœur); — Dring (Crève-Cœur); H. Wyndham (Crève-Cœur); J. K. Fowler; J. J. Malden (Crève-Cœur).

Malays.—1, W. B. Payne. 2, Rev. N. J. Ridley. 3, J. Hinton.

Any other Variety.—1, Rev. W. Serjeantson (Black Hamburghs). 2, Wildey and Smith. 3, M. H. Sturt (Leghorns). *hc*, R. C. Forster (Black Minorcas); C. F. Wilson (Black Hamburghs); T. Bush (Black Hamburghs); Wildey & Smith (Andalusian).

Game Bantams.—*Black-breasted and other Reds.*—1, Rev. E. S Tiddeman. 2, Bellingham & Gill. 3, O. E. Cresswell. *hc*, C. H. Amea; Rev. F. Cooper. *c*, C. H. Webb. *Any other Variety.*—1, Bellingham & Gill. 2 and 3, Rev. F Cooper. *Any Variety.*—1, C. H Webb. 2, Ashley and Maitland. *hc*, Bellingham & Gill.

Bantams.—*Gold or Silver-laced.*—1 and 2, M. Leno. 3, J. Watts. *hc*, J. R. Jessop; G. W. Boothby. *c*, F. Hedding. *Any other variety.*—1, J. Sichel. 2, J. Watts. 3, T. Bush (Cuckoo). *hc*, Rev. W. Serjeantson. *c*, G. Francis (Black); J. Whitehead; S. & R. Ashton; W. Bishop.

Ducks.—*Aylesbury.*—1 and 2, J. K. Fowler. 3, G. Hanks. *hc*, R. C. Forster. *Rouen.*—1, H. Hoit. 2, E. Burton. 3, J. K. Fowler. *hc*, W. Stephens. *c*, J. H. Fry; G. M. Hulbert; J. K. Fowler. *Black East Indian.*—1, G. S. Sainsbury. 2, S. Burn. 3, F. Pitts, jun. *hc*, Mrs. Hayne (2); S. Burn; G. S. Sainsbury; W. E. George. *c*, F. Stratton; G. S. Sainsbury. *Any other variety.*—1, 2, and 3, M. Leno (Mandarin, Carolina, and Viduata Whistling Ducks). *hc*, W. Binns (Mandarin); S. & R. Ashton (Mandarin).

Turkeys.—1, Rev. N. J. Ridley. 2, Mrs. Dunn.

Geese.—1 and *hc*, J. K. Fowler. 2, M. Kew. 3, R. J. Spackman.

Selling Class.—1, J. Watts. 2, Rev. J. D. Heysted (Light Brahmas). 3, H. Lloyd, jun. *hc*, Mrs. Dunn (Dorkings); W. Hanks (Light Brahmas and Spanish); H. M. Maynard. *c*, H. H. Thompson; W. Beaven (Game); Miss E. Williams.

PIGEONS.

Carriers.—*Cocks.*—1, H. Yardley. 2, H. M. Maynard. *hc*, H. M. Maynard; C. Cork. *Hens.*—1, H. M. Maynard. 2, P. Wise. 3, W. B. Ford.

Pouters (White).—*Cocks.*—1, Mrs. Ladd. 2, A. Heath; Mrs. Ladd (3). *Hens.*—1 and 2, A. Heath. (Any other colour).—*Cocks.*—1, E. T. Dew. 2, G. Gregory. *Hens.*—1, F. T. Dew. 2, Miss J. Millward.

Tumblers.—*Almond.*—1, E. T. Dew. *Any other variety.*—1, S. Stephens, jun. 2, H. O. Crane. *c*, J. E. Combley.

Owls.—1, P. H. Jones. 2, H. Yardley. *hc*, G. H. Gregory; J. Watts.

Barbs.—1, H. Yardley. 2, H. M. Maynard.

Fantails.—1, Miss J. Millward. 2, H. M. Maynard. *hc*, H. Yardley. *c*, P. H. Jones.

Jacobins.—1, Mrs. A. Vigor. 2, Miss J. Millward. *hc*, F. Waitt (2).

Nuns.—1, F. Waitt. 2, H. Yardley. *hc*, F. Hedding; J. Watts.

Antwerps.—1 and 2, H. Yardley. *hc*, W. E. George (2). *c*, P. Wise; J. E. Combley.

Trumpeters.—1, P. H. Jones. 2, W. Masland.

Runts.—1, H. Yardley. 2, Mrs. J. Clark. *hc*, Mrs. J. Clark (2); W. Masland.

Any other Variety.—1, H. Yardley. 2, W. E. Stephens. *hc*, G. H. Gregory; F. Hedding; O. E. Cresswell; H. Yardley; F. Pittis, jun.

Selling Class.—1, F. Waitt. 2, W. E. Stephens. *hc*, W. J. Keall; C. Jarvis; C. Cork (2). *c*, P. H. Jones; J. Watts.

Judges.—Mr. E. Hewitt, Eden Cottage, Sparkbrook, Birmingham, and Mr. R. Teebay, Fulwood, Preston.

BERWICK AND BORDER ORNITHOLOGICAL ASSOCIATION.—December 6th and 7th.

There were sixty-one exhibitors; the number of birds competing was 273, besides a goodly number offered for sale only, and others only for exhibition. The birds were arranged on five tables running through the hall, in cages nearly all uniform. The following is the prize list :—

Belgian.—*Clear or Ticked Yellow.*—1 and 3, J. Rutter, Sunderland. 2, W. Bulmer, Stockton. *vhc*, W. Bulmer; Wallace & Beloe, Hide Hill; G. Norris, Castlegate. *Clear or Ticked Buff.*—1 and 2, J. Rutter. 3 and *vhc*, W. Bulmer. *c*, G. Norris. *Varicgated or Unevenly-marked.*—1 and 2, J. Rutter. 3, W. Bulmer. *c*, J. B. Gilchrist.

Glasgow Don.—*Clear Yellow.*—1 and 3, R. Forsythe, Edinburgh. 2, Wallace and Beloe. *vhc*, C. Lugton, Hillhurn, Ayton. *c*, J. Eagle. *Clear Buff.*—1, R. Forsythe. 2, Wallace & Beloe. 3, R. Aird, Edinburgh. *vhc*, C. Luton. *c*, J. Eagle. *Flecked.*—1 and 2, R. Forsythe. 3, G. Lobban. *vhc*, J. Eagle. *hc* and *c*, Wallace & Beloe.

Norwich.—*Clear or Ticked Jonque.*—1, 3, and *hc*, Adams & Athersuch, Coventry. 2, G. Gayton, Northampton. *vhc*, Barwell & Golby; Moore and Wynne, Northampton; G. & J. Mackley, Norwich. *Clear or Ticked Buff.*—1 and 2, G. & J. Mackley. 3, Wallace & Beloe. *vhc*, Adams & Athersuch; Moore and Wynne; G. J. Barnesby, Derby; J. Cleminson, Darlington.

Norwich.—*Evenly-marked Yellow.*—1 and 2, Adams & Athersuch. 3, Wallace and Beloe. *vhc*, Barwell & Golby; Moore & Wynne. *hc*, R. Hawman, Middlesbrough. *Evenly-marked Buff.*—1 and *hc*, Adams & Athersuch. 2, Wallace and Beloe. 3, Moore & Wynne. *vhc*, Swan & Medd, Scarborough; W. & C. Burniston, Middlesbrough.

Norwich.—*Uncevenly-marked Jonque or Buff.*—1, W. Yonng, Belford. 2 and 3, Adams & Athersuch. *hc*, Barwell & Golby; Moore & Wynne; G. J. Barnesby. *c*, J. Cleminson.

Norwich.—*Evenly-marked Jonque or Buff, with Crest.*—1, S. Tomea, Northampton. 2, Wallace & Beloe. 3, Adams & Athersuch. *vhc*, J. Hurrell, Sunderland; J. Spence, Sunderland; G. & J. Mackley.

Norwich.—*Clear Jonque or Buff, with Dark Grey, or Clear Crest.*—1, G. and J. Mackley. 2, W. Bulmer. 3 and *hc*, Wallace & Beloe. *vhc*, Moore & Wynne; S. Tomea.

Norwich.—*Any other Variety of Crested.*—1, J. Hurrell. 2, W. Watson, jun., Darlington. 3, J. Rutter. *vhc*, M. King, Scarborough; G. & J. Mackley.

Cinnamon.—*Jonque.*—1, Wallace & Beloe. 2, Fairclough & Howe, Middlesbrough. 3, Barwell & Golby. *vhc*, Moore & Wynne; S. Tomes; Wallace and Beloe. *Buff.*—1, S. Tomes. 2, Barwell & Golby. 3, E. Mills, Sunderland. *vhc*, Moore & Wynne. *c*, Wallace & Beloe. *Evenly-marked* (Any variety).—1, J. Spence. 2, L. Belk, Dewsbury. 3, Wallace & Beloe. *hc*, L. Belk; G. Cox, Northampton.

Any other Variety.—1, J. Taylor, Middlesbrough. 2, J. B. Gilchrist. 3, Stephens & Leek, Middlesbrough. *vhc*, Stephens & Leek; T. Tenniswood, Middlesbrough; R. Hawman.

Goldfinch Mules.—*Marked or Variegated.*—1, L. Belk. 2, Stephens and Leek. 3, R. Paxton, Belford. *vhc*, Wallace & Beloe. *c*, T. Allenby, Durham; W. & C. Burniston. *Dark Jonque.*—1, Moore & Wyone. 2, J. Taylor. 3, Stephens & Leek. *c*, T. Tenniswood; Wallace & Beloe. *Dark Mealy.*—1, G. Fox. 2, Wallace & Beloe. 3, S. Tomes. *vhc*, Fairclough & Howe. *hc*, Wallace and Beloe.

Selling Class.—1, G. Gayton. 2, J. Eagle. 3, J. Cleminson. *hc*, G. Gayton; R. Forsythe; Wallace & Beloe.

Goldfinch.—1, J. Taylor. 2, Stephens & Leek. 3, T. Tenniswood, Middlesbrough.

British Birds.—*Any other Variety.*—1 and *vhc*, W. & C. Burniston. 2, J. Roper. 3, G. Cox. *c*, R. Stevens.

Foreign Birds.—*Any variety.*—1, W. L. Beloe (Golden Pheasants). 2, 3, and *c*, Wallace & Beloe (Golden Pheasant, African Love Birds, and Bishop Birds).

DISTRICT PRIZES.

Clear or Ticked.—*Any Breed.*—1, P. Farrell. 2, W. Grieve. 3, J. Teague, Woolmarket. *vhc*, W. Headsmith. *hc*, P. Farrell; J. Teague.

Evenly-marked.—*Any breed except Norwich.*—1, J. R. Nisbet, Spittal. 2, T. Robertson, Berwick. 3, P. Farrel.

The Judges were Mr. Thomas Clark, Sunderland, and Mr. Henry M'Dougall, Edinburgh.

Kendal Poultry and Pigeon Show.—The prize list is rich, there being thirty-nine silver cups in addition to the prizes, the first of which is two sovereigns. The entrance fees are small.

Weight of Runts at Birmingham.—I do not know if all the Runts were weighed, but I was surprised this morning on

weighing the two highly commended pens to find that one pair weighed 4¼ lbs., and the other 4¼ lbs. I know the Blues weighed 4 lbs. 6 ozs. when they went to the Crystal Palace, before I sold them.—S. A. W.

ROYAL DUBLIN SOCIETY'S POULTRY SHOW.

This Society's winter Show opened on the 5th inst., and was continued on the following two days. There were upwards of four hundred entries of poultry and Pigeons. The following awards were made:—

Dorkings (Silver-Grey).—1, Miss De Courcy Drevar, Blackrock. 2, R. P. Williams, Clontarf. Third, S. Mowbray, Mountrath. *hc*, J. C. Cooper, Limerick. *c*, W. G. Mulligan, Belfast. *Chickens*.—1, Mrs. Warburton, Kill, Naas. 2, Capt. Downman, Kingstown. *hc*, Mrs. Warburton; Hon. J. Massy, Limerick.

Dorkings (Any other variety).—1, Mrs. Warburton. 2, G. A. Stephens, Dublin. 3, G. A. Perrin, Loughlinstown, Co. Dublin. *Chickens*.—1, A. Stephens. 2, W. G. Mulligan.

Spanish.—1, Miss De Courcy Drevar. *hc*, W. G. Mulligan, *c*, T. A. Bond, Londonderry. *Chickens*.—2, W. G. Mulligan. *hc*, J. Barlow, Chapelizod.

Brahma Pootras.—1, G. A. Stephens. 2, Hon. J. Massy. *hc*, Capt. Downman. *c*, Mrs. Warburton; R. Dore, Dublin. *Chickens*.—1, G. A. Stephens. 2, L. F. Perrin. *c*, Capt. Downman.

Cochin-Chinas.—1, W. H. Perrin, Chantilly, Co. Dublin. 2, J. K. Milner, Cherbury, Co. Dublin. *hc*, L. Stonie, M.D., Dublin. *c*, F. W. Zurhorst, Dublin. *Chickens*.—1 and 2, W. H. Perrin. *hc*, Miss L. Warburton, Kill, Co. Kildare. *c*, J. C. Cooper.

Game.—1 and 2, G. A. Perrin. *Chickens*.—1 and 2, G. A. Perrin.

Hamburghs (Pencilled).—2, L. Stonie, M.D. *hc*, R. P. Williams.

Hamburghs (Spangled).—1, S. Mowbray. 2, G. A. Perrin. *hc*, Capt. Downman.

Polands (White or Black-crested).—1, Miss De Courcy Drevar. 2, R. P. Williams. *hc*, J. K. Milner. *c*, W. G. Mulligan.

La Fleche.—1 and *hc*, G. A. Stephens. 2, Capt. Downman.

Houdans.—1 and *c*, J. C. Cooper. 2, G. A. Stephens.

Creve-Cœurs.—1, G. A. Stephens. 2, Hon. J. Massy. *c*, E. J. Poer, Limerick.

SINGLE COCKS.

Dorking.—1, Mrs. Warburton. 2, J. C. Cooper. *c*, Mrs. M. Ashton, Phœnix Park, Dublin.

Spanish.—1, W. G. Mulligan. 2, Miss De Courcy Drevar.

Cochin-China.—1, J. K. Milner. 2, W. H. Perrin.

Brahma Pootra.—1 and 2, Mrs. Warburton. *c*, R. P. Williams.

La Fleche.—1 and *hc*, G. A. Stephens. 2, E. J. Poer. *c*, A. Field, Blackrock.

Houdan.—1, G. A. Stephens. 2, J. C. Cooper.

Creve-Cœur.—1, Hon. J. Massy. 2 and *hc*, E. J. Poer.

Game.—1, 2, and *hc*, G. A. Perrin.

Any Variety not Previously Mentioned.—1, S. Mowbray. 2, Hon. J. Massy. *c*, R. P. Williams.

Game Bantams.—1 and *hc*, G. A. Perrin. 2, W. G. Mulligan.

Any other Variety.—1, E. J. Poer. 2 T. A. Bond, Londonderry.

Fat Fowls.—*hc*, A. Field. *c*, Miss L. King, Geashill.

PIGEONS.

Carriers.—1, J. M'Donnell, Upper Rathmines. 2, R. W. Smith, Cahir.

Pouters.—*hc*, E. A. Seale. *c*, F. W. Zurhorst.

Owls.—1 and *hc*, J. Dowling, Cork. 2, J. M'Donnell. *c*, H. L. Tivy, Cork.

Tumblers.—1 and *hc*, E. A. Seale. 2, J. Dowling.

Barbs.—1 and 2, J. Dowling. *hc*, R. W. Smith.

Trumpeters.—1, J. Dowling. 2, H. L. Tivy.

Fantails.—1 and 2, E. A. Seale.

Turbits.—1, E. A. Seale. *c*, J. K. Milner.

Jacobins.—1, R. W. Smith. 2, E. A. Seale. *c*, J. Dowling.

Nuns.—1 and *hc*, J. Dowling. 2, E. A. Seale.

Homing.—1, G. M. Caparn, Beggar's Bush. 2, F. W. Zurhorst. *hc*, J. Dowling.

Judges:—Mr. E. Hutton, Pudsey, and Mr. C. F. Staunton, Cappagh, Clondalkin.

THE SECOND CAT SHOW AT THE CRYSTAL PALACE.

Another cat show at the Crystal Palace, and another success. The entries were about two-thirds more than at the first show, an comprised, of course, a far greater variety of form and colour, and the exhibition was therefore far more interesting. Looking over the list of the exhibitors, we find nearly as many, if not quite as many, gentlemen as ladies, besides here and there a Master "So-and-so." It was said when a cat show was first announced that all the "old ladies" would be sending their pets, but the result proves that men are as fond of cats as the gentler sex. The Earl of Hopetoun sent no less than seven fine specimens, amongst which were some half-bred wild cats. But, perhaps, the most attractive animal of the Show, or, at least, the most scarce, was a real tortoiseshell he-cat—red, yellow, and black, with no white. Almost everyone knows that the existence of such is denied, yet at the Crystal Palace Show there was one, and rare as it is supposed to be, the price of £10 only was marked on it. Most of the other classes contained fine specimens of their kind, the Tortoiseshell and White being very rich in colour and beautifully marked. The Tabbies varied much in their black and brown tracings, some being very dark, while in others the lines had almost disappeared, and the fur presented more the appearance of that of a rabbit, or Chinchilla squirrel.

Then the White cats were a charming variety, one in particular being extremely beautiful, the eye having a deep ultramarine hue. This was a short-haired cat. At the last Show, a long-haired one possessed the same fine quality of colour in the eye. Grand-looking cats were the half-bred wild sent by the Zoological Society, Regent's Park, and they showed evident traces of their origin; but the two largest in the Show were those sent by Miss Amos and Miss Hawthorn, both of which weighed 21 lbs., and were awarded equal first prizes. The heaviest long-haired cat, though looking much larger, weighed but 18¾ lbs., and was beautiful in colour.

But where so many were good it is difficult to individualise, and we feel it was a Show that ought to be seen more than described, the universal opinion being, that there was an air of elegance and refinement about it that was not to be found in many other shows of our domestic animals. And, indeed, what animal is more domestic than the cat? and it is well, therefore, that this animal should have its admirers, and care and attention bestowed on it, for if we try for beauty in our out-door animals, why not still more for beauty in those that sit by us at our own fireside? There is now but little doubt that cat shows will become as permanent as poultry shows, and if we may form any criterion from those held at the Crystal Palace, will receive a greater amount of support from the public than almost any other kind of show, as we find that nearly 20,000 persons visited this second Show at the Crystal Palace, although then the weather was very severe, and, therefore, prevented many from being present. We mention this merely to show that the domestic cat has many friends, and we are of opinion they will now rapidly increase, nor should we be surprised to find the next Show numbering two or three times as many specimens and of still finer quality, and attracting many more visitors.

The Judges on this occasion were the Lady Mildred Beresford Hope, the Lady Dorothy Nevill, the Rev. J. Cumming Macdone, Harrison Weir, Esq., F.R.H.S., and John Jenner Weir, Esq., F.L.S.

LARGE OR SMALL HIVES.

My experience in keeping bees in large and reasonably small hives may be of service to some of your readers similarly situated to myself.

The first things to be considered are situation and the nature of the surrounding country. I keep my bees six miles from London, on the Surrey side, which I must confess is not at all a promising locality; and it is a fact that many of my neighbours who have attempted to keep bees have been obliged to give them up, as they have never been able to obtain a drop of honey. But I account for my success in this way:—There are two seasons at which the bees obtain the most honey. The first is the spring, when all the fruit and garden trees are in full bloom; and the second about July, when the limes are fully out. I always rely upon these two seasons for obtaining most of my honey. Now I have kept bees both in large and small hives, and I certainly give the preference to a smaller hive, for while I have always succeeded tolerably with the latter, I find I do not succeed so well with the larger hives.

In a large hive I have never yet succeeded in getting the bees to work a super, although to all appearance very strong in numbers, therefore, without driving the bees, I can obtain no honey from them. With a smaller hive, on the contrary, I can always get the bees to work a super, and what is very essential they can fill a small hive with comb so much more quickly than a larger one. I may state that I usually keep one large hive and add all the late swarms to it, but I find I cannot do much with them. This may, perhaps, be owing to the make-up, but I do not lose many bees during these operations. As a proof of the above, I have had 35 lbs. of honey from four small hives, and I have left the hives quite strong enough to pass through the winter, but I have had to drive a large hive, which only yielded about 25 lbs.—Carolus, *Tooting*.

[We are right glad to receive such notices of practical experience as yours. With regard to a preference for large or small hives, it is a question which must depend for its answer upon two things: first, the size of the swarms put into them; secondly, the nature of the honey pasturage in the vicinity. To put small swarms into big hives is, of course, an absurdity; similarly it is absurd to put a swarm, however large, into a big hive if the honey-producing power of the surrounding district is small. Circumstances can alone decide what is fitting in each case. At the same time, given a fine pasturage and a full-sized swarm, and we unhesitatingly say use a large hive. But it must be borne in mind that a supered hive is often virtually a big hive.—Eds.]

WINTERING BEES.

Our American bee friends are trying curious experiments with their favourites, which seem to thrive in that continent wonderfully. Among others is a new mode of wintering, which is confidently recommended by a gentleman of the name of Hosmer. Mr. Hosmer finds that when colonies are wintered in a warm place it is not necessary to have a large number of bees in a hive. A quart, he says, will be sufficient for the safety of any queen. The theory is that the old bees which have consumed honey all the winter die soon after they first fly in the spring, and have had their winter's hoard for nothing, while younger bees have a lease of life before them and are full of

vigour for the important work of assisting in the breeding operations of the hive early in the spring. Consequently he would encourage late breeding, and prefers a number of what we should call weak hives. "Mr. Hosmer rears surplus queens in small boxes, and then, about the season of the year that we are accustomed to unite our weak colonies to make all strong for the winter, he divides his strong ones, so that with each queen he has only a moderate supply of bees, and honey in proportion."

Now, however contrary this may be to our ordinary notions of safe management of bees, I am persuaded there is something in it which deserves consideration. Of course such treatment would be fatal to all hives left out all the winter on their stances. Some would starve to death of hunger and others of cold. But if a different mode of wintering bees were adopted—supposing it possible for us to stow them away in dry lofts in total darkness from the middle of November to the middle or end of February—I cannot but believe this treatment would be found beneficial; especially if we could contrive to get rid of all summer-bred bees and encourage late breeding in autumn. From the greater and more continued severity of their winters in America they appear commonly to stow away their hives in dark and warm places, as they do in the colder regions of Europe.

It might be well to give this plan a trial; and especially in cases where hives are known to be weak both in bees and honey, and I fear there are many such this year. Skeps half full of comb would winter particularly well in this way. I should advise their being suspended from a beam with the floor board hung beneath them and sloping in one direction, so as to carry off any bees which happened to die during the winter. It is absolutely necessary they should be in total darkness. The floor-board should touch the hive on one side so as to permit any live bees to crawl back again if they happened to fall down accidentally. Of course the hives so treated must have enough honey or bee-food to support the bees during their incarceration, little as may be the quantity required.

Some of your readers will recollect an experiment as to burying bees in the ground, which was largely tried some twenty years ago. The results were duly chronicled in your pages. It was a complete failure, and settled for ever this mode of wintering. In almost every case the bees died of damp and dysentery. It is, however, quite a different thing to stow them away in dry lofts or cellars. Will any of your apiarian readers try the experiment on a small scale, and report the issue? I would not recommend any strong stocks to be so treated, because the natural warmth of the hive in such cases would tempt the bees to activity: they would therefore become restless and uneasy, and more disposed to crawl out. Strong stocks are best left to themselves on their summer stances.—B. & W.

OUR LETTER BOX.

Scottish Columbarian Association's Show (*Capt. D. and others*).—You are all quite justified in mentioning the prizes offered as "most handsome." We were amused by the doubt as to its "promoters" being trustworthy. We can say unreservedly, Perfectly so.

Grasses for Poultry Run (*A. A.*).—On your light soil the following mixture and quantities are for an acre:—Alopecurus pratensis, 2 lbs.; Dactylis glomerata, 5 lbs.; Festuca duriuscula, 2 lbs.; F. pratensis, 3 lbs.; F. rubra, 1½ lb.; Lolium italicum, 7 lbs.; L. perenne, 10 lbs; Phlenm pratense, 1 lb.; Poa nemoralis sempervirens, 1½ lb.; P. pratensis, 1½ lb.; Medicago lupulina, 1 lb.; Trifolium pratense, 1 lb.; T. pratense perenne, 2½ lbs.; and T. repens, 6 lbs.

Woodbury Hive (*Yours*).—If you enclose five postage stamps with your address, and order "Bee-keeping for the Many" to be sent, you will have it post free. It contains a description of the Woodbury and other hives, and how to manage bees.

Fallen Combs (*H. Jenner*).—It would not be safe to attempt transforring the combs and bees into a bar box at this time of the year, and unless the combs are so fallen down and jammed together as to block up the lower portion of the hives, we think it would be better to defer any attempt to rectify the evil until mild weather in March or April. If, however, the combs are badly massed together, you can turn each hive, with its board, upside-down in a bucket, and having removed the board, adjust the combs in position as well as you can at the proper distance apart. Put in half-inch slips of wood between each comb to keep them in place, and two long pieces of the proper thickness may be placed across the bottom of the combs. The board may then be put on, and the hive carefully reversed to its proper position. This may be done on any mild day, or in a warm room, and if the wooden slips are prepared previously, but little time need be occupied in the operation, unless the combs have been much fastened together. We should prefer this plan to that of transferring the contents of the hives into small supers.

Washing Pigeons for Showing, &c. (*H. J. R. S.*).—Pigeons best clean themselves; they are great washers, and struggle and fight with each other for the bath. They always bathe in the morning, and a shallow pan placed in a gleam of sun in winter, and a few drops of hot water to take the chill off, will induce them to wash in a moment. Ours are doing so this frosty morning. A little hempseed warms Pigeons for a journey to a show this cold weather, and on returning home this and good beans are now best. Fowls are dusting birds, and will not wash themselves. The best plan is to wash their heads and legs, then put them in a room thickly covered with clean straw, throw a few handfuls of wheat in the straw, scattering the grain thinly, and the birds in searching and scratching for the wheat will clean themselves beautifully.

Weaver Birds (*Edith*).—They are apparently a pair of yellow Bishops in bird-dealers' language—African Weaver birds, of which there are many sorts. Most of them eat insects. Procure some German paste from Hawkins's, 6, Bear Street, Leicester Square, or any other dealer, and give a little now and then for a treat if the birds eat it. Canary and millet seed are the proper staple food; hemp only occasionally for a treat—no rape. Moulting begins in January, and ends in July. Supply bits of hay, dry grass, &c., and see if they twine them in the cage wires. They have no song. Give green food only occasionally. Try a watercress now and then, and hard-boiled yolk of egg, and stale bread crumbs occasionally, but a bath often in a sunny day. They will live with other birds well enough, but probably require more warmth than Canaries. We should keep the Canaries in one cage, and some foreign Finches and the Weavers in another. They are rendered tame by being kept in a room frequented by the family. If yours mope they may be moulting.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Dec.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
Wed. 6	30.129	34.2	33.4	N.	37.1	38.8	26.9	62.0	21.2	—
Th. 7	30.157	33.0	31.4	N.W.	36.9	36.0	23.9	52.8	26.8	.020
Fri. 8	30.506	22.0	21.4	N.W.	36.8	29.8	20.1	38.5	19.1	—
Sat. 9	30.394	27.8	27.4	W.	36.3	33.5	21.2	39.0	21.2	—
Sun. 10	30.352	33.5	33.2	W.	36.0	36.8	27.5	39.0	26.0	—
Mo. 11	30.477	29.5	23.5	N.W.	36.0	38.9	24.8	55.0	22.6	.020
Tu. 12	30.520	36.6	36.5	N. W.	36.2	39.6	29.0	53.5	29.5	.010
Means	30.362	30.9	30.4		36.5	36.2	25.6	48.5	24.0	.050

REMARKS.

6th.—Thick in early morning, very dark at 8.30 A.M., bright at noon, and a fine day on the whole.

7th.—Frosty and dull in morning, bright at 1 P.M., rapidly changing; very dark with snow at 6 P.M., cold northerly wind.

8th.—Very sharp frost with thick white fog in the morning, occasionally bright between 11 and 2, then dull (though fair) all day.

9th.—Very dull and cold all day, frequent slight falls of snow.

10th.—Still frosty but not so intense, fair all day but no sunshine.

11th.—Morning dark, very bright at noon, slight rain about 2 P.M., dull after.

12th.—Apparently fine above the fog in the morning and occasionally bright about noon, but very thick, damp, and uncomfortable in the afternoon, rather better in the evening.

The temperature of the week has been unusually low, even for December. The height of the barometer also is equally noteworthy.—G. J. Symons.

COVENT GARDEN MARKET.—December 13.

We have no alteration to report. Owing to unfortunate influences at work, which have a great bearing upon the movements in our markets for best goods, prices are likely to recede.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples ½ sieve	2	0	to 4	0	Mulberries lb.	0	0	to 0	0
Apricots doz.	0	0	0	0	Nectarines doz.	0	0	6	0
Cherries lb.	0	0	0	0	Oranges ℔100	4	0	10	0
Chestnuts bushel	10	0	20	0	Peaches doz.	6	0	12	0
Currants ½ sieve	0	0	0	0	Pears, kitchen doz.	2	0	4	0
Black do.	0	0	0	0	dessert doz.	2	0	6	0
Figs doz.	0	0	0	0	Pine Apples lb.	3	0	6	0
Filberts lb.	0	6	1	0	Plums ½ sieve	0	0	0	0
Cobs lb.	0	6	1	0	Raspberries lb.	0	0	0	0
Grapes, Hothouse lb.	2	0	6	0	Strawberries lb.	0	0	0	0
Gooseberries quart	0	0	0	0	Quinces doz.	0	0	0	0
Lemons ℔100	8	0	12	0	Walnuts bushel	10	0	25	0
Melons each	2	0	3	0	ditto ℔100	1	0	3	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes doz.	0	0	to 0	0	Leeks bunch	0	3	to 0	6
Asparagus ℔100.	8	0	12	0	Lettuce doz.	1	0	2	0
Beans, Kidney ½ sieve	0	0	0	0	Mushrooms pottle	1	0	2	0
Broad bushel	0	0	0	0	Mustard & Cress punnet	0	2	0	9
Beet, Red doz.	1	0	3	0	Onions bushel	2	0	4	0
Broccoli bundle	0	6	1	0	pickling quart	0	6	0	8
Brussels Sprouts ½ sieve	2	0	3	0	Parsley sieve	3	0	4	0
Cabbage doz.	1	0	2	0	Parsnips doz.	0	9	1	0
Capsicums ℔100	1	6	2	0	Peas quart	0	0	0	0
Carrots bunch	0	6	0	0	Potatoes bushel	1	6	3	0
Cauliflower doz.	3	0	6	0	Kidney do.	3	0	5	0
Celery bundle	1	6	2	0	Radishes doz. bunches	0	0	1	0
Coleworts doz. bunches	2	0	4	0	Rhubarb bundle	0	0	0	0
Cucumbers each	0	6	1	0	Savoys doz.	1	0	0	6
pickling doz.	0	0	0	0	Sea-kale basket	2	0	3	0
Endive doz.	2	0	0	0	Shallots lb.	0	0	0	9
Fennel bunch	0	3	0	0	Spinach bushel	2	0	3	0
Garlic lb.	0	3	0	0	Tomatoes doz.	2	0	0	6
Herbs bunch	0	3	0	0	Turnips bunch	0	3	0	0
Horseradish bundle	3	0	4	0	Vegetable Marrows doz.	0	0	0	0

WEEKLY CALENDAR.

Day of Month	Day of Week	DECEMBER 21—27, 1871.	Average Temperature near London. Day.	Night.	Mean.	Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock after Sun.	Day of Year.
						Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
21	Th	Shortest Day.	44.1	34.0	39.0	17	6 af 8	51 af 3	25 af 1	7 af 2	9	1 47	355
22	F	Winter commences 0.13 A.M.	45.0	32.5	38.7	21	6 8	51 3	43 1	18 3	10	1 17	356
23	S		44 1	31.7	37.9	21	7 8	51 3	2 2	29 4	11	0 47	357
24	Sun	4 Sunday in Advent.	41.0	31.3	37.6	17	7 8	52 3	26 2	36 5	12	0 17	358
25	M	Christmas Day.	43.4	29.4	36.4	9	8 8	53 3	56 2	44 6	13	before	359
26	Tu		43.2	31.4	37.3	16	8 8	53 3	34 3	46 7	○	0 42	360
27	W		43.0	29.7	36.4	15	9 8	54 3	21 4	41 8	15	1 12	361

From observations taken near London during forty-three years, the average day temperature of the week is 43.8°, and its night temperature 31.4°. The greatest heat was 58°, on the 25th, 1827; and the lowest cold 4°, on the 24th, 1860. The greatest fall of rain was 1.13 inch.

THE RISE AND PROGRESS OF THE BEDDING GERANIUM.

WERE any individual to write an account of the rise and progress of some of the plants that supply our daily wants, many very interesting facts would be revealed, and all controversy which at present exists as to the origin of several of them set at rest. The Wheat, for instance, has by some been asserted to have come from Ægilops cylindrica, but the origin of this and some other plants is far from being clearly defined, as the transmutation of the wild plants to which their parentage is ascribed, is so slow that a human life is but a fraction of the time sufficient to render the difference very perceptible. Certainly there are cases where a marked improvement has taken place within a very few years, but this generally occurs in plants devoted to ornament rather than to use, and it will readily be admitted that the Geranium is one of these. A cursory review of its progress will not be without interest, and I intend to give a few of the leading features of the plant, its history, and the position it has taken in the ornamental department of gardening.

Although botanical catalogues assign a rather remote date to the time when the Scarlet Geranium made its first appearance in this country, it is likely that for many years its cultivation was limited to very few plants. Kept in a small pot, as was the custom at that time, it afforded but few cuttings, and even these were not propagated to the same extent as now. The first quarter of the present century, most likely, passed before any great progress was made in the cultivation of this important plant. It had, certainly, found its way into most greenhouses, but the varieties were, if I remember rightly, very few, as I cannot recall any prior to 1826, but the old Horseshoe-leaved Geranium, the flower of which was a dull red rather than a bright scarlet, and the petals narrow and windmill-like. This old Scarlet was very soon followed by one under the equivocal title of "The White Scarlet," a horseshoe variety with blooms of a dull white colour. This certainly was not uncommon before the year 1832; and coeval with it were a gold and a silver-edged variety which I remember to have seen in the cottage windows. They were slow growers, and of course their multiplication was correspondingly slow, though they certainly were to be had. I confess having no recollection of seeing any of the Ivy-leaved class at that time, nor for many years afterwards, although it is likely enough they were in cultivation.

But an important future was now in store for the Scarlets; both a red and a white were to be had, and the purpose of garden decoration to which they were destined to be put was by degrees developed. My first experience of them as applied to that use was, singularly enough, a successful feat in cultivation under circumstances at the time unexpected. A large plant of the old Horseshoe variety had been planted against the back wall of a plant house, and the soil being favourable, it quickly reached the top, and flowered most abundantly. As it bid fair to outgrow everything else it was much cut-in, furnishing a full wheelbarrow-load of shoots and stalks. This was towards the end of May, when some flower beds on the lawn were being planted with French Marigolds, Asters, Ten-week Stocks, and such other annuals as were to be had at that time. It was thought that some of the shoots of the Geraniums that were cut down might be stuck into one of the least promising of these beds. Accordingly a quantity of the shoots were put in, and as might be expected now, but hardly so then, they almost every one grew, and by the 1st of September were fine healthy plants in full flower, the annuals having been removed as the Geraniums progressed.

This lesson was not lost on those who witnessed it, and striking cuttings out of doors became somewhat the order of the day in that district. I recollect one who had the reputation of being a good gardener as well as the best botanist in that neighbourhood—for botany was more associated with gardening then than it is now—attempting to propagate out of doors the whole of his New Holland plants, of which he had a good collection; but hardwooded plants, of course, refused to grow on the same terms as succulent Geraniums, and disappointment was the result. Cuttings of the latter plant were, for some years afterwards, always placed in the full sun when it was intended to propagate them; and although the case I allude to took place in 1829, the mode of propagating them discovered by accident has not been much improved upon. Great quantities of cuttings are not at the present day generally put in during May, but the chief points of the practice are still the same. It must not be inferred that inserting cuttings in the open ground every May was the only plan adopted; on the contrary, I am not sure that I have ever seen that process repeated, for the very good reason that cuttings at that time are not plentiful.

The plan of taking up the plants in autumn, and wintering them in some cool vinery or similar place, was certainly practised as early as 1830, but how much earlier I am not able to say. I remember perfectly well having to plant in 1831, a circular bed of Geraniums which had occupied the same position the year before, and were tall and rather unwieldy plants. The bed they were put into was surrounded by wire basketwork about 15 inches high, so that the unruly growth of the Geranium was carefully kept in bounds, and a good show of flowers, both early and late, was the result, the old plants invariably blooming earliest. This mode of treating the Scarlet Geranium was common for some years, the plan of striking a large number of cuttings in summer and keeping them in a limited space till the following spring not being fully understood for some years after. At the same time it ought to be observed that the planting-out of the greenhouse varieties of the Pelargonium was as much practised as that of the Scarlets, and some favourite kinds of that time still retain a place. My memory seems to rest on Moore's Victory as one of the most popular about 1831, both in-doors and out, while amongst the White-flowered section with dark blotches, old Macranthon held the sway for some years, but this

section being akin to the one immediately under notice, further remarks about it are unnecessary.

Returning, therefore, to the Scarlet section, I believe the first improvement on the old Horseshoe-leaved was called Waterloo, a favourite name in those days, and a very appropriate one too. The Brighton Hero which followed this, a variety having a less distinct horseshoe marking and a much brighter flower, attained a rather respectable position, being for some years the favourite bedding plant. Eventually, however, it was superseded by others of its class, of which one called Sol became common about 1836, soon after which time the importance of scarlet Geraniums as ornaments to the flower garden were fully acknowledged. Now there arose a host of aspirants to distinction, and the class became divided into two sections: one tall, with foliage more or less downy, was represented by the Emperor, or Smith's Emperor, a tall, strong-growing plant with heads of flowers of large size; the other was shorter, with leaves more or less shining, and was ushered in by such names as the Huntsman and Frogmore Scarlet. The latter differed but little from Tom Thumb, which followed it some years afterwards; and whether a spurious Tom Thumb made its appearance or not I cannot say, but for some two or three years after the last-named kind came out, I could not see any difference between the Tom Thumb I had and the Frogmore. I believe the late Mr. Beaton never could make anything out of Tom Thumb, and I do not think it was ever a favourite of his. Nevertheless it must be admitted that Tom Thumb reigned supreme in the class of scarlet Geraniums used for bedding purposes for a much longer period than any had done before or has done since. The plant had a good habit, and was easy of culture, reasons which tended to prolong Tom Thumb's popularity for some time after his rivals had fairly eclipsed him in the contest for floral honours. Even now the name is often brought up in connection with scarlet Geraniums, although it may fairly be regarded as having ceased to be the champion for some eight or ten years. Its decline was accelerated in a great measure by the late Mr. Beaton introducing the class of bedding Geraniums now known as the Nosegay section; and to one of these the hero of several years had to succumb. Stella beat Tom Thumb, and I believe I am speaking within bounds when I say that from 1863 to 1869 Stella was more grown than any other variety. Tom Thumb in the meantime declined, but regal honours are at best but fleeting, and Stella has had its day. Having during the last few weeks seen several flower gardens, I had the opportunity of noticing those flowers which appeared the most popular, and asked a friend who had travelled much about, which was the best at the present day, and he unhesitatingly said Waltham Seedling, which beats Stella as Stella did all that came before it—an opinion in which I fully concur. I do not pronounce this opinion on the experience of one season or a small quantity of plants, but upon that of three or four years, and rather an extensive cultivation of it and others. I do not, however, deny merit to other kinds, some of which may possibly do as well elsewhere as Waltham Seedling has done where I have noticed it.

From the advent of Tom Thumb, about 1842, until the present time many and very important members of this family have made their appearance, and one amongst the number as old as Tom Thumb is still popular. It represents a section which, strange to say, has not been improved upon since, and that is Mangles' Variegated. This fast-growing and convenient plant ought certainly to have undergone some transformation during the thirty years it has been known to gardeners, yet there it is, still unchanged both in flower and foliage. Fortunately its constitution does not seem impaired, as it grows as well as before. It has done good service in its time, and although some enthusiastic growers have promised to change its somewhat dull white garb into a bright yellow one, it has not yet been done. I am not particularly fond of the yellow section; a clear, good, white edging being in my opinion of more importance in the flower garden.

But returning to the Scarlet class. I believe I am right in asserting that Tom Thumb was the all-important one twenty years ago, but which is the one now? I have put Stella as Tom Thumb's successor, and Waltham Seedling as superseding Stella, basing my opinion on the general approval the public has given to these varieties, and not on that of individual growers, however high their judgment might stand.

Next to the Scarlets in point of utility are the Pink-flowered kinds, and I do not recollect any of merit before 1846 or 1847, when, I think, Lucia roses made its appearance, and was succeeded by one or two others. By means of these a respectable appearance was kept up for some years until Christine came out, and though many faults have been found with this variety, it is, nevertheless, more grown at the present day than any other of the same colour. There have been produced during the last few years many rivals to it, of which Wiltshire Lass, Rose Rendatler, Beauté de Suresnes, Helen Lindsay, Blue Bell, and others have all had their admirers, including, also, some of the Nosegay class, of which Pink Stella may be regarded the type; but I would rather that some one else elected a principal to this class than take the responsibility of doing so myself. If called upon to give an opinion, I would say that Blue Bell is about as showy as any, the pink tint partaking a little, though not much, of a blue colour, and not nearly so much as I hope to see in the Geranium hereafter.

White-flowering Geraniums of the Zonal section have never yet, in my opinion, reached the same degree of perfection that the Scarlet have. The White, if deserving the name, is, in all the varieties I have seen, a dirty one, a stain of pink or some other hue pervading almost every petal; and, indeed, for beauty of flower coupled with good foliage, there has none of the so-called Whites of the Zonal section come up to the White-flowered Ivy-leaved. The shining foliage of the latter shows-up the flower to advantage; but as that section may be spoken of separately, and may, perhaps, be thought an unfair rival to the class now under discussion, it need not be put in comparison with it. I must say that if a good white-flowered kind could be obtained, without that very dark zone which most of them have—in fact, if a good white flower could be put upon a Tom-Thumb foliage—the appearance would be much improved. Still I am not sure they would ever become very popular, for as foliage now-a-days has in a great measure taken the place of white flowers, this class is not so much wanted. Nevertheless, I may inform those interested in such matters, that white-flowered Zonal Geraniums have been known for considerably more than forty years, but the section was never considered of much importance, and I have no remembrance of the first-named variety. Amongst those we have grown here I can see very little, if any difference, and yet they rejoice in such names as Ave Marie, White Perfection, Ethel, Purity, Virgo Marie, Madame Vaucher, and some more; all of these have a dark horseshoe marking, or a stain of some other colour in the flowers, and when they decay the appearance they present is more objectionable than that of any other Geranium.

It is needless to mention the other flowering varieties of this family; rather let me explain what is wanted than repeat what we possess. We want a class with more blue in the flower, and I imagine this is more likely to be obtained through the pink section, of which Wiltshire Lass and Blue Bell are the types, than through the darker-coloured varieties, as Magenta, Celestial, Enchantress, and others. In these, I think the crimson predominates too much, but of that experienced hybridists will be better able to judge. There is one other class it would be wrong not to mention here, and that is those having the tips of the petals of a paler hue than the remainder of the flower. The lively appearance these flowers present, at least the few of them that I am acquainted with, seems to promise a useful future for them; but my knowledge is limited to two varieties, having only grown in any quantity Eugénie Mezard and Rosy Circle, both light-coloured. I think light ones will be best, as anything that tends to soften the brilliant hue of the scarlet must be detrimental to its effect unless it be close to the observer.

Of the class of salmon and dull red colours, I find that Mr. Fish still grows Rubens, a variety some sixteen or seventeen years old, and yet good. I hardly know how much further back to go for one of this colour, as it did not become popular until that time, since which there has been no lack of varieties. One of my greatest favourites for some years was Indian Yellow, also another of poor Beaton's, but Hector, Mrs. Longman, Striking, and some others, although not properly salmon colour, are all good in their way; whilst amongst the rose-tinted class I also find Mr. Fish has returned to old Trentham Rose, after having tried many more recent kinds. I myself hardly know which to give the preference to in this class, as they seem to merge into the darker hue so imperceptibly. When such as Duchess of Sutherland, Dr. Kirkland, and others put forth their claims, I must leave somebody else to choose one from amongst them, none having of late years appeared so pre-eminently popular in this way as Stella and Tom Thumb were among the Scarlets.

We now take a glance at another section of the great Geranium family, and one which somehow has made less progress than the other—namely, the Silver-edged class. Specimens of this were in cultivation more than forty years ago, and no great improvement was made for some fifteen or sixteen years, during which time the plant was little used for bedding purposes. One called Jackson's Variegated became known about 1848, or before, and with an older one did duty where Mangles', which dates back to about 1843, was thought unsuitable. The colour of the flower of these old white variegated kinds was not very good, and a good scarlet and a plant of better habit was much desired in 1850 or 1851. These qualities were presented to us in Flower of the Day, a variety still in cultivation, but considerable improvements have been made since then. Flower of the Day was in great demand at the time, and, perhaps, next to Golden Chain and Mrs. Pollock, was more grown than any of the leaf-class; but rivals to Flower of the Day were soon forthcoming. Osborn's Brilliant surpassed it by many degrees in the brilliancy and abundance of its flowers; in fact, I believe I am speaking within bounds when I say that Brilliant has never been exceeded for abundant blooming. It is also one that Mr. Fish recommended to a great extent. As a bloomer, Brilliant occupied a higher position then than it at present does, for its foliage is hardly white enough, but the habit is dwarf, while at the same time it is a free grower, and a greater number of cuttings of Brilliant can be put into a box, pot, or pan than there can of any other kind I know, and they invariably do well. Where a good white-edged variety is wanted to look well without flower, Bijou, Flower of the Spring, Shottesham Pet, Silver Star, Queen of Queens, and others, stand higher; but I confess to not being able to discern all the differences that are made in this class.

A sort widely different remains to be noticed, and that is the white-edged Oak-leaved, called, I think, Lady Plymouth. This is certainly so much different from the others, that I do not know I am justified in including it with them. I regard the Silver-edged Geraniums of vastly more importance than the Golden or Tricolors, or by whatever other name, such as Mrs. Pollock, Lady Cullum, and others are styled, unless they have to be examined close under the nose of the inspector, as at the distance of 20 yards the white-edged ones have a finer appearance, besides being much better grown in general, and more easily kept through the winter.

I now come to the Ivy-leaved section, a very distinct class, one I think capable of much further improvement, and from which I think it possible the coveted blue tints might be obtained as soon as from the Zonal. I cannot precisely say when this became common as a bedder, but it was known in plant-houses long before anyone attempted to propagate it in sufficient numbers to make a bed. There seems to be a greater liability in some of the varieties to this sporting than there is in the others, not in the foliage, but in the flower, a crimson becoming a pink, and *vice versâ*. The white, I think, is more fixed, and is a greater acquisition to the garden, as the display of flower on a bright sunny day, combined with the shining green leaf, produces a very showy effect. I think much improvement may be made in the variegated class. The sort called Golden possesses but little of that colour, and the tendency of the white-edged one, L'Elégante, to assume a bronzy hue in hot weather, is a defect rather than an advantage. Duke of Edinburgh is better, but I still think improvement may be made alike in foliage as in flower. I hope to see some of the hues of the Petunia exemplified, and after that by degrees a better lilac, lavender, and eventually a blue; but this is conjectural.

There is one more class which I ought to include in this sketch of the family, and that is the Golden-coated section. I confess entering on this part of the subject with much reluctance, for the twofold reason that I am no particular admirer of them, and because I am not sufficiently versed in them to say much about the respective merits of the kinds most in use. The Golden-edged Geranium claims a much higher antiquity than is often supposed. I certainly saw it before 1826, but for very many years it was confined to the collections of the curious, and certainly did not make its appearance out-doors until some time after the white-edged ones had been so employed. I am not sure but that the gardening world is not in a great measure indebted to Mr. Beaton for calling attention to the Golden Geranium as a fit and proper plant for bedding purposes. However this may be, I do not believe it has been so employed for more than twenty years, or, perhaps, so much. Golden Chain, the origin of which I cannot give, was the kind first in fashion. This was followed by Golden Circle, Cloth of Gold, Golden Fleece, and some others, until Mrs. Pollock made its appearance, giving altogether a new feature to the case, by supplying a third colour to the leaf. Of the popularity of Mrs. Pollock it is needless to speak, as it exists still, and, although the names of its rivals are legion, continues to retain its place. The importance of some other fine-coloured ones is that they are badly grown, of bad habit, or it may be miffy, or in some other way deficient in the qualities which are necessary for a plant to make way in the world, otherwise such varieties as Lady Cullum, Florence, Louisa Smith, Sophia Dumaresque, and Edwina Fitzpatrick, would be popular enough. When it is known that perhaps as many growers lose these kinds as propagate them, enough has been said. Mrs. Pollock is certainly better to manage than some of them. There is another class that may be carved out of this family which really do pretty well, and these are those having less pretensions to foliage display, but a more robust growth and tolerably good flowering qualifications, as Perilla, Refulgens, and Her Majesty. But the task of deciding on the respective merits of those which only lay claim to foliage attractions I must leave to some one else, since, having before said I prefer the Silver-edged class for bedding purposes, I fear I could not be held as impartial if I gave credit to individuals in a class which I have already condemned as a whole.

Having extended this paper to a greater length than was expected, I must sum up in few words what I have to say on the merits and demerits of Geraniums planted out in beds. In my opinion a single inspection is by no means sufficient to entitle a plant either to commendation or the reverse, but let it be watched the whole summer and its character duly chronicled—from the middle of June to the middle of October—and if this were done once a-week with each aspirant to bedding honours, it would be more easy at the end of the season to arrive at a conclusion as to the merits and shortcomings of each than to do so on one particular inspection. It is for this reason that I do not pay so much regard to the otherwise valuable remarks of the censors of the display at Chiswick. Seeing the whole at one time is not enough, unless there is a very great number of plants—say fifty at least of each kind—and even then the report would not meet all the requirements I hold necessary, as circumstances may have delayed the due flowering of one kind and improved that of another. A more prolonged observation of their qualifications is necessary to insure a just character. Neither is the appearance which plants in quantity make in a bed always to be depended upon. Nothing can be more fallacious than to go into ecstacies about the appearance which certain beds present at the end of August after a fortnight or more of fine dry weather. All Geraniums are then in their prime, and the very shyest bloomers are generally gay; but before a too hasty judgment is given, an inquiry into the past and a close inspection should be made, for it may very likely happen that the one the gardener of the place esteems most has fewest flowers upon it, and for a very good reason—the plants have been severely mutilated to supply cuttings, whence the paucity of flowers.

An instance of this occurred here during the present season. In a long ribbon border we have are two rows of Stella Geranium 350 feet long, or upwards. We wanted cuttings of these, but they were, unfortunately, taken off about one-half of the length instead of being cut from the whole of it. This occurred about the 1st of September, and although there are still plenty of plants left where the cuttings were taken off, it is easy to tell to an inch, by looking at one end, how far the cuttings had been taken by the smaller quantity of flowers. Now this is the same on beds; a good favourite kind is of necessity mutilated, and towards the end of the season shows it, but to condemn it for this would be wrong. It is advisable, therefore, on the part of those who would be judges, to make themselves thoroughly acquainted, not only with the treatment the plant has received during the season, but also the appearance it has presented at certain portions of it, as the good appearance very often presented in August and September ought not to be a sufficient guarantee that they have been in the same gay condition for months before that time.

This observation, though made here in reference to Geraniums, is also applicable to many other plants, and especially to such as Verbenas, on which there is the greatest mass of bloom. Few plants, indeed, continue to furnish that profusion of bloom that is often seen at one particular time for more than four months in the year, and it is the grower's duty to ascertain whether he would rather have them all in a fortnight,

or have them spread over the greater space of time indicated. —J. Robson.

SUCCESSIONS OF VEGETABLES.—No. 5.

SAVOYS.

Early Dwarf Ulm.—This heads quickly, forms very close hearts, and is of fine flavour. Sow 5th and 10th of March, and April 10th.

Dwarf Green Curled.—This likewise heads quickly, forms a good but not large heart, and is hardy. Sow in the middle of March and the third week of April.

Drumhead or Globe.—Heads very large, firm, and good, but not so hardy as the Green Curled. Sow in the second week of March and third week of April.

Feather-stemmed or Sprouting.—Habit of the Brussels Sprouts, the stems being covered with compact, small, Savoy heads, which are delicious. Sow in the third week of March.

Savoys require deep, rich, well-manured soil and an open situation. The seeds should be sown rather thinly, in order to produce sturdy plants, which should be pricked off when they have formed the second or third rough leaf, and be planted out while the stem is short. Plant in rows 2 feet apart, and the same distance from plant to plant. Early Dwarf Ulm should be planted 18 inches apart every way, and is the best kind for small gardens. Stir the ground frequently with the hoe, and earth up the plants when they are established.

The first sowing of Early Ulm will be fit for use early in September, and the first sowing of Green Curled and Drumhead from the end of that month up to Christmas. The second sowing of Early Ulm will come into use early in October, and the late sowing of Green Curled and Drumhead from the beginning of November until the warmth of spring causes the plants to start for flower. The Feather-stemmed Savoys come-in in October, but are the better of frost, and continue to yield delicious sprouts until late in spring.

BRUSSELS SPROUTS.

Scrymger's Giant.—Habit robust; height about 2 feet; sprouts firm and close, thickly set on the stem, and excellent. I do not consider it necessary to grow any but this variety.

Imported.—When the stock is good these form firm compact heads, but not so large as the former.

Roseberry.—Habit tall; sprouts firm, close, and abundantly produced.

The first sowing should be made in the first week of March under a south wall, and another sowing the second week of April. Prick-off when they can well be handled, and plant-out, before they become drawn, in good, deep, rich soil, allowing 2 feet between the plants every way. The ground should be well hoed and the stems earthed-up. Liquid manure may be applied between the rows to any extent in hot dry weather in August and the early part of September. When the heads begin to form on the stem, the centre or top sprout may be pinched out. This will encourage the growth of the side sprouts. The first sowing will come into use at the end of September, and afford a supply up to Christmas; and the second sowing will afford sprouts from the early part of November up to April.

Dalmeny Sprouts.—A hybrid between Cabbage and Brussels Sprouts. The stems are clustered with small Cabbages, or rather Colewort-like sprouts, which are very tender, and in flavour superior to Brussels Sprouts.

Albert Sprouts.—A hybrid between the Savoy and Brussels Sprouts. The stems are clustered with hearting, miniature Savoy-like sprouts, which are very good, especially after frost.

These Sprouts should be sown the second week in April, and should be treated the same as Brussels Sprouts. They are in use from October to April.

BORECOLE OR KALE.

Cottagers' Kale.—Tall-growing and robust; the stem surrounded with a great number of sprouts that are of good flavour. This kind is apt to sport much—at least a packet of seed produces a number of forms. I do not consider it desirable to plant any but the green-leaved plants. I do not plant any with the midribs of the leaves and stems of a reddish purple, for they are not at all equal to the green in flavour and amount of produce. Sow March 5th to 10th, and April 15th.

Dwarf Green Curled.—This is, undoubtedly, the hardiest and best.

Veitch's Dwarf Late Curled.—This is an excellent stock, and comes in late, being in good condition late in spring. Finely curled, very leafy, and hardy. Sow March 10th and April 15th.

Jerusalem.—A late or spring kind; sprouts thick and purple, which when 6 or 8 inches long are very tender and good. Sow April 15th.

Asparagus.—A spring kind, producing long sprouts or shoots, which when about the length of Asparagus shoots are very tender and good. Sow April 15th.

Melville's Variegated or Garnishing.—Habit of the Dwarf Curled. Heads various-coloured, transparent white or various shades of red, fringed with green or white. Sow April 15th.

Borecoles require the same treatment as Brussels Sprouts, but Cottagers' Kale should be planted 2½ feet apart, and the others 2 feet. The earliest sowings will come into use after the first frosts in October, and continue good until April, for after the heads are taken off a great number of side shoots will be produced. Of Cottagers' Kale the heads should not be cut until February. The second sowing will be in fine condition by Christmas, and will continue in use up to April or May.

The first sowings of Savoys, Brussels Sprouts, and Borecoles ought to be planted out from the 15th to the end of June, and the second sowing from the 10th to the 21st of July. Plants may be put in afterwards, but they will be of less growth, and not unfrequently occupy ground unprofitably.—G. Abbey.

GOLD AND SILVER FERNS.—No. 2.

In resuming my remarks upon these, I must impress upon my readers the necessity of keeping the fronds dry, or at least the syringe must never be used, otherwise they will present a wo-begone appearance.

NOTHOCHLÆNA.

In my former article I named a few species of the genus Cheilanthes, and I now wish to draw attention to a few equally beautiful plants which belong to its near neighbour Nothochlæna; and as my remarks upon the treatment necessary for Cheilanthes are equally applicable to Nothochlæna, it is unnecessary to recapitulate here.

N. trichomanoides is a beautiful species, which should either be grown in a basket or be planted in a recess in the fernery about level with the eye, as it is of pendulous growth. The fronds are from 12 to 18 inches in length, pinnate, with the pinnæ roundish and dark green above, whilst their under side is clothed with white stellate scales. These change with age to a reddish brown, and are in addition dusted over with a mealy powder. The sori are black, and form a marginal band round each pinna. This very beautiful plant is, as far as I am aware, peculiar to Jamaica.

N. rufa.—Another elegant species, similar in general appearance to the preceding, but the pinnæ are smaller and toothed at the edges; they are light bright green on the upper side, and the under surface is densely clothed with long, white, woolly scales. It is a native of Peru and Mexico.

N. lævis.—An erect-growing plant, attaining a height of about 12 inches. The fronds are pinnate; the pinnæ entire, roundish or somewhat cordate, dull green above, thickly covered with long, pure white, silky hairs, which become brown with age. A somewhat rare species, which should be grown in a cool house. Native of temperate parts of Mexico.

N. lanuginosa.—This most beautiful species is a native of Madeira, but still somewhat rare in cultivation. The fronds are erect, about 8 inches high, bipinnate, dark green on the upper side, whilst below they are wholly covered with very long, pure white, woolly hairs, which are very conspicuous beyond the margin. It must be kept in a cool house and not be watered overhead, although it enjoys a copious supply at the roots with good drainage.

N. Eckloniana.—An extremely rare species, and one of the handsomest in the genus. Fronds tripinnate, when well grown a foot high, produced from a creeping rhizome. When young they are clothed on the under side with a profusion of very long silky hairs, which ultimately turn brown. It must be grown in a cool house. Moist heat will soon destroy it. Native of South Africa.

N. canariensis.—This is a superb plant, and from the numerous specimens I have received from Teneriffe and the adjacent islands it would appear to be by no means rare. Its usual height is about 18 inches. The fronds are ovate-lanceolate in shape and bipinnate; the pinnules blunt, their upper side deep green, whilst the footstalks and under side are heavily clothed with long dense golden red scales, which in old fronds become of a deep reddish brown. Its great beauty and distinctness should secure it a place in every cool fernery, but it must never be syringed.

N. sinuata.—A species nearly allied to N. lævis, and by some considered synonymous, but sufficiently distinct in cultivation to warrant a separate name. The fronds are from 12 to 20 inches long and pinnate; the pinnæ somewhat oblong and deeply lobed at the edges. The upper side is bright deep green, and the under surface clothed with white and fawn-coloured woolly

hairs. It comes from warm parts of Mexico, and in winter should be placed in the stove.

N. FLAVENS.—An elegant plant, perhaps better known as N. chrysophylla, but as the true N. chrysophylla is not yet in cultivation, the name is erroneous. Strictly speaking, I prefer placing it in the genus Cincinalis, but have retained it here for the sake of uniformity. The fronds are tripinnate, 9 or 10 inches high, supported upon slender black footstalks; pinnæ distant, somewhat cordate, deep green above, covered below with a rich golden farinose powder. It requires stove heat, but should never be syringed. Native of South America.

N. NIVEA.—This is another most elegant species, similar in habit to the preceding, and, like it, should be placed in the genus Cincinalis. It differs from N. flavens in having the under side of the pinnæ covered with a snow-white farinose powder, making it a superb companion for the last-named kind, as it requires exactly the same treatment. It comes from South America.

GYMNOGRAMMA.

This is the best known, and consequently the most popular genus of Gold and Silver Ferns. The species here named are similar in general culture, therefore I shall not attempt to describe each separately. They grow from 12 to 30 inches high, in some instances more, with elegant bipinnate fronds. The kinds I name all require stove heat; some of them are rather delicate during winter, and require to be carefully kept from dampness upon the fronds. The soil which I prefer for them is peat and sand, with just a sprinkling of light loam. Although potted in such compost they require frequent and careful watering, therefore drain the pots well that no stagnant water may remain about the roots; above all, never use the syringe, otherwise the appearance of these usually beautiful plants will be utterly spoiled, through the farinose powder with which the under sides of their fronds are covered becoming splashed and dashed over the whole surface, and it is this brilliant powder which is their great attraction.

The following are the most attractive kinds in cultivation. G. calomelanos, silver. G. Pearcei, silver. G. peruviana argyrophylla, silvery on both surfaces. G. pulchella, silvery. G. tartarea, silvery white. G. Wettenhalliana, silvery white on both surfaces, with tasselled fronds. G. chrysophylla, rich gold. G. chrysophylla Parsonsii, rich golden, with tasselled fronds. G. Parsonaii gigantea, a very large and grand form of the preceding. G. Laucheana, a larger and freer-growing plant than G. chrysophylla. G. L'Herminieri, a somewhat rare plant, light golden yellow, very beautiful. G. sulphurea, an elegant small-growing species, delicately dusted with sulphur yellow.

ONYCHIUM.

O. AURATUM.—This belongs to a small genus, and is far too little known. It is a stove plant with much-divided fronds, the segments being narrow and very graceful. The upper side of the fronds is bright green, and the fruiting fronds are of a golden yellow on the under side; this arises from the indusium being of that colour, and as it is very large in proportion to the size of the pinnules, it nearly covers the entire under surface with its rich colour. It is a good exhibition plant, and is well adapted for cutting. It succeeds best in a mixture of about equal parts of loam, peat, and sand. Native of the Malay Archipelago.

CYATHEA.

C. DEALBATA.—With this plant, the Silver Tree Fern of New Zealand, I shall draw my brief remarks to a close. It is undoubtedly the most beautiful species of the whole family of Cyathea, forming a fine stem, which supports a large feathery head of fronds, which are bright green above and silvery white below. It grows admirably in a cool house, and I have little doubt but in some sheltered dells in the southern and south-western counties it would stand in the open air. For soil it requires peat and loam in about equal parts, with a liberal addition of river sand, and it will bear the syringe to be used upon it, as the beauty of the under part of the fronds is not easily removed.—EXPERTO CREDE.

LATE RIVERS PLUM.

THE culture of a numerous collection of young fruit trees is a work of much interest. The vigour and habit of a pyramidal Late Rivers Plum, planted last autumn, are so good as to be worthy of mention. This tree when it came into my hands was already well furnished with shoots, and when these were shortened for planting it measured nearly 6 feet high. It is now a picture of health, being nearly 12 feet high and 9 feet in diameter at its base; all the leading shoots from the base upwards bristle with stout little laterals, and the leading shoot of nearly 6 feet is as well furnished. I have not seen enough of the fruit to enable me to form an opinion, but I believe it is a valuable late kind. Certainly the growth of this tree greatly surpasses that of several other varieties of Plum planted near it in precisely similar soil, and attended to during the season with equal care.—EDWARD LUCKHURST.

ELECTION OF THE ROSES—GLADIOLUS FAILURES.

MANY thanks for giving us the result of the Rose poll. I quite concur with the eminent rosarians who have placed the first eight in the positions they hold; yet I rather wonder that Princess Christian is unmentioned. I think I should have voted some of my favourite Teas into a higher position. I sought in vain for Madame Falcot, Rubens, and Moiret. In some letters which I have seen in the Journal the following remarks have been made and questions asked. First I am glad to say that on the Manetti stock Louis Van Houtte has with me shown no want of vigour; on the contrary, it has been quite as strong as any other dark Rose I have except Pierre Notting. Marie Baumann has not been so strong as Alfred Colomb, but on the Manetti stock has done well; it has failed entirely on the Briar, while Alfred Colomb has been best on that stock. I find Madame Margottin very vigorous both on the Briar and Manetti; I think it a first-rate Tea. With regard to Homère, I consider it as hardy as Gloire de Dijon, and very vigorous on both stocks; it should, however, be disbudded if good flowers are wished for.

A correspondent some weeks ago mentioned L'Enfant Trouvé and Madame William as identical; now I grant that the flowers are very similar, but the wood and habit are very dissimilar. L'Enfant Trouvé has weak wood more like Narcisse, and creeps along the ground; Madame William is much more vigorous, and throws up its trusses well over the foliage.

I have this year seven hundred Teas in the open ground; if they stand the winter we seem likely to have there will no longer be any question as to hardiness.

Last year I spoke in favour of Early Rose Potato. This year I must retract all I said. This wet season it is useless—much diseased, and the sound tubers unestable.

I have this autumn, during the first and second weeks of September, picked dishes of Strawberries, second crop, from Vicomtesse Héricart de Thury.

Will Mr. Dombrain, Mr. Douglas, or some other grower of the Gladiolus, tell me whether bulbs which have not succeeded this season will be of any use next? I bought a hundred bulbs from one of our greatest English growers; I treated them most liberally, and gave them all the attention I could, but I had not a decent spike in the lot. I blamed the bulbs, the vendor blamed the soil. I have taken great pains in preparing a bed for this year; now what I want to know is, If the bulbs were ever good, will they recover; and may I expect good spikes this year?—STIFF SOIL, *Somerset*.

LAPAGERIA ALBA.

ON referring to some of the back numbers of this Journal, I noticed the directions given to a correspondent, "T. H.," for sowing the seed of Lapageria alba (see vol. xx., page 168). I trust he has been successful in his attempts to increase the stock of that truly beautiful plant, at present so small as compared to that of the rose-coloured Lapageria.

We have two plants which, after flowering profusely in the autumn of 1870, set one pod of seed each. These ripened early last summer, and there were eighty-three seeds in each pod. The first lot of seeds was sown on the 2nd of June, in a pan, which I thought more convenient than single pots on account of the less space it would occupy. The first signs of germination were noticed at the end of a month, and in a few days upwards of fifty seedlings were to be seen. On June 19th the produce of the other pod was sown in a similar manner, but only fifteen seeds germinated. As soon as the seedlings were large enough to handle they were placed in small pots, and are now nice little plants, many of them breaking from the base, all that is now required being time and the patience requisite to test their qualities.

Those who are fortunate enough to possess this lovely gem will be amply repaid for bestowing on it a little extra care and

attention, because during the autumn months its milk-white wax-like flowers can scarcely be surpassed in richness and beauty.

The manner in which we grow the white Lapagerias is very simple. They are placed on a stage in an early vinery, strong string is attached to the pots and carried to the roof, up which the young shoots twine with great rapidity. No tying is needed, for they naturally support themselves, and if permitted would soon form a mass at the top; this, of course, is prevented in order to give the growths every chance of ripening. As soon as any signs of flowering appear the shoots are taken down and regulated on a trellis, which may be of any shape according to taste, the result being a profusion of flowers for the decoration of the conservatory, and lasting a considerable time.

In the same manner are grown a few plants of Lapageria rosea. I have no doubt that by planting it and the white kind together a grand effect would be obtained when both were in flower. During the growing season of the Lapageria it is important to give plenty of water, and if care be exercised to secure good drainage, it will endure any amount. Perhaps its worst enemy is the slug; therefore, a good look-out should be kept to prevent the ravages of this destroyer, for when the young shoots are just emerging from the soil, slugs will often eat them off as fast as they appear.—C. J. W., *The Gardens, Ferniehurst.*

ELECTION OF ROSES.

[Not being by ballot, we publish the vote-papers.]

I have been asked to publish the lists sent by each of the different electors with regard to the election of Roses which appeared in your Journal of the 7th of December. I did not send them before, as I thought they would occupy too much space, and the analysis arrived at by simple arithmetical figures was, after all, the most important part. As, however, nearly all Rose-growers have their favourites, they will be glad to know which of the electors have supported their candidates. I have made two mistakes. Baron Haussman was twice mentioned instead of once, and I have put down in the list of names only once named both Lælia and Louise Peyronny. I did so from copying out the lists accurately, though strictly speaking we must consider them as identical, and consequently will give Lælia two votes.

On looking over the lists I find I am the only one naming Henri Ledechanx among the second twenty-four. This has a little surprised me, though I believe it partly because in some of the lists it was spoken of as a beautiful button-hole Rose, and many amateurs would not go to the trouble of buying and testing a button-hole Rose. With me the colour was very perfect—a true deep pink, a brighter colour than the old Jules Margottin, and a better-shaped Rose. I shall be glad to know what Rose-growers think of it after another year's trial.

Will some one else kindly give their experience with regard to Madame Chirard? as no one seems to mention it besides Mr. Radclyffe. Marie Baumann undoubtedly holds down its head, which does not make it look so well when growing on the tree, but I know no Rose to equal it when picked and put into a specimen glass on the drawing-room table; for, lovely though Madame Furtado may be, it cannot in my mind compare with Marie Baumann, and, given ten trees of each kind, I would guarantee to cut ten times as many good blooms from Marie Baumann. With me this year it has made shoots 3 or 4 feet long from the ground, even where cut down by the frost.

Mr. Baker, in sending his list of Roses to me, said he certainly would put Paul Verdier into the first twelve if it had been a Hybrid Perpetual. Has it ever been known to bloom a second time yet? and if not, why is its name still retained among the Hybrid Perpetuals?

I quite agree with Mr. Dombrain, we do not want the name "Remontant;" it is no improvement on the old one, or rather that which we have.

We are threatened with a great inundation of Roses next year. Does anyone know anything about them? If I might suggest a hint to hybridisers, we want to cross Roses of opposite habits not too nearly allied in blood, as Charles Lefebvre with La France, Alfred Colomb with Baroness Rothschild—to take the best Roses, in short, of distinct types. We still want a white Alfred Colomb.—C. P. Peach.

Rev. C. P. Peach, *Appleton-le-Street, Malton.*

1. Alfred Colomb	6. Countess of Oxford	9. Madame Caillat
2. Baroness Rothschild	6. John Hopper	10. Pierre Notting
3. Cécile de Chabrillant	7. La France	11. Gloire de Dijon
4. Charles Lefebvre	8. Marie Baumann	12. Maréchal Niel
13. Abel Grand	23. Henri Ledechaux	31. Marguerite de St. Amand
14. Dr. Andry	24. Madame Clémence Joigneaux	32. Princess Mary of Cambridge
15. Duchesse de Morny	25. Mdlle. Thérèse Levet	33. Victor Verdier
16. Duke of Edinburgh	26. M. Noman	34. Xavier Olibo
17. Duc de Rohan	27. Madame Vidot.	35. Sénateur Vaisse
18. Duke of Wellington	28. Mdlle. Marie Rady.	36. Souvenir de Malmaison
19. Dupuy-Jamain	29. Mdlle. E. Verdier	
20. Elie Morel	30. Marquise de Castellane	
21. Emilie Hausburg		
22. Lord Macaulay		

Rev. S. Reynolds Hole, *Caunton Manor, Newark.*

1. Alfred Colomb	5. Exposition de Brie	9. Maréchal Niel
2. Baroness Rothschild	6. La France	10. Devoniensis
3. Charles Lefebvre	7. Madame Clémence Joigneaux	11. John Hopper
4. Duchesse de Caylus	8. Madame Furtado	12. Marie Baumann
13. Comtesse C. de Chabrillant	21. Louis Van Houtte	30. Maréchal Vaillant
14. Countess of Oxford	22. Madame Boutin	31. Marguerite de St. Amand
15. Devienne Lamy	23. Madame Caillat	32. Marquise de Castellane
16. Dr. Andry	24. Mdlle. Thérèse Levet	33. Pierre Notting
17. Duc de Rohan	25. Mad. Victor Verdier	34. Sénateur Vaisse
18. Edward Morren	26. Madame Vidot	35. Victor Verdier
19. Gloire de Santenay	27. Madame Rivers	36. Xavier Olibo
20. John Hopper	28. Mdlle. E. Verdier	
	29. Souvenir d'un Ami	

Mr. George Paul, *Cheshunt, Herts.*

1. Alfred Colomb	5. Dr. Andry	9. Monsieur Noman
2. Baroness Rothschild	6. La France	10. Emilie Hausburg
3. Centifolia rosea	7. Marie Baumann	11. Maréchal Niel
4. Charles Lefebvre	8. Marquise de Castellane	12. Gloire de Dijon
13. Abel Grand	22. Horace Vernet	29. Sénateur Vaisse
14. Beauty of Waltham	23. John Hopper	30. Victor Verdier
15. Camille Bernardin	24. Mdlle. E. Verdier	31. Souvenir de Malmaison
16. Caroline de Sansal	25. Marguerite de St. Amand	32. Céline Forestier
17. Countess of Oxford	26. Maurice Bernardin	33. Belle Lyonnaise
18. Duke of Edinburgh	27. Pierre Notting	34. Devoniensis
19. Edward Morren	28. Princess Mary of Cambridge	35. Madame Willermoz
20. Elie Morel		36. Souvenir d'un Ami
21. Général Jacqueminot		

Mr. B. R. Cant, *Colchester.*

1. John Hopper	5. Maria Baumann	9. Devoniensis
2. Mdlle. Marie Rady	6. Maréchal Niel	10. Dr. Andry
3. Baroness Rothschild	7. Charles Lefebvre	11. Emilie Hausburg
4. Alfred Colomb	8. Souvenir d'Elise	12. Devienne Lamy
13. Edward Morren	20. Horace Vernet	29. Niphetos
14. Comtesse d'Oxford	21. Duke of Wellington	30. Madame Crapelet
15. La France	22. La Boule d'Or	31. Thérin
16. Madame Caillat	23. Duke of Edinburgh	32. Mad. Victor Verdier
17. M. Noman	24. Souvenir d'un Ami	33. Madame Vidot
18. Maurice Bernardin	25. Xavier Olibo	34. Duchesse de Caylus
19. Marguerite de St. Amand	26. Madame Willermez	35. Comtesse de Chabrillant
	27. Madame C. Wood	36. Ferdinand de Lesseps
	28. Duchesse de Morny	

Mr. H. May, *Bedale.*

1. Marquise de Mortemart	4. Edouard Morren	8. Pierre Notting
2. Baroness Rothschild	5. Maria Baumann	8. Xavier Olibo
3. Comtesse C. de Chabrillant	6. Duchesse de Caylus	10. Antoine Ducher
	7. Charles Lefebvre	11. Gloire de Dijon
		12. Maréchal Niel
13. Mdlle. Bonnaire	20. Felix Genero	29. Mdlle. Marie Rady
14. Madame Vidot	21. La France	30. Leopold Premier
15. Souvenir de Malmaison	22. John Hopper	31. Lord Macaulay
16. Devoniensis	23. Charles Lee	32. Fisher Holmes
17. Abel Grand	24. Alfred Colomb	33. Duke of Wellington
18. Marguerite de St. Amand	25. Baronne Haussman	34. Madame Moreau
19. Louis Peyronny	26. Duc de Rohan	35. Prince Camille de Rohan
	27. Madame Boutin	
	28. Paul Ricaut	36. Madame Margottin

Mr. C. Turner, *Slough.*

1. Alba rosea	6. Louis Van Houtte	9. Maréchal Niel
2. Belle Lyonnaise	7. Madame la Baronne de Rothschild	10. Maria Baumann
3. Countess of Oxford	8. Mad. Victor Verdier	11. Marquise de Ligneris
4. Duke of Edinburgh		12. Marquise de Castellane
5. La France		
13. Alfred Colomb	22. Horace Vernet	30. Miss Poole
14. Camille Bernardin	23. John Hopper	31. Monsieur Paul Naron
15. Cé ine Forestier	24. Mad. Alice Dureau	32. Monsieur Woolfield
16. Centifolia rosea	26. Madame Clemence Joigneaux	33. Prince Camille de Rohan
17. Charles Lefebvre	26. Madame Willermoz	34. Souvenir de Malm ai son
18. Dr. Andry	27. Mdlle. E. Verdier	
19. Duchesse de Caylus	28. Mdlle. Thérèse Levet	35. Triomphe de Rennes
20. Exposition de Brie	29. Marguerita de St. Amand	36. Xavier Olibo
21. Gloire de Dijon		

Rev. H. H. Dombrain, *Ashford, Kent.*

1. Maréchal Niel	5. Pierre Notting	9. La France
2. Charles Lefebvre	6. Marie Baumann	10. Baroness Rothschild
3. John Hopper	7. Cécile de Chabrillant	11. Duke of Edinburgh
4. Alfred Colomb	8. Gloire de Dijon	12. Dr. Andry
13. Antoine Ducher	23. Louis Van Houtte	30. Prince Camille de Rohan
14. Beauty of Waltham	24. Marguerite de St. Amand	31. Princess Mary of Cambridge
15. Duchesse de Caylus	25. Monsieur Noman	32. Countess of Oxford
16. Devienne Lamy	26. Mdlle. Marie Rady	33. Mdlle. Thérèse Levet
17. Emilie Hausburg	27. Marquise de Mortemart	34. Mad. Victor Verdier
18. Elie Morel	28. Marquise de Castellane	35. Mdlle. E. Verdier
19. Françoia Treyve	29. Perfection de Lyon	36. Sénateur Vaisse
20. Duchesse de Morny		
21. Lord Clyde		
22. Lord Macaulay		

Mr. J. Keynes, *Salisbury.*

1. Alfred Colomb	5. Madame Rothschild	9. Sénateur Vaisse
2. Charles Lefebvre	6. Marquise de Castellane	10. Devoniensis
3. Duke of Edinburgh	7. Emilie Hausburg	11. Souvenir d'Elise
4. La France	8. Maria Baumann	12. Maréchal Niel
13. Comtesse de Chabrillant	21. John Hopper	29. M. Noman
14. Countess of Oxford	22. Louis Van Houtte	30. Reine du Midi
15. Dr. Andry	23. Madame C. Wood	31. Sophie Cequerelle
16. Edward Morren	24. Madame Vidot	32. Victor Verdier
17. Elie Morel	25. Mdlle. E Verdier	33. Xavier Olibo
18. Exposition de Brie	26. Mdlle. Marguerite Dombrain	34. Souvenir de Malmaison
19. Fisher Holmes	27. Mdlle. Marie Rady	35. Niphetos
20. Gloire de Vitry	28. Marguerite de St. Amand	36. Souvenir d'un Ami

Rev. P. M. Smythe, *Solihull, Birmingham.*

1. Abel Grand
2. Alfred Colomb
3. Baroness Rothschild
4. Charles Lefebvre
5. John Hopper
6. La France
7. Madame Clémence Joigneaux
8. Mad. Victor Verdier
9. Madame Vidot
10. Marie Baumann
11. Sénateur Vaisae
12. Maréchal Niel

13. Anna de Diesbach
14. Baron Adolphe de Rothschild
15. Beauty of Waltham
16. Centifolia rosea
17. Comtesse de Chabrillant
18. Countess of Oxford
19. Duc de Rohan
20. Duke of Edinburgh
21. Dupuy Jamain
22. Duchesse de Caylus
23. Elie Morel
24. Horace Vernet
25. La Duchesse de Morny
26. Lord Macaulay
27. Madame Boll
28. Mdlle. Thérèse Levet
29. Mdlle. E. Verdier
30. Maurice Bernardin
31. Prince Camille de Rohan
32. President Willermoz
33. Pierre Notting
34. M. Noman
35. Victor Verdier
36. Triomphe de Rennes

R. G. Baker, Esq., *Heavitree, Devon.*

1. Charles Lefebvre
2. Alfred Colomb
3. Marie Baumann
4. Baronesa Rothschild
5. Sénateur Vaisae
6. La France
7. Maréchal Niel
8. Duke of Edinburgh
9. Emilie Hausburg
10. M. Victor Verdier
11. John Hopper
12. Mrs. C. Wood

13. Mdlle. Marie Rady
14. Victor Verdier
15. Duchesse de Caylas
16. Souvenir d'un Ami
17. Marquise de Castellane
18. Louis Van Houtte
19. Xavier Olibo
20. Paul Verdier
21. Dr. Andry
22. Catherine Mermet
23. Marquise de Morte-
24. Felix Genero [mart
25. Marguerite de St. Amand
26. Gloire de Dijon
27. Nardy Frères
28. Maurice Bernardin
29. Hippolyte Flandrin
30. Abel Grand
31. Centifolia rosea
32. Devienne Lamy
33. Exposition de Brie
34. Madame Vidot
35. Comtesse de Chabrillant
36. Duke of Welliogton

Rev. J. B. Camm, *Monkton Wyld, Charmouth.*

1. Alfred Colomb
2. Baroness Rothschild
3. Centifolia rosea
4. Charles Lefebvre
5. Duke of Edinburgh
6. Fisher Holmes
7. John Hopper
8. La France
9. Marie Baumann
10. M. Noman
11. Senateur Vaissa
12. Maréchal Niel

13. Antoine Ducher
14. Comtesse de Chabrillant
15. Countess of Oxford
16. Dr. Andry
17. Duc de Rohan
18. Edouard Morren
19. Lælia
20. Leopold Hausburg
21. Madame Crapelet
22. Mdlle. E. Verdier
23. Mdlle. Marguerite Dombrain
24. Marguerite de St. Amand
25. Marquise de Castellane
26. Olivier Delhomme
27. Pierre Notting
28. Princess Mary of Cambridge
29. Triomphe de Rennes
30. Alba rosea
31. Catherine Mermet
32. Devoniensis
33. Madame Trifle
34. Gloire de Dijon
35. Souvenir d'Elise
36. Souvenir d'un Ami

Mr. C. J. Perry, *Castle Bromwich, Birmingham.*

1. Alfred Colomb
2. Charles Lefebvre
3. Duchesse de Caylus
4. Edward Morren
5. Emilie Hausburg
6. Felix Genero
7. La France
8. Madame la Baronne de Rothschild
9. Mdlle. E. Verdier
10. Mad. Victor Verdier
11. Maréchal Niel
12. Marie Baumann

13. Baron Hausaman
14. Charles Rouillard
15. Countess of Oxford
16. Devoniensis
17. Dr. Andry
18. Duke of Edinburgh
19. Dupuy-Jamain
20. Ferdinand de Lesseps
21. Gloire de Dijon
22. Horace Vernet
23. Leopold Hausburg
24. Leopold I.
25. Mad. Derrenx Douville
26. Madame Clémence Joigneaux
27. Madame Jacquier
28. Mdlle. Marie Rady
29. Marquise de Castellane
30. Maurice Bernardin
31. Paul Neron
32. Paul Verdier
33. Pierre Notting
34. Sénateur Vaissa
35. Souvenir d'un Ami
36. Thomas Methven

Mr. J. Cranston, *Hereford.*

1. Alfred Colomb
2. Baroness Rothschild
3. Charles Lefebvre
4. Countess of Oxford
5. Horace Vernet
6. La France
7. Madame C. Wood
8. Mdlle. E. Verdier
9. Marie Baumann
10. Gloire de Dijon
11. Maréchal Niel
12. Mad. Victor Verdier

13. Annie Wood
14. Centifolia rosea
15. {Comtesse de Chabrillant / Duchesse de Caylus}
16. Duke of Edinburgh
17. Dupuy-Jamain
18. Emilie Hausburg
19. Edward Morren
20. John Hopper
21. Jules Margottin
22. Louis Van Houtte
23. Madame C. Crapelet
24. Madame Vidot
25. Mdlle Marie Rady
26. Marguerite Dombrain
27. Marguerite de St. Amand
28. Maurice Bernardin
29. Marquise de Castellane
30. Paul Neron
31. Nardy Frères
32. Pierre Notting
33. Sénateur Vaisse
34. Devoniensis
35. Madame Willermoz
36. Souvenir d'un Ami

Rev. C. H. Bulmer, *Credenhill Rectory, Hereford.*

1. Alfred Colomb
2. Baroness Rothschild
3. Charles Lefebvre
4. Climbing Devoniensis
5. Countess of Oxford
6. Emilie Hausburg
7. Marie Baumann
8. Gloire de Dijon
9. Mdlle. E. Verdier
10. M. Noman
11. La France
12. Maréchal Niel

13. Ferdinand de Lesseps
14. Marguerite de St. Amand
15. Louis Van Houtte
16. Edward Morren
17. Dupuy-Jamain
18. Duchesse de Caylus
19. Dr. Andry
20. Abel Grand
21. Jules Margottin
22. Paul Neron
23. John Hopper
24. Annie Wood
25. Duke of Edinburgh
26. Horace Vernet
27. Madame Caillat
28. Sénateur Vaisse
29. Madame Cranelet
30. Madame C. Joigneaux
31. Pierre Notting
32. Madame V. Verdier
33. Nardy Frères
34. Centifolia rosea
35. Madame Vidot
36. Madame Bravy

Rev. E. N. Pochin, *Sileby Vicarage, Leicestershire.*

1. Maréchal Niel
2. Baroness Rothschild
3. Charles Lefebvre
4. Alfred Colomb
5. Horace Vernet
6. Marie Baumann
7. Victor Verdier
8. Madame V. Verdier
9. Duc de Rohan
10. La France
11. Mdlle. Marie Rady
12. Marguerite de St. Amand

13. Dr. Andry
14. Mrs. C. Wood
15. Baron Gonella
16. M. Noman
17. Maurice Bernardin
18. Souvenir de Malmaison
19. Antoine Ducher
20. Fisher Holmes
21. Madame Margottin
22. Gloire de Dijon
23. Xavier Olibo
24. Sénateur Vaisae
25. Pierre Notting
26. Lord Macaulay
27. Madame C. Crapelet
28. Madame Caillat
29. John Hopper
30. Duke of Wellington
31. François Louvat
32. Gloire de Vitry
33. Leopold Hausburg
34. Annie Wood
35. Marquise de Castellane
36. Mdlle. E. Verdier

LARKFIELD RIVAL PELARGONIUM.

Some months ago I contributed to the Journal a short list of Show Pelargoniums adapted for forcing, and I specially noticed the usefulness of Larkfield Rival for the purpose. Further experience confirms my opinion of its merits, and leads me to the conclusion that it is the best forcing variety of Pelargonium that I have ever grown or seen. I considered it so manageable that I determined to attempt flowering it at Christmas. I accordingly ripened plants of this and other varieties, and cut them down the first week in June. I grew them in the open air during the summer months. Larkfield Rival and Crimson King are now in beautiful bloom. The latter, though not bright even when at its best, is more than usually dingy now, and is by no means a striking object in the depth of winter, but far otherwise is the former. Its glistening white is more than usually clear, and the delicate touches of pink in the upper petals add to its attractiveness. On entering the house it is the plant of all others that catches the eye of every visitor.

The above facts are tolerably conclusive evidence of the value of Larkfield Rival as a winter-blooming plant for greenhouse and conservatory decoration. So far from its having a drawn and unnatural appearance, it is more than usually sturdy. The flowers, to the number of four, five, or six on each truss, are borne on stout stems not more than 4 inches in length, and rest just over the foliage. From a florist's point of view it possesses little merit, perhaps, and this is why it may not appear in trade lists; but if it is wanting in circular outline, it is not so in general effect and usefulness, qualities which, to the majority of gardeners, are of equal, if not of greater importance than outline. I found the plant here upwards of six years ago, and confess I thought little of it. Since that time the addition of other varieties has rendered occasional weedings necessary, but now I would sooner part with any Pelargonium on the place than with this. Grown in quantity for early blooming few plants are more easy to flower and could be more useful, and where cut flowers are in great request few would be more admired in winter and spring. No doubt there are other varieties amenable to the same treatment—ripening and cutting down early—and which would be useful for winter flowering. It is not exactly forcing, but simply taking advantage of their natural precocity and indulging them accordingly.—J. W., *Lincoln.*

CELERY RUNNING TO SEED.

On the 28th of February I sowed four pans of Celery in good rich compoet, and placed them in a small frame with very mild heat. They were —No. 1, Cole's Incomparable; 2, Cole's Crystal White; 3, Cole's Defiance; 4, Ivery's Nonsuch. The four lots were pricked into boxes on April 26th, again pricked-out into beds June 6th, and finally planted-out, Nos. 1, 2, and 3, July 6th, and No. 4 July 15th. In all the stages, from the first sowing to the final planting-out, they were treated with old stable manure, mainly from a Cucumber frame, and fowls' dung, had occasional waterings of liquid manure in the earlier stages, but nothing after the final planting-out, at which time they were all fine and apparently healthy plants.

No. 1 turned out beautifully solid and crisp, and was gathered from the middle of September to the middle of November. Nos. 2, 3, and 4 are all gone to seed, or, when they have not actually seeded, are mere hollow canes. The lots are side by side in the same ground, and I know of no difference in their treatment from first to last.—Subscriber, *Cartmel.*

[We should say that the fowls'-dung liquid manure when the plants were young would be apt to accelerate the seeding process; but the chief cause of failure we consider to be not so much such watering in the earlier stages, "but nothing after the final planting-out in July." In the hot weather the plants would have required a good many drenchings after that. In the current volume the causes of Celery bolting have been frequently referred to. Bear in mind that Celery is a ditch plant, and you may never be so disappointed again. We have not seen a run head yet.]

Weeks' Pocket Book and Diary.—Messrs. John Weeks and Co., of Chelsea, have again issued their annual Pocket Book

and Diary, which for all gardeners will be found a very useful pocket companion. Messrs. Weeks say, "Not merely as a trade announcement do we circulate amongst gardeners our annual Pocket Book and Diary, but especially with a view to promote the habit of keeping a daily record, or garden memoranda, of sowing, planting, treatment, temperature, changes, and notes of general information, giving practical results from past experience, which can hardly fail to serve as a useful reference for future operations, and thereby reduce to method and order that which too frequently has been carried out by the 'rule of thumb.'"

WINTERING GERANIUMS—SANTOLINA INCANA.

Thinking it might be useful to some of your readers who have Geraniums to keep and have not the best of convenience for the purpose, I write to mention the following circumstance.

To the south-east of the grounds here is the river Dysyni, near which we have a pretty cottage, with a verandah running round three sides, supported by rustic pillars. Under the verandah, which of course is quite open at the sides, we plunged some Trentham Rose and Tom Thumb Geraniums in pots. For the last six weeks they have had no water, and though so near the river, where the air is generally much colder and moister than on the higher ground (we have had 12° of frost), yet the Geraniums are quite as fresh as in September, thus showing that if kept dry they will endure a much greater degree of cold than if kept constantly saturated with water.

I can endorse what Mr. Luckhurst says of Santolina incana (page 313), except as to its being perfectly hardy. In Montgomeryshire, in the Severn Valley, I planted several plants on a rockery, but they quite succumbed to the severe winter of 1870-71, when we had 34° of frost. I may mention that the rockery was in an exposed position, and that plants in a cold frame with a little covering passed the winter safely.—George Cooke, *The Gardens, Peniarth, North Wales.*

DESTROYING AMERICAN BLIGHT, MOSS, AND SCALE.

Where American Blight exists on trees I recommend as the simplest remedy thoroughly coating them with fresh limewash, by means of a brush or an old syringe. At this season, and in a frost, the insects go down into the ground. Baring the roots and watering with ammoniacal liquor, or, what I have found as good, dusting all over with a layer of fresh lime and soot, will to a considerable extent destroy the insects. Simplest remedies are often the best. Turpentine, oil, and other liquors will kill the insect when they fairly reach it, but they often more or less injure the wood. Even if none of the insects appear on the trees now, if they do so in summer they will leave their eggs and young behind, and these may be found on turning up a piece of loose bark in the knots, where they are fond of congregating. The safest application I have used is fresh limewash, which, applied now, and again before the buds swell in the spring, will generally destroy the insects without injuring the trees. I have applied it to the bole of a tree and some of the larger branches in the summer, and found that the insects were almost destroyed. The powder of the lime, even when it has become mild, annoys the insects, as it rolls and falls about them. The limewash will also prevent the birds from picking the buds. The whiteness seems to deter as well as the mere action of the lime, for the caustic alkali ere long becomes no better than so much chalk.

For destroying moss on trees nothing is better than a good application of limewash made with salt water. It is tedious to use a brush, but a good barrel of fresh limewash may be quickly made by powdering the lime, passing it through a fine sieve, and then pouring water on it through the sieve, or a rough canvas bag that will let no large pieces of lime pass through. Then syringe the trees all over with the thickest wash by using the jet of a syringe. This also will help to scare birds, and all will be mild and sweet enough before the buds swell.

I find some of my friends have their trees so much affected with scale that the bark cannot be cleaned. Anything in the way of a paint that will smother the scale will be of advantage, as clay and lime paint; but one of the simplest and best remedies I have found is syringing or engining the trees with water at from 160° to 180° in a continued frost. The shoots will soon be encrusted in ice if a proper time be chosen; and if this ice coating remain, a large portion of the bark that is loose, and the clinging insects, will come away; there will thus be a chance of the bark becoming clean and healthy.—R. F.

FRENCH DESCRIPTIONS OF ROSES.

I can assure "D., *Deal*," that I never take offence at any impartial and candid *critique* on my contributions, but if I find any such to contain a misquotation or misapprehension of my meaning I claim a right to reply. The phrase to which I took exception was "*se tenant bien*," see page 333, not "*belle tenue.*" I am, however, willing to pass over this trifling difference. I was induced to believe that "erect" was not the meaning intended by the French Rose-growers from finding that the result did not tally with the description.

In reply to "D., *Deal's*," protest against the retention of "Remontant" in preference to Perpetual, I beg to differ from him *in toto*. I see nothing more ridiculous in telling Jack to water those Remontants than in directing the same useful individual to water the Perpetuals. It is far more probable that in actual requests of this kind neither word would be used. The protest is equally applicable to *depôt*, *prestige*, *souvenir*, *critique*, and many other useful words of daily occurrence, which are now as much at home with us as Perpetual, which at best is only a clumsy and floundering attempt at translation of a word for which we have not an exact equivalent. I am strongly inclined to believe, therefore, that the word Perpetual, as applied to the most important section of Roses, is as much "doomed" as the Briar upon which they formerly used to be much more grown than at present.—A. H. Kent.

CONSEQUENCES OF EXPOSING PLANTS TO SMOKE.

At a recent meeting of the Warrington Literary and Philosophical Society, Mr. E. Green, head gardener at Bank Hall, read the following notes on vegetable life in and about Warrington:—

The few remarks I am about to lay before this meeting will, no doubt, give rise to some differences of opinion as to whether I am correct or not in my observations. Let me say I have strictly confined myself to what has come under my personal notice with regard to the destruction of trees, shrubs, and plants by smoke and chemical vapours, and also in regard to certain plants that will not grow—I believe from natural causes.

I have lived in Warrington for twenty-five years; most of that time I have been employed on the grounds at Bank Hall, and I have paid considerable attention to the decay of vegetable life. Among the evergreens that are most severely injured by smoke, &c., are the Conifers. The Scotch Fir (Pinus sylvestris) has long since disappeared with us. So has the Spruce (Abies excelsa). About two years ago we planted one hundred young healthy plants; there are only a few now alive, and these are sickly. I have seen nice plants in other parts of the town gradually dying. The Arbor-Vitæs (Thuja occidentalis and Thuja Warreana), the Saviu (Juniperus Sabina), Lavender (Lavandula spica), Rosemary (Rosmarinus officinalis), Laurustinus (Viburnum Tinus), and Cotoneaster microphylla are among the plants that fifteen or twenty years ago flourished well with us but have now disappeared.

Among the plants that just exist are the Yew (Taxus baccata), several varieties of Heaths, the Sweet Bay (Laurus nobilis), Common Laurel (Cerasus Laurocerasus), and Portugal Laurel (Corasus lusitanica). The Cedrus Deodara and Araucaria imbricata we have not tried here, but I have seen them in the town, very meagre specimens; at the cemetery they grow tolerably well. The common Holly (Ilex Aquifolium), has grown very well till within the last three or four years, the tips of the plants are now dying. The Evergreen Oak (Quercus Ilex latifolia), has so far stood pretty well; so has the Box (Buxus sempervirens). Among the evergreens that flourish best is the Rhododendron; the plants here are healthy, flower freely, and grow to a large size, the only complaint is the foliage is very dirty. The Aucuba japonica is more vigorous than the Rhododendron, and grows almost under any treatment with us, but the very best of all is the Ivy, particularly the Irish Ivy (Hedera canariensis); this does not appear to be damaged in the least, beyond being dirty.

Among the deciduous trees and shrubs suffering most are the Mountain Ash (Pyrus Aucuparia), Service (Pyrus Sorbus), Beech (Fagus sylvatica), Hornbeam (Carpinus Betulus), Wych Elm (Ulmus montana), and several other large-leaved Elms. The Sycamore (Acer campestre), and the variegated Sycamore

have suffered very severely the last two or three years. During the present year the leaves have been three times suddenly destroyed, and the result has been that the trees put forth fresh, but very puny ones; the trees will certainly die before long if they continue to suffer the loss of foliage. The Birch (Betula alba), Poplar, and the Lombardy Poplar (P. fastigiata), are now suffering to some extent in various parts of the town. The Ash (Fraxinus excelsior), till two or three years ago was among the trees least affected here. The late Mr. Rothwell placed this tree among those most easily affected by chemical vapours; as it here stood so well the dense smoke for many years and now is so much affected, tends to show that though it will not stand these vapours yet it will stand black smoke pretty well. The Horse Chestnut (Æsculus Hippocastanum) a few years ago grew well and flowered profusely, but is now suffering severely.

I may remark that the fact of some sorts of trees, now sinking so rapidly, being able to resist the effects of smoke a few years ago, is a sign that there must be something in the atmosphere that there was not formerly, for some trees that showed little or no signs of decay through dense smoke are rapidly giving way. While the large Elms suffer, the common English Elm (Ulmus campestris) has so far proved to be one of the very best growing trees in a smoky atmosphere, retaining its foliage much longer than any other old-established tree that we are acquainted with. We have two years ago planted several Plane trees (Platanus occidentalis), and so far they appear to be the very best trees to suit this locality. The Common Oak (Quercus Robur) stands as well here as in the country. One that grew close to my cottage was cut down this spring, that was a good specimen of early-foliaged trees. We have two or three Turkish Oaks growing well. Among the others that stand well is the Tulip tree (Liriodendron tulipifera), common Laburnum (Cytisus Laburnum), and Lilac (Syringa vulgaris). The Mulberry (Morus nigra) keeps its foliage well. The Walnut (Juglans nigra) we have not got, but in Orford Lane it grows well. The Hawthorn (Cratægus Oxyacantha) and Elder (Sambucus nigra) are the very best of all trees or shrubs to withstand deleterious vapours. They grow near Widnes better than any other trees. I saw stunted plants of Elder, where the garden at West Bank formerly was, alive when there was scarcely a leaf of any other remaining plant to be seen.

I do not think it necessary to dwell on fruit trees beyond stating that the Red and White Currant trees have nearly succumbed. Black ones still grow. Gooseberries are getting worse; so are Apple trees; but Pear trees still grow well, only the fruit is dirty.

In softwooded flowering plants, though some of them grow very well, yet the flowers are unsatisfactory, with very few exceptions, among which are the Dahlia, Stocks, Pansies, Mignonette, Nasturtium, Lobelia, Ageratum, Pentstemon, Antirrhinum, and a few others. For the last few years I have paid some attention to variegated and fine-foliaged plants in the flower garden, and found this to be the best course to take to get a good display of colour, which is a fine substitute for flowers in a town atmosphere.

The Rose we used to grow well, but now it is very inferior. The Scotch Rose we have been compelled to destroy, it was so bad. The Chrysanthemum is also very inferior to what it was a few years ago. I may mention there is some variation under peculiar circumstances. For instance, a Laurustinus might be found somewhere in town, but not very healthy nor yet flowering freely, and even that in some dry place, or it might be a Yew tree in some screened or sheltered spot, but the notes I have given are from careful observations, and will apply to a large majority of plants in Warrington. If we get a little outside we find some improvement. As a sample we might take a walk from Bank Quay through Orford to the cemetery. At Orford we see the Fir has made very fair growth for a few years, but on inspection we find the growth has become more retarded every year. The same remarks will apply to the same trees at the cemetery, more particularly those on the Warrington side.

I will now for a few moments draw your attention to the general appearance of forest trees within a few miles of Warrington. Leaving that desolate place Widnes, and passing to Bold Heath, there we find trees in fair condition, but as we near St. Helen's Junction they are again bad. In this locality is a group of promising trees cut off in their prime. Near Earlestown is another group, healthy on the east side but injured on the west. At Bewsey the woods look pretty well, but between there and Earlestown they are very bad. Near Newton Bridge, in the valley round the lake, the trees look well; so they do at Kenyon. Crossing the moss through Rixton, High Leigh, Lymm, Grappenhall, Appleton, Walton, and Daresbury, trees look well on the average. So they do on the east side of Norton; but on the west, near Runcorn and Widnes they are severely injured, whilst at Widnes, St. Helen's, and Newton we find a very large number of trees entirely destroyed by chemical vapours. We also find some trees in other parts not looking healthy, but many of them never were anything but stunted or starved, through the unsuitability of soils or subsoils, or perhaps the trees were never properly planted, or the ground properly prepared. But when trees that once were vigorous become gradually destroyed, their leaves being injured from time to time, then we feel sure some chemical agent is at work; nevertheless, we ought always to be cautious in our judgment. Sometimes premature decay is laid to the charge of smoke when something else is the cause of it. I have seen a little of this. On one occasion there was pointed out to me a lot of young Firs, in which a few were dead. The dead Firs were not all together, but were intermixed with the healthy ones; they were diseased at the roots. I noticed that live branches of the trees around them were intermixed with those of the dead ones. All were of one variety. Had this been the effect of chemical vapour some portion of the adjoining trees would have been discoloured, while the other part which the vapour did not pass over and fall upon would have remained green. The sulphurous gas, or whatever it may be, passes over in a body, very often in a direct line, injuring only that plant, or portion of plant, on which it falls. Plants affected by smoke only gradually decline, when by deleterious gas the destruction is much quicker.

We must bear in mind there are natural causes even in Warrington, through which certain plants will not grow; it may be soil, subsoil, or air. This we find to be the case with Ferns. I have paid some attention to the growth of these plants. It is remarkable that some of the Ferns that grow within a short distance of town, I have not been able to establish in Bank Hall grounds, while others have grown successfully, and this experiment was tried nearly twenty years ago, before our atmosphere was so bad; so the success or failure was from natural causes. The following Ferns grow well with us:—Pteris aquilina, long established in Bank Hall gardens; most likely brought in among the peat used for planting Rhododendrons; Lastrea Filix-mas, L. dilatata, and Athyrium Filix-fœmina, all found with a short distance from town on every side, in some places very abundant, more particularly in Dallam and Burton Wood. Many varieties of these Ferns grow vigorously. Osmunda regalis is found at Dallam, Risley, and Appleton, in moderate quantities. A short time ago there was at Bold Heath an old marshy piece of land brought under cultivation by lowering the slope or bank of the marsh and digging and planting with Potatoes, wherein came several young plants of Osmunda, no trace of any old plant being seen, so I think we may conclude the spores must have long lain dormant, and when brought to the action of the air they vegetated. Among those that grow moderately is Polystichum aculeatum, found in Bewsey; P. lobatum; Lastrea Oreopteris, found at Appleton, Penketh Common, Belman's Lane; Lastrea Thelypteris, Knutsford Marsh; and Lomaria Spicant, in the outskirts of the town. Onoclea sensibilis (American Fern), formerly grew behind Orford Hall, but is now eradicated. Among those that grew a few years and then died were Polypodium Dryopteris (I believe there is a plant of this kind growing near the Water Works, but I have not seen it), Polypodium Phegopteris, P. calcareum (not local here), Cystopteris fragilis, Lastrea rigida (chiefly mountain Ferns), Scolopendrium vulgare (Burton Wood), &c. Among those that live only two or three years are Asplenium Adiantum-nigrum (Winwick), A. Trichomanes (Appleton Park), A. Ruta-muraria (Penketh and Stockton Heath), Polypodium vulgare (very common), Asplenium lanceolatum, A. viride, Allosorus crispus, Ceterach officinarum. I have not seen these last four growing anywhere about here. The last I name is Ophioglossum vulgatum, found on the river bank below Atherton's Quay. I have taken great pains with this plant, and tried it on its own soil, even taken up with a large lump of earth, but in no way could I succeed. I have tried almost every British Fern, but many of them without success. We have still a few in pots that we have kept for many years in the frames, growing only moderately.

Some time ago we prepared a piece of land for bog plants collected on Risley, Woolston, and Rixton Moss; Heaths and a few others prospered for a few years, but the Sweet Gale (Myrica Gale) we could not get established. Though we do suffer, and suffer severely, from smoke and deleterious gas, we

must bear in mind that there are natural difficulties also to contend with, and that we should endeavour as far as we are able to pay attention to these obstacles, and try to grow in and around our town such trees as will grow best under the circumstances in which we are placed.

Mr. Paterson said no doubt a general opinion prevailed that it was to the smoke and chemical vapours in the neighbourhood the decay of vegetation was largely owing, but there were other causes in operation which would go far to explain the phenomena. For instance, the Fir was frequently found in a state of decay under circumstances that might be considered favourable to its growth, and which it was impossible to explain from any cause referred to. There was also another plant very susceptible to smoke—the Laurustinus. It was extremely sensitive to smoke and chemical vapours, and yet it grew vigorously in the immediate neighbourhood. In the case of Ferns there was a difficulty in associating the alpine with the common Ferns of the neighbourhood, inasmuch as they required a drier atmosphere. The failure in growing them was not, therefore, to be ascribed to smoke, but was due entirely to the altered condition under which these plants required to be treated.

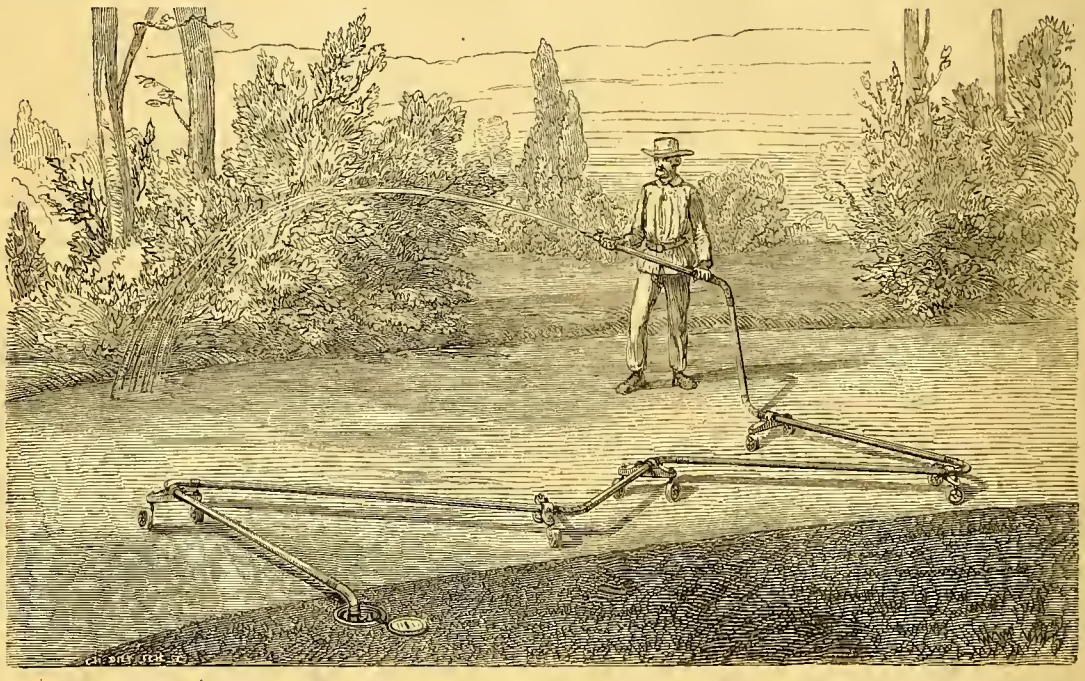
The Rev. J. B. Johnstone said, that when recently in Scotland, he observed several Larch trees had died in certain districts which were free from smoke and chemical vapours. No one could give the reason for it, and the curious thing was that trees of greater size formerly flourished on the spots.

Mr. Green, in replying to the remarks of the various speakers, gave the results of his observations on various forest trees in the Bewsey Valley, and said that he invariably found that the trees commenced to die from the west side.

"LES PROMENADES DE PARIS."

Bois de Boulogne, Bois de Vincennes, Parcs, Squares, Boulevards. Par A. Alphand. Paris: J Rothschild.

This splendid work is the substance, of which one with a somewhat similar title recently published in English is merely the shadow. All that talent in engineering skill combined with artistic ability and enterprise can effect, unite in making this



Watering Apparatus.

volume of M. Alphand the most complete, useful, and elegant which has ever been produced on what we in this country are accustomed to call Landscape Gardening and Groundwork. No one could have been better qualified than M. Alphand for the execution of such a production. His experience is that which few men have had the opportunity of gaining, for throughout the whole of the extensive works which have for so many years been going on in the construction of modern Paris, M. Alphand has been chief engineer, and most ably has he given to the world the result of his vast experience in this remarkable book.

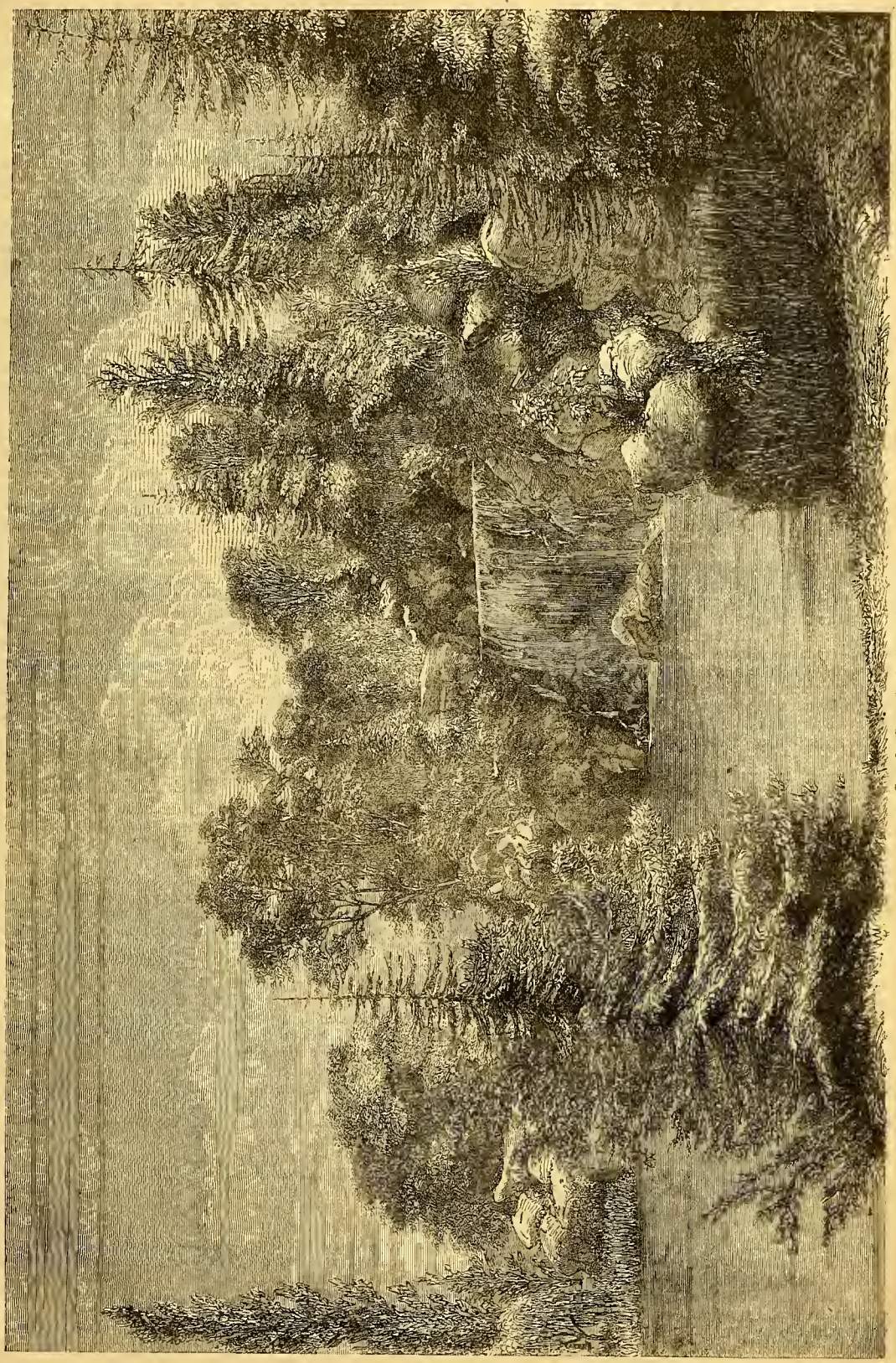
The work is essentially a *livre de luxe*, printed on paper akin in quality and substance to cardboard, and illustrated both by wood engravings and chromo-lithographs in the highest style of French art. We have recently given in our pages examples of these woodcuts, which were liberally placed at our disposal by M. Rothschild. The portraits of Palms with which our pages have lately been interspersed are taken from the sheets now before us, and we shall be enabled, through M. Rothschild's kindness, to furnish our readers with a variety of illustrations from which they will be enabled to form a slight, though very slight, idea of the quality and importance of "Les Promenades de Paris."

The first section is devoted to the Bois de Boulogne, and the first chapter of the section treats of the general description of the Bois and the works which have already been completed there; and what renders the information which is given so valuable is, that the details of the works are all illustrated and the entire cost of them is given. The third chapter treats of the roads and walks, of which every particular is furnished of the drains, the tanks, the ballast, the gravelling, and even to the edgings. In Chapter IV. we have a full account of the arrangements for supplying the Bois with water, in which the underground arrangements for conducting it and the hydrants are fully explained and illustrated. The figure which is here given represents the mode by which the roads and walks of the Bois are watered. M. Alphand says that formerly this operation was performed by means of water-barrels drawn by horses, and containing one cubic metre of water, which was discharged through a pipe behind pierced with holes; but since the introduction of the "lance," which is represented in the figure, the cost of watering has been reduced from 210,000 francs for six months' watering to 55,000 francs per annum.

Chapter V. treats of the lakes, sheets of water, rivulets, and cascades. The most important of the latter is the "Grande Cascade de Longchamps," of which we furnish an artistic representation taken from the original work. The waters which supply this cascade, reserved during twenty-four hours in the reservoir, are discharged at the fashionable hour of promenade in a

sheet 12 feet wide, and with a fall of 24 feet into a basin. Two lateral falls accompany the principal one, and the total delivery of water is 3000 metres cube per hour, or 800 litres every second.

We shall have occasion frequently to allude to this admirable work, but we shall at present merely content ourselves with explaining to our readers its style. It is in large folio,



Grande Cascade de Longchamps

printed on the finest paper, illustrated with hundreds of woodcuts, engravings on steel, and chromo-lithographs. It is published in parts, of which fifty-four out of the sixty-five, which will complete the whole in 1872, have already appeared. Each part costs 4s., but as a great number of the copies were destroyed in the fire at the Hotel de Ville, the price of £13 to subscribers for the whole work will be raised to £16 when it is completed. Up to the present time the Bois de Boulogne and the Bois de Vincennes are complete. There now remains Paris proper to be illustrated and described.

To all owners of estates, country residents, landscape gardeners, architects, and amateur horticulturists this work is an invaluable boon, and it ought to find a place in every public library.

WORK FOR THE WEEK.

KITCHEN GARDEN.

Proceed with manuring and trenching, which are the principal operations at this season. Sifted coal ashes are excellent for the back walks as bearing the winter traffic well, and being always pleasant to walk upon; a coating may now be put on if they are in bad condition. *Beans* advancing should have the surface soil stirred, and the earth drawn over them. *Peas* sown on a warm border will now be peeping up; the surface soil should be stirred about them, and a covering of decomposed leaf mould laid immediately over the rows. If cutting winds prevail some branches of Spruce Fir or Birch on the windward side will be useful.

FRUIT GARDEN.

Pruning and nailing wall trees should be carried on with the utmost dispatch at every favourable opportunity. Trees infested with scale should be loosened from the wall entirely, the bark well scraped, and painted with a mixture of soft soap, cow dung, and lime, taking care to well work the composition into the crevices of the bark. If planting young trees or removing others has still to be done, attend to it at once. Let Gooseberry and Currant bushes be pruned on frosty mornings, or when the ground is in a dry state, so that it will bear to be trodden upon without injury. After pruning give the ground among the Gooseberry trees a good dressing of lime, which is useful as a preventive of their great enemy the caterpillar. Also wheel the manure necessary for the other small fruit bushes whenever a favourable opportunity occurs, and dig the ground that it may look clean and fresh. Where the Raspberry grub is troublesome, give a dressing of gas lime before digging the ground, taking care to apply it regularly about the base of the plants. The ground among fruit bushes should be dug very lightly, especially in the case of Raspberries, which have their roots near the surface, and it is better in all cases to dispense with digging, where it cannot be done without injuring the strong roots. The pruning of orchard trees of large size is much neglected in many places, the head being allowed to get so thick of wood that fruit cannot be expected save from the points of the outside shoots; and except when the crop is accidentally thinned to something considerably below an average, the fruit is small and of indifferent quality. Dry frosty weather offers an opportunity for properly thinning the heads of trees, as men can work at this with comfort when it is too cold for nailing. Cut out all branches which cross the others, and dead pieces, leaving the shoots sufficiently far apart that light and air may have free play among those left when the foliage is on. In removing large branches care should be used to make close clean cuts, and if the wood is coated with strong thick paint, this will help to prevent decay setting in before the wound is healed over.

FLOWER GARDEN.

Flower borders should now be top-dressed with some well-prepared compost, which should be forked in and the surface of the borders left as rough as possible. This will give them a fresh appearance during winter, and will be of great service in stiff soils, for the soil will be pulverised by the frosts of winter. From about standard Roses, which, by the weakness of the shoots and the paucity of their bloom this season, are showing symptoms of decay, the surface soil should be taken off down to the roots, and all suckers removed, after which a thick coat of well-decayed dung should be placed round them, and covered with soil. This applies with still greater force to those standards planted out in turf, in which case, taking it for granted that the turf is not nearer the stem than 18 inches, the soil should be removed as in the former case, and a good dressing of strong compost applied. If this be covered with flints or white pebbles, the unsightly appearance of the soil upon the turf will be obviated.

GREENHOUSE AND CONSERVATORY.

Many failures in plant-growing, and the sickly and drawn character of the inmates of greenhouses, may be fairly traced to the attempt to maintain a degree of artificial warmth incompatible with the amount of light. Heat as well as atmospheric moisture should at all times be regulated strictly in accordance with the amount of light. No prescribed temperature, even if stated by the most experienced, will answer well without some modifications founded on the character of the weather. For instance, a general temperature of 55° by day may be recommended for the conservatory through December, supposing it to be what a house of the kind ought to be—namely, filled with Camellias in flower, hybrid Roses, and a host of other gay subjects. This recommendation will be very suitable whilst the weather continues open, but if frost suddenly sets in the attempt to keep up even this moderate temperature will, from the construction of most houses, soon produce bad effects, provided the frost continues, more especially if accompanied by a dull and lowering sky. In such cases the experienced gardener will allow only the minimum amount of heat, and be content with an average of 45°. The attempt to maintain an unnatural degree of heat will, of course, require the assistance of a corresponding amount of atmospheric moisture, and this under ordinary circumstances will have a tendency to produce drip.

STOVE.

Some of the early-ripened tall Cacti may now be introduced either into the stove or the forcing pit, and receive a liberal watering to commence with. If, however, the blossom-buds are not well matured it is of little use forcing them. Do not encourage any fresh growth among stove plants at this period, rather aim at that kind of routine management which will serve to consolidate the growth already made, and to properly develope the blossoms of late-flowering plants. Great caution will be necessary during the next month to provide against drip. Many plants, such as Orchids, will make late growths in spite of system, and these, although not encouraged by improper temperatures, will be liable to decay if condensed vapour or drip be permitted to lodge in them. Where the heating apparatus is sufficient for the purpose (as it should be in all cases) a very free circulation of air may be encouraged, not only by day but also by night when the weather will permit. This is the best corrective after all to drip and the condensation of moisture.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

We laid a leaf over some young heads of Cauliflower to keep them from being stained by the litter. As the thaw has set heaps of leaves heating, we shall at the beginning of the week be preparing beds for Cucumbers, Carrots, Radishes, early Onions, Potatoes, &c., so as to get a little in advance. Now is the time for washing glass, cleaning houses, washing plants, tying mats, making tallies, sticks, and stakes of all kinds. Labled most of our forced Strawberry pots, to prevent confusion on the plants being again transplanted. Leaves that are heating require no turning, and plants must not be plunged in too great heat, or else they will be destroyed. For all delicate purposes, such as Cucumber beds, the leaves should be allowed to heat well before using them, so as to destroy all molluscs and spores that might be amongst them. We find a good plan to keep snails and slugs out of moss is to soak it in a barrel of very warm water, with a spadeful of quicklime well worked through it.

Laid-in a stock of Rhubarb, Sea-kale, and Asparagus roots for succession; these ought all to be kept well secured and damp. For out-door forcing nothing is better than an old barrel. A barrel set over a huge Rhubarb stool with the bottom end uppermost, and surrounded with a mound of leaves or litter, would yield a good many gatherings of early Rhubarb. Such a barrel bored with holes half an inch or a little more in diameter, in rings 6 inches apart, would hold a great number of roots of Dandelion or Chicory; the top of the plant is left outside the barrel, and the bulk of the roots inside, packed in damp earth layer above layer. This if placed in a dark cellar would furnish many a salad for the winter months.

As the weather became mild we took the opportunity of examining beds in the Mushroom house, and brought in material for making another bed. We could not do this during the severe

frost, as we feared admitting the frosty air. The sudden admission of cold air will stop the swelling of the very young Mushrooms, and in unfavourable weather it is well to cover a bearing bed previously to opening the house.

FRUIT GARDEN.

Preparing houses, and gently bringing on Strawberry plants in pots, have been the chief objects of our attention. Before much wet comes, the ground will be in good condition for planting. In all forcing the temperature should be raised very gradually, and the atmosphere of the house should be damper than usual until the buds break freely. One ought never to go to a fire or a furnace without previously noting the outside temperature, and not merely noting the temperature of the house, but also that of the pipe or flue. With such attention there will be little necessity for opening furnace doors to keep down draught and overheating. In order to avoid having sun heat meeting with strong fire heat, let the furnace get low as the sun promises to be bright. Tender plants are apt to be scalded or burned by neglecting to attend to this, and the admission of more air will often add to the evil, especially if the air is at all dry and frosty. Damping the floors and beds, and reducing fire heat are the chief means of safety, or even a slight shading for a short time, until the fair balance is restored.

ORNAMENTAL DEPARTMENT.

Walks should now be kept clean. The present is a good time for transplanting large trees, and also for planting in general. We would have preferred the end of October or the beginning of November for this, but we could not do it then. Planting too deep should be avoided. The collar of the plant—that is, the point whence roots descend and the stem ascends, should not be deeper than it stood before. Thousands of young trees are killed every year merely from sinking the stem of the plant from 2 to 4 or more inches deeper in the ground. The plant is thus made firm more easily, and so there is the temptation to indulge in it. Another cause of failure, is having the plants taken up and the roots exposed in dry frosty weather.

Pruning forest, fruit, and ornamental trees can often be best done in frosty weather, as then all branches can be taken away with less trouble. We have never observed that trees at all hardy felt pruning and cutting more in frosty weather than in mild weather, if all large cuts had the wound smeared over to prevent the damp penetrating.

Plants in cold pits and frames would be better where a little dry heat could be given them. Calceolarias, we think, do best in a cold pit or frame without any artificial heat. Once this winter our Calceolarias were covered up for about a week, and they did not seem to feel it at all. The first put in are lengthening a little; the last put in during November, after being exposed to much frost, are not yet moving. These cuttings have each about 1½ inch space, and therefore we do not want them even to root much until the days grow longer. A good deal of damp does them no harm. They had no air when shut up in the frosty weather. Other plants, as Scarlet Geraniums, though mostly covered up, had in the middle of the day a little air at the back to let out any damp. The moist atmosphere, and moist standing ground that would cause a Geranium to damp and shed its leaves, are the delight of Cinerarias and Calceolarias. When either of these begin to open their blooms the atmosphere should be somewhat dry, but at all times they prefer a moist cool bottom. One reason why Chrysanthemums often bloom better out of doors than they do when sheltered under glass, is because the air is more dry, and they are apt to suffer from dryness at the roots. We have often remarked how vigorously Chrysanthemums swell and open their blooms on misty mornings and evenings, and on very dewy nights. When under glass, before the blooms open, a free use of the syringe greatly helps them. Those who have only one glass plant house will see the importance of placing their plants in family groups, instead of distributing them regularly over the house. It would then be possible to vary the treatment considerably.

Florists' flowers in cold pits, as Auriculas, Carnations, Calceolarias, and Geraniums, had plenty of air after the change of the weather. On a sunny day we were glad to pull the sashes off; but in these dull, drizzling days, when air is even more wanted than when the sun shines, we gave a thorough circulation of air, and kept the damp out by raising the sashes back and front. This is a good plan in changeable weather, and when the plants must be left for some hours to themselves. A brisk shower of ten minutes might occasion an endless amount of trouble for months afterwards. With the exception of those alluded to, the majority of plants in cold pits can scarcely be kept too dry, so long as they are moist enough to be safe. Where no fire heat can be given to correct any excess of moisture in the earth or air, all watering in winter should be done with great care. In places where the intention is merely to keep plants alive, no water should be spilled, and it will often be wiser to allow the temperature to get lower than to use much more water.

In watering plants where fire heat is given, so as to keep an average temperature in cold weather of 45°, the water used should rarely be below 60°, and be given, when needed, as early in the forenoon as possible, that the plants may part with any extra moisture before night. Even in such houses the less the water is spilt the better. It is a very different affair in summer, when watering the floors and platforms does so much to improve the atmosphere of the house. All the varieties of the yellow-flowering Cytisus require plenty of water, and especially if at all underpotted, when opening their blooms.

Such plants in a stove house as Poinsettias, Euphorbias, and Justicias, either showing for bloom or in bloom, require also plenty of water, 70° in temperature. In such a house the spilling of a little water is of less consequence, as moisture will be required to prevent the atmosphere becoming too dry, and that which rises from the floor or pot is quite as healthy or more so than that which steams from evaporating troughs. We would sooner keep such a house ranging from 58° to 63°, than ranging from 70° to 75°, as a rise from sun heat is less to be regarded. With less fire heat the plants do better, less watering is necessary, and less moist vapour is required in the atmosphere. Mosses and Ferns should be kept tolerably moist, and the stove varieties thrive better during cold weather in a moderate than in a high temperature.—R. F.

TRADE CATALOGUES RECEIVED.

J. Carter, Dunnett, & Beale, 237 and 238, High Holborn, London, W.C.—*Gardeners' and Farmers' Vade-Mecum*, 1872, *with numerous illustrations.*

R. Bradley & Sons, Halam, near Southwell, Notts, and Rainworth, near Mansfield, Notts.—*Catalogue of Nursery Stock.*—*Trade List of Nursery Stock.*—*Abridged List of Roses.*

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Books (*Q. Q.*).—The "Vine Manual." You can have it from our office if you enclose 2*s.* 7½*d.* with your address.

Marking Labels (*A Subscriber, Lanarkshire*).—The short-hand inscribing is almost as difficult as common figures, more difficult to remember, and the marks are so much alike as to cause numerous mistakes. Earthenware labels written on with a pointed piece of soft lead are very desirable, and easily renewed.

Nurserymen's Catalogues (*Rev. P. D.*).—We cannot recommend, much less review these, for they are published in legions; but to your query, "Is Messrs. Carter's 'Gardeners' and Farmers' Vade-Mecum' useful?" we can reply safely it is very useful.

Keeping Pears (*D. F. J K.*).—The specimen sent is Passe Colmar, and is just ripening. It is hardly time yet for them to be quite ripe; but the maturity may be hastened by keeping them in a warmer, but not a drier apartment Do not expose them too much to light. The specimen that you sent was delicious in flavour, and this was due, no doubt, to its having been "for the last week on the dining-room chimney-piece."

Self-acting Fountain (*J. K.*).—We cannot tell where it can be obtained. If advertised it would sell well.

Fungus (*J. J. Chater*).—Your Peziza is a new species, and at present undescribed. Its nearest ally is P. melaloma, from which it differs, in having no black fringe round the margin of the cup, and in other characters. We have seen the same plant before.

Vine in Ground Vinery—Pears for West of Ireland (*Far West*).—The Black Hamburgh Vine planted against a south wall will do well to train under a ground vinery placed at right angles to the wall. Shorten the shoot now, but do not transplant. A Peach tree will do in a ground vinery if trained as a horizontal cordon. It must be kept free from red spider by syringing during summer. Pears for cordons—Madame Treyve, Beurré d'Amanlis, Beurré Hardy, Beurré Superfin, Fondante d'Automne, Gansel's Bergamot, Louise Bonne of Jersey, Beurré Bosc, Marie Louise, Easter Beurré, Bergamotte Esperen, and Doyenné du Comice. Apricots would do well on your west wall.

Planting Vines &c. (*A Subscriber*).—Plant all your Vines in the front of your inside vinery border. Without artificial heat the Oranges and Lemons would not ripen to be of any use, especially as they would have no sun after midday. Murray (medium size), and Victoria (large), are excellent Nectarines for orchard houses, and of first-rate flavour. Of the Vines you name, White Frontignan, Black Hamburgh, Buckland Sweetwater, and Trentham Black would do best in the early house; Lady Downe's, White Tokay, Muscat of Alexandria, and Alicante for the late house, but they require in most seasons artificial heat to ripen them. We do not think you will have sufficient ventilation at the top of your vinery; you should have all the top lights made to slide. In some cheap houses short top lights are made to lift-up with hinges. No doubt fruit trees planted amongst shrubs would to a large extent be protected from frosts when in blossom. Either standards or pyramids might be planted, and space allowed for their development.

Lawn Levelling (*Black Edge*).—The best and cheapest plan would be to remove the turf from the uneven part, level the soil, and then relay the turf. You could certainly level it by putting on soil and sowing with grass seeds, but it would have a patchy appearance for years, and considering the cost of seed and bringing soil you would find it unsatisfactory. By taking up the turf, levelling, and relaying, the difference would not be great after a few mowings. The best place to get bone dust is of the agricultural manure dealers.

Mulching Border Bulbs (*Idem*).—Cocoa-nut refuse is the best material, and has an advantage over tan in being an excellent dressing for the soil. It may, however, be costly from carriage, but it is superior in appearance to stable dung, which has a very bad effect, and, indeed, is not tolerable unless covered over with soil. The bulbs you have yet to plant may be covered only an inch deep, mulching them with cocoa-nut refuse. Write to Messrs. Barsham & Co., Kingston, and ask for terms, stating the quantity required, and the place where it should be delivered. A good covering is 1½ to 2 inches, but we have put it on 3 inches thick, and not found it too much, as we practise shallow rather than deep planting, though the shallow planting compels us to mulch in order to protect from frost.

Gymnogramma (*M. S. B.*).—A temperature of 70° if maintained by night and day is too high; 55° to 60° at night is quite sufficient at this season, and 60° to 65° by day, with a rise from sun heat to 70° to 75°. The cause of the fronds being long is no doubt owing to the high temperature. To do well they should not be more than 2 feet from the glass, and the soil sufficiently moist to keep the fronds fresh. They should not be syringed overhead, but a moist atmosphere should be kept up by sprinkling the floors and walls. When growing they should have abundant waterings. The Adiantum farleyense is suffering from the great heat, and probably dry atmosphere. Keep it cooler and moister. The Poinsettias have cast their bracts from having been brought forward too quickly by the great heat. Afford more moisture, and lower the temperature to 55° or 60° at night, sufficient for nine-tenths of stove plants in the dull winter months. We could not account for the insect eating the Orchid flowers. Have you crickets, cockroaches, or slugs? Search at night with a lantern.

Fern Pillar (*Conifer*).—Any of the dwarf greenhouse Ferns described in the "Fern Manual" would do. We should prefer Isolepis gracilis to flowers, but it is a matter of taste.

Ferns for Window Fernery (*A Subscriber*).—You do not say whether your fernery will be heated or not, but we shall name Ferns that require frost to be kept out. You will not require nearly so many Ferns as you name, and only small kinds will be suitable. For the upper part of the rockwork:—Adiantum Capillus-Veneris; Asplenium Adiantum-nigrum, A. fontanum, A. Trichomanes; Blechnum Spicant, Cystopteris Dickieana, C. fragilis; Polypodium vulgare, P. vulgare cambricum, P. alpestre; Adiantum assimile, A. setulosum; Asplenium flabellifolium, A. monanthemum; Davallia canariensis, D. dissecta, D. novæ-zælandiæ; Drynaria pustulata, Hypolepis repens; Lomaria alpina, L. blechnoides; Microlepia hirsuta angusta; Nephrolepis lingua, N. rupestris; Platycerium alcicorne, Platytema rotundifolium; Pteris cretica albo-lineata, P. scaberula, P. serrulata cristata; Nephrolepis tuberosa, and N. lingua corymbifera. For the lower part the above-named are suitable, as well as the following:—Asplenium marinum, Athyrium Filix-fœmina varieties, Lastrea Filix-mas cristata, Polystichum angulare proliferum, Scolopendriums, Acrostichum palmatum, Adiantums various, Asplenums, Cheilanthes elegans, Cyrtomium falcatum; Doodia aspera, D. media, rupestris; Doryopteris palmata; Gymnogramma tartarea, G. ochracea; Lastrea acuminata, L. glabella, L. decomposita; Lomaria gibba, Lygodium scandens, and L. palmatum—the last two are climbers, let them form the sides of the entrance—Mohria thurifera, Nephrodium molle corymbiferum, Onychium japonicum, Polypodium pectinatum, Pteris umbrosa, P. crispa, and P. serrulata variegata. Few Ferns that will grow by the side of the dripping water. In a similar fernery as a last resource, had the pockets filled some with the common Liverwort Marchantia, others with Isolepis gracilis, and some with Cyperus alternifolius variegatus. At the base, where the spray of the falling water will reach, we have Trichomanes radicans on raised rockwork, Hymenophyllum tunbridgense, and H. unilaterale (Wilsoni), and they thrive well. Useful for filling any small crevices is Selaginella denticulata, but it must be kept within bounds, S. apoda, S. formosa, S. pubescens, and S. Wildenovi are also useful.

Planting Potatoes (*St. Edmond*).—The sets should be planted on their ends, eyes uppermost, in shallow boxes without soil one tier deep. Place them in a room with a temperature of 45° to 50°, and let them remain there until they have sprouted to the length of half or three-quarters of an inch. They should then be removed for a few days into a cooler spot to harden, and be planted during the first mild weather after the middle of February, though, should the ground then be wet and cold, it is well not to plant until the early part of March. Take out a trench about 6 inches deep, and line it with a 2-inch layer of well-rotted stable manure, place the sets upon it at the distance of from 10 inches to a foot, and cover them with soil to the depth of 4 inches. When the haulms appear protect them with spruce branches in frosty weather, but remove these in mild weather. Loosen the soil with a hoe when the Potatoes are well above ground, and earth them up when they are 2 inches high. The best early kind is Ashleaf, but Myatt's Prolific is a better cropper and only a few days later. The crop will be in at the close of May or early in June according to the season. The "Garden Manual" contains the information you want. It may be had from our office for twenty stamps.

Ampelopsis tricuspidata (*Rathgar*).—It is also known as A. Veitchi, and is a miniature-foliaged Virginian Creeper, equal to Ivy. It is quite hardy, and may be planted at any time; it is generally grown in pots. We consider that from the present time up to the close of March is the best time to plant. You can procure it from any of the principal nurserymen advertising in our columns. We cannot recommend dealers.

Adhesive Gravel Walk (*D. B.*).—Cover the walk with half an inch of gravel, rake it evenly, roll it well, and your walk will be firm and dry. Very loamy gravel will do well for walks in dry weather and these not much used, but in winter it clogs the feet. The right sort of gravel is small pebbles with just enough loamy matter to make them firm. The path is, however, better loose and without a surface in wet weather.

Frame for Cucumbers (*Cucumis*).—For growing Cucumbers the old-fashioned wood frame of two or three lights, and "set upon a heap" of sweetened fermenting materials is, in our opinion, better than pits; in fact, though we have heated pits, we prefer to grow our summer supply in frames on dung beds.

Plants for a Small Greenhouse (*Manchester*).—We think that Camellias, Fuchsias, and Lilies would suit you best, as most fine-foliaged plants require a considerable degree of heat, while you give very little. If we knew the size of the house and what you could now grow in it, we should be better able to advise you.

Lilium giganteum Sowing (*A. A.*).—Sow the seed now in well-drained pans, and fill with a compost of two parts fibrous loam, and one part leaf soil, and also one of sandy peat, with a sixth of silver sand. Scatter the seed evenly, and cover it a quarter an inch of fine soil. Stand the pans in a house where there is a warm greenhouse or a gentle hotbed, and keep the earth moist. Let them remain until they can well be handled, and then place them carefully in small pots. We prefer to sow the seeds of all bulbous plants as soon as ripe, and to place them in a house with warmth of from 5° to 10° above their proper temperature. We find they germinate much more speedily in autumn than at any other time.

Glazed Covering of Wall Trees (——).—If the Vine stem has been covered-up we do not think it is likely to be injured. The roots, however, would be all the safer if frost were kept out of the ground by a covering of litter, &c. There is always a little trouble with Vines thus taken out of the house and then put back at once in stove heat. It is much better if the Vine can be brought on a little in a lower temperature. All you can do is, when you take the Vine in to keep it close to the front, and give a little air there to keep it cooler than the rest of the house. We would put the lights against the wall when the buds begin to swell, and remove them as the fruit is towards ripening.

Vines in Inside Borders (*C. C.*).—In this case it is quite possible to have soil too dry. If the surface is dust dry now, it would be well to scrape off the driest portion, and if the soil is also dry beneath loosen it a little with the point of a stick, and apply enough of water at about 60° to make the soil moist, but not wet. After Christmas you may add the rich top-dressing, and give a very moderate watering, watering more freely in February with water slightly heated. This will induce a free action of the roots before the swelling of the buds, which begins about the middle or end of March. Pigeon's dung will do for surface compost, but neither that nor guano should be used freely at one time. We do not know the size of the inside border, but for four Vines we should think a bushel of poultry dung would be enough at a time, and about one-sixth part of a bushel of guano. Both are dangerous when in excess. It is as well that the hot pipes should not touch the ground. Unless it could be easily done we would not move the little stage out of the house in summer. You would have more reflected light if you allowed it to remain and painted it with limewash.

Boiler Unmanageable (*M. D.*).—In such a case as yours, you cannot empty the border except by inserting a screw 1-inch pipe at the bottom, furnished with a plug or tap to take the water out, while you supply fresh water to the pipes above. This will to a great extent clean the boiler. The furring of the boiler and pipes will to a considerable extent be prevented by placing an ounce of powdered sal ammoniac now and then in the water after powdering it. The upright continuation of the 4-inch pipe furnished with a plug, is no doubt intended as a means of filling the pipes and boiler. The small hole in the upper pipe near the farther end is, no doubt, intended for letting air out, and should be at the highest level of the pipe. A yard or two of gas piping half an inch in diameter, with the end left open, would allow all air to escape, and thus you would not need a peg there. Whilst it remains you must move it often, or air may accumulate and stop the circulation of the water.

Roses for Exhibiting (*A Subscriber*).—There is, we fear, no royal road to make Roses fit for exhibition by a particular week, as so much depends upon the character of the season in the months of April and May. The flowering may be retarded by late pruning, about the middle of March, in your situation, Somersetshire, but the spring months even then in Somersetshire are often so warm, it would be difficult to insure the best blooms so late as the last week in June. A few of the strongest-habited kinds removed both in November and in the spring, might give good blooms for exhibition, but as a general rule few Roses would stand the double removal. You might, however, by retarding the flowering by lifting Roses in October and planting again in good compost, with a winter's mulching, have very good blooms. We do not think lime adds to the brilliancy of the Rose; it is good to add to some vegetable soils to hasten decomposition. The soil which generally seems to give most brilliancy of colouring to Roses is one that has a fair proportion of ferruginous clay. Old lime rubble is a very good material to mix with heavy clay, especially if wet and tenacious. Roses on the Manetti stock ought to have all the wood more than two years old entirely removed. Two-year-old wood ought to be close-pruned, and the wood of the previous season left rather longer. If Roses on the Manetti stock are treated in this way they will push every year fresh wood from the ground. It is this habit which should be encouraged by entirely removing all old wood above the young shoots at the base. Be it remembered that nearly every Rose planted sufficiently deep on the Manetti stock is soon established on its own roots as well, and it is this which induces it to throw out shoots from the ground line.

Pæonia Moutan Transplanted (*An Old Subscriber*).—These plants will not require any water between now and March, when, if the weather be very dry, you may give a good watering, though we should not do this to any extent until the ground becomes warm and the plants from growing need a liberal supply of water. Heavy supplies of water early in spring, by rendering the soil wet and cold, often prevent recently transplanted shrubs from rooting well and making a good growth. Mulch the plants to the depth of 4 inches with some partially decayed leaves around and beyond where the balls extend. When the plants begin to grow, cut away the old branches and encourage young shoots from the base, watering copiously when the growth has well started.

Select Cyclamens (*Cyclamen*).—C. Atkinsi and vars. carneum and roseum, C. coum and vars. album and carneum, and C. græcum are all hardy and flower in winter and spring, requiring only a well-drained soil, shelter from cutting winds, and a slight shade in summer. They are fine subjects for pot or pan culture. C. europæum is also hardy, flowers early in autumn, and the flowers are sweet-scented. C. hederæfolium and its white variety flower in autumn and are quite hardy. C. vernum is also hardy, flowers late in winter or early in spring, and is a pale red variety of C. coum. C. repandum is the last to flower in spring, just as C. europæum is the first in autumn, having bright red flowers in April. It is also hardy, and needs a wall-drained spot and shade from bright sun. C. macrophyllum, C. nobile, and C. persicum vars. album, delicatum,

grandiflorum, odoratum, roseum, roseum coccineum, rubrum grandiflorum, rubrum coccineum, striatum, marginatum, pulcherrimum, and Fairy are all good and suitable for pot culture in the greenhouse. Seeds of the best strains of C. persicum may be had of most of the principal seedsmen, and a packet will produce upwards of half a hundred plants, and more than a dozen varieties, some with beautifully marbled foliage. Seed sown early in spring and forwarded in heat will flower finely in the following winter. Mr. Atkins is perhaps the best cultivator of the genus.

Phœnix dactylifera (*A Constant Subscriber*).—Apply to any of the principal nurserymen who advertise in our columns, and state what you need.

Select Chrysanthemums, Fuchsias, and Stove Plants (*M. H. B. L.*). —*Large-flowering Chrysanthemums.*—Ondine, Miss Hope, Beauty of Stoke, Meyerbeer, Princess Louise, and White Eve. *Pompons.*—James Forsyth, Madge Wildfire, The Little Gem, White Treveona, Fairest of the Fair, and Lizzie Helmes. *Anemone-flowered.*—Emperor, Marguerite de York, King of Anemones, Princess Thyra, Miss Margaret, and Marguerite d'Anjou. *Fuchsias.*—Avalanche, Blue Boy, Striata Perfecta, Formosa, Sultan, and Catherine Parr. *Stove Plants.*—Æschynanthus splendens, Allamanda grandiflora, A. nobilis; Alocasia metallica, A. macrorhiza variegata; Ananassa sativa variegata, Anthurium Scherzerianum, Aphelandra aurantiaca, Roezlii, Ardisia crispa elegans, Areca Verschaffelti, Bougainvillea glabra, Burchellia capensis, Clerodendron Balfourii, Cissus discolor, Cochliostema Jacobianum; Croton variegatum longifolium, C. irregulare, C. pictum; Dalechampia Roezliana rosea, Dieffenbachia Pearcei, Dipladenia amabilis; Dracæna stricta, D. ferrea, D. regina; Eranthemum pulchellum, Eucharis amazonica, Euphorbia jacquiniæflora, Franciscea confertiflora; Gardenia citriodora, G. radicans major; Gesnera exoniensis, Gymnostachyum Pearcei, Heya bella, Imantophyllum miniatum; Ixora acuminata, I. javanica floribunda; Lasiandra macrantha floribunda; Maranta illustris, M. rosea-picta; Medinilla magnifica, Pandanus elegantissimus, Pentas carnea, Poinsettia pulcherrima, Rondeletia speciosa major, Stephanotis floribunda, Thyrsacanthus rutilans, Tillandsia splendens, Torenia pulcherrima, and Vinca alba. We have named a few of both flowering and variegated, or fine-foliaged, plants. See them at the nursery, and select such as you like best.

Worms in Cricket Field (*Hon. Sec.*).—Worms may be destroyed by watering with lime water, mixing 25 lbs. of fresh lime in seventy gallons of water. Stir well up, and allow the liquid to stand two days and then water with the clear lime water, which will bring the worms to the surface, when they may be swept off. Roll the ground a day previous to the application. We question the propriety of destroying the worms. Worms assist the passage of rain through the soil by their holes, and to have a wet surface in a cricket field is worse by far than wormcasts. What is wanted is a dry surface, firm, and clothed with short herbage. Draining is the means of securing the first, rolling the second, and dressing with bone dust the third. Another essential is grazing by sheep.

Names of Plants (*H. C.*).—Cotoneaster nummularia. (*Colney Hatch*) —Callistemon lanceolatus, native of Australia; a frequent greenhouse plant. (*Quercus*).—1, Pernettya mucronata; 2, Gaultheria antipoda; 3, Garrya elliptica. (*J. W. L.*).—Has been answered already. His plants are—I, Nerine pulchella; 3, Leucopogon Richei; 7 (or 4), Santolina pectinata. No. 2 is utterly unintelligible in its present condition, and presents no character to define even the natural order to which it belongs. In aspect it almost imitates a Tamarisk. No. I is a Cape bulb, succeeding in a greenhouse if planted in loamy soil. 3 Is an Australian shrub, also succeeding in a greenhouse; soil, chiefly peat and silver sand with a little loam or leaf mould. 4, A hardy border plant.

POULTRY, BEE, AND PIGEON CHRONICLE.

WILTS COUNTY POULTRY AND PIGEON SHOW.

Some months since a few spirited fanciers met at Devizes, and determined to endeavour to get up a county show. Nine years ago there was a show of poultry at Devizes, also one the year before that date (Pigeons had not then become, a rule, exhibition birds); but though the shows were both good, yet, being limited to one town, they faded away. Some of those who tried then were determined to try yet again, and it was wisely judged to call it a county show. In the north of England towns, where every third man is a fancier, town shows do well, but in the south and west it is not so; hence it is wise to extend the area. Besides, county sounds superior to town. The county member considers himself a much grander man than the borough member, and the county magistrate than the borough magistrate. So, taking human nature as it is, it was well to try a county show, and, as somebody says, "there's a deal of human nature in all of us." Everything county goes down better than town. "Gweat hore this cock-a-doodle show; but I must go, you see, for it's a county affair," says Mr. Magnificent Swell. Then, again, there are those who will give if it in some degree comes home to them, and a Wilts county show comes home to every Wiltshire man, for it seems in some way to belong to him. Make a show co-extensive with a shire, and you get more subscriptions and more company. Givers and workers set a thing going and carry it on. One says "I can give;" another, "I can but give little, but I can work." By rights county shows ought to be like gypsies—wanderers—this year at one town, that at another; but then in all towns you cannot find men understanding shows and willing and able to work.

I hoped for open weather, and to be able to drive to Devizes; but frost—frost—frost. "Can't drive!" "Horrid bad weather for Devizes Show!" I kept muttering; all the ladies skating with, or looking on at, gentlemen skating. That feminine skating is becoming almost universal. Well, I remember when it wasn't thought the thing. However, these are the days of strong-minded women, so making them strong ankle-women may be a proper counter-attraction, and the world will get on better. But enough. Still it is odd to see old ladies have the face to begin to learn to skate—yes, bewigged old ladies. (N.B.—If any such read this, I beg to say I am not a bewigged old gentleman.) Monday, thaw, but the glass firm, and the ladies skating inch deep in water, such their perseverance. Tuesday, regular thaw, no skating at all for anybody, and so for a change people are likely to go to the Show. Tuesday noon, I stood in the fine open market-place of our fine old county town. Not a bad day for the time of the year. In a few minutes I was inside the Corn Exchange, where it so chanced I had never been before. I find a long well-proportioned building lighted from the top, and the light admirable—better inside than out, as there was within no mist. Mr. Billett's well-known pens were ranged as usual, and now that the open-wire backs have canvas drawn tightly along they are in every way excellent.

Before speaking of each class separately I will give in a general way an idea of the excellency or the reverse of the classes. The Coloured Dorkings were good; the White Cochins very good; Buff Cochins good; but the Hamburghs of all varieties were, though numerous, very indifferent—indeed they were a disappointment, as if it had been thought by great Hamburgh breeders, "Anything will do so far south as Wiltshire." Among the Game class, which contained some very excellent birds, there were shown many with a strong tendency to "duckfootedness." The Houdans were very good and numerous. The Game Bantams had many of them been overshown. The Sebrights were an agreeable surprise in numbers and excellence; clearly they must not be talked of as "things of the past." The Geese and Turkeys were good; but the pride of the whole Show were the Black Ducks, of which there were sixteen pens, and on many of the birds was a bloom very rarely seen. The order at Birmingham was reversed. Mr. Pettis's Ducks, there first, were here third; and Mr. Sainsbury's, there second, were here first. But the winning birds were all wonderfully excellent; the distance of the journey made probably the difference.

In regard to the Pigeons, Committees have to learn that cups, however sparingly offered alone (of course I mean any plate-prize), bring numbers and excellence. Even dividing the classes into cocks and hens is not sufficient. Thus, in the Coloured Pouter classes only four birds appeared. Well-off fanciers like a piece of plate, be it cup, or, better still, some useful or ornamental bit of plate to keep and show. Towards the golden sovereign they seem to feel with Bassanio in the "Merchant of Venice"—

> "Thou gaudy gold,
> Hard food for Midas, I will none of thee."

And towards the ten-shillings they likewise feel with the same gentleman—

> "Nor none of thee, thou pale and common drudge
> 'Tween man and man."

A cup or other plate-prize for the best pen of Pigeons, or for the most points in birds shown by one exhibitor, would have brought together many more excellent birds. As it was, the Carrier class was very good, and the White Pouters generally good.

Now to take the classes in order.

Dorkings (Coloured), eight entries, and five good enough to be noticed. Mr. Martin was first of course, and second too. The Silver-Greys, good, old-fashioned, beautifully coloured birds, showed four pens only; would there were more! The White were equal in number to the Coloured, and were so good that six out of the eight pens were noticed.

Spanish.—Devizes is near enough to Bristol to be sure to have a good show of these, so there were thirteen pens; yet Bristol did not come in first nor yet second, but a Worcestershire lady, Mrs. Allsopp, took the first prize, and a Somerset lady the second. I hope and expect to see better birds at the Bristol Show.

Cochins.—How seldom one sees these birds save at shows! A dozen pens of Cinnamon and Buff, and nearly all good, as one test will show—Miss Milward's birds were there and not noticed, although seven were noticed. Mrs. Allsop's second-prize deserves a special word of praise. The five pens of Partridge Cochins were up to the average, while the White Cochins were much above the average. Mr. Sichel's first and second-prize birds were extremely good, and shown in perfect condition. His labour met a just reward.

Brahmas.—I have said how rarely one sees Cochins except at a show, yet Brahmas or crosses are in almost every farm and inn-yard. This may make their old staunch friends rejoice. Here were seventeen pens of Dark, and fifteen of Light, the latter being the better class. Yet many of the Light showed two faults—one a largeness and looseness of comb and the want of size, evidently not having been bred early enough in the year. Another fault must be noticed, a sandy tinge over the plumage. All these faults must be corrected. The first-prize Light were not so clean as they might have been.

Game.—Black-breasted Reds were headed by Mr. Stagg's first pen. One of the Judges remarked to me that he could have stood for hours admiring the cock bird. There was shown in him a properly-made tail, sickle feathers narrow, not broad, and the tail close and rather drooping; his true of some of the others. Strange only one pen of Brown-breasted Reds, Mr. Matthew's. The Duckwings were more numerous. I specially admired Mr. G. S. Sainsbury's second-prize pen. The Game cock class had good birds in it.

Hamburghs.—All the four varieties, numbering thirty pens, a sad disappointment. A pen in the Selling class was as good or better than any of the thirty.

Polish.—"To be quite in the fashion," remarked a lady near me, "they should lower their chignons." Mr. Hinton's excellent Silvers were first; Mr. Boothby, the plucky and persevering breeder of the Golden, second. I particularly admired his cock bird. The exhibitors of Polish confer a special benefit upon the public, as no birds look so beautiful in the show pen.

Houdans.—Very good.

Any other French Variety.—Fair. Diabolical-looking Crève-Cœurs in abundance, and one pen of La Flèche, another French imp of unprepossessing appearance.

Malays.—The hens hardly large enough to match their mates. Seven pens of them. Messrs. Payne, Brooke, and Hinton, winners in their order. This gave my friend, Mr. Hinton, *pain* he could hardly *brook*, but I *hint on*, that with a larger hen and no white in his cock's tail, pleasure awaits him in the future.

Any other Breed not mentioned.—The Black Hamburghs of Mr. Serjeantson most deservedly took the first prize; seldom have I seen such excellent birds, and from the low price he put on them (£4), they are doubtless no longer his. They were the cheapest birds in the Show, and among the very best. Two pens of Andalusians, pretty birds not enough bred, one took second; and Leghorns, a new class, and pretty withal, third.

Bantams.—Game a middling lot. First-prize cock a gamey bird, and the second hen good, but throughout, the hens too dark in colour. The first-prize single cock was the best bird of all the Game Bantams shown. The Sebrights were excellent, five pens Silver and three Gold. Some of the Silvers too Golden, but the whole class very good and more numerous than usual. Among the "Any variety" Bantams, a neat pen of Pekins were first. They were clean, but many in this class were badly shown.

Ducks (Aylesbury).—Few pens, but good, of course. Mr. Fowler first with splendid birds, quiet and calm in apparent conscious superiority.

Rouen Ducks numerous and not very good. Black East Indian Ducks *the* class of the Show. They were a grand lot; such colour, and such a bloom on them! Looking down through the top of the pens, nothing in the Duck kind could be more beautiful, and great must have been the care and pains of their breeders. Ducks (any variety), lovely Mandarins and Carolinas.

Turkeys and Geese.—Excellent both, and sadly tempting from their size and the nearness to Christmas.

The *Selling Class.*—A large one, hence beneficial to the Committee, but, as a good fancier remarked to me, "they ought to be killed at the door and not admitted." A useful though not ornamental class, certainly.

PIGEONS.

Carrier Cocks.—This a good class, containing, as of the hens likewise, some splendid Black birds—birds raven black, a great contrast to others of the smoky tint. The second-prize ought, perhaps, to have been first. He is a showy stylish bird. Hens much like the cocks in excellence.

Pouters (White).—Owing to two near resident fanciers, Mrs. Ladd and Mr. Heath, of Calne, this was a very good class.

Pouters (Any other colour).—Only four entries. Mr. Dew's Black-pied cock bird deservedly stood first.

Tumblers (Almond).—Only one entry. Cock bird good, but wattle on beak coarse.

Tumblers (Any other variety).—A fair pair of Kites first; one head and beak good. A nice pair of Blue Beards second. A pair of well-shaped old-fashioned English Tumblers, red in colour, and neat in shape, were most deservedly commended, and ought to have been sold, being priced very low.

Owls.—A good class, Whites being first.

Barbs.—Few, and all Black. The second-prize cock has a good broad head.

Fantails.—A nice class, Miss Milward's first having excellent tails.

Jacobins.—A large class. Reds first.

Nuns.—These were good, though few.

Antwerps, now being known as the real Carrier Pigeons, were regarded with much interest. They were of very varied shape and feather.

Trumpeters.—Only four pens, but Mr. P. H. Jones's Blacks were much admired.

Runts.—An unusually large number, in proportion to the other classes, made their appearance. Eight pens in all, mostly Blue, but two pens White. The first-prize birds were not paired, and some therefore took them for two cocks, so fiercely did they fight, but I believe it was not so.

Any other New or Distinct Variety.—Mr. Yardley's Satinettes were by right of beauty first. This variety of Turbit is singularly beautiful in feather, and when handled, the tail expanded, and the round spots shown, a more lovely bird can scarcely be imagined. This was, as it always is, a very pretty and interesting class, and deserved the extensive notice by the Judges and visitors which it received.

Selling Class.—Eighteen pens of mixed value. The pair of Red Short-faces which were first were very pretty sound-coloured birds.

Of dead poultry there was only one entry. This was a pity, because the increase of weight in poultry is a food question, and as Dean Swift remarked, "A man who makes two blades of grass grow where one only grew before, is a benefactor to his country;" so that man, in these times of dear beef and mutton, is also a public benefactor who teaches us or shows us how a lean fowl can become food-supplying. There was no class for eggs, which was a pity, as it is usually well filled, and baskets of snow-white eggs nestling in green moss are very pretty to look at.

Such was the first Wilts County Show, and on the whole I was very pleased with it. There were 450 pens, and next year no doubt there will be more of both poultry and Pigeons, especially the latter. The management was excellent; the Committee few in number and good workers; the food supplied to the birds was of good sound character; the railway arrangements of the best; and I believe every catalogue promised was dispatched by the first day's post. I should like in future for the Pouters to have a little block each to stand on, as they look better and show better.

I never enjoyed a show more thoroughly both by daylight and gaslight, for it was kept open at a reduced price for two hours in the evening for the artisan class. I wandered round and round, chatting now with old friends, then with new acquaintances; instructing poultry-ignorant ladies (this a very pleasing task), examining this bird and that bird, until six o'clock reminded me of a certain snug dinner at "The Bear Hotel," a famous hostelry known all over Wiltshire, and where the Bear Club, connected with the Bear charities, meets every year, some great man in the county presiding. There, too, at the Bear, Sir Thomas Lawrence was born, and first exercised his boyish pencil. Well, there we, too few for so extensive a dinner, sat down, and ate, and drank, and chatted, talked poultry and Pigeon talk, talked over the Show, and fanciers, and birds, and sipped in moderate quantities dry liver-suiting sherry. By the way, Black Ducks came very often on the table. What enthusiasts their fanciers are! but then at this Show they, the Black Ducks, were the greatest feature. We wanted another specially at that dinner, but whom sickness hindered being present; he would have brought Black-breasted Reds into the conversation I well know. However, not forgetting the absent but regretting them, we chatted on until the more distant-living had to be up and away, for the "Time approaches, Tam maun ride," and so away into the dark rode one far off to Salisbury Plain. Just when leaving, a kindly new acquaintance and resident said, "Had I seen the unfinished picture of Shakespear, by Lawrence, that was in the house?" "No, I had not." So following my guide, he candle in hand, down steps and up steps, along a corridor and up a landing, I was shown the picture by the boy artist, for which a heavy sum had been offered and refused. It was like the statue of the immortal bard in Westminster Abbey, a full length and nearly full size, but with little save its history to mark its value. Then to bed, and on the morrow home, to home duties, and scenes, and faces, but with a pleasant remembrance of Devizes Show, flavouring, as it were, the following days of the week.—WILTSHIRE RECTOR.

OVERWORKING THE JUDGES.

I AM pleased to hear the Committee of the Portsmouth Show have taken the hint with reference to the judging, and have secured the services of Messrs. Hewitt and Tegetmeier, instead of, as in former years, only one Judge for poultry. The Portsmouth Show in three years has doubled itself in magnitude; and when it is considered that several additional classes have been formed, and all classes are to have a third prize, I think it may naturally be expected to increase very much more. Amongst the alterations in the classes I notice Light Brahmas are to have two classes—one for old and another for young birds, and a five-guinea cup to each. The Game Bantams have been divided into two classes; Black Reds to be shown by themselves.—REDLEAF.

LEEDS POULTRY SHOW.

THIS Show was held on the 12th, 13th, and 14th inst. The following is the prize list:—

GAME.—*Any Description.—Cock.*—1, W. Spencer, Haworth: 2, A. Haslam Hindle. 3, H. M. Julian, Hull.

GAME.—*Black-breasted Red.*—1, H. M. Julian. 2, T. Mason, Green Ayre, Lancaster. 3, J. Firth, Chatsworth. *Chickens.*—1, W. Fell, Adwalton. 2, W. Spencer. 3, J. C. Coupe, Doncaster.

GAME.—*Brown-breasted and other Red, except Black-breasted.*—1, F. Sales, Crowle. 2, J. Watson, Knaresbrough. 3, T. Mason. *Chickens.*—1, F. Sales. 2, W. Pervis, Nantwich. 3, R. H. Brown, Halifax.

GAME.—*Duckwings.*—1, H. C. & W. J. Mason, Drighlington. 2, Winwood and Cutler, Worcester. 3, W. J. Cope, Barnsley. *Chickens.*—1, J. Pickles, Mytholmroyd. 2, W. Fell, Adwalton. 3, H. Jowett, Shipley.

GAME.—*Any other Variety.*—1, T. Mason. 2, F. Sales. 3, J. Firth. *Chickens.*—1, R. Walker, Gomersal. 2, A. G. Wilding, Montford, Burnley. 3, J. C. Yates, Bentley, Doncaster.

DORKINGS.—Cup and 1, J. White, Northallerton. 2, R. W. Richardson, Beverley. 3, T. Briden, Cononley, Leeds. *Chickens.*—1, R. W. Richardson. 2, T. E. Kell, Wetherby. 3, F. S. Arkwright, Chesterfield.

SPANISH.—1, H. Wilkinson, Skipton. 2, Burch & Boulter, Sheffield. 3, W. and F. Pickard, Leeds. *Chickens.*—Cup and 1, H. Beldon, Goitstock. 2, J. Thresh, Bradford. 3, Hon. Miss D. Pennant, Penrhyn Castle, Bangor.

COCHIN-CHINA.—Cup, 1, and 2, W. A. Taylor, Manchester. 3, H. Lacy, Hebden Bridge. *Chickens.*—1 and 2, W. A. Taylor. 3, T. Stretch, Ormskirk.

BRAHMA POOTRA.—Cup and 1, W. A. Taylor. 2, T. F. Ansdell, St. Helen's. 3, Hon. Miss D. Pennant. *Chickens.*—1, F. S. Arkwright, Sutton Scarsdale. 2, H. Beldon. 3, Dr. Holmes, Chesterfield.

HAMBURGHS.—*Gold-pencilled.*—1, W. W. Tickner, Ipswich. 2, H. Beldon. 3, H. Pickles, jun., Earby. *Chickens.*—1, H. Beldon. 2, J. Walker, Birstwith, Ripley. 3, J. Rollinson, Lindley, Otley.

HAMBURGHS.—*Silver-pencilled.*—1 and 3, H. Beldon. 2, H. Pickles, jun. *Chickens.*—1, H. Smith, Keighley. 2, H. Pickles, jun. 3, H. Beldon.
HAMBURGHS.—*Gold-spangled.*—1, H. Beldon. 2, J. Newton, Silsden. 3, T. Walker. *Chickens.*—1, H. Beldon. 2, J. Ogden, Manchester. 3, T. Walker.
HAMBURGHS.—*Silver-spangled.*—Cup, 1, and 2, H. Beldon. 3, Ashton and Booth, Mottram. *Chickens.*—1, H. Beldon. 2, H. Pickles, jun. 3, Ashton and Booth.
HAMBURGHS.—*Black.*—1, H. Beldon. 2 and 3, T. Walker. *Chickens.*—1, T. Walker. 2, H. Beldon. 3, J. Statter, New Brighton, Cheshire.
POLANDS.—1 and 2, H. Beldon. 3, W. Silvester. Sheffield. *Chickens.*—1, J. Bowker. Shipley. 2, H. Beldon. 3, J. Battye, Holmfirth.
FARMYARD CROSS, OR ANY OTHER VARIETY.—1, Mrs. J. Cross, Appleby Vicarage, Brigg. 2, J. Railton, Manchester. 3, J. Dearden, Hebden Bridge.
SELLING CLASS.—1, J. Blackburn, Ackworth. 2, J. J. Booth, Highfield, Silsden. 3, J. Mills, Healey, Rochdale.
BANTAMS.—*Black.*—1, H. Beldon. 2, J. Riley, Guisely. 3, C. Sedgwick, Skipton. *White.*—1, F. Tearle, Gazeley Vicarage, Newmarket. 2, Winwood and Cutler, Worcester. 3, S. & R. Ashton, Mottram. *Game.*—Cup and 1, G. Hall, Kendal. 2, J. Crossland, jun., Wakefield. 3, Bellingham & Gill, Burnley. *Any other Variety.*—1, E. Walton, Rawtenstall. 2, J. Walker, Halifax. 3, H. Beldon.
TURKEYS.—1, J. B. Braithwaite, North Otterington. 2, F. E. Rawson, Thorpe. 3, B. H. Brookshank, Rotherham.
GEESE.—*White.*—1, Rev G. Hustler, York. 2, F. Leech, Rochdale. 3, J. B. Braithwaite. *Grey and Mottled.*—1, E. Leech. 2, W. Fieldhouse, Leeds.
DUCKS.—*Aylesbury.*—1 and 3, E. Leech. 2, H. Frankland, Church. *Rouen.*—1, J. White, Wakefield. 2, J. Newton. 3, R. Gladstone, jun., Broadgreen, Liverpool. *Any other Variety.*—1, R. W. Richardson. 2, W. Binns, Pudsey. 3, H. B. Smith, Preston.

PIGEONS.

CARRIERS.—*Cock.*—1, E. Horner, Harewood. 2, J. Thompson, Bingley. *Hen.*—1 and 2, E. Horner.
POUTERS.—1 and 2, E. Horner.
TUMBLERS.—*Short-faced.*—1, E. Horner. 2, H. Adams. *Any other Variety.*—1, J. Hawley. 2, R. G. Teebay, Ormskirk.
OWLS.—1, E. Horner. 2, R. W. Richardson, Meaux Abbey, Beverley.
FANTAILS.—1, W. C. Dawson, Otley. 2, H. Yardley, Birmingham.
BARBS.—1, E. Horner. 2, R. W. Richardson.
TURBITS.—1, J. T. Lishman. 2, E. Horner.
JACOBINS.—Cup and 1, J. Thompson, Fearnhill, Bingley. 2, E. Horner.
TRUMPETERS.—1 and 2, E. Horner.
NUNS.—1, R. W. Richardson. 2, O. A. Young, Driffield.
DRAGOONS.—1, E. Horner 2, H. Adams.
ANTWERPS.—1, H. R. Wright, Hockley, Birmingham. 2, R. Smith, Hull.
MAGPIES.—1, E. Horner. 2, W. C. Dawson, Otley.
ANY OTHER VARIETY.—1, E. Horner. 2, W. C. Dawson.
SELLING CLASS.—1, G. Lister, Harewood. 2, D. Reddihough, jun., Bradford.

RABBITS.—*Yellow and White, and Tortoiseshell.*—1, Sewin & Robinson, Kettering. *Black and White.*—1, A. S. Peace, Thorne. 2, J. Irving, Blackburn. *Self-coloured.*—Cup and 1, T. E. Terry, Tong. 2, J. Irving, Bradford. *Grey and White.*—1, A. H. Easten, Hull. 2, J. Irvin, Blackburn. *Selling Class.*—1, T. E. Terry. 2, J. Railton, Manchester.

JUDGES.—*Poultry:* Mr. James Dixon, North Park, Clayton, Bradford; Mr. Thomas Dodds, Wakefield. *Pigeons and Rabbits:* Mr. F. Esquilant, Effra Road, Brixton, London.

CARRON, STENHOUSEMUIR, AND LARBERT POULTRY SHOW.

THIS was held in the Drill Hall, Stenhousemuir, on December 9th, when the following awards were made:—

SPANISH.—1 and Special, Miss Rae, Glasgow. 2, W. C. Hardie, Carron. 3, J. Young, Motherwell. *hc* and c, D. MacBeath, Bridge of Allan.
DORKINGS.—1, J. Weir, Rosehill. 2, — Meiklejohn. 3, Mrs. Neilson, Carron Mains. *hc*, S. Bell, Castleton, Plean. c, J. Turnhull, Carnock; Rev. F. MacPherson, Larbert.
DORKINGS.—*Silver-Grey.*—1, J. Malcolm, Langton. 2, W. Weir. 3, A. Archibald, East Plean. *hc*, Mrs. Neilson. c, Capt. Brown, Kilsyth. *Chickens.*—1, R. Duncan, Whins of Milton. 2, J. Malcolm. 3, S. Bell. *hc*, J. Fotheringham, Galamuir. c, S. Bell; J. Turnhull, Carnock; Capt. Brown, Kilsyth.
COCHIN-CHINAS OR BRAHMAS.—1, W. Weir, Inches. 2 and 3, J. W. Will, Errol. *hc*, H. Wyse, Bishophriggs. c, R. Williamson, Grangemouth (2); Mrs. Graham, Airth
HAMBURGHS.—1 and 2, H. Russell, Clackmannan. 3, J. W. Will. c, J. Carswell, Uplaw Moor.
GAME.—1, W. Bruce, Falkirk. 2 and *hc*, J. W. Blakey, Stirling. 3, A. Hutchison. c, D. Duncan, Carron.
BANTAMS —1, R. Gemmell, Glasgow. 2, S. Brown, Glasgow. 3 and c, J. W. Will. *hc*, Miss J. M. Frew, Sinclairtown, Kirkcaldy.
ANY OTHER VARIETY.—1, A. Wylie, Johnstone. 2, A. Binnie, Grahamston. 3, R. Williamson, Grangemouth. *hc*, T. Tough, Torwood.
DUCKS.—1, — Harper. 2, J. W. Will. 3, R. Macvey, jun. *hc*, S. Bell. c, C. Laird; T. Tough.
TURKEYS —1, W. Weir. 2, R. Campbell. 3, J. Webster, Carronside. *hc*, C. Laird. c, Miss Meikle.

PIGEONS.—*Pouters.*—1, J. Murdoch. 2, T. Park, Westerton. *hc*, J. Duncan, Carron. *Fantails.*—1, J. Murdoch. 2 and *hc*, H. Y. Hardie, Carron. *Tumblers.*—1, A. Johnstone, Bathgate. 2, Mrs. Ferguson, Larbert. *Any other Variety.*—1, A. Johnstone. 2 and *hc*, J. Weir.

CANARIES.

YELLOW.—*Cocks.*—1, R. Stewart, Perth. 2, J. Meldrum, Glasgow. 3, J. Smith, Perth *Hens.*—1, D. Duncan. 2, W. Muirhead, Alloa. 3, J. Halley, Carron.
BUFF.—*Cocks.*—1, J. Dalziel, Paisley. 2, W. Mochrie, Lanark. 3, J. Smith, Coatbridge. *Hens.*—1, T. Scott, Carluke. 3, W. Alexander, Edinburgh. 3, J. Ritchie, Renton.
PIEBALD (Yellow).—*Cocks.*—1, T. Scott. 2, J. Hogg, Oakley. 3, J. Pender. *Hens.*—1, J. Mullion, Perth. 2, J. Halley. 3, C. Smith, Leith.
PIEBALD (Buff).—*Cocks.*—1 and 2, T. Scott. 3, G. Ritchie. *Hens.*—1, J. Lyle, Wishaw. 2, A. Crawford, Johnstone. 3, J. M'Craw, Edinburgh.

JUDGES.—*Poultry:* Mr. T. Raines, Bridgehaugh, Stirling; and Mr. Morrison, Glasgow. *Canaries:* Mr. Brown, Glasgow; Mr. G. Binnie, Perth; Mr. J. Morrison, Bainsford; and Mr. T. Stirling, Carron.

SCOTTISH COLUMBARIAN ASSOCIATION.—We think most Pigeon fanciers will enter the lists and contend on the 28th for the twenty gold medals and the liberal money prizes offered by this Association. The Exhibition will be in the Music Hall, George Street, Edinburgh.

NORFOLK AND EASTERN COUNTIES POULTRY SHOW.—This, to be held at Norwich on the 17th and 18th of January, has a liberal prize list, besides cups, and low entrance fees; but we must protest against all varieties of Dorkings being included in one class and all the varieties of Hamburghs in another. This is quite absurd. Setters and Pointers might as well be exhibited in one class.

NORTHERN COUNTIES COLUMBARIAN SOCIETY.

THANKS to the usual liberality of Messrs. Jennison, of Bell Vue, Manchester, this Society held its annual Show on the 9th inst. in one of their spacious and well-lighted rooms. The arrangements were excellent, the three hundred hee-hive pens being placed in double rows, and between the rows were placed hothouse plants, which gave the Show a very pleasing character. The Judges gave general satisfaction, and stated that they never judged or witnessed a better Show.

The Carrier cocks and hens were all grand, stylish young birds. Pouters, excepting the prize birds, were poor. Out of Mr. J. Fielding's fine loft of birds, we thought he might have sent something better in Short-faced birds than he did. Very superior Black African Owls were shown by the President, and deservedly took the first prize. There was a grand array of English Owls and Turbits of all varieties. When we state the entries for Jacobins numbered thirty pens, and the two old exhibitors, Messrs. Royds and Ridpeth, put forth the full strength of their lofts, the Judges may be believed when saying such a show of Jacobins was never seen together before. Among the Barbs of Captain Heaton and Mr. J. Firth, there was not a bad bird in any of the classes, and Capt. Heaton's champion pair were conspicuous for their splendid condition. Unfortunately Mr. J. Holland, although he had made many entries, could not show any of his marvellous Dragoons, owing to family affliction; but there were many splendid birds exhibited.

Fantails, although not numerous, were of great merit, and there were some very pretty Long-faced Balds, Beards, and Mottled Tumblers exhibited. The Long and Short-faced Antwerps were as good as can be found in the country, and were a show in themselves. Of Trumpeters, such a lot is rarely seen together. There were some good birds in the Variety classes. The birds shown in the collections of six were exhibited in the large mahogany cages belonging to the Society; they were numerous, and many of very great merit. We may add that at this Society's Exhibitions the competition is not for money prizes.

CARRIERS.—*Cocks.*—1, J. Chadwick, Bolton. 2, T. H. Ridpeth, Handford. *Hens.*—1, T. H. Ridpeth. 2, J. Chadwick.
POUTERS.—1 and 2, T. H. Ridpeth.
TUMBLERS (Short-faced).—*Almonds.*—1, J. Fielding, jun., Rochdale. *Mottles.*—1, J. Fielding, jun. *Balds.*—1, J. Fielding, jun. *Beards.*—1, J. Fielding, jun.
TUMBLERS (Long-faced).—*Balds.*—1 and 2, W. R. Haycraft, Manchester. *Beards.*—1 and 2, R. Marshall, Manchester. *Mottles.*—1, R. Marshall. *Any other Variety.*—1, F. Hughes, Stockport.
OWLS.—*Foreign.*—A. Mangnall, Lower Broughton. 2, J. Fielding, jun. *Young.*—1, J. Fielding, jun.
OWLS.—*English.*—*Blue.*—1, J. Chadwick. 2, A. Mangnall. *Silver.*—1, J. Chadwick. 2, A. Mangnall. *Cock.*—1, F. Mangnall, Styal. 2, W. Gamon, Chester. *Hen.*—1, F. Mangnall. *Young.*—1, A. Mangnall. 2, W. Justice, Salford.
TURBITS.—*Blue or Silver.*—1 and 2, F. Mangnall. *Any other Colour.*—1, J. B. Pinder, Harpurhey. 2, F. Mangnall. *Cock.*—1, J. Fielding, jun. 2, F. Mangnall. *Hen.*—1, T. H. Ridpeth. 2, J. B. Pinder. *Young.*—1, J. B. Pinder.
JACOBINS.—*Yellow.*—1 and 2, E. E. M. Royds, Rochdale. *Red.*—1 and 2, T. H. Ridpeth. *Black*—1 and 2, E. E. M. Royds. *Young.*—1 and 2, T. H. Ridpeth. *Cock.*—1, E. E. M. Royds. 2, T. H. Ridpeth. *Hen.*—1, T. H. Ridpeth. 2, E. E. M. Royds.
BARBS.—*Black.*—1, H. Heaton, Worsley. 2, J. Firth, Dewsbury. *Any other Colour.*—1, J. Firth. 2, W. Justice. *Cock.*—1 and 2, H. Heaton. *Hen.*—1, H. Heaton. 2, J. Firth. *Young*—1, J. Firth. 2, J. Heaton.
DRAGOONS.—*Blue or Silver.*—1, W. Whitworth, Rusholme. 2, A. Jackson, Bolton. *Cock or Hen.*—1, W. Gamon. *Any other Colour.*—1, A. Jackson 2, T. H. Ridpeth. *Cock or Hen.*—1, W. Gamon. 2, T. H. Ridpeth. *Young.*—1, T. H. Ridpeth. 2, A. Jackson.
FANTAILS.—1, F. Mangnall. 2, T. H. Ridpeth. *Cock or Hen.*—1, F. Mangnall.
ANTWERPS (Short-faced).—*Red or Blue-chequered.*—1 and 2, J. Wright, Manchester *Silver Dun.*—1, W. Justice. 2, R. Marshall. *Any other Colour.*—1, W. Gamon. 2, W. Justice. *Young.*—1, W. Justice. 2, W. Gamon. *Cock.*—1, J. Wright. 2, W. Justice. *Hen.*—1, R. Marshall.
ANTWERPS (Long-faced).—*Red or Blue-chequered.*—1, W. Justice. 2, R. Marshall. *Silver Dun.*—1, J. Wright. 2, W. Justice. *Any other Colour.*—1, P. McDonald. 2, R. Marshall. *Young Hen.*—1 and 2, W. Justice. *Cock.*—1, W. Justice. 2, R. Marshall. *Hen.*—1 and 2, W. Justice.
TRUMPETERS.—1 and 2, J. Firth. *Young.*—1 and 2, J. Firth. *Cock or Hen.*—1, J. Firth. 2, T. H. Ridpeth.
ANY OTHER VARIETY.—1, E. Slack, Lower Broughton. 2, T. H. Ridpeth. *Single Bird.*—1, T. H. Ridpeth. 2, E. E. M. Royds.
COLLECTIONS OF NOT LESS THAN SIX BIRDS.—1 and 2, F. Mangnall.

JUDGES.—Mr. Peter Eden, Salford; Mr. W. Cannan, Bradford; and Mr. R. Chadwick, Oldham.

NORTHERN (NEWCASTLE) COLUMBARIAN SOCIETY.

(*From a Correspondent.*)

THIS very interesting competitive Exhibition for young Pigeons was held on the 13th and 14th in a very commodious sale-room, owned by Mr. S. Joel, Pilgrim Street, Newcastle-upon-Tyne, under the auspices of the above recently-formed Society. This being their first Exhibition, it was considered highly successful, and although the Society is in its infancy, it was remarkable for the number of birds of this year's breeding shown. The birds were exhibited singly, and numbered 271 pens in twenty-nine classes; the prize money amounted to about £20. In addition to this amount there were fifteen silver challenge cups ranging from two to four guineas each. To Mr. T. Rule, Durham'

Mr. W. B. Van Haansbergen, and Messrs. Blenkinsop, Newcastle, the Society owes its origin.

First on the list came Pouters. There were only three entries. Mr. N. Dunn, Newcastle, took the cup with a very fine bird. Black Carriers numbered eleven entries. Mr. Guthrie took the cup with a very fine cock bird, also first prize with a splendid hen; the pair were claimed for £5. Of Carriers, Any other colour, there were five entries, Mr. J. G. Dunn, Newcastle-on-Tyne, winning in a canter with a splendid Dun bird—in fact one of the finest young Carriers, fanciers say, that has been shown this year, and it was claimed for £5 5s.; it was the general opinion that this bird should have had the Carrier cup, but the bird being so young the sex could not be determined. In both Carrier classes adult birds were shown.

Of Barbs, in both classes, there were nineteen entries, and most of them were good. Mr. Joseph Firth won the cup with a splendid bird. In Short-faced Almonds, Messrs. Blenkinsop took the cup with a magnificent bird, in fact one of the finest young birds I have seen this year. Short-faced, Any other colour, twelve entries, and Mr. H. Adams had no easy victory for the cup. Messrs. Blenkinsop ran a close race with him.

Trumpeters, Mottled, eight entries. In this class evidently there was a grand mistake, pens 71 and 72, shown by Mr. T. Rule, of Durham, were passed by unnoticed; but I have not the slightest hesitation in saying that scores can bear me out—that these two pens were, without exception, the finest birds I ever saw (to be young ones), and should have been awarded the cup and first prize. Other birds in this class were very moderate. Trumpeters, Self-colour, had seven entries. Mr. T. Rule showed two pens of Blacks, decidedly the best birds, and they ought to have been placed first and second, but, as in the previous class, were passed unnoticed, and the awards went to birds of no merit.

Jacobins, Red, twenty-seven entries. Mr. Rule took the cup with a really good bird, while his little Red hen, decidedly the best Jacobin in the Show, was passed unnoticed. In this class Mr. Rule should have stood—pen 90, cup, and 91, first prize. Of Black Jacobins there were nine entries. Mr. T. Waddington only obtained a second prize, but undoubtedly should have stood first, Mr. Royds' bird being coarse. Jacobins, Any other colour, eighteen entries, Mr. W. B. Van Haansbergen winning with one of the Whites, for which he is renowned; H. J. Nalder pressing him very closely with a splendid Yellow. Mr. E. E. M. Royds showed in the Jacobin classes several old birds, which were admitted by telegram, but not before Mr. Jones had judged them; in any case none of them had a chance, young birds clearly beating them.

Next came Point-headed Turbits, with twenty-eight entries, and the best class in the Show. A most difficult class to judge, there being some very young birds shown, and after the Judge's patience had been well tried for upwards of an hour, he awarded Mr. J. G. Dunn's Red bird first prize, this bird being the youngest in the Show, and only a little over eight weeks old. It was put up by auction, and brought 25s.

Of Shell-crowned Turbits there were thirteen entries, Mr. O. E. Cresswell taking the cup against Mr. J. G. Dunn's Red bird in the previous class; the cup bird was sold for £4 5s. Nuns, Black, eight entries, Mr. R. W. Richardson, Beverley, taking the cup and first prize. Of Nuns, Any other colour, there were four entries. Mr. W. B. Van Haansbergen had all his own way in this class.

Of Fantails, White, there were twelve entries. Mr. J. F. Loversidge, Newark-on-Trent, took the cup and first prize easily. English Owls, eight entries. Mr. T. Waddington had an easy victory for the cup.

In Magpies Mr. T. Waddington had an easy victory for the cup. In Swallows there were two entries.

Of Dragoons the entries numbered twenty-six, and most of them were really first-class birds. This was a most difficult class to judge, and after a great deal of time had been spent, the cup went to Mr. T. Waddington, who well deserved it, the bird being a splendid Blue with fine carriage and good head, but his greatest point of excellence was his narrow black bars, which are so much admired. Antwerps were a good class, and Mr. W. H. Mitchell swept off the prizes. Of Long-faced Tumblers there were thirteen entries of moderate birds; of Baldheads, seven entries; of Beards, twenty; in the Variety class, seven entries.—FAIRPLAY.

POUTERS.—*Red or Blue.*—Cup, N. Dunn, Newcastle. 1, J. Towerson, Egremont. 2, J. Guthrie, Hexham.

CARRIERS.—*Black.*—Cup and 1, J. Guthrie. 2, J. G. Dunn, Newcastle. *hc*, J. Watts. *c*, J. G. Dunn; C. Vaux, Boldon. *Any other Colour.*—1, J. G. Dunn. 2 and *hc*, J. Watts. *c*, J. Towerson.

BARBS.—*Black.*—1 and 2, R. W. Richardson, Meanx Abbey, Beverley. *hc*, J. Firth, Dewsbury. *c*, J. Firth; W. R. & H. O. Blenkinsop, Newcastle. *Any other Colour.*—1 and Cup, J. Firth. 2, W. R. & H. O. Blenkinsop. *c*, R. W. Richardson.

TUMBLERS (Short-faced).—*Almond.*—Cup and 2, W. R. & H. O. Blenkinsop. 1, H. Adams. *hc*, C. Vaux. *c*, W. B. Van Haansbergen, Newcastle; H. Adams. *Any other Colour.*—1, H. Adams. 2 and *hc*, W. R. & H. O. Blenkinsop. *c*, J. Watts (2); T. Gallon.

OWLS.—*Foreign.*—Cup, J. Towerson. 1, R. W. Richardson. *English.*—Cup, T. Waddington. 1 and 2, J. Watts. *hc*, T. W. Kilburn. *c*, T. Gallon.

TRUMPETERS.—*Mottled.*—1, W. B. Van Haansbergen. 2, J. Firth. *c*, J. Firth; W. B. Van Haansbergen. *Self-colour.*—Cup, W. B. Van Haansbergen. 1, J. Firth. 2, W. R. & H. O. Blenkinsop.

JACOBINS.—*Red.*—Cup, T. Rule. 1, 2, and *hc*, W. E. Easten, Hull. *c*, R. W. Richardson; W. E. Easten; H. F. Nalder, Croydon; E. E. M. Royds, Rochdale. *Black.*—1, E. E. M. Royds. 2, T. Waddington, Feniscowles, Blackburn. *c*, H. F. Nalder. *Any other Colour.*—1, W. B. Van Haansbergen. 2, H. Nalder. *c*, W. B. Van Haansbergen; W. R. & H. O. Blenkinsop.

TURBITS.—*Point-headed.*—1, J. G. Dunn. 2, W. E. Easten. *vhc*, O. E. Cresswell, Early Wood, Bagshot. *hc*, T. Gallon, Felling, Gateshead. *c*, J. G. Dunn; W. E. Easten (3); W. B. Van Haansbergen; O. E. Cresswell. *Shell-crested or Plain-headed.*—Cup, O. E. Cresswell. 1, W. B. Van Haansbergen. 2, H. F. Nalder. *c*, J. Watts; O. E. Cresswell.

NUNS.—*Black.*—Cup, 1, and *c*, R. W. Richardson. 2, W. E. Easten. *Any other Colour.*—1, W. B. Van Haansbergen. 2, N. Dunn.

FANTAILS.—*White.*—Cup, 1, 2, and *hc*, J. F. Loversidge, Newark. *c*, H. Adams; Newark; T. Gallon.

MAGPIES.—Cup, T. Waddington. 1, J. Watts. 2, J. Towerson.

SWALLOWS.—1 and 2, J. Watts.

DRAGOONS.—Cup and 1, T. Waddington. 2, J. Watts. *hc*, R. W. Richardson; W. H. Mitchell (2). *c*, R. W. Richardson (2); J. Watts; W. H. Mitchell; W. R. and H. O. Blenkinsop.

ANTWERPS.—Cup, 1, 2, and *hc*, W. H. Mitchell, Moseley, Birmingham. *c*, J. G. Dunn (2).

TUMBLERS.—*Long-faced.*—1, J. Watts. 2, H. Adams. *c*, J. Guthrie (2); T. Gallon (2).

BALDHEADS.—1 and 2, J. W. H. Thorpe. *hc*, W. R. & H. O. Blenkinsop. *c*, J. Watts.

BEARDS.—1, J. W. H. Thorpe.

ANY OTHER VARIETY.—1 and 2, J. Watts (Dentilettes). *c*, T. Rule, Durham (Letz); T. Waddington (Porcelain).

Mr. P. H. Jones, of London, was Judge.

THE DRAGOON PIGEON.

IN your correspondent's criticism of the pair of Silver Dragoons with which I took the second prize at Birmingham, he says the bars were of too black a tint; now I maintain that they cannot be too black, and I should be only too glad to meet with a pair having jet black bars and as good in other points as my own. They were second at the Crystal Palace, competing in the same class with Blues, and second at Bingley Hall. They were so placed by different Judges; and I am sure if, as your correspondent says, they were too black in bar, they would not have been amongst the prizewinners. I should be glad to hear the opinions of other fanciers of Silver Dragoons as to this point. I sincerely wish we could come to some more definite standard of a Dragoon. It is very disheartening to hear so many differences of opinion. Some tell you your birds are not stout enough in bill, others that they are too stout. For myself I would not give room to a spindle-beaked bird, such as many of the Birmingham fanciers have. Calling on one when in that town during the show week, he bragged to me that he had bred birds this year with beaks as thin as a bodkin.—FRANK GRAHAM.

CHELTENHAM CANARY SHOW.

"GOOD-BYE—pleasant journey—be sure and send a catalogue." The valediction, benediction, and supplication of three shivering members of the fancy, as I slowly steamed out of the apology which does duty for a station at Sunderland, on a nasty, wet, sloppy night in November. The weather could not make up its mind as to which was most desirable—to snow, rain, or freeze, and so it did all three by turns. I went my way, out into the black, murky night, and they theirs, back to their own fireside. One, a good man and true, who has learned the first lesson in exhibiting—the art of seeing yourself beaten without grumbling, and a belief in the possibility of there being as good fish in the sea as ever came out of it; another, with hope strongly developed in his cerebral formation, and who always comes up to the mark smiling; the third, trembling in mortal agony lest by any chance there should be found better birds than his own, and meditating taking a "turn round by Brussels, Antwerp, Ghent, and there away," to see if haply he might "pick up anything good."

Engagements at home have prevented my attending so many shows as last year. Old friends at Hatfield and Scarborough, and new ones at North Ormesby and Guisborough, I was reluctantly obliged to disappoint, and with the exceptions of Whitby and Hartlepool, I had not seen any of the great gatherings of the season. Week after week I have opened the Journal anticipating something more than a bare return of awards, and longing to hear the opinions of men well qualified to judge of the progress made in the breeding of the bird, the name of whose admirers is now legion, and I do not know whether my disappointment or my wish to see for myself has been the greater. "WILTSHIRE RECTOR'S" observation that the field is not large, often presented itself to my mind very forcibly, but I wished that, contracted though it may be, other husbandmen would take as much pleasure in cultivating it as I. If the space be somewhat circumscribed, we must just do as Mr. Wright recommends for poultry in confinement, dig deep and turn up fresh soil in which we can scratch.

I travelled to Cheltenham in company with a grizzly bear. But it was, withal, a good-natured bear. I found it curled-up in a corner of a carriage at Normanton, with the cleverest arrangement of foot-warmers and cushions I ever saw. I had to climb over the barricade when I entered the carriage, and I think I awoke the bear, which on emerging from its skin assumed the appearance of a bear and seal mule, and a jelly specimen it was. It had a spare portmanteau, and with it and my share of the cushions, built me a barricade and a den, after which it crawled under its skin and hybernated. And how it did snore! Anxious guards and inquisitive porters, who always wanted to examine our tickets when there seemed to be no necessity, made no impression on Ursus Major.

"Be sure and send a catalogue." I knew it would be a large one, for such a schedule has not appeared for some years. I estimated the probable number of entries at five hundred, and was agreeably sur-

prised to find that they had reached nearly six hundred *bonâ-fide* entries. But my heart made one or two unmistakeable jumps when I entered the Assembly Rooms and took in at a glance the difficult nature of the task set before me and my colleague, Capt. Hawkins Fisher. The great room may be, and, I understand, really is the finest floor in Europe for dancing purposes, but as the votaries of Terpsichore do not require strong sunlight for the celebration of their revels, the room appears to have been constructed without any recognition of its necessity. True, one end of it is almost entirely of glass, but being a long, oblong-shaped room, the direct rays do not penetrate far, and the shade from the ceiling is soon perceptible. The consequence was, we had every cage to lift and arrange facing the light, in some rough approximation to order of merit before we could arrive at definite conclusions. At first it was easy enough, but at last it was as though I was running a race against time or picking up the hundred eggs a yard apart, singly, and returning with each one to the basket. And I weigh fourteen-seven! However, I was ably seconded by my coadjutor, an enthusiastic ornithologist, whose infinite acquaintance with hybrids and British and foreign birds relieved me of much of the responsibility in these classes.

But, work as hard as we could, to get through in a short November day was impossible, and a portion of the judging still remained to be done on Friday morning. Visitors took everything in good part; it was a first Show, successful in point of numbers beyond all precedent, conducted with a manifest desire to have everything done as it ought to be done, and I never heard a single grumble at delay in the issue of the award of prizes. A great portion of the judging, too, and especially of the Belgians, being done in public, excited a deal of interest, and nothing but admiration of the spectacle and patient waiting for the completion of every detail seemed to occupy the mind of every visitor. Many who came for the day remained in the town all night to see "the end of it," in any class in which they took a peculiar interest. Surely their patient waiting and enthusiasm are a quiet reproof to some who are subject to fits if they do not receive a catalogue and award of prizes by first post—or sooner.

The Clear Norwich classes made a fine show; Messrs. Adams and Athersuch, Bemrose & Orme, G. & J. Mackley, Moore & Wynne, and W. Walter making the running at a "hot" pace. It *was* hot. Colour and quality were prominent in all, but the struggle at the finish lay between the Derby confederacy and Mr. Walter, the latter taking first in Jonques and Mealies with birds of exceptional quality of feather. The Derby birds were grand in colour, but not so soft and silky in texture as I like to see them. Mr. Bemrose called my attention to one of his Buffs, No. 49, I think, which he said was one of the warmest birds he had seen for a long time. It certainly was a bird of rare colour, but—my view may be extreme—too warm. It wanted more frosting.

The Evenly-Marked Norwich were a show in themselves. Frequenters of Canary shows know what is the average run of so-called Evenly-Marked birds usually staged. One or two, perhaps, come up to the standard. I do not mean the standard of perfection, but the simple standard which is included in the definition Evenly-Marked. And on this point allow me to say, in passing, that there seems to be a misunderstanding as to what constitutes an Evenly-Marked bird. Indeed, my attention was directed to one, No. 94, first prize, Class 4, which a friend thought was not an Evenly-Marked bird at all, because one eye was more heavily marked than the other. To set this question at rest, let me say that evenness of marking is, primarily, a question of locality, and not of absolute exactness of marking in that locality. I have, in an earlier number, enunciated this theory at length. Suffice it to say here, that eye marks, wing marks, and tail marks, marks which can be repeated in duplicate, constitute even marks, and the fact of any one or other of these marks being unequal to its fellow, in no way alters the fact of the bird being evenly marked. Positive exactness is seldom or never found, and a close approximation to it not frequently. The wording of the Crystal Palace schedule for last year was intended to meet this difficulty, at least I could understand it in no other way. The description there was "Best Marked or Variegated," allowing a wide discretionary power to the Judge; and seeing that birds of great merit, otherwise marked than evenly, and which at the same time cannot be considered as Ticked or Unevenly-Marked (as understood by the fancy), can by this wording find their way into competition with the Evenly-Marked specimens, I am inclined to view this description, "Best Marked or Variegated," as preferable to the more rigidly exacting one, "Evenly-Marked," which excludes many a superb specimen which is both evenly and otherwise marked.

At Cheltenham there were more than a dozen *bonâ-fide* Evenly-Marked birds among the Jonques, not to mention the Mealies, without counting those which, though nicely marked, either had too much of it or were capped and otherwise variegated. The competition was very close, and the first prize fell to a bird of Messrs. Adams and Athersuch's, very beautifully marked on the wings, and very evenly, though rather heavily, on the eyes. Barwell & Golby, and Moore and Wynne were close behind, with Messrs. Adams & Co. equal third. No. 71 in this class, Bemrose & Orme, was very fine, and by the dull light of a November afternoon looked so grand, that I was at one time afraid I had made a mistake and had come to a decision too hastily. But a closer inspection in the morning confirmed my opinion. The standard of excellence is somewhat arbitrary. Some judges like four and others five, six, or seven dark feathers in each wing. Some like half the wing dark; and from an almost unintelligible heap of jargon and incongruous nonsense in a schedule before me, I learn that "the flights, or first nine feathers, white, and the secondaries dark, are the most perfect wing-marks." To my eye if the primaries (which by the way are *never* nine in number), alone are light, the bird would be too heavily marked, and, *cæteris paribus*, would not win against one with a much lighter wing.

No. 94, in the Evenly-Marked Buffs (Bemrose & Orme), I have adverted to. He was in the perfection of condition, and could afford to give away any trifling irregularity and still win with something in hand. The other winners, Bemrose & Orme, second, with Moore and Wynne and Adams & Co. dead heat for the third place, were gems of birds. Where to draw the line between highly commended and commended was a difficult task.

Ticked birds were wonders, the most remarkable being 156 (J. Turner), a heavily-marked Buff, which I am given to understand has been in the crucible and submitted to all kinds of searching tests without anything "coming off." I was much amused at a remark I overheard while examining this bird and a Lizard; extraordinary opinions were being hazarded pretty freely, but everybody was silenced by a jolly old fellow who hailed from Birmingham or "thereaway" saying, "He have got a better receipt nor most of you!" I have not heard anything so rich since Mr. Jones, who has the care of Mr. Ashton's birds, lectured a delinquent on the sin of painting and staining, and wound up with a grand chaffing peroration, "It's all along o' you not using fast colours!"

Jonque Crests were nothing extra, but such a fine lot of Buffs I do not remember ever to have seen. It was a very near thing at the finish, but all told, the best bird stood first. Nearly a score were mentioned, and almost any one of the score could have won under ordinary circumstances, if not opposed by such an exceptional array.—
—W. A. Blakston.

(To be continued.)

QUEENS LEAVING THEIR HIVE.

Queens will leave the hive at other times than with a first swarm or to meet the drone. I took brood, larvæ, and eggs from the queen I received from you, and placed them in an empty hive with two frames of honey taken from other stocks. I then removed a strong stock of blacks some 15 or 20 yards distant, and placed the new hive on its stand. On the ninth day afterwards I examined, but found no queen-cells started. I tried again with the same result, but found eggs and brood in all stages. I also found the black queen in the nucleus, and upon examining the hive I removed I found queen-cells destroyed and a young queen just hatched. She had evidently left and returned to the old stand. Can anyone report a similar case?—R. W. Harrison.—(*The Bee-keeper, New York.*)

UNSEASONABLE DRONES.

On examining one of my stocks to-day I found three dead drones and four dead young bees. There were also some white larvæ. They seem to have been taken out of the cells by the bees. Have I any cause for alarm?—Baron.

[It is difficult to assign a reason for the presence of drones and young bees in your hive without further information. You do not say if your stock has an old or a young queen, or whether she was raised artificially or not. Your hive may have lost its queen late in the autumn, and her successor in her matrimonial flights failing to meet a drone in due time, consequently commenced her career as a drone-breeder. Or the old queen may have become worn-out with age or accident, which would cause her to deposit drone eggs as well as those of workers. Or the bees may have been aware of her increasing incapacity, and have allowed the drones, which would otherwise have been killed in autumn, to live to provide for her successor in case of her death. We think you have some cause to fear that all is not right within your hive.—Eds.]

Wolverhampton Show of Poultry and Pigeons.—The prize list is liberal. In fifteen classes the first prizes are £3 or £3 3*s*., instead of £2 as formerly. In classes for Light Brahmas the first prizes are £5 5*s*. (cups). There are also several extra prizes in addition to the above. The prizes for Pigeons also are increased, while the entry-fee is lowered. Homing Antwerps are a new class.

OUR LETTER BOX.

West of England, Plymouth, Newcastle Poultry, Watford, and other Shows (*L., Ames, &c.*).—We have not reported these Shows, because, if a committee does not advertise an exhibition in our columns, we conclude it is local, and not of general interest.

Dublin Society's Report (*E. A. S.*)—It was put in as a matter of favour. The Society does not advertise, and we can spare no more space.

POULTRY FOR USE (*Ignoramus*).—Keep a Dorking cock, Brahma pullets, and Rouen Ducks. If you enclose seven postage stamps with your address, ordering "The Poultry-book for the Many," you will have it sent post-free from our office.

PREPARING SPANISH FOWLS FOR EXHIBITING (*Inquirer*).—There can be no doubt that it is for the advantage of Spanish fowls to be kept some days in the dark before being shown. Soft food and white peas are favourite foods at such a time.

INDICATION (*A. B. G.*).—No, but it is a sign that if she does lay the eggs will be fertile.

COCHIN'S HACKLE CURLING (*E. H.*).—It is a great disadvantage, if not a disqualification. We have seen several cases of it, and know no remedy. We believe all these vageries, and we know of many of them, arise either from distant crosses, or, in other instances, from in-and-in breeding.

CROSS-BREEDING (*E. H. R.*).—Our opinion is an old one. We are not friendly to crosses for useful purposes. To keep good layers, we should keep pullets and dispose of them after the first year. If we wanted a cross for eggs only, we should think that you mention a good one.

TELLING THE AGE OF POULTRY (*T. G.*).—The scales of the legs are only marks of age when their wearer is very old, but they are no criterion between a young hen and one a year or eighteen months old. A very practised eye can up to seven or eight months detect the difference by looking at the flesh. It is mere assumption for any man to profess unerring judgment as to age of hens. No one can tell the difference between birds of fourteen or twenty months. The difference between a pullet and a hen ceases as soon as the former has eat and reared her chickens, and those who buy and kill young poultry for a livelihood are frequently deceived by buying fattened hens for chickens, the daily experience of thirty or forty years notwithstanding.

GAME FOWLS (*Far West*).—It is impossible you can show your birds as Black Reds. They are very strict in colour, and no deviation can be allowed, but there is some latitude in Brown Reds. As a rule, a prize list is thus worded, "Black-breasted and other Reds;" that would suit your case. Your chickens would have died on the flagstones. Fire is not good for poultry. Warmth must be conveyed through food. The boarded floor is bad for the chickens, unless it is covered some inches thick with dust, sand, or road grit. There is nothing unusual in chickens at this time of year. They will soon want fresh air, and when they begin to droop, try to find an outhouse or shed with an earthen floor, where the hen can be put, and where they will be sheltered from wind, rain, and draught, while they can run out if they like.

FOWLS DYING (*J. Railton*).—Your fowls are dying from cold, and from cayenne. We advise you to discontinue the stove and the pepper. Neither are necessary. Assimilate your food as much as possible to that of birds in a state of nature, and provide them with things they do not come in contact with. Feed in the morning on slaked oatmeal mixed with cold water; midday with the scraps and some whole corn; evening with slaked oatmeal, or ground oats still better. The spots and pimples would suggest poison, were it not for the fact you have been giving cayenne. In the inflamed state of the œsophagus that you have described, a grain of cayenne if lodged would form an irritant that would account for pimples or irritation. Feed on ground oats mixed with water, allow only a little water three times per day (none by them), and give two pills of camphor, each the size of a pea, night and morning.

DUCKS' EGGS (*St. Edmunds*).—If from young Ducks, probably within a month; if from older, double that time or longer. Weather will have some influence; the colder it is the longer you will have to wait.

DUCKWINGED BANTAMS (*A. M.*).—We have Duckwinged Bantams now in confinement that have been in the same place at least eighteen months. Eight birds in perfect health in a space 5 yards by 2, with a roomy sentry-box to roost in. All our Game cocks are dubbed. The dark leaden appearance of the comb is from cold or indigestion. A dose of castor oil will probably remove both.

WEIGHT OF LIGHT BRAHMAS (*A. A.*).—Cock, 8 lbs., pullets, 6 to 7 lbs. Some are larger, but the foregoing is a good average at seven months.

FOWLS IN A HOUSE (*Houdan*).—Your arrangements are bad, the flue is an evil. Pheasants, Partridges, and Grouse know no disease, make no smell, yet they roost in the open air, but they are wise in their generation, they do not choose a brick to squat upon for the night. The brick floor is very bad, the interstices absorb all that is liquid, and, as a rule, that which is liquid is the most offensive. In a space as small as that you mention, the most scrupulous cleanliness is necessary to prevent foul smells. If you cannot take up the run of bricks, cover them with 3 or 4 inches of sand, gravel, or grit. Green food is good; let none be thrown in the house, but all in the front. The ground should be scraped, or raked, or swept hard with a birch-broom every morning. Discontinue wheat. Feed on ground oats or oatmeal every morning, Indian corn midday, and ground oats in the evening. Nothing must be given in the house. All should be given outside, and the surface swept so hard and clean every morning that there shall be no appearance of its being used. Disinfect the house and run with one of the many disinfectants now in use.

PURCHASING POULTRY PENS (*X. Y. Z.*).—Your Committee will find on application that those who lend pens on hire are the makers also, and will readily sell them.

COLCHESTER SHOW (*J. G. Dunn*).—Turbits, G. South.

DUBLIN POULTRY SHOW.—In the class for Any variety of Bantam except Game, the first prize was awarded to Mr. G. A. Stephens, and the second to Mr. W. M. A. Wright.

TREDEGAR SHOW.—In White Bantams at the Tredegar Show the first prize was awarded to the Rev. F. Tearle's birds, and the second to those of Messrs. S. & R. Ashton; and in Blacks both Messrs. Mayo and Draycott were highly commended.

PRESERVING BIRDS' NESTS (*Rush*).—Soak them in a tanner's tanpit for a few hours.

SEA LAVENDER FOR BEES (*E. H. R.*).—We have no acquaintance with sea lavender as a pasturage for bees. Can any of our readers give their experience of it?

BEES WEAK (*A Subscriber*).—We fear your bees by this time are dead. A great mortality has already set in amongst our own bees, even where they had plenty of food, especially among those which were weak in numbers. It is, moreover, a bad time to feed, and great harm may be done in this way by inducing them to bestir themselves, except on the warmest of sunny days. If you do feed, use a syrup of loaf sugar, and put a tea-spoonful of gin or brandy to every 2 lbs. of food. Watch your opportunities and give a little at a time. Beware, especially, of flooding the hive with bee-food; nothing is more conducive to dysentery than this, and owing to the long-continued bouts of cold weather which seem normal this winter, dysentery is likely to be very prevalent. In fact, we have lost several hives owing to it already. If your bees are still in the greenhouse they ought to be warm enough, but you might cover them over with some woollen material during intense frost.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

DATE. 1871. Dec.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	IN THE DAY. Shade Temperature. Max.	IN THE DAY. Shade Temperature. Min.	IN THE DAY. Radiation Temperature. In sun.	IN THE DAY. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 13	30.498	40.6	40.9	W.	35.8	44.3	34.8	48.6	29.7	—
Th. 14	30.369	41.2	40.5	W.	36.1	47.2	38.6	54.0	35.0	—
Fri. 15	30.415	42.2	41.5	S.W.	38.2	46.2	39.4	54 0	34 0	—
Sat. 16	30.293	45.0	44 2	S.W.	39.0	45.2	37.0	46.0	30.5	.020
Sun. 17	30.349	37.8	37.6	W.	40.0	44.5	36.5	47.3	32.0	—
Mo. 18	30.187	46 5	44.0	S E.	40.0	48.0	36.3	61.0	31.5	.050
Tu. 19	29.923	48.0	47.5	S W.	41.3	49.0	45.6	54.2	43.8	.180
Means	30.284.	43.0	42.2		38 6	46.3	38.3	50.7	33.8	.250

REMARKS.

13th.—Extremely damp and dull all day, though no rain fell.

14th.—Beautiful soft air, but rather damp all day, a very slight shower in evening.

15th.—A fine day but no drying-up of the mud, rather foggy about 6 P.M. clearer afterwards.

16th.—A very mild but damp dull day.

17th.—Very foggy and damp in morning, clearer at noon; at 1 P.M. the sun tried to shine through the mist and probably succeeded where was less smoke; rather thick in the afternoon, clear at night.

18th.—Rather windy in the morning, but still damp and dull. The wind increased during the day and was strong at night.

19th.—Much wind during the past night, which ceased in the morning, and was followed by a rather dull day, except a short time before sunset, when it was bright for a short time, rain at night.

A most marked change in temperature from last week, the mean of the morning observations 12° higher; max. in air, 10°; min. at 4 feet above ground, 13.7°; max. in sun at 4 feet, 12°; and the min. on grass, 9.8°. The difference on grass would have been more equal to the others but for this low reading of the first day caused by the cold of the previous day, and the frost still lingering in the ground.—G. J. SYMONS.

COVENT GARDEN MARKET.—DECEMBER 20.

BUSINESS transactions are limited, and there is very little improvement to be noticed in any department. The wholesale trade is languid, and country orders are confined to immediate wants. Prices have been scarcely maintained in rough goods, which continue abundant. Pears comprise Glou Morceau, Winter Nelis, Jean de Witte, and Chaumontel. Apples consist of Newtown Pippin, Ribston Pippin, Blenheim Pippin, Nonpareil, and others.

FRUIT.

	s.	d.		s.	d.
Apples ½ sieve	2	0	to 4	0	
Apricots doz.	0	0		0	0
Cherries lb.	0	0		0	0
Chestnuts bushel	10	0		20	0
Currants ½ sieve	0	0		0	0
Black do.	0	0		0	0
Figs doz.	0	0		0	0
Filberts lb.	0	6		1	0
Cobs lb.	0	6		1	0
Grapes, Hothouse lb.	2	0		6	0
Gooseberries quart	0	0		0	0
Lemons ₱100	3	0		12	0
Melons each	2	0		3	0
Mulberries lb.	0	0	to	0	0
Nectarines doz.	0	0		0	0
Oranges ₱100	4	0		10	0
Peaches doz.	0	0		0	0
Pears, kitchen doz.	2	0		4	0
dessert doz.	2	0		6	0
Pine Apples lb.	3	0		6	0
Plums ½ sieve	0	0		0	0
Raspberries lb.	0	0		0	0
Strawberries lb.	0	0		0	0
Quinces doz.	0	0		0	0
Walnuts bushel	10	0		25	0
ditto ₱100	1	0		2	0

VEGETABLES.

	s.	d.		s.	d.
Artichokes doz.	0	0	to	0	0
Asparagus ₱100.	8	0		12	0
Beans, Kidney per 100	3	0		4	0
Broad bushel	0	0		0	0
Beet, Red doz.	1	0		3	0
Broccoli bundle	0	6		1	0
Brussels Sprouts ½ sieve	2	0		3	0
Cabbage doz.	1	0		2	0
Capsicums ₱100	1	6		2	0
Carrots bunch	0	6		0	0
Cauliflower doz.	3	0		6	0
Celery bundle	1	6		2	0
Coleworts doz. bunches	2	0		4	0
Cucumbers each	1	0		1	6
pickling doz.	0	0		0	0
Endive doz.	2	0		0	0
Fennel bunch	0	3		0	0
Garlic lb.	0	3		0	0
Herbs bunch	0	3		0	0
Horseradish bundle	3	0		4	0
Leeks bunch	0	3	to	0	6
Lettuce doz.	1	0		2	0
Mushrooms pottle	1	6		2	6
Mustard & Cress punnet	0	2		0	3
Onions bushel	2	0		4	0
pickling quart	0	6		0	8
Parsley per doz. bunches	3	0		4	0
Parsnips doz.	0	9		1	0
Peas quart	0	0		0	0
Potatoes bushel	2	0		3	6
Kidney do.	3	0		5	0
Radishes doz. bunches	0	3		1	0
Rhubarb bundle	1	0		1	6
Savoys doz.	1	0		1	6
Sea-kale basket	2	6		3	0
Shallots lb.	0	6		0	9
Spinach bushel	3	6		5	0
Tomatoes doz.	2	0		0	0
Turnips bunch	0	3		0	6
Vegetable Marrows doz.	0	0		0	0

POULTRY MARKET.—DECEMBER 20.

THE market is all confusion preparing for Christmas. Tons of provisions are coming in that will not be unpacked. Under the circumstances quotations would be jumps in the dark, and we must defer our notice till next week.

WEEKLY CALENDAR.

Day of Month	Day of Week.	DEC. 28—JAN. 3, 1872.	Average Temperature near London.			Rain in 43 years.	Sun Rises.	Sun Sets.	Moon Rises.	Moon Sets.	Moon's Age.	Clock before Sun.	Day of Year.
			Day.	Night.	Mean.	Days.	m. h.	m. h.	m. h.	m. h.	Days.	m. s.	
28	Th		42.6	29.5	36.0	18	9 af 8	55 af 3	17 af 5	28 af 9	16	1 41	362
29	F	Length of Night 16h. 13m.	43.9	33.0	38.5	20	9 8	56 3	21 6	7 10	17	2 11	363
30	S		44 4	31.7	38.1	17	9 8	57 3	28 7	34 10	18	2 40	364
31	Sun	1 Sunday after Christmas.	43.9	32.4	38.2	15	9 8	58 3	38 8	58 10	19	3 9	365
1	M	New Year's Day.	43.0	30.3	36.6	12	8 8	0 4	50 9	6 4	20	3 37	1
2	Tu		41.9	28.9	35.4	17	8 8	1 4	1 11	50 4	21	4 5	2
3	W		42.6	30.0	36.3	19	8 8	2 4	morn.	34 5	☾	4 33	3

From observations taken near London during forty-three years, the average day temperature of the week is 43.0°, and its night temperature 30 8°. The greatest heat was 58°, on the 28th, 1855; and the lowest cold 2° below zero, on the 2nd, 1867. The greatest fall of rain was 0.62 inch.

SMALL FARMS—HOW THEY CAN BE MADE TO ANSWER.—No. 4.

By Rev. William Lea, *Vicar of St. Peter's, Droitwich, and Hon. Canon of Worcester.*

APPLES, PEARS, AND CHERRIES.—I put these three favourite fruits together, because if they are planted on common orchard stocks it is at least fifteen years before they become profitable; so, if they are planted on a fruit farm, it should be at the expense of the landlord and not of the tenant. But Apples on the English Paradise stock, and Pears on the Quince, and Cherries on the Mahaleb, will come much earlier into bearing, and will, if the farm is within reach of a good market, prove a profitable crop. We will, therefore, dismiss the consideration of orchard stocks, and see what may be done with Apples on the Paradise stock.

If Apples are planted in this form it should be as "bushes," and the pruning should be of the simplest kind, just shortening shoots which are too rampant, and cutting out those which cross. Treated in this fashion, the tree at six years old may produce, say, one-third of a pot of fruit, the price of which will vary from 2*s.* 6*d.* in a good season to 6*s.* or 7*s.* in a bad one. I do not think, therefore, that the Apple, as a rule, will be so profitable a crop as the Plum; but if, instead of growing the common sorts, a man will go-in for the choicer varieties of large or table fruit, such as would be appreciated in Covent Garden, and could be sold by the dozen, he would obtain a better return. From my own experience I should say that the surest way of obtaining fine fruit is to grow Apples on the French system of single or double cordons. This is easily done, and at a very slight expense; you only want a training ground and a line of wires to fasten your trees to when they are trained. The way to set about it is this—First put up two posts in any part of your ground which is convenient, and nail a common deal batten to them at 15 or 18 inches from the ground. This is your training ground. Then purchase some "maidens" on English Paradise stocks, and bend them into shape by tying them down to the batten; in one season they will acquire the proper form, and be fit to transplant to your wire, along which they are to make a permanent cordon.

The French grow two varieties of cordon, the single and the double. In the single cordon the trees are planted about 9 feet apart, and when the head of the shoot of one reaches the tail of the next, it is grafted into it, so that the sap is passed on from one to another throughout the whole line. The theory is that a vigorous grower should be planted next to a weaklier one, and thus the want of stamina of the one replenished from the redundancy of the other; but I cannot say how this will answer from my own experience, as my trees have not yet caught each other. All I can say is that cordons form a very pretty edging, and that they produce finer fruit than can be obtained in any other manner, both Apples and Pears. Of the two I think Apples succeed better than Pears, and if Pears are planted they should be higher from the ground than Apples, say 20 instead of 12 or 15 inches, as the blossom is earlier, and more liable to be cut off by the frost. I do not recommend this mode of growing fruit, except where fine fruit in small quantities is desired; as I intimated above, it is for the London market and not for the Black Country. In the first, such fruit is sold by the dozen, in the latter by the pot.

Such varieties as the White Transparent, Calville Blanche, Cox's Pomona, Ecklinville Seedling, Oslin, Irish Peach, Kerry Pippin, Brabant Bellefleur, and the Reinette du Canada answer well as cordons, and produce enormous fruit, but of course the number is limited, and a dozen or a dozen and a half are quite as many as one cordon can do justice to. This will settle the question where quantity and not quality is desired. If grown as bushes the following sorts may be added to those which are named above:—Cox's Orange Pippin, the best of dessert Apples; the Joaneting, Hawthornden, Duchess of Oldenburg, Emperor Alexander, Small's Admirable, Blenheim Orange, Cellini, Wick Pearmain, Dumelow's Seedling, Brabant Bellefleur, and Lord Suffield, which from coming in early is always in demand, and last, but not least in value, where it will grow, the Sturmer Pippin, which will keep till Apples come in again, if this be considered an advantage; add to these, if the fruit is intended for the markets of the North, anything that shines or has a red cheek.

In the same way in growing Pears, your choice of sorts must depend on the market for which they are intended. If for Covent Garden Market, fine fruit which will come in between late Grapes and early Strawberries from December to Easter, will be the most profitable to grow; if for the north, the earliest you can get—the quality is immaterial, provided it is called a Pear.

On one occasion I happened to be in London, and having a morning to spare I went to Covent Garden, and amused myself by looking at the fruit and chatting with the salesmen, who were willing enough to give me information when they found I knew something of their subject. From what they told me I discovered that there are certain stock varieties which usage has made fashionable in the market, and which their West-end customers demand; and that many of the best Pears are not known there by name. To my inquiries, "What they thought of the Joséphine de Malines or the Doyenné du Comice?" I was told by several, "We never heard of them." It was the same with the Beurré Superfin, Fondante d'Automne, Winter Nelis, Bergamotte Esperen, and other first-class varieties. Pears, as they know them, come in in the following rotation:—Bon Chrêtien, Louise Bonne of Jersey, Beurré Diel, Duchesse d'Angoulême, Marie Louise, Chaumontel from Jersey, Glou Morçeau of which there were then (November) splendid specimens from France, Vicar of Winkfield under the name of the "Curate," Easter Beurré, and Beurré de Rance. These later sorts carry them on till the hothouse produce begins, and on this account I should imagine that they would be the most profitable to grow.

I hardly know how far to recommend the Pear as a staple for a small fruit farm; the fruit of the later sorts

requires to be carefully stored, it is not more than an every-other-year crop. It is subject to the disadvantage of not being saleable except when ripe, and when ripe it must be eaten to the moment, or it is gone; but if any one should be induced by what has been said to make a plantation, I will add a little more advice from my own experience. You may grow early Pears as pyramids, but not the larger and later sorts, for if you do the equinoctials will probably blow down at least one-half of your crop. These heavy Pears should be grown in a spot well sheltered from the West, as bushes or as espaliers, or, if you like, as cordons; they will require careful watching for a month before they are gathered, otherwise you will have a visit from a family of tomtits, who will just make one small incision near the stalk in the finest fruits, thus ruining them as effectually as the blackbird with his larger mandible and more vigorous thrusts. Above all, before you plant Pears make sure that your ground is perfectly dry, and is not subject to the influence of late frosts, or year after year you will be disappointed of a crop. The Apple and the Plum, which blossom later, will succeed where the Pear will fail.

I have already named the best varieties of Pear, out of the thousand sorts which have been raised and thought worthy of being named; there are many others of undoubted excellence, but I do not think that there are any to beat the sorts above mentioned in their season. A small fruit farmer does not require many sorts. Two or three varieties will be quite sufficient for his purpose, if he seeks for quality—Louise Bonne, Beurré Diel, and Easter Beurré; if for the northern markets, the Green Chisel, or any very early variety which succeeds in the district, Summer Doyenné, and the Bon Chrêtien, which last is one of the best of all Pears.

With regard to Cherries, I doubt if it would pay at all to grow them for market purposes on the Mahaleb stock. They must be planted for orchards on the wild Cherry stock; but unless the soil is good, notwithstanding the old adage, that "a Cherry tree will buy a horse before a Pear will buy the saddle," they will be some years before they come into profitable bearing. A man who plants a Cherry orchard when he is turned fifty, must do it for the benefit of his successors, and they will have good cause to thank him, for the produce of an orchard at thirty years of age will average something like 20*s.* per tree, which, taking seventy-five trees to the acre, will give an abundant return.

Out of the many varieties which appear upon the lists, I believe none are more profitable than the Early Black, the Bigarreau, and the Waterloo; but this, again, is a matter of soil and climate, and as in all other fruits, the first thing to be done is to ascertain what sorts flourish best in the neighbouring fields; but if Cherries are planted it should be in considerable quantities, as from the moment they begin to colour till they are gathered, they will require to be protected from the depredations of birds. Here, again, blackbirds are notable offenders. So, too, are starlings and jays if there are any in the country, and even sober-minded rooks are not above the temptation.

(To be continued.)

NOTES ON THE LILIES.

Your well-known correspondent "D.," of Deal, suggests (page 440), that I should give a few notes on Lilies. If I could help anyone who has but lately taken up my favourite flower I should be only too glad to do so.

I must begin by saying that we have all a great deal to learn in Lily-growing. For instance, why do three out of a dozen L. auratum bulbs—all to every appearance equally sound, equally fresh, and of the same age and size—rot or break-up into small bulbs, while the other nine, apparently identical, planted in the same situation and in the same soil, and having the same watering, grow strongly and well? I have seen this over and over again, both in sun and shade, in pots under cold glass, and in open borders. We have tried a great many experiments, and are trying many for next season, but this is still a mystery here. Wireworm will not account for it. A number of L. auratum bulbs, planted in deep peat among dwarf Rhododendrons, or making a small jungle for themselves, have succeeded best here. This season, however, some have been attacked for the first time with a brown spot, in some cases showing itself on the leaves, in others on the flower-buds, which seemed to destroy the vigour of the plant for a time. We had a great many L. auratums attacked in this way in a bed enclosed by Beard's glass walls. The disease seemed suddenly to have worn itself out, and the stems looked better and the flowers came out—after a fashion. I took specimens of the diseased leaves and flower-buds to a meeting of the Royal Horticultural Society's Scientific Committee one day, when there were several foreign authorities present, including M. Linden, but the disease appeared to be unknown to all. In most cases the bulbs were healthy and continued to be so. I have seen L. auratum show beautifully in a root bed in a friend's garden, all the better for being rather dwarf, which was owing, probably, to the bulbs not being large.

"D.," of Deal, speaks of the difficulty of growing L. Browni. I have bought bulbs from Van Houtte, and from Turner of Slough, but cannot as yet get anything like the strength and vigour of the Longiflorum varieties. I believe Major Trevor Clarke grows this Lily without difficulty, and with a little artificial heat. He gave me a bulb last season with its shoot 2 inches above the pot, which flowered in course of time well, and the bulb has besides greatly increased in size, producing two promising baby bulbs on the stem, so I hope to do still better with it this season. I have some L. Browni planted in a large rootwork, the soil of which is composed of two parts fibrous peat and one part of loam, and I fancy this position will suit it. The only other Lilies I have got on badly with are Tenuifolium and its allied Lily Buschianum, and Szovitsianum, which bloom well with us one year, but do not keep healthy. I am trying them in the rootwork sheltered but facing north. Ours is a hot country in summer.

I believe with "D.," of Deal, that L. auratum is probably a hybrid. There would hardly be such endless varieties of colour and form if it were not so. I agree with him, too, that its social position should not be above L. speciosum, though when really well grown it is a grand flower. Who that saw the wonderful tub with its some 130 flowers standing about 10 feet high, that was shown a couple of years ago at South Kensington, could ever think otherwise? Everybody coming into the room seemed inclined instinctively to say, "Oh!" and to take off their hats to it. The overpowering perfume was no joke to the Committee, who must have thought of the Upas tree.

I am afraid we must unlearn "lancifolium." I have kicked against changes in nomenclature as hard as anybody, but the scientific authorities will have their way sooner or later. The changes are not only with us. To a young but high scientific authority I was groaning over the alterations the British Museum is making in the names of shells, instancing that I had found my old friend Rostellaria set down as Fusus, which everybody was familiar with as the name of a very different shell. I got no sympathy. My friend said, "I take the other view;" and then completed my dismay by saying that in his science they were taking away about the only Latin name of a beetle I knew, the Blatta orientalis (cockroach), and giving the name Blatta to an out-of-door bug. A universal language is of course most desirable, and if the only way to arrive at this is to go back to the original name, I suppose we must submit. I believe the name lancifolium was previously given to another Lily not now in cultivation.

The Lilies with us which give no trouble are the speciosum varieties, the tigrinum, and the longiflorum, some of the canadense type, and Leichtlinii. This last is a very beautiful, graceful, and most satisfactory Lily. You have lately had the best of twelve Roses; if you had the best of four Lilies I should give in L. Leichtlinii as one. It is difficult for many new growers to realise how thoroughly hardy the great majority of Lilies are. I have this season given away many bulbs, and am almost always asked whether it would not be safer to keep them in the greenhouse through the winter. Why I believe both L. speciosum and auratum show best in a sheltered place is, that though they will stand a fair amount of rain, yet if exposed to dritting rain in large drops accompanied by high wind, the pollen gets smeared over the petals.

In an old-fashioned garden at Wandsworth, where there was a small lawn leading from the principal one, enclosed by tall shrubs and sheltered from all winds, I planted a bed of many sorts of Lilies. They seemed perfectly happy, and I showed flowers from this bed at South Kensington after a week of wet and stormy weather. Of course a few of the old flowers were damaged, but most were perfect.

I have seen L. speciosum growing perfectly in an exposed garden near Rochdale. The lady of the house looked after the bed herself, but if I remember rightly no protection was given in winter, though the climate is cold and damp. L. longiflorum we find to bloom best in a bed of dwarf shrubs. It comes up so early before the frosts are over, that it often gets cut by the

cold wind. We had as strong growth this unfavourable season in a Rhododendron bed as in pots in the orchard house.

I do not believe in mixing dung with Lily compost, unless, indeed, it is so old that it has ceased to be dung; but where the bulbs are very strong and planted very close together, a top-dressing of old dung seems to be only beneficial. I have been told that L. tigrinum Fortunei will stand and thrives upon a strong dose of dung, but I have not yet tried this treatment.

If these are the sort of notes you care to have I may, perhaps, send a few more, or I shall be happy to answer questions. If many growers would give us their experience we should soon get more facts to work by.—George F. Wilson.

FORCING VEGETABLES.—No. 4.

THE PEA.

Hitherto comparatively few gardeners have attempted to produce this vegetable to any extent, much before the season in which it comes to perfection in the open ground. Doubtless the chief reason was the want of a dwarf-growing prolific sort, as the tall rambling habit of most varieties requires more room than can conveniently be spared in the forcing department at that time of the year. Now this objection has, in a great measure, been overcome by the introduction of such dwarf-growing sorts as Tom Thumb, or what some call Beck's Gem, McLean's Little Gem, and another kind called Multum-in-Parvo, a dwarf-growing productive variety, not one of which sorts exceeds 18 inches high. I have grown them all, and if I have been supplied with the true varieties, I, notwithstanding, have been unable to discover any material difference between them. The pods are produced plentifully enough, but the peas within are few and very small.

For forcing, however, these dwarf-growing sorts are far preferable to any of the tall-growing ones, the best of which was Bishop's Dwarf Longpod, the only kind used for forcing years ago. But I find from experience that of all the vegetables which admit of forcing, the Pea is the least profitable, not only from the large space required for a succession of crops to grow in, but also because it takes a long time to bring it to perfection. Still these difficulties should not deter us when we remember how delicious is a dish of Peas, and how admired and valuable they would be if placed upon the table at a season of the year when vegetables naturally grown are scarce.

The treatment required to force the Pea successfully is not a difficult one for a beginner to learn. The principal point to observe is that the plants are grown at starting in a moderate temperature of about 45°, with a gradual rise to 60° up to and during the time that they are in flower. Afterwards an increase of 5° or 10° will suit them until the crop is fit to be gathered. Air is very important, and should be plentifully given up to the setting of the fruit, but after this a slight diminution of the afternoon and night air will help to swell the pods perfectly. While the plants are growing water should be given sparingly and judiciously, or else they are apt to run too much to straw; but from the beginning of the blooming and onward to the swelling of the pea, it must be given plentifully. Like any other plant grown in an artificial temperature, they will succeed the better if the water can be applied in a chilled state.

The transplanting is another very important part in the cultivation of Peas under glass. This should be particularly attended to, as it prevents them from running too much to straw, and if in the case of the plants blossoming freely, the tops of the shoots are pinched off, their tendency to grow to straw will be reduced, and additional sustenance will be added towards the formation of pods. Syringing overhead once a-day while they are growing assists them, but it should be discontinued after the fruit is set, and a moist atmosphere supplied instead. It matters little what structure the Peas are grown in, so long as the above conditions are attended to. I have grown them in pigeon-holed pits, and on the borders of a Peach house, by placing about 8 inches depth of soil on the border, not in the border, and planting them in it. They may also be grown in pots, and transferred from one house to another as occasion may require. Orchard houses are very suitable places in which to bring forward a crop of Peas, and I have found them do better there than in any other structure I have tried. In these there is more room for their natural habits to become developed; but in whatever structure they are grown, if planted out, they should first be sown in pans or boxes, and when about 2 inches high planted out about an inch from plant to plant in the rows, which ought not to be less than 2 feet from one other. Remove as much earth with the roots as possible, so as to cause the plants little check, and reduce the necessity for shading on any but very bright days. Avoid giving the Pea a very rich soil. A fresh loamy soil not too light will suit admirably. From three to five months, according to the season and the treatment they receive, will elapse between the time of sowing and fruiting.—Thomas Record.

OLD PEARS WITH NEW NAMES.

Some time early in November I received two or three Pears from Glastonbury of a large size, covered with russet, and of a texture and flavour remarkably fine, the latter with a smack of aniseed very agreeable. These I found had been submitted to Mr. Cramb and some nurserymen, who pronounced them to be the Brown Beurré.

A few days afterwards my son brought from the neighbourhood of Bristol, from the garden of a friend to whom I had presented a tree some ten years since, an equally fine specimen of the Pear received from Glastonbury. This tree had a label with the name on it as sent from here, and this was one long since known to me and forgotten—the Esperione. This was a clue, and I at once went to my preserve—my plantation of stock trees, and there I found the tree, which had borne some fruit. In my fruit-room I found them to be the same Pear, but much inferior in size to those from the west. About the middle of the month I received from another part of Somersetshire two or three specimens of the same Pear, but this time with a name. On examination I found them much inferior in size and flavour to those I have mentioned, owing, probably, to stock, or site, or soil, but evidently the same Pear.

Now I fully believe that unless I had recognised these Pears we should have had two new sorts added to our collections, for the Fruit Committee, not knowing the first mentioned, would have given it a certificate, and probably the second also, thus benefiting the pockets of the growers. I mention these unknown Pears because I feel assured there are hundreds of French and Belgian Pears that have lost their names and have had local names attached to them, as is doubtless the case with Wheeler's Brockworth Park Pear. The history of this showy Pear seems to be this. In 1870 Mr. Wheeler saw it growing against a wall at Brockworth Park, and sent it to the Fruit Committee. It proved very handsome and good, and had a first-class certificate. In 1871 it was not so good. Now, although it could not be proved to be a seedling, it is now called Wheeler's Brockworth Park. This is not pomologically correct; it might have been called temporarily a foundling till its true name is found, which it assuredly will be.

This naming of unknown fruits used to be very common, but Thompson spoilt the trade in guinea and half-guinea quasi new fruits when he published his "Catalogue of the Horticultural Society," and I quite thought the practice was entirely out of date till my attention was called to it recently. No fruit should be called a seedling or named as such till its origin can be fully proved. There is a sort of assurance in a man placing his name to a fruit unless it can be proved to be a seedling. Mr. Wheeler is not to be blamed for introducing a Pear unknown to him but of good quality, but he is not blameless for attaching his name to it as if it were a seedling. If I had bought a tree at one guinea, I should hold him responsible for that sum when its true name was discovered.

It is curious to observe the change in some Pears brought on by the soft mild climate of the west of England. Some sorts are much improved both in size and flavour, and others are to a certain extent the contrary; so that my axiom is good—Try and try again before any kind is fixed upon for extensive cultivation.—T. R.

AUTUMN-BLOOMING DAFFODIL.

In your number of August 31st (page 164) is an interesting article on autumn-flowering Crocuses. Will you allow me to call your attention to an old-fashioned autumn flower, which would, I believe, at the present time be a most valuable addition to our flower gardens—I mean the autumn-flowering Daffodil? I have repeatedly asked for it at seed-shops, but it seems unknown; and the only work I know of in which it is mentioned is Parkinson's "Garden of Pleasaunt Flowers," date 1689, under the name Narcissus autumnalis major.

I have seen the flower twice: first, some years since in a garden at Ipswich, the owner of which did not know the name of the flower, and again about two years ago in an old garden at Bexley Heath. On both occasions I procured roots; the first time I bought, the next I begged them, but I am sorry to

say in both cases I lost them, I imagine from the same cause —moving the bulbs while in blossom. The flower is a golden yellow, somewhat softer than the spring Daffodil, about 6 inches in height, growing amongst long, narrow, green leaves, which are of a deeper green and firmer than its spring cousin. The root is bulbous, very like in appearance the spring Daffodil. It was early in December of 1869 that I procured the root from Bexley Heath. I made a drawing of the flower and showed it to a nurseryman in this neighbourhood, but he was unacquainted with it. I think if you could succeed in drawing attention to it and reintroducing it again, all lovers of gardens would be grateful.—Harriett Jabot.

[We do not know the flower which you identify with Parkinson's Narcissus autumnalis major, but his Narcissus autumnalis minor is that known as Narcissus serotinus. This blooms in the autumn, as do two other species, N. elegans and viridiflorum.—Eds.]

MADRESFIELD COURT GRAPE.

Mr. Freeman's remarks on this Grape (see page 437), are very important, and from his character and experience are worthy of every respect. His plain matter-of-fact statement that "it will not keep more than three weeks or a month, and not so well as the Black Hamburgh," will no doubt be read by many with feelings of disappointment. There is no doubt that this Grape is being planted extensively on account of its reputed excellence of flavour and easy culture, but especially for its late-keeping properties. The sooner its late-keeping properties are placed beyond dispute the better. By Mr. Freeman's account it is not a late-keeper; by another account, for which Messrs. Lane are responsible, it is. In the latest published list of the great Grape-growers of Great Berkhampstead occurs the following in reference to Madresfield Court—"As a late Grape it is especially valuable, it having been proved that it will hang for months after ripening without shrivelling." Proved by whom? Statements so opposite by recognised authorities are most perplexing. The other day a grower decided to plant a large house principally with it on account of its late-keeping properties. To him the question is of great importance and to many others. Further information is, therefore, anxiously awaited.—J. W.

HORTICULTURAL and COTTAGERS' SOCIETIES.

There are few things more enjoyable to the lovers of gardening than a good horticultural exhibition—not a mere flower show, but a collection of flowers, fruits, and vegetables in as high a state of excellence as the skill or means of the respective exhibitors can effect.

The organisation of a society for the promotion of horticulture is by no means an easy matter, as many who read and contribute to the Journal very well know. Many a society has been formed, held a brilliant exhibition or two, and collapsed. This downfall was owing, perhaps, to the want of energy on the part of the committee, but more probably to a lack of funds, and in some instances to the effects of the two evils combined. How little does it occur to the public as they enjoy the gay scene of an exhibition-day, to reflect upon the labour implied in its details. Nor is this altogether to be wondered at, for who that sees a certain worthy secretary in all the glory of his proud position and white waistcoat, complacently surveying the results of his toil, could possibly picture him groaning under the weight of office, or lamenting that he had ever been induced to undertake its duties?

For a horticultural society to be really successful three things are necessary—a good working committee, an energetic and able secretary, and, above all, a liberal paid-up subscription list. The society will then have plenty of "go" in it, and with a popular prize schedule there need be no fear of failure, which may happen sometimes, indeed, from other causes, but I think generally from the absence of some of these conditions.

In arranging the prize list it is well to offer the leading prizes for collections of vegetables, fruits, and flowers, such prizes being best adapted for bringing together those plants in the production of which a gardener's skill is strongly tested. It may be thought that this is sufficiently regarded in the usual premiums for a few large specimens, but I would also offer other prizes for collections of small healthy plants developed enough to convey a clear idea of their true character, and thus encourage the culture of those plants most in request for decorative purposes. Moreover, the large number of varieties which would probably thus be exhibited, would serve to convey instruction as well as amusement. To many a man serving in a small place, and with but few chances of observation, the "show day" is the principal holiday of the year. A sensible, earnest man in this position, would be glad to avail himself of the opportunity of acquiring a greater knowledge of new varieties of plants worthy of cultivation.

It is unnecessary to enter upon the usual premiums for single specimens or dishes, farther than to notice the prize for single specimens of pot plants as a very desirable one, likely to develope taste and skill in the culture of such plants by those not having space for collections, and to bring together a number of fine plants which would otherwise be lost to the exhibition. With the prizes for garden produce it would be well to offer a few others for models or plans of garden structures, designs for flower gardens plain and coloured, and any other object worthy of the attention and study of young men in their leisure hours.

All these things are, I think, such as rightly come within the scope of a horticultural society, as they contribute to its usefulness, and serve to foster the intelligence of the class for whose benefit such societies are principally formed. In this, as in all other undertakings, it is better to do a few things well than to attempt matters beyond the strength or funds of the society, for after all it is a mere question of money.

It is, doubtless, right to offer prizes for cottagers' productions, yet unless there is abundance of funds to do this well, it is best not to attempt it. In any case I am inclined to question whether the cottager does not gain most good when exhibiting the pet productions of his garden at one of the excellent cottage garden societies now common to most villages. The aim and end of a cottagers' society should be the promotion of industry, intelligence, frugality, and sobriety. In all these qualities, to take the class generally, there is much need for improvement. Anything tending to correct the spirit of selfishness is surely a legitimate object for such a society. To see a gang of labourers of the genus navvy employed upon a job of piecework is a sight to set one thinking. They will frequently work so hard as to break down the weak men, and the unsteady hands of the stronger show but too plainly that they have tried Nature too severely. If this high-pressure speed were for the good of the wives and children, or to add to home comforts, one could not blame them; but in by far too many instances its object is only to obtain a little extra money to gratify the greed for drink, and the pay-night not unfrequently ends with an empty exchequer. I have heard from reliable sources of poor wretches having partly stripped their already too-scantily-clothed persons to sell the garments for drink, and these men often have children depending on them for all they want—for everything. Let it not be thought that I am quoting an extremely bad and solitary case, and thus condemning an entire class from the failing of a few. I am acquainted with many whose lives must be a curse to themselves, and those depending on their exertions for subsistence. Surely it is worth while encouraging the praiseworthy lives of those honest sturdy men, of whom it has been most justly said that they are the pith and marrow of the nation, at the same time not forgetting those whose lives are so faulty and full of error, but to hold out inducements likely to draw them on to better things.

The prizes for cottage-garden produce should embrace the most useful kinds of vegetables and fruit suited for limited spaces, and for maintaining as good a succession as possible throughout the year. By giving a select list of such things, taking care only to name well-established sorts, the very prize list would be made to convey instruction. It is also, doubtless, a good thing to offer premiums as sort of champion prize for the best garden, neatness and culture being the test points. There are also home-made garments, wine, bread, miscellaneous articles of furniture made by the cottager, and, in fact, anything tending to increase the home comforts, or to develope intelligence and sobriety. Poultry and pig-keeping, too, should be encouraged. Many of the labourers working in the garden here keep poultry, and their wives make considerable sums of money by the sale of the chickens for which Sussex is so famous.—Edward Luckhurst.

Christmas at the Crystal Palace.—The preparations for Christmas and the new year at the Crystal Palace are more than usually good. Among a multitude of other seasonable attractions a Christmas Tree, 80 feet high, is raised in the northern nave, and has been beautifully decorated by Mr. Wilson, the Company's naturalist; round the base, which is formed of roots of trees, live birds and animals are arranged,

as well as dead specimens in natural history; the branches are touched with snow with beautiful effect. The aquarium with its thousands of living ocean creatures is a marvellous exhibition, and it alone would be worthy of a visit.

SOME ROSES THAT HAVE BEEN INQUIRED ABOUT.

Mr. Peach has asked for the experience of Rose-growers of some kinds named by him at page 486. I subjoin mine.

Paul Verdier.—It was asserted some time ago by a contributor to these pages, that this Rose will bloom sometimes in the autumn if budded on the Briar, although it does not on the Manetti. Wishing to put this to the proof, I budded two Briars with it some time in the summer of 1869, and three more in the summer of 1870. The first two, after yielding very fine flowers in the summer following that in which they were budded, also produced flower-buds late in the autumn of the same year, but these did not expand, from the wet and cold prevailing at the time. Last season—that is, in the present year, flower-buds were again produced in the autumn much earlier than last year, and expanded beautifully. Of the other three, two produced flower-buds too late to open, the other plant met with an accident that it will take another season to repair. Paul Verdier is thus proved to be remontant, but that it possesses this quality in a much less degree than most other fine varieties is quite manifest. Still, that it should be so, budded on the Briar, and not on the Manetti, is a phenomenon beyond my power to explain. It is a magnificent Rose.

Marie Baumann.—Its habit is not all that can be desired. Here its growth is moderately vigorous, far better than such Roses as Madame Furtado or Madame Vidot, which are too feeble to be grown at all on light soils. It is also worthy of remark that Marie Baumann is very constant, yielding every season a full proportion of good blooms. Its drooping habit is certainly objectionable, but we forget that in looking upon the unrivalled beauty of the expanded flower.

Henri Ledechaux.—Its colour, as Mr. Peach correctly describes it, is a true deep pink, quite brilliant when first expanded. Its size, if not quite so large as is now generally sought after (whether rightly is quite another question), is certainly beyond the dimensions of what are usually considered button-hole flowers. Its growth thus far is very unsatisfactory, and another season must pass before its merits can be fairly decided upon.

Logomachy.—This is not the name of a Rose, but a strife about words. Mr. Peach will at least allow that "remontant" expresses very nearly the property that the class of Roses to which it is applied possesses, while "perpetual" certainly does not. I use the word remontant instead of perpetual not as a final, but as a truer designation of the quality which is generally understood to be implied. If a more appropriate English word than "perpetual" can be found, let it be employed; if not, there is no violation of the laws of language in borrowing from another tongue a word to express what we have no equivalent term for in our own. I, therefore, will be no party to perpetrating so glaring an abuse of terms as that now under notice.

Election of Roses.—I give my suffrage for the following as the best twelve Roses suitable for exhibition, so far as they are the best I have been able to grow in the light soil of this garden. 1, Maréchal Niel; 2, Gloire de Dijon; 3, Devoniensis; 4, Charles Lefebvre; 5, Baroness de Rothschild; 6, Alfred Colomb; 7, Marie Baumann; 8, La France; 9, Pierre Notting; 10, John Hopper; 11, Madame Victor Verdier; 12, Comtesse de Chabrillant.

Of newer kinds Marquise de Castellane promises to take a first place, and another season will, doubtless, assign it such. Marquise de Mortemart is unquestionably a fine variety, but its growth very unsatisfactory. Perfection de Lyon was remarkably good this year. Comtesse d'Oxford produced deformed flowers.

As several others besides those named by Mr. Peach have recorded their votes, and notably Mr. W. Paul and Mr. Radclyffe, whose decisions are of much weight, the arithmetical state of the poll for the best twelve might be re-declared, or if needful the final close issued.—A. H. Kent.

FRENCH HORTICULTURISTS' RELIEF FUND.

As the account is now about to be closed, it is requested that any nurseryman or seedsman who undertook to receive subscriptions will be kind enough, if they have received any, to forward them to the Treasurer, George F. Wilson, Esq., care of J. Richards, Esq., Royal Horticultural Society, South Kensington, or to the Hon. Secretary, the Rev. H. Honeywood Dombrain, Westwell Vicarage, Ashford, Kent. Sum not previously acknowledged, collected by Rev. W. Middleton, Heybridge, Devon, £2 6s.

CULTURE OF THE FUCHSIA.

Perhaps there are few flowers so universally cultivated, or more generally useful for decorative purposes, than the cultivated varieties of the Fuchsia. It is grown by the cottager, and is one of the very best window plants, as it yields its pendant and graceful clusters of scarlet and white drops under very unfavourable circumstances. Indispensable as a window plant, it is never out of place in any garden, however large or limited in extent, whether planted out as a border plant, or grown in pots for greenhouse and conservatory decoration. The Fuchsia is neither so universally nor so well grown as it used to be fifteen years ago. More recently introduced plants receive more attention, and hordes of "bedding stuff" occupy the available space once devoted to this plant. Amongst hardy varieties useful as border plants, Thomsonii, Riccartonii, and globosa have long been favourites in old-fashioned gardens. The two first-named sorts are hardy enough to stand our severest winters without protection. The old shoots are generally killed to the ground in winter, a fresh lot being thrown up from the stool, which branch out freely and flower abundantly during the summer and autumn months. Globosa is a very distinct and comparatively hardy sort; the flower-buds previous to the opening of the flower are nearly globular.

These hardy sorts are easily cultivated, and form an interesting feature in the best-arranged flower gardens. They are propagated by division and from cuttings. In spring, when the young shoots have grown 3 or 4 inches, lift the plant and divide it with a trowel, but if a large increase of the stock is desired, the shoots must be slipped off and inserted as cuttings, a dozen of them in a 6-inch pot. A bed composed entirely of the variety Thomsonii, or of the more robust Riccartonii, is a very beautiful feature in the flower garden. The plants should stand 2 feet apart each way; they require very little attention, and being of sturdy growth seldom require sticks. When the shoots are cut down by frost the bed should have a dressing of rotted frame manure, as in the event of severe frost it will keep all right, and act as a fertiliser at the same time. I have also seen the above varieties introduced in positions in the front row of shrubbery borders, where they have been left in the same position for a decade at least without being disturbed.

The pot culture of the Fuchsia is very generally understood amongst gardeners, but to many readers of the Journal a few practical hints may be useful. The Fuchsia is a gross feeder, and grows rapidly, so that handsome specimens may be formed from cuttings struck the same season. The very large specimens seen at exhibitions are formed from old plants. At the present time all the plants should be at rest. When all the leaves have fallen, and the plants are quite dry at the roots, they should be pruned, cutting them in rather close. About the first or second week in January the plants should be placed in heat—not a very high temperature, as it would cause the plants to break irregularly; 45° at night will be sufficient, with a slight rise by day. I generally contrive to introduce them to a vinery started at that time, as the same treatment required for the Vines is that best adapted for the Fuchsias. They should be syringed overhead twice a-day, and will soon start into growth.

When the young shoots are an inch long take off as many as are required for cuttings. These may be inserted in 5-inch pots, a dozen in a pot, in a compost of equal parts loam, leaf mould, and sand. The pots should be plunged in a gentle bottom heat, and the temperature of the house should be a few degrees higher than that in which the plants were growing. If the atmosphere of the house or pit be dry, place a bell-glass over them. Under proper treatment they will soon form roots, and as soon as they commence to grow pot them off singly into 3-inch pots, still keeping the plants in a growing temperature—55° at night will be best at this time; indeed, the whole secret of success consists in maintaining a moist atmosphere with a night temperature of from 55° to 60°, with a rise of 10° by day from sun heat, and repotting the plants as they require it. The size of pots should be in the following ratio—5, 7, 9, and 11½-inch, and the plants will require repotting at intervals of a month.

The best compost to grow them in is one of two parts turfy oam, one of leaf mould, and one of decomposed manure with a liberal proportion of silver sand, as the Fuchsia delights in an open porous compost. During the whole period of their growth the plants should be kept near the glass, and syringed daily to prevent red spider from appearing on the leaves. Any sudden check such as an arid atmosphere, dryness at the roots, or an attack of red spider will cause the leaves to fall off in great numbers and sadly disfigure the plants.

Then as to training, which is a matter of taste, some prefer the pyramid, others the bush form; both systems if the plants are well managed will obtain admirers. The pyramid form does not require so much work as the other; a stout stick should be placed to the leading shoot, and a system of timely pinching is all that is required. Some of the varieties are naturally of a short-jointed, compact, sturdy growth, others are of a more straggling habit, and will require more attention as to stopping. Where this loose-growing habit is apparent, the leading shoot must be stopped three or four times, which will cause the plants to break more regularly. Where the plant is of a bushy habit, the leading shoot will not require to be stopped until it has grown to the required height. The side shoots must be repeatedly stopped until the plant is of the desired size, when it may be allowed to flower.

Plants to be grown in the bush form should have the leading shoot stopped when the plant is 6 inches. A high number of lateral shoots will form, which should be stopped at the third oint. The shoots will require two more stoppings, and they should receive their final one about six or seven weeks before the plants are required to be in flower. Under this system a large number of sticks are required for each plant: a well-brown specimen will take a hundred, as one is required for each shoot. The sticks should be slender, painted green, and hidden by the foliage as much as possible.

If the plants are intended for exhibition they must be large, but for general decorative purposes plants grown in 7 and 9-inch pots are the most useful. Fuchsias are grown and flowered in all sorts of houses, and sometimes in very unfavourable circumstances; but a light airy span-roofed house running north and south is the best both to grow and flower them in. A very thin shading should be used to break the force of the sun's rays in hot weather. The plants also delight in a rather moist atmosphere: even when in flower a dry atmosphere should be avoided, especially if combined with draughts, as this will cause the yet unexpanded flower drops to fall off.

The varieties of this plant are so well known that to give lists of them would only occupy a valuable space. Good-habited free-flowering sorts should be grown, and the single-corollaed sorts are to be preferred to the double, some of which are only so many monstrosities.—J. Douglas.

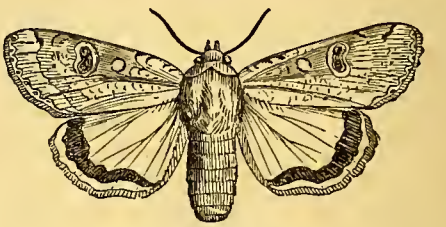
DRAUGHT OF FLUE TOO POWERFUL.

Having been placed in a similar position to your correspondent, "Viridis," with the fire of my little greenhouse, till my patience had given up to despair, I consulted your experience, and I have ever since had reason to be thankful for your advice. If "Viridis" do but follow your instructions and pay the same attention to the ashpit-door as he seems to have done to the damper, I am quite certain he will not require the services of the latter at all.

Being only an amateur I required much guiding, and although I could build my greenhouse and construct the flue and fire-box, I was brought to a standstill. When my fire is burnt-up I place, in the absence of an ashpit-door, a sheet of iron with two slits near the bottom 1½ inch long, and half an inch wide, by which I can regulate the combustion to a nicety. It will burn from eight at night till ten the next morning. It burns tan and cinders from the house. One thing I consider very essential—I keep all dust and small ashes from under the furnace as directed by Mr. Keane some time back.—T. Sedoley.

SOME PREDATORY INSECTS OF OUR GARDENS.—No. 24.

There are many species of moths which enter houses of their own free-will, and none more frequently, perhaps, than the Large Yellow Underwing (Tryphæna pronuba). This species is also now and then to be seen resting during the day on palings or the sides of windows, where it draws itself up closely, and so frequently harmonises in colour with the object on which it reposes that the unobservant pass it by. Pronuba has also a partiality for places of public assembly, drawn hither by the fascination of the lights, or, perhaps (shall we say?), from some liking for the society of the human kind. I have seen one of these occasion quite a commotion in a church by its wild gyrations from pew to pew, all the while carefully avoiding a catastrophe which would soon have befallen other moths of feebler frame and less rapid wing—viz., destruction by the flames of the gas-jets. Like other moths of the genus, too, Tryphæna pronuba has strong legs, and will sometimes run with great rapidity, which renders its chase rather difficult, for you have marked its settling, as you think in one particular spot, and you keep your eye on that spot, yet shortly after you see the moth taking an aërial excursion from quite a different



Tryphæna pronuba.

point. This moth comes to sugar, when spread upon trees as a bait, though not so eagerly as do some of its brethren, and it often haunts grassy meadows, being, probably, attracted thither by the scent of certain flowers, or it may have been nurtured to maturity on some weedy bank in the vicinity.

The fore wings of this handsome, though common, moth (which is usually on the wing during July and August), very much vary in colour and markings, the general hue being some shade of brown; in almost all specimens what are called the discordal spots are clearly defined; there are also several transverse lines of differing intensity in colour. The hind wings, however, show scarcely any variation, being of an orange-yellow colour, with a narrow black border.

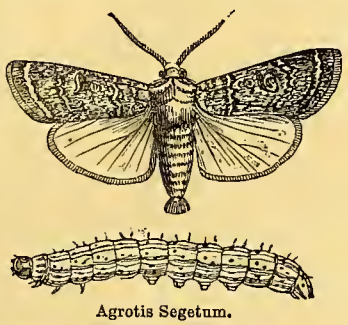
With the caterpillar producing this moth some persons make acquaintance in rather a singular way—that is to say, they eat it; for owing to its mode of life it is occasionally boiled with some Cabbage, in the heart of which it had been feeding, and being brought to table it is mashed up and eaten as "greens" without being remarked. This caterpillar, however, is an external feeder also at times, taking as its right not only the Brassicaceous plants in the kitchen garden, but many others with succulent leaves. It does not seem to discontinue feeding during the winter, and is not uncommonly disinterred by the gardener at this season. For, as Mr. Newman observes, "it conceals itself almost entirely during the day beneath the surface of the ground, emerging at night;" and he also adds concerning it, "I have frequently found it hidden at the roots of Lettuces, and it is brought to light when they are pulled up for the table; when thus exposed it rolls itself into a very compact ring."

A decided family likeness is observable amongst the caterpillars belonging to that section of the Noctuæ in which T. pronuba is included. There are numerous lines and stripes of dark brown, some of which are occasionally wanting, but when present they are arranged according to a regular pattern; the ground colour is often an unpleasant shade of green, at other times a brown, which renders the markings scarcely distinguishable. The body of the caterpillar is stout and velvety both to the eye and the touch. Comparing the head with the body, it seems small in proportion; it is shining and reddish brown. The eggs of this species hatch towards the end of the summer, and the caterpillars do not attain their full proportions until the following spring or the early summer. They form a cell to undergo pupation beneath the surface of the earth. I know no way of dealing with this species except by the destruction of the moth, pupa, or caterpillar whenever either is seen.

A closely-allied species, the Lesser Broad-bordered Yellow Underwing—a rather long name, which leads us to take refuge gladly in the much briefer Latin, Tryphæna ianthina. This, though not particularly common, does occasionally a little mischief in the flower garden. It is stated to be partial to the Polyanthus, sometimes feeding on the roots beneath, sometimes eating into the crown of the plant, and at other times devouring the leaves. It will also attack a variety of other plants, but keeps itself carefully out of view in the daytime. This

caterpillar is brown in colour like that of T. pronuba, resembling it in appearance, but marked with some conspicuous black spots. The moth is exceedingly beautiful, and the insect-hunter looks upon it as one of the choicer ornaments of his collection; it flies in July. The caterpillar feeds from autumn to spring. I have taken this species in Surrey; more frequently, however, in Kent, especially in the lanes about Greenhithe, where the moth flies out briskly from the hedges when aroused by the beating-stick of the entomologist. Yet it is not easily secured, for it can rarely be netted on the instant, and darting some distance along the road, it generally enters the hedge on the same side again. You approach, having marked the spot, as you suppose, thinking that the net may be easily clapped over it, but you fail to find it, and the reason is, that after entering the hedgerow it moves along amongst the leaves, which throws the observer out of his calculation. In the district to which I am referring gardens are not numerous, the country being well wooded, and I have no doubt that the caterpillars there feed upon Chickweed, perhaps Nettles, and other low-growing plants.

Judging from the abundance of Turnips in the market at present, I should surmise that on the whole they have not suffered much from the attacks of insect enemies, though in some quarters they have complained of the Turnip fly or beetle. There are two lepidopterous larvæ, however, which in some seasons make sad ravages amongst our Turnip crops, and, indeed, every season they do a certain amount of damage. From its great partiality for Turnips, one of these (Agrotis Segetum) bears the name of the Turnip Moth. Besides the Turnip, however, the caterpillar attacks a number of other plants in the kitchen garden, as, for instance, the Radish, the Carrot, and Cabbages of various sorts. Now and then a party of the moths will visit the flower beds, and depositing eggs there, the natural result is that an active colony of caterpillars is at work there shortly after, both above and below the ground. Mr. Newman draws a dismal picture of the mischief they will do in a bed of that attractive flower—the China Aster. He says, "Often the leaves of a plant here and there will be found withering and curling up, and you become aware that it is dying, and can't tell why; just examine the stem where it enters the ground, and you will find it completely decorticated; the rind has been gnawned off all round, and the circulation of the sap being prevented, life is destroyed. You pull up the Aster to find the enemy, but fail; his depredations are committed in the night, and before daybreak he has wandered far away." Whatever food the young caterpillars select, they appear to prefer to feed above the surface at first, going deeper as they get larger: hence it is that some gardeners have gone forth with lanterns, not like Diogenes to find an honest man, but to detect dishonest depredators of the caterpillar sort, and many young fellows of the species Segetum have paid dearly for their midnight excursion. The process of searching, is, however, tedious, and after a day's hard work in the summer the gardener cannot be expected to take much interest in a hunt of this sort, which must be carried out in an uncomfortable stooping position.



Agrotis Segetum.

We find that the caterpillars feed on throughout the winter with scarcely any intermission, and from August onwards they are diligently engaged in feeding underground on the Turnip bulb, several being found very often burrowing into the same Turnip. The rapidity with which one of these caterpillars will make its way into the earth is very remarkable. The ground colour is a dull brown usually, there are some indistinct stripes, and a series of well-defined circular spots on all the segments after the second. The second segment is notable for having on its back a dark plate, which, doubtless, assists the caterpillar in its mining operations. A minute examination, however, of this caterpillar hardly affords any very marked distinction by which we can separate it from its congener, A. exclamationis, also injurious to Turnip crops. It has been noticed as a curious fact in the history of this species, that while the greater part of the brood continue in the caterpillar state until the spring, a few become mature in October and appear as moths, but do not live long, nor do they attempt to continue their species. Mr. Newman regards this as a case somewhat analogous to the autumnal production of drones in bee hives; in both cases there is an apparent waste in Nature, but had we a deeper insight we should probably be able to explain this and several other instances, wherein we in our wisdom should be tempted to fancy we could improve upon the economy of a species.

The Turnip Moth was particularly injurious to the crops in 1863-64, at which time it was shown by entomologists that farmers and others have by their injudicious destruction of birds preying upon the Turnip caterpillar and various "grubs" of similar habit, been the chief cause of the multiplication of these insect enemies. The rook and the partridge stand foremost in the list of the devourers of the Turnip grub. The rooks, doubtless, obtain most, because they strike at the caterpillar in its retreat and drag it to the surface; the partridges hunt by scratching, and pick up smaller numbers. Many expedients have been tried by gardeners to keep the species under, such as digging between the plants, which, it will be found, usually is, in fact, doing an injury to remedy another; others have tried the application of different solids and fluids, such as lime, soot, sawdust, ashes, and the refuse liquor from gasworks; these are mostly, as Mr. Newman observes, "uncertain and unsatisfactory." However, this and the equally troublesome species of which I am next to speak have been in some cases destroyed very successfully by watering the plants with strong lime water.

The Heart-and-Dart Moth has been so named because it bears upon the fore wings markings supposed to resemble the objects in question; but really it might be thus designated from the rapidity with which a caterpillar of the species will "dart" to the "heart" of a tempting Turnip, Parsnip, or Carrot. Why the older entomologists called it Agrotis exclamationis is not positively known, unless, indeed, it was because it has forced many a bitter exclamation of disgust from the horticulturist or agriculturist, for the species is a plague at times in the fields as well as in gardens. Just about this time also, on a mild night, caterpillars of the Heart-and-Dart may be detected banqueting on the leaves or heads of any greens which the autumnal frosts have as yet spared. The young caterpillars also feed externally on various vegetables in the garden and on weeds in waste places: they emerge from the egg in June.

Like A. Segetum, the species remains in the larval state until the spring. The adult caterpillar forms a cocoon of earth several inches beneath the surface, and is frequently dislodged by the spade or hoe. Probably, as we find in some other species, the disturbance does little harm to the pupa, unless, indeed, it should be actually wounded, and left in so exposed a position as to be an easy prey to birds, for there are many which will devour a pupa quite as eagerly as they would a caterpillar. Another rather singular foe to the caterpillar of Agrotis exclamationis is the common rove beetle (Staphylinus olens). Mr. Moncrieff observed one evening a party of these beetles journeying towards their retreats, and each was dragging along a caterpillar, which, on examination, was found to belong to this species. They had all been disabled, but not killed. Afterwards this gentleman found a quantity of larva skins lying near the holes of the beetles.—J. R. S. C.

MRS. PINCE BLACK MUSCAT GRAPE.

After reading the description of the above Grape in the "Gardeners' Year Book" for 1866, I at once ordered it direct from the Messrs. Pince, of Exeter. In 1868 a vinery was erected here on Beard's principle, and in the month of June I planted twenty Vines, ten of them being Mrs. Pince. In 1869 I had only a few bunches, and last year also it did not set well. I had five bunches on each Vine, a good many small berries, but the most of them shrivelled by the 1st of November. This year I have ten bunches on each Vine, and not a small berry in the hundred bunches. I have grown the most of the old Grapes as well as the new which have been sent out during these last twenty years, and I have no hesitation in saying that Mrs. Pince, in my estimation, is the best late black Grape in cultivation. I herewith send for your inspection a fair average bunch, likewise a bunch of Alicante grown in the same house.—A Donaldson, *Latimers*.

[The bunches of Grapes as sent by Mr. Donaldson indicate not only that he knows how to grow, but how to pack them.

There are many men who cannot do either as they ought to be done, and among these are they who hastily set themselves up as censors of other men and things, solely on their own experience of them. It will be in the recollection of many that Mrs. Pince was one of the new Grapes of the time, which those wiseacres so well abused, on the ground, we take it, that they and some others failed to grow it as Mr. Pince did, and as Mr. Donaldson does now. The bunch before us measures 14 inches long, 9 inches across the shoulder, and weighs 3 lbs. 2 ozs., while the flavour is all that can be desired. The bunch of Black Alicante weighed 4 lbs. 14 ozs., and both colour and flavour were unexceptionable. Some of the other best-abused grapes, such as Muscat Champion, Royal Ascot, and Golden Champion, we have no doubt will, in the hands of such cultivators as Mr. Donaldson, ere long force their detractors to abandon the ill-timed and hasty conclusions they formed and attempted to impress upon others.]

GLADIOLUS FAILURES—ROSES.

In answer to your Somerset correspondent referring to the failure of his Gladiolus (page 485). If the signature appended to his paper is at all descriptive of the nature of his soil, then it is an unsuitable one for the Gladiolus. I very much fear if his roots did not throw-up any good spikes last season, there will be no improvement in the ensuing one. His ground might be improved by using stable manure and road scrapings which have been exposed to the direct influence of frost during winter. I would also suggest spreading 6 inches of gravel over the surface, and stir up the ground to the depth of 2 feet. The soil here is very light and stony, resting on a gravel subsoil, and is of a similar nature to that of the Messrs. Stuart & Mien, of Kelso, N.B. If the roots were sound and healthy when bought-in last year, there would be no reason to blame the English house that supplied them.—J. Douglas.

In reference to the query put by "Stiff Soil" as to his bulb, he is, unfortunately, as many querists are, not sufficiently explicit, and no lawyer will give his opinion unless he knows the whole case. He says that he obtained a hundred bulbs from one of our greatest English growers, and that he had not one decent spike. Very likely; but will he say in what condition he received the bulbs? Were these clear and bright in the flesh, or had they darkish spots over them? If he can certify to the latter, then he ought to claim some compensation. And then in what condition are the bulbs now? Have they this spot on them or not? If they have, they are not worth a dump; if they have not, there is still hope for them. Now, if "Stiff Soil" will send me a bulb, a fair average sample of his lot, I will with pleasure give him my diagnosis of it, and return the patient.

I once used to think it was some use trying to save diseased bulbs, but am now fully persuaded it is useless to try and do so. When going with Mons. Souchet (whom all lovers of this beautiful flower will be truly sorry to hear is now "*toujours très malade*"), through his grounds, I have seen him when coming to a plant in full bloom, which displayed that rustiness of foliage too surely indicative of disease, pluck it up at once and cast it away. This will show the opinion of the most experienced grower of the flower that we have as to a diseased bulb recovering itself. But after all, "Stiff Soil's" may not be diseased, and if only puny and weak, there may be hope for them yet. "The dealer laid it to the soil." Perhaps; but very likely some wonderful manure might have put it right. If, however, "Stiff Soil" really indicates the nature of the ground he has to deal with, it is not a favourable one for the Gladiolus, and he had much better try to lighten it, for few bulbs like a stiff soil, and the Gladiolus, I think, particularly dislikes it. I should imagine well-decomposed leaf mould would tend to do this; and in a stiff soil I should be inclined to mix thoroughly well-rotted manure with the leaf mould, dig it in, and then when planting the bulbs, remove the soil from each spot where the bulb is to go, and put in sand and leaf mould, so as not to allow the bulbs to come in contact with the manure. The one great drawback to the growth of this lovely flower is the tendency to disease, for which, unhappily, there seems to be no remedy or preventive.

As to Roses. My reason for excluding Princess Christian is that there is not enough of it; and so of the very beautiful Teas he mentions. Lovely in the bud, woe to him who trusts to them in a show stand. They are seen to open and show the eye—as bad as showing the white feather.

With regard to the difference between "*se tenant bien*" and "*belle tenue*," there is really none, except in the form of expression. If possible, the former more decisively means stiff, erect, and is what one might often hear applied to the Cent Gardes of the Second Empire—"*Comment ils se tient bien.*" I think Mr. Kent hardly estimates aright the force of fixed names and the difficulty of changing them. If he and I never have a headache until we see Remontants taking the place of Hybrid Perpetuals we shall do well. An attempt was made to change the absurdly arbitrary terms of show and fancy Dahlias, but it never got beyond an attempt. Shanghais was no doubt the proper name to apply to the Brahma fowl; it was tried, but the absurdly wrong one remains, and the Brahma, which has no more to do with the Brahma Pootra river than with the Orinoco, holds its own. And so with the Hybrid Perpetual; the term will outlive Mr. Kent and myself too.—D., *Deal.*

HEATING BY IRON STOVES.

I have a lean-to greenhouse facing the south, about 17 feet by 11 feet, and at present it is heated by an iron stove, about 8 inches square in the narrowest part, attached to a 5-inch metal pipe, which is placed at the end opposite the door. Within the structure the flue runs for about 4 feet straight along the end of the building, and then turns at right angles with a rise of about 18 inches in 12 feet, and with another elbow through the roof, which it tops by at least 4 feet. This arrangement has never been satisfactory, for when the wind was to the north of west or east the stove used to smoke, no matter how strong the wind was. I have since attached to the end of the flue one of the patent screw ventilators, and find that when there is any wind it does its work well, but when there is a calm or very little wind, which is generally the case with severe frosts here, it is necessary to heat the flue before the draught sets in. This makes a great smoke, from which I am sorry to say the plants suffer. I enclose a rough plan of the arrangement of the flue as it now is.

I am thinking if the stove were sunk in the ground, and a portion of it entered under the end wall, with an elbow joint so as to make the stove face the east side instead of the south, and to be fed from the outside instead of inside, I might so stop the smoking. Or if I were to place the stove as last mentioned, and run the flue under the centre walk, with an elbow at the end, and another at the back wall. This I am afraid would necessitate cutting the metal pipes. At present the flue is set on brackets fixed to the back wall, which is a boundary wall. As I have only a limited interest in the place, I do not wish to go to much expense.—J. W. B.

[There can be no doubt that a greenhouse 17 feet by 11 can be heated by an iron stove; but we do not think you will escape being smoked, or be thoroughly successful by your present or proposed plans. During the last two winters we kept a lofty place double the size of yours, temperate, by having a round stove inside at one end. It was about 13 inches in diameter, 30 inches in height, lined with fire-brick about 7 inches through, and the fire was placed inside. We have no faith in iron stoves for plants, but as mere makeshifts, unless the fire-box stands in the middle, leaving 1½ to 2 inches all round between the fire-box and the outside of the stove, or unless the fire-box is lined with fire-brick. In either case the sides of the stove opposite the fire will never get anything like red hot, as iron when so heated exerts a deteriorating influence on the atmosphere of the house, and this would be apt to injure plants in severe weather.

If you had been an older subscriber you might have seen that the chief error in your present plan is not so much having the stove at one end of the house, but in taking the flue straight from it for about 4 feet on the level, then by a right-angle bend along the back wall with a rise of 18 inches in 12 feet, and thence out through the roof and 4 feet above it. The error consists in the 4-feet horizontal. If you only had a level of 12 to 18 or even 24 inches, and then rose at once as nearly perpendicularly as possible, we should wonder if you were much troubled with smoking. We need not enter into the causes, the fact we have proved over and over again, that no iron stove in a house, nor any mere stove will work well unless the horizontal pipe that issues from it is short instead of long. The quantity of piping, too, is based on a misconception of the theory of heating by such stoves, as if the pipes and not the stove were to be the means of heating. Now it is best to make the latter the chief heating medium, and it would do all you require in such a small house if you merely had 18 inches or

24 of level piping, and raised the piping from that elbow right through the roof of the house. When once the stove was heated it would keep the heat a long time, if the feeding-door were shut, and there were a slit an inch long and from one-eighth to a quarter of an inch wide in the ash-pit door, to support a slow combustion. With this we would be perfectly satisfied, and all the more so if the stove were placed in the centre of the house. Truly, if you wished to utilise your piping against the back wall, you could do so, but you must give up the 4-feet of a horizontal pipe, and be content with 12 or 18 inches. Then you may raise on an incline against the back wall if you like, and the steeper the incline the better the draught. Your stove might even stand against the back wall, and then give enough of heat.

Your second plan of moving the stove from the end of the house partly into the wall, and a little sunk in the ground so as to be fed from the outside, would answer better, since the return smoke would be kept out of the house. Unless, however, the stove was sunk a great deal, the long horizontal pipe from it would be objectionable so far as free draught was concerned. If your first elbow pipe from the stove was only a foot long, and the upright pipe rose from it at once, this plan would answer admirably, as you would be saved from all smoke and ashes in the house. The latter is always troublesome, unless they are damped before clearing out the fire-place.

Your proposed plan, No. 3, is to have the stove sunk, fed from the outside, and your present 5-inch iron pipes taken horizontally from it beneath the level of the floor across the farther end, and thence up as a chimney against the back wall. Such a plan we have never tried. We fear that you would be smoked out of your stokehole. We should have no faith in its answering at all unless the smoke-orifice of your stove was some 24 to 30 inches below the level of the bottom of the pipe that went beneath the floor, and these were connected with two short elbows and an upright. Even then we should be doubtful as to iron pipes, and more especially if they could not be easily cleaned at the junctions. A small flue beneath the floor, with the furnace-bars 2 feet below the level of the bottom of the flue, would answer well. Meanwhile, as you do not wish to incur much expense, shorten to one-third the length of your present horizontal pipe, and rise upright at once, then you may continue against the back wall if you like. The short horizontal piping is the secret in all stoves when the piping goes from the top. There is little trouble as to draught, but the draught is not so easily and thoroughly regulated from the ash-pit door as when the outlet is on the side.]

ENTOMOLOGICAL SOCIETY'S MEETING.

The December meeting of this Society was held on the 4th inst., the President, A. R. Wallace, Esq., in the chair. Among the donations to the Society's library received since the last meeting, were the publications of the Entomological Societies of France, Switzerland, and Italy, and various periodicals devoted to the subject. Mr. S. Stevens exhibited, on behalf of Mr. Shearwood, a remarkable dark variety of Argynnis aglaia (closely resembling that figured by Curtis), taken near Teignmouth. Mr. F. Bond exhibited some curious varieties and malformations in specimens in Pieris Rapæ, Cheimatobia brumela, and other Moths. Mr. Ianson exhibited a collection of insects, chiefly Coleoptera, from the diamond fields of South Africa; the species were of the ordinary Southern African forms. Mr. Higgins exhibited specimens of Scarites Schrœteri, a very fine Australian species, and also of Tetracha crucigera, *McLeay*, one of the Cicindelidæ, from the neighbourhood of Sydney.

Professor Westwood exhibited a series of drawings and specimens illustrating a species of Butterfly (Papilio Thersander of Fabricius), proving that the figures of that species (affirmed by Donovan to have been copied from the famous collection of drawings made by Mr. Jones, of Chelsea, so often referred to by Fabricius), were made up by Donovan from a mutilated drawing, apparently gnawed by mice, of Jones's insect from Africa, completed from the Indian Charaxes Fabius! A discussion ensued concerning the right of named figures of insects by the older authors to be regarded in questions of priority. Here, however, the question was hardly applicable, because the Fabrician description was sufficiently precise, and the only difficulty arose from Donovan's want of truthfulness in manufacturing a figure, which he affirmed to be a true copy, from the original drawing from which the species had been described.

With reference to the liability of the larger Dragon Flies to be eaten by birds, Mr. Albert Muller stated that Mr. Natterer had mentioned that some of the Falconidæ in Brazil fed on Dragon Flies, thus disproving the fanciful ground for the mimicry of the two species of Dragon Flies from North America, exhibited at the last meeting of the Society by Mr. McLachlan. A paper was read by Major F. Parry on the generic nomenclature of Lissapterus Howittanus, one of the Lucanidæ, from New Holland; and some synonymical notes on various species of Lepidoptera by Mr. Kirby, in which it was endeavoured to be proved that Colias Hyale ought to retain the specific name of P. croceus of Fourcroy.

NEW BOOK.

Elements of Agricultural Chemistry and Geology. By James F. W. Johnston, M.A., F.R.S., &c. *Ninth Edition. Revised and Edited by* G. T. Atkinson, B.A., &c. W. Blackwood and Sons, Edinburgh and London.

No manufacture but is promoted by an appropriate combined knowledge of practice and science in the manufacturer. Agriculture is a manufacture of certain crops and live stock, and no manufacturer has ever been more benefited by "practice with science," than has the agriculturist. The science most useful to him is a knowledge of chemistry and geology. To that knowledge the book before us is one of the best of aids. We remember one old gentleman, whose mental power may be judged by his always beginning harvest on the 25th of July, "because his father did." The same bigot in the things-that-were, would not believe that underdraining was the cause of corn being more productive and ripening earlier than on adjoining land undrained. "Leave the water in the land," he argued, "it's wanted in summer and keeps out the rain in winter." If it had not been for chemistry those reasons of the olden time would have prevailed.

A mere practical farmer is like a blind man who passes our office. When unled he goes fumbling and shuffling along, and always slowly, on the same side that he has been accustomed to—and cannot surmount any unusual obstacle—that's practice; but when he is led by his wife he steps out confidently, makes short cuts, and goes ways he never knew of before—that is how science guides practice. The book which has led to this notice needs no better evidence than that this is the ninth edition of it. It is a thoroughly good book, and imparts sound useful knowledge upon every practice of crop-culture and stock-feeding.

BOWOOD.—No. 1.

The Seat of the Marquis of Lansdowne.

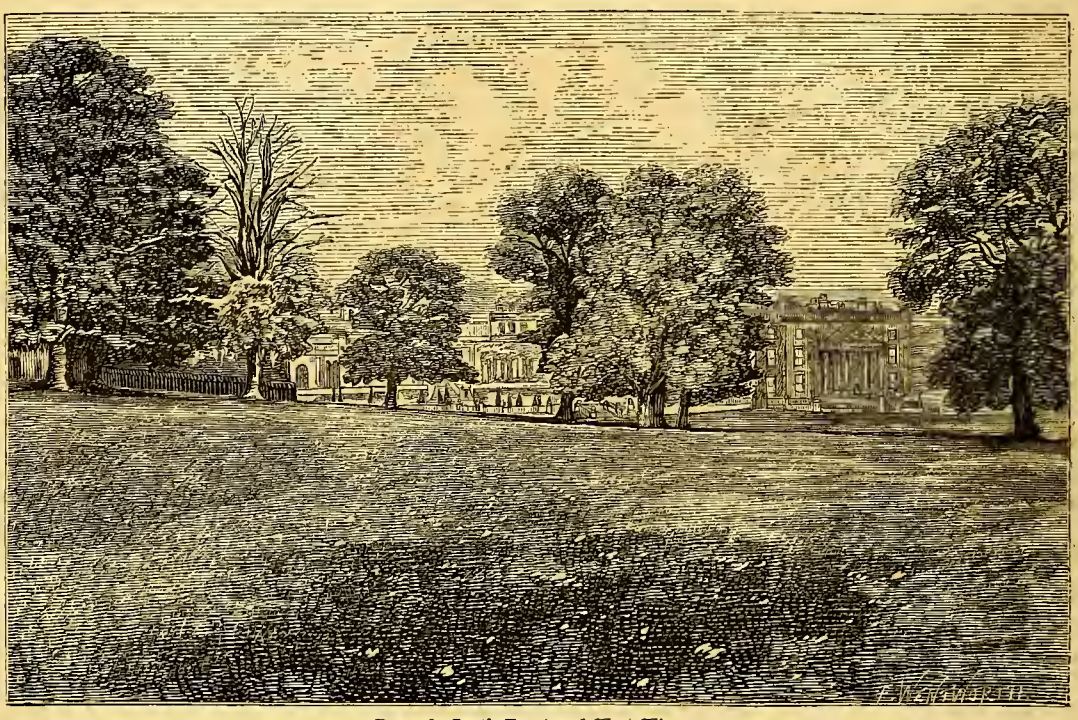
About two miles from the little town of Calne, ninety-eight miles from London by rail, and about twelve miles from Bath by road, is Bowood, the gardens of which stand in the foremost rank. When the frost crisps the grass, when the mists of the winter morning render distant views impossible, when the flower garden is tenantless, when there is nothing but the green turf and the leafless trees, and the evergreens less cheerful-looking than in spring and summer—that surely is not the time to see a garden. It is not the time to see a garden at its best; but if a garden is fair to the eye then, how much fairer must it be when Nature puts on her gayest attire, when the many-hued flowers give colour to the landscape, when the Thorn and the Apple tree are in blossom, or, later still, when the dazzling scarlet of the Geranium is relieved by many a broad acre of green sward. We have seen Bowood in its summer pride, and we saw it, too, but a few days ago in its winter garb, and as in summer so in winter, we admired it still. But before entering into other details let us give a short sketch of its history so far as certainly known, for there is much of its history which is dim in the far past.

In Anglo-Saxon times Caune, now spelt Calne, and its adjacent forest of Pewisham, were all royal demesne. This forest was of no mean extent, for it covered the entire surface between Calne, Chippenham, Laycock, and Devizes. When James I. ascended the throne he disafforested the whole, and granted one-half to the Devonshire Careys, and the other half, which included Bowood, to the ancestors of Baron Audley. During the Protectorate it was resumed as public property, but Charles II. re-granted it to Sir Orlando Bridgman, the licentious son of the Lord Keeper, who bore the same names. Ruined by extravagance, his creditors sold it to Lord Shelburne, from whom the Marquises of Lansdowne are descended.

The mansion was probably partly erected by Sir Orlando Bridgman, but the chief portion was erected by John Earl of Shelburne, from designs furnished by Mr. Adams, the architect. A wing 300 feet in length was added by the first Marquis of Lansdowne. Thus the mansion by degrees has become so very extensive, and is of such various styles of architecture, that a countryman once inquired at the lodge, "In which of them houses Lord Lansdowne lived!"

The mansion is partly built in the Grecian, partly in the Italian style of architecture, and is situated on the side of rising ground, that ascends towards the back and descends to a lake in front, which is said to have been formed by damming back a rivulet which flowed in the bottom of the valley. This lake is upwards of a mile in length, and the irregularity of its outline, its broad expanse of water, and its accompaniments of trees and shrubs, combine to make it one of the great features of the place. It has been supposed that the lake as well as much of the planting of the park was the work of the celebrated "Capability Brown," who formed lakes at Blenheim and other places in a similar manner. The principal front of the mansion faces the south, and comprises the main portion of the building, with the Grecian portico; whilst extending westward is a wing 100 yards long in the Italian style, containing the library, orangery, and offices. A view of the south front of the mansion, taken from the park is given in the accompanying engraving.

In front of the west wing just noticed are the terrace gardens, These extend the whole length of the west wing, and are on two levels, the upper terrace being 8 feet higher than the lower one, and divided from it by a wall surmounted by open work in dressed freestone; with vases at the top, which are filled with Geraniums and other plants in summer. The width of this terrace is about 60 feet, and it is laid out in geometrical beds, grouped very effectively round two marble fountains, one towards each end of the terrace. Each bed has a dressed-stone edging 4 inches high and 3 inches wide, next there is a 3-inch space which is filled with white spar in summer, and then a low Box-edging clipped square at top. Cypresses and Irish Yews kept in a strictly upright form are planted at intervals suitable to the design, which, though far from being so complicated as many others, and much more elegant, could not be adequately described without an engraving. We now come to the lower terrace, to which we descend by a broad walk and flight of



Bowood—South Front and West Wing.

steps. This fills up the space between the upper terrace and the park, the two terraces being equal in width to the depth of the main body of the building from the line of the west wing. On each side of the walk leading down to this terrace is a bronze stag. The upper terrace, it is believed, was formed in 1810 or 1811, and the lower one in 1851, when Mr. Spencer was the gardener. This is separated from the park by a low freestone balustraded wall, covered with Ivy and surmounted with vases; and at the west end is an architectural wall with a flight of steps leading down to the garden, and dense masses of Laurustinus, Phillyrea, and other shrubs closely cut-in, on each side of a fountain. The retaining wall is likewise surmounted by vases, and is of a bold architectural design, furnished, we believe, by Mr. Kennedy, of Glasgow. This garden forms one of the most beautiful features of Bowood; even in winter with the beds empty and with nothing but its upright Cypresses, its dark Irish Yews, its close-shaven green turf, its architectural surroundings, and its background of massive trees, it has a noble and impressive appearance, but how much more attractive must it be when the beds are all aglow with the liveliest colours! This terrace, like the upper one, dotted, as we have already said, with Cypresses and Yews, was laid out by Mr. Spencer, and the beds set in turf and a framework of bright-coloured gravel are extremely neat. A good idea of the general appearance of this portion of the garden will be obtained from the accompanying engraving, but the outlines of the beds would require, and well deserve, a separate representation, and to give a just conception of their effect in summer the aid of the colourist would also be necessary.

In front of the east wing of the house is a croquet ground and a small flower garden in Box with a raised bed, in the centre of which are three boys supporting a terra-cotta basket of fruit. Round these is a 5-feet bed surrounded by a low Ivy-covered wall, with scroll beds representing the Prince of Wales's feathers.

After all it is in the extensive pleasure grounds and the still more extensive park that we must look for the chief beauties of Bowood. It is not in gay parterres, not in acres of bedding plants, not in miles of ribbon-borders, in thousands of Geraniums, in hundreds of Verbenas, and in multitudes of the other flowers which furnish the materials of what is called "bedding-out"—not in all these that Bowood claims its high position among the seats of our English nobility. Its undulating surface, its wood, its water—these are its charms. Here soft-green turf, there a rough tangle; here the Pines of America, there the Oak, and the Beech, and the Fir, the trees of our native land. And then there are long glades affording glimpses of the far-off hills, and steep banks densely clothed with grey lichen-covered wood-growth, with lofty trees springing from the midst. Again, we say, it is in these that the beauty of Bowood consists.

But while thus descanting on what Nature and the hand of the planter have done—and the skill of the planter has done much—we have forgotten to notice one of the main features of the place, the waterfall at the head of the lake. One might well suppose this to be a work of Nature, so well is the deception

carried out, but it is merely the waste water of the lake carried over an artificial rockwork, constituting the dam by which the lake was formed. The water falls a height of between 20 and 30 feet, dancing from rock to rock in four stages, and the fall, though by no means so lofty as others where the natural formation of the ground is more hilly, is still of sufficient importance both in height and body of water to lift it above those toy devices which are so often and so justly held up to ridicule. The rockwork is partially covered with Ivy, and at its sides are Portugal Laurels and Pinuses. Near this point the winding walks are skirted by plantations of Laurels and Rhododendrons, which serve to conceal the boundary of the pleasure grounds, if boundary it can be called, for the view so merges into that of the park and plantations, that a boundary is nowhere apparent. The Rhododendrons, chiefly varieties of the ponticum race, were cut back three years ago, and have now made vigorous shoots.

Passing close by the lower side of the waterfall and through a grotto and rockery we reach the other side of the lake's head The next prominent object is a Doric temple from which we gain a view across the lake of the east front of the mansion. At the back of the mount on which this temple summer-house is situated is a winding walk, with a bank on the other side planted with Scotch Firs, Weymouth Pines, Beeches, and other trees and shrubs. Near this point is a noble specimen of Pinus Pinaster, which may be estimated at 100 feet high, and at a little distance off the red shoots of a clump of the Dogwood (Cornus sanguinea), lighted-up the duller hues of the evergreens. Pausing now and then to admire the old Beeches, generally branching not more than the height of a man from the ground, but throwing their spreading arms over a wide diameter, eventually we come to a Laurel-skirted walk leading to the pinetum. This was planted about 1850, and covers several acres out of the seventy or eighty of kept pleasure ground, and of which about fifty acres are under the scythe, or rather the mowing-machine.

Lower Terrace Garden at Bowood.

The pinetum is one of the most notable features of Bowood, and contains a very complete collection of the finest Conifers from all parts of the globe. It is true we did not notice the new introductions from Japan, such as the Sciadopitys, the Retinosporas and others, but no doubt they had a place elsewhere. Of the giant American Pinuses, however, there were many noble specimens. Cupressus macrocarpa could not be less than 30 feet high; Wellingtonia gigantea was probably as tall, and from the thickness of its stem both here and at other places it seems likely to attain as great dimensions, at least in girth, as it has done in the Californian groves. Of Abies Douglasii the tall spar at Kew must be familiar to many of the readers of this Journal, and the trees of it at Bowood outside the pinetum proper, some of them from 50 to 60 feet in height, have the same erect towering habit. It is, indeed, a noble tree, especially when so well furnished with branches as the specimens here. It is found, however, that when high winds come while the branches are laden with snow, disastrous breakages sometimes occur. Araucarias are represented by specimens 25 feet high; Pinus insignis, which is tender in some places, has attained a height of from 40 to 50 feet; of Picea Nordmanniana there are several handsome trees, one of which is 18 feet high; and so there are of Picea Pinsapo, Cupressus Lawsoniana, Picea nobilis, P. cephalonica, Taxodium sempervirens, of which the branches cover circle 30 feet in diameter; Cedrus atlantica, remarkable for its glaucous hue; Abies orientalis, a beautiful lawn tree; Juniperus recurva, J. communis; the Savin (J. Sabina); J. pendula, J. virginiana; Abies Menziesii, Pinus excelsa, Pinus Pinea, Abies canadensis, and many others, not to mention majestic Cedars of Lebanon in various parts of the grounds. It must be added that to every tree in the pinetum is placed in the ground near it an iron label with the name, height, and native country of the tree printed, and protected from the weather by glass—such labels as were in use at Chiswick some years ago. The grass of the pinetum is beautifully kept, and even at this season, when falling leaves cause many a struggle in the gardener's mind between considerations of economy and appearance, there was nothing that could offend the eye of the most fastidious, and all the walks were as clean and bright as they could have been in summer. Here we must take our leave of Bowood for the present week, deferring to another the notice of the kitchen garden and hothouses.

NOTES AND GLEANINGS.

The Royal Horticultural Society's Provincial Show at Birmingham will open on the 25th of June and continue until the 29th.

—— Losses of the French Nurserymen during the War.—From statistics which have been furnished us by the Rev. H. H. Dombrain, the Secretary to the French Horticulturists'

Relief Fund, we find that in the Department of the Seine alone the number of sufferers amounts to 555, and their total loss in structures and other requisites for carrying on their business, and of plants, is estimated at 2,626,330 francs, or in round numbers £105,000.

—— The death is announced on October 10th, in Nicaragua, of fever, of Dr. Berthold Seemann, one of our most enterprising travellers and naturalists. Born in Hanover in 1825, Dr. Seemann was, in 1846, appointed naturalist to H.M.S. Herald, in its survey of the Pacific, during which voyage he had the opportunity of exploring, more thoroughly than almost any other European, the Pacific countries of South America and the Isthmus of Panama. In the same vessel he subsequently visited the Arctic regions, and the "Narrative of the Voyage of H.M.S. Herald," by Sir John Richardson and Dr. Seemann, is an important contribution to the natural history of previously little-known regions, the portion contributed by the latter comprising an account of the flora of Western Eskimoland, North-western Mexico, the Isthmus of Panama, and the island of Hong-Kong. In 1860 he was sent by the English Government to the Fiji Islands, then lately acquired, and on his return published two works, one containing a narrative of his mission, the other, under the title of "Flora Vitiensis," a history of the vegetable productions of the islands. Since 1864, he has been greatly interested in the mining capabilities and other resources of the various states of Central America, and has spent much of his time there in the interest of different trading communities, and in promoting the route across the Isthmus. Dr. Seemann is the author of several popular botanical works in German and English, and has been since its foundation, editor of the *Journal of Botany*.

—— The Government is advertising the appointment, by open competition, of a Clerk to the Curator of the Royal Gardens at Kew, and of a second assistant in the Herbarium. The salaries commence at £100 and £60 respectively, and the specified age is in one case from twenty to thirty, and the other from eighteen to thirty. The examinations will take place on January 16th.—(*Nature.*)

WORK FOR THE WEEK.

KITCHEN GARDEN.

The young plants of *Cauliflowers* in frames must be protected from severe frost by covering the lights with mats, and if there are any in the open borders, protect them with arched sticks and mats. Lay a coating of long dung over ridges of the *Celery* required for use, to preserve it from frost. Plant a few *Garlics* and *Shallots* on a ridge, and put a sprinkling of wood ashes in the drills to keep off the grubs. Ground intended for *Onions* should be got in good condition for the March sowing. Pond mud or the scrapings and sides of ditches put on the surface of the ground to the depth of 4 or 5 inches, left to meliorate by the frost, and pointed-in a week or two before sowing, is the best of all composts for Onions. Wood ashes should be sprinkled upon the surface at the time of sowing, and raked-in with the seed, when the process is complete, with the exception of the hoeing and weeding afterwards.

FRUIT GARDEN.

Push forward pruning, nailing, tying espalier trees, and such-like tedious operations as fast as the weather and circumstances will admit. Make a point of every week regularly examining all the choicer kinds of fruit, as the finest Pears are almost worthless if allowed to get over-ripe before being used, and the same is the case with many varieties of Apples. All decaying fruit should be removed, and any of the choicer kinds of Pears that do not appear to ripen properly in the fruit room, should be removed to a warm, dry room for a few days.

FLOWER GARDEN.

Trim up shrubbery borders for the winter, and at the same time prepare places intended next summer for Hollyhocks, Dahlias, &c., by deep digging, and working in plenty of good rotten manure. Reduce all coarse-growing plants by pruning, to prevent them injuring others more valuable. Valuable plants, as Variegated Hollies, and Rhododendrons, and what are called American plants, if not growing as freely as is desirable, would be benefited by the application of a top-dressing of decayed manure or decayed leaf soil, covered with a little fine soil, and worked into the ground round the ball towards the extremities of the roots. American and other plants not growing satisfactorily should be taken up, the ground well prepared by a liberal addition of peat or leaf soil, and replanted.

GREENHOUSE AND CONSERVATORY.

Valuable pot specimens of hardwooded plants may, perhaps, have to be wintered in the conservatory, for many of these are impatient of fire heat and a confined atmosphere, and ought, therefore, to be kept as much out of the way of its influence as circumstances permit. They should be placed near the glass and turned partly round every week, so that portions of them may be equally exposed to the light; fresh air should be admitted on every favourable opportunity, but cutting winds carefully guarded against. Use no more fire heat than may be indispensable, and be careful to counteract its drying effect on the atmosphere either by means of evaporating pans, or by sprinkling the borders. It is in many cases a very difficult matter to maintain a sufficiently moist atmosphere without producing drip, as the moisture in the house gets condensed upon the glass, and unless provision is made by means of inside gutters and pipes to catch the condensed moisture and carry it off, it is nearly impossible in frosty weather to preserve the beauty of flower for any length of time. In cases where there is no provision made against the condensed moisture falling upon the plants, the temperature should be kept as low as may be consistent with safety, avoiding moisture in the atmosphere as far as possible wherever the glass is affected by frost.

STOVE.

If there is any prospect of a scarcity of bloom next May, a portion of Achimenes and Gloxinias which have been longest at rest, and a few Clerodendrons and Allamandas, should be repotted at once, and placed in a warm part of the stove; a few plants of Echites splendens, and Dipladenia crassinoda, may also be started, but unless their wood is well ripened wood, and they have been some time at rest, there will be nothing gained by attempting to start them into growth at present. A gentle bottom heat of about 80° or 85° will be of great service to such plants by inducing a healthy root action, and if this can be secured, there will be little doubt about obtaining free vigorous growth. Let Ixoras and other hardwooded plants that have made sufficient growth be kept rather dry at the root, in order to check their growth and induce a tendency to form bloom. We are careful not to allow the balls to become so dry as to endanger the foliage. Be sparing in the use of fire heat save in the case of plants being forced into flower or growth. It is in every sense good policy to have a separate house or compartment for these, as it saves fuel, avoids overdriving the whole collection for the sake of a small portion, and insures a more satisfactory result than can be obtained where there is but one house for the whole collection of stove plants. Keep a moderate heat of from 50° to 60°; and give plenty of air. Stephanotis, Allamandas, &c., may be potted and trained preparatory to starting after Christmas, and the staking of all specimen plants must be proceeded with as fast as possible.

FORCING PIT.

This is a good time at which to introduce a considerable number of plants for general forcing purposes. Rhododendrons, Azaleas, Persian Lilacs, Moss and Provence Roses, Sweet Briars, Honeysuckles, Kalmias, Daphnes, Rhodoras, the more advanced Hyacinths, Narcissus, Tulips, &c., may now be started. A sweet bottom heat of 80° max., and a temperature of 65°, will be necessary whatever the structure. One thing may be here observed—that is, that it is vain to introduce anything unless properly set for bloom. This points to the necessity of a special summer's training as suggested long since.

COLD PITS.

Plants that have been excluded from the light and air for a few days must not be too suddenly exposed, especially to cold northerly winds, but should be very gradually inured to free exposure. Take advantage, however, of mild days to give air freely, and keep the plants very sparingly supplied with water at the roots, so as to prevent weak sappy growth. Look frequently over anything subject to the attacks of mildew, apply sulphur the moment this pest is perceived, and see that everything is perfectly free from insects.—W. Keane.

DOINGS OF THE LAST WEEK.

KITCHEN GARDEN.

Little could be done this week, on account of the weather, except trenching. Now is the time for tree-planting, if done immediately after the hole is made, as the moisture has not yet affected the soil beneath, which for packing the fibrous roots in should be dry. We have frequently noticed how much better trees thrive when planted in moderately dry than in wet cloggy soil.

Collecting Leaves.—We could do little of this during windy days. Leaves raked up wet are just as good as any for present purposes, or for being placed in heaps to decompose into leaf mould. For future use they cannot be brought home too dry. A covered shed is a good place for them, but they will keep well for years if placed in a well-rounded heap, and a little litter thrown over them to prevent the wind acting on them. On such a heap of dry leaves it is rarely that the heaviest rains will penetrate more than 1 or 2 inches. We have found heaps collected two years previously almost as fresh as on the day they were gathered, which was entirely owing to their dryness. When we wanted them to heat and decompose we watered them. Leaves need no preparation for hotbeds, except throwing them together to heat. A correspondent informs us that he used leaves among which were many bits of wood and much long grass, and that his plants suffered from the fumes. We can hardly conceive it to be possible at this season, as there can be little of such rank grass now after the frost. If it is yet somewhat long it must be rather grey or whitish in its tint, and in such circumstances along with leaves we have never found it give out unhealthy fumes. Of course it is well to use a little precaution, and the simplest one is to cover the bed with soil or more sweet, rotten material, and to observe if the condensed drops on the glass or sashbars are clear as a dewdrop. If so, there can be no danger, but there will be if they are yellowish or brownish in colour.

Fungi spores will seldom appear if a bed of rather hot rank dung is placed beneath the leaves, and the latter allowed to become very warm, and then to cool before using them. Another correspondent wishes to know how to turn a heap of green dung and another of leaves into a heap of sweet material, losing as little as possible of heat and bulk. It is next to impossible to obtain both objects; mixing dung and leaves together at once, is the best means for getting a heap by various turnings uniformly sweet. True, but no plan could be better for diminishing bulk, as the leaves will be half decomposed before the horse dung is sweet. If one uniform heap must be made, it is best to heat and turn the rank dung two or three times before the leaves and dung are mingled together. If we wished to make the most of both, and to keep up as much bulk as possible, we would give the dung one or two turnings, with as much watering as would insure rapid heating; and when that was hot, but not sweet, we would line the bottom of the bed with it, and top it with hot leaves from the heating leaf heap. This would make the most lasting bed for temporary purposes. For a lasting Cucumber bed, instead of a layer of each, we would have several thin layers of each, and a heavier one of hot leaves to finish with. Beds thus made in January have retained a fair heat in the following November.

Discard all soil that seems to have any spawn running in it. It may be purified by having boiling water poured over it, or by being placed as a covering over burning and charring material. In each case the soil requires to be well aërated before use, so that on the whole it is best to examine and get rid of such pieces as can be seen. We are sorry to confess that we really do not know what amount of heat will kill the spores and spawn of fungi. A correspondent remarks that it would be useful to know the amount of heat and cold beyond which even the spawn of the Mushroom would not live, but here our experience fails us. A friend of ours often waters his Mushroom beds with water as near the boiling point as possible, and he gathers fine crops. He says that even pin-head Mushrooms are not injured. A neighbour of his followed his plan but he got no Mushrooms. We know that when placed in a bed spawn is easily injured by heat, but when fairly run it will stand more. We have poured very warm water down at the back and front of a Mushroom bed to dislodge and kill woodlice, but we have never used it so warm over the bed. If poured hot on a bed, however, it would be much cooled before it passed through the earth.

Asparagus.—The dull foggy weather has been against the colour of Asparagus in a common hotbed frame. Though we have washed the glass and kept it clean, the shoots are not so bright green as we wish to see them. We have had them grown almost as green in a dark place, and then placed with the base of the shoots in damp moss in a house of medium temperature for a few days. The want of the bright green tint is a great one, though the shoots may be crisp and sweet.

Cucumbers.—We have cleared out at length those we planted in a pit in the beginning of the year, as the walls, &c., sadly wanted cleaning, and the young plants were getting injured from want of heat. Five lights will thus be fresh planted with stout plants, and all are put in pots, as stated last season. Three lights are now bearing nicely, but of course if we fruit them heavily now, we cannot expect the plants to last so long. The object in planting in pots is to get great quantities of fruit and comparatively small foliage. In a place from 5 to 6 feet in width, leaves like parasols or small umbrellas are of no use when plenty of fruit is wanted.

FRUIT DEPARTMENT.

The weather has been bad for bringing on early Strawberries —scarcely a blink of sun to cheer them. An experienced gardener used to say that it was little use putting many good pots in until about Christmas time. Put a good many into an old bed where you can just detect the least bottom heat, to bring them on gradually. They must, however, at this early period, be left only a little time in a bed where there is much heat below them, as this tends to make them grow too much to leaf, and not enough in the flower-truss. Many a flower-bud becomes blind altogether from the stimulus so applied. It is useful in moderation, and almost essential where successions are to be kept in a house of a rising temperature; but where room can be afforded there is no safer or better plan than placing the pots on the shelves where they are to fruit, and increasing the heat very gradually.

Fruit-rooms, &c.—Looked over fruit-room and late Grapes nipped out a few fading berries from the latter, and gave a brisk fire during the day with air back and front—very little heat at night, and a little air at back unless when very cold and frosty. Made preparations for forcing Peach and other houses, but we find where frost is kept out the trees come on early very fairly of their own accord, without commencing regular forcing so very early. For planting, &c., see previous numbers.

ORNAMENTAL DEPARTMENT.

All plants growing, flowering, and coming into flower should be kept scrupulously clean. Much may be done by keeping them from the dust of the room when swept, much more by washing them frequently. This is easiest done in the case of small plants suitable for a window, by placing a cloth over the soil of the pot, spreading the fingers of the left hand over it, and then with the other hand holding the pot, reversing the head of the plant in a bucket of water, and drawing the leaves, &c., backwards and forwards in the water. The leaves should be gently sponged afterwards, and the process then repeated in a fresh pail of clean water. Two pails of water might thus do for a number of plants. In frosty weather when much air cannot be given, slight frequent damping of the foliage will counteract the dry heat of the room. This damping of the foliage will often be more important than frequent watering at the root. Plants kept too damp now are apt to make spongy watery growth. As long as there is no sign of the leaves being distressed it is advisable not to water, but water sufficiently so as to moisten all the soil when you do give it. As a general rule let the whole of the roots be moistened, and give no more until they again become dry. Giving a little drop on the surface is always deceptive. When doubtful, turn the ball carefully out, and see what like it is. If the pot is clean and dry at potting time the ball can be turned out and replaced unbroken. If you are not sure of that, insert a stick or your finger by the side of the pot, and see what state the soil is in 2 or 3 inches from the surface; and if you think that such is the case give the pot a sharp ring to test its soundness as in buying a porcelain vessel. Should the sound be clear the earth wants watering, but if it be dull it does not.

Water in Saucers.—As a general rule it is well to have saucers for plants in windows, and to throw out the water that collects in the saucers. If you have Cinerarias or Calceolarias in your windows a little damp moss in the bottom of the saucer will do good, and help to keep a moister atmosphere about them. As regards plants in general, though the bottom of the pot should not be in water, yet in cold frosty weather when the strong fires are apt to dry the air of the room too much for your window plants, if you put three pieces of stone, or even of cork, all the same height in the saucer, set the pot level on these pieces, and then put water in the saucer so as not quite reach to the bottom of the pot, you would find vapour to rise insensibly from that water, and enable the green foliage to resist the dry air of the room all the better. In mild weather with smaller fires this would be less necessary. Keep in mind, also, that when a plant is growing freely it must have light.

Bulbs.—Put a number of well-rooted bulbs, such as Lily of the Valley, into a mild hotbed to bring them sooner into bloom. It is no use doing anything of this sort until the pots are full of roots. We often help this a little by placing the fresh-

potted bulbs in a little heat to draw the roots down, whilst the tops of the pots are help cool. We also often assist the free rising of the flower-stem by means of funnels of paper, or even a pot of smaller size placed over the other containing the bulb. Window gardeners who possess no hotbed, and who yet wish to have early bulbs, as Snowdrops, Crocus, Hyacinths, and Tulips, in their window, should pot the bulbs early, and place them in any dark place where the roots will be encouraged to develope themselves before the flower-stem. A dark closet or cellar is the proper place, and the pots will be all the better if plunged in either sand, ashes, or moss, and covered with a little of the same material. When the pots are full of roots they may be brought to the window as the tops are beginning to show. These if covered up will have a yellowish tinge, and should not be fully exposed to the light until they become somewhat green. If wanted early, the pot or funnel over them will help both processes, and the rooting may be hastened by some weeks in this manner. The pots are set on as above, not in saucers, and as thickly as they can stand, with a little moss or sawdust stuffed in between them, and whilst no water is given to the pots, warm water about 90° is poured on the moss or sawdust, and extra heat thus supplied to the bottom of the pot. We found we could gain as much as three weeks in full rooting by this process, and by continuing it the flowering was also earlier. We also found a good plan for getting early bloom without the help of a hotbed was to place a 5-inch pot into a 6-inch pot, fill the bottom of the large pot with moss, and the space between the pots with moss or sawdust, and then water between with water at from 90° to 100°. Allow the flat or saucer, which even then is a little distance from the bottom of the inside pot, to remain full. Each pot thus has a hotbed for itself. Where room is an object, the outer pot should be dispensed with as the bulb comes into flower, taking care, however, that no violent check is experienced. In watering the temperature should never be colder than the heat of the room, say from 60° to 65°.—R. F.

TRADE CATALOGUES RECEIVED.

Dickson & Co, 1, Waterloo Place, Edinburgh.—*Catalogue of Forest and Ornamental Trees and Shrubs, Conifers, Rhododendrons, &c.—Descriptive List of Gladioli.*

B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, London, N.—*Descriptive Catalogue of Flower, Vegetable, and Agricultural Seeds*, 1872.

J. Wheeler & Son, Gloucester, and 59, Mark Lane, London.—*Wheeler & Son's Little Book, or Select Seed List for* 1872.

Sutton & Sons, Reading.—*Suttons' Amateur's Guide and Spring Catalogue for* 1872.

TO CORRESPONDENTS.

N.B.—Many questions must remain unanswered until next week.

Address (*A. Crickett*).—Mr. West died two years since.

Exchange Column (*C. F. H., Dorset*).—We are willing to insert exchange advertisements not exceeding two lines for 1s. It is not our fault that so few have availed themselves of this facility, which, on looking back, you will find we offered long ago.

Anti-cloche (*An Old Lover of Horticulture*).—We can only insert it as an advertisement, for which the charge would be heavy.

Roses for a Trellis (*H. H.*).—Gloire de Dijon, yellow; Boule de Neige, white; Alfred Colomb, red; John Hopper, rose; and Abel Grand, pink.

Apples and Pears for Espaliers (*A Subscriber, Ireland*.—Apple trees should be worked on the Paradise, and Pears on the Quince stock. Some varieties of Pears do not succeed on the Quince, but may be worked on the Pear. Trees three years old from the graft, specially trained, would be the best to plant. Horizontal-trained wall trees as sold in the nurseries, will answer your purpose. It will be best to train your Vine in through a hole in the brickwork at the base of the wall. The mulching which the border should receive in winter will cover that part of the stem exposed. The trellis to which the Vinee are trained should be 15 inches from the glass.

Temperature for Tree Carnations (*H. C.*).—To ensure the flowering at this period of the year they require a temperature of 50° at night and 5° higher in the day, admitting air freely with an advance from sun heat. Give them abundance of air and light, and keep them near the glass.

Variegated Holly Propagating (*Idem*).—The variegated kinds are raised by grafting on stocks of the common or green Holly, and the best time to do this is in March. They may also be raised from cuttings of the ripened summer shoots, put in during November on a north border, and covered with a hand-glass.

Repotting Pelargoniums (*Idem*).—It should be done at once, not giving a large shift, as you wish them to flower early; but if they are already in good-sized pots, we should not advise their being repotted.

Mulching Newly-planted Fruit Trees (*F. J.*).—Two to 3 inches of stable litter is not too much to put about newly-planted fruit trees. It may be put all over the ground, or in a circle of about 3 feet around each. If put over the whole surface it could be pointed-in during the spring, and would be a means of enriching the soil. Prune newly-planted pyramids, bushes, &c., very little, merely taking off the irregular or unnecessary growths, which is all these trees require at the winter trimming. The principal pruning should be done in summer. It is better to prune at planting than in spring.

Sutton's Order List (*Jeff*).—Your note is an advertisement. We have seen their list, and agree with you ,that it is one of the most useful published.

Weeping Trees (*B. A.*).—There is no known system of "raising" weeping trees, nor can we account for some trees producing their shoots pendulously, whilst others grow erect. Some are species and others sports, but none that we are aware of have been raised from seed, nor a pendulous habit induced by any forethought of man. Weeping trees are propagated by grafting on stocks of kindred species at the height of stem required. The sprig of shrub enclosed to us in flower is the Strawberry tree, Arbutus Unedo.

Orange Tree Leaves Browned (*J. D.*).—The leaves enclosed to us are very badly browned, which we think may be owing to dressing with some compound, or perhaps to their being constantly wet from syringing or drip from the roof. The cause of falling is probably due to potting at this season, which has occasioned a check, and brought on the affection you complain of. It would be well to give the plant the benefit of a mild bottom heat of 55° to 70°, so as to induce a good root action, and if that is done we think the foliage would be better. It is evidently the Mandarin Orange (Citrus nobilis).

Roses in Pots (*P. Paget*).—The Roses in the coolest part of the conservatory should be kept rather dry until the early part of February, and pruned. If not already potted do it now, and defer pruning a fortnight. Hyacinths coming into flower would be benefited by the application of weak liquid manure.

Rose (*J. Carr*).—We do not know Madame Barriott. There is one named Madame Barillet.

Twenty-four Dwarf Roses (*M. A. B.*).—Alfred Colomb, Charles Lefebvre, Marie Baumann, Baroness Rothschild, La France, Gloire de Dijon, Cécile de Chabrillant, Duke of Edinburgh, Marguerite de St. Amand, Dr. Andry, Sénateur Vaisse, John Hopper, Abel Grand, Emilie Hausburg, Victor Verdier, Monsieur Noman, Pierre Notting, Mdlle Eugénie Verdier, Countess of Oxford, Duchesse de Caylus, Marquise de Castellane, Edonard Morren, Xavier Olibo, Mdlle. Marie Rady. Add to these as Teas—Souvenir d'un Ami, Madame Willermoz, Belle Lyonnaise, Souvenir d Elise.

Epiphyllums for Grafting on Pereskia Stocks (*W. W.*).—E. truncatum var. Ruckerianum, tricolor, violaceum Snowii, salmoneum marginatum, roseum amabile, Russellianum, magnificum, albo-lateritia, albo-violaceum, purpureum, Bridgesii, aurantiacum, and E. speciosum superbum.

Iron Stakes for Roses (*Clyde*).—Iron, from their durability, are superior to wood stakes, and are not injurious to the roots. You may fruit pot Vines the year after being raised from the eye, but additional care is necessary to do so with the apparatus you name. The canes should be strong and well ripened.

Culture of Heaths (*Amateur*).—The culture of Cape Heaths has been treated of repeatedly in our previous volumes, but some hints will shortly be given on their culture and varieties.

Select Plants (*A Beginner*).—Three *Heaths* to flower in October or November are Erica colorans, E. sebuscula, and E. caffra. Twelve *Greenhouse Ferns* are Adiantum cuneatum, Lomaria gibba, Asplenium dimorphum, Cheilanthes elegans, Davallia pyxidata, Gleichenia dicarpa, Neuropteris australasica, Nephrolepis tuberosa, Pteris scaberula, Adiantum cuiphureum, Asplenium Veitchianum, and Lomaria Belli. Six *Show Pelargoniums*—Charles Turner, Claribel, Cycle, Emperor, Maid of Honour, and Troubadour. Six *Fancy*—East Lynn, Fanny Gair, Princess Teck, Marmion, Formosa, and Pink Perfection. Six *Stove Ferns*—Adiantum farleyense, Asplenium præmorsum, Gymnogramma Laucheana, G. Wettenhalliana, Polypodium appendiculatum, and Davallia polyantha. Six *Achimenes*—Ambroise Verschaffelt, Rollinsoni, Multiflora major, Marguerite, Porpurea Magnifica, and Sir Treherne Thomas. Six *Fine-foliaged Plants Suitable for Table*—Croton angustifolium, Maranta roseo-picta, Myrtus microphylla, Dracæna regina, D. Chelsoni, and Terminalia elegans.

Cyclamens (*Cyclamen*).—You must apply to any of the leading florists who advertise in our columns.

Peas of Moderate Height (*George Yardley*).—1st, Early—Dickson's First and Best, Kentish Invicta. 2nd, Midseason and Main—Princess Royal, and Maclean's Premier. 3rd, Late—Yorkshire Hero, and Dwarf Branching. They do not exceed 4 feet in height.

Mrs. Pollock Geranium Leaves Browned (*S. Hiscoe*).—The leaves sent appear to have suffered from cold and damp, and we consider these to be the causes of their present condition. They should have a temperature of 45° to 50° at night to keep the leaves in good condition, with no more water than is sufficient to keep the leaves from becoming limp or flagging. One watering at a time should be sufficient, without going over twice at an interval of half an hour. Admit air moderately, avoiding cold cutting currents.

Tulips not Flowering (*A Constant Subscriber*).—It is not difficult to have Tulips in flower at Christmas, but it is necessary that they be potted early and placed on a gentle hotbed, with very little top heat after they have been on a cold bottom for a month. Early in November they should be put in a house with a temperature of 45°, increasing to 50° to 55° at night at the close of that month, and should be near the glass to keep them from drawing. Another essential is to choose the early kinds, as Duc Van Thol, Pottebakker, &c.

Tulips Out-doors (*Idem*).—Tulips do not increase in size of bulb from year to year, and seldom improve in size or blooming qualities on those imported. Of course they continue to attain a full flowering size, and give a number of offsets that in course of two or three years come to a flowering state; in that way they improve.

Cotton Waste Hotbed (*E. W.*).—It is formed in the same way as a bed of dung, but being of a greater heat-giving nature it is not necessary to make it so high. It is best used in a brick pit, though one with sides of boards will answer well. We have made the outside of stable litter, and then filled up the centre with the waste. Four feet high at back and

3 feet in front forms a good hotbed. It will need to be slightly moistened, but not made very wet.

Chrysanthemums from Suckers (*Idem*).—We prefer taking good, strong, short cuttings with some roots, placing them singly in small pots, and putting these in any house with a gentle heat. They make the best plants, and have single stems. You may also divide the old plants as you propose, retaining three or more of the best shoots, and removing the weakest. Take away most of the old soil, reduce them considerably, and put in pots that will hold the roots, which should be cut in considerably. Place them in a cold frame until established, and then harden off.

Cineraria Leaves Curling (*Berra*).—Are you sure that there are no insects on the leaves? Examine them carefully, and if you find any trace of thrips or aphis, fumigate with tobacco. See that the plants are not subjected to cold cutting currents of air, and keep them near the glass in an airy structure, standing on a cool bottom, and in a temperature of from 40° to 45°, if young, or if advanced to a flowering state, of from 45° to 50°.

Silver or White-foliaged Plants for Bedding (*Longlands*).—Achillea ægyptiaca, Arabis alpina argentea, Antennaria tomentosa, Centaurea argentea plumosa, Centaurea ragusina, Cerastium tomentosum, Cineraria maritima, Dactylis glomerata variegata, Euonymus radicans variagatus, Gnaphalium lanatum, Poa trivialis argentea elegans, Santolina incana, and Senecio argentea. You may obtain seed of the Cineraria and Cerastium, which sown now will be in good order for planting out in May.

Ferns Importing from Demerara (*Amateur*).—We could not name the Ferns that are worth importing from Demerara, but we should consider most if not all to be desirable. They should be packed in Wardian cases for transit by sailing vessel, and will need to have air and water on the voyage. You might also arrange to have Orchids sent you, packing them in boxes of moss no more than moist.

Red Celery (*L. W.*).—Coles's Defiance Dwarf Red Celery is a good and high-coloured kind, but this latter we do not consider any advantage, but rather the reverse. Any of them are red enough even with the best blanching, and no deep-red Celery is good for anything—*i.e.*, if it be red after earthing-up. Do not earth-up and tie the leaves together, and it will be red and useless. The merit of Celery consists in its being solid, crisp, sweet, and of a nutty flavour.

Shrubs for Lawn (*E. B.*).—Portugal Laurel, Chamærops excelsa, Hollies (Ilex), altaclarensis, Aquifolium flava, Aquifolium pendula, Hodginsi, Gold and Silver-variegated Laurustinus, Magnolia grandiflora, Exmouth var. Quercus Ilex, Q. Fordi, Q. austriaca. Abies Clanbrasiliana, A. pygmæa, A. compacta, A. elegans, and A. pumila are dwarf varieties of Norway Spruce (A. excelsa); Cedrus Deodara, C. atlantica; Cupressus Lawsoniana; Juniperus chinensis; Picea nobilis, P. Pinsapo, P. grandis, P. Nordmanniana; Pinus Cembra, P. excelsa; Retinospora pisifera; Taxus adpressa, T. elegantissima, T. fastigiata; Thujopsis borealis; Thuja plicata, T. orientalis, and vars. aurea and stricta; and Wellingtonia gigantea. Thorns double scarlet, pink, and white, are fine lawn trees. Also have standard Rhododendrons, and Kalmia latifolia. Plant after the ground is in good order early in March, a preferable time to now.

Stove in Hothouse (*A. C. C.*).—We cannot advise you to do as you propose. You had better, if you can be supplied with gas have a Shrewsbury's hot-water apparatus. We have known outside blinds quite sufficient to compensate for a slightly deficient heat inside.

Heating by Hot Water (*A. J. T.*).—Your arrangement of heating seems to be a singular one—taking the pipes round what looks like a number of beds. Nothing is more settled as to heating than this, that the flow-pipe should go from near the top of the boiler, and the return-pipe come in near the bottom of it. As to your particular question, there can be no doubt that you can heat as far as A B separately by the junction 2 furnished with a valve; but to do this you must also have a valve under command at 3, to prevent the flow going its usual course. When you wish the heat to go round as hitherto, you have only to open the valve 3, and shut the valve in the junction 2. To be thoroughly under control, you want therefore the valves at 2 and 3 instead of 1.

Heating by Flue &c. (*Midland Counties*).—There can be no doubt that a flue would heat a small vinery 32 by 20 feet; but if you contemplated anything like forcing you had better have the flue all round, or round three sides, to avoid doorways, and have it above ground. A flue 15 inches high and 9 inches wide would do, though we recommend flues beneath the floor level for small greenhouses. We look upon such a contrivance merely as one of the neatest for keeping out frost in winter. If you merely wished to help your Vines a little, and keep Lady Downe's for a good while in winter, then a flue all round under the pathway—say two bricks-on-side deep, 5 inches wide inside measure, and covered securely with a 9 or 10-inch tile, would answer well, and all the better if the floor were tiled for the pathway, so as to leave a slope open at the sides of the flue. As stated already, if you contemplate forwarding the Vines much, have your flue above ground instead of beneath the floor. As to your next question, much of the success will depend on sinking the furnace. The fire-bars of your furnace should be 2 feet below the bottom of the flue. Sixteen-ounce glass would do very well for sides and ends. Twenty-one-ounce would be more secure against wind and hail. Strange though it seem, it is no less true, that in one case even on a roof, 16-oz. was safer from hail than 21-oz. The latter resisted and was cracked, the other yielded and rebounded to the hail; but on the whole we would prefer 21-oz. or 28-oz. for roofs. Have nothing to do with coal ashes for a Vine border.

Names of Plants (*Walton*).—1, Zygopetalum Mackayi; 2, L. crinitum. (*Jno. B. Blennerhassett*).—Your Fern is Asplenium marinum, the Sea Spleenwort. We should suppose it worth your while to attempt to turn your discovery to profit—indeed, feel inclined to hope you will be good enough not to run any risk of destroying, or, indeed, despoiling it in the locality you name. Fern-hunters too often prove themselves nuisances by exterminating rarities, or so hacking their rhizomes, &c., as to soon eradicate them. We look on the plundering of a Fern in a locality where it is confessedly seldom seen as an act somewhat akin to sacrilege. A. marinum is not such a scarcity elsewhere, and not of great value. (*A Ten-years Subscriber*).—1, Oncidium, not yet identified; 2, Maxillaria picta; 3, Epidendrum ciliare. (*W. F.*).—Some Myrtle, and in all probability a form of the common Myrtle (Myrtus communis), a trifle narrower than usual in its foliage.

POULTRY, BEE, AND PIGEON CHRONICLE.

FRAUDULENTLY CHANGING CLAIMED BIRDS.

I wish to direct your attention to a very disagreeable fact connected with the late poultry exhibitions, which I think might, with advantage, be commented on by the Editors. I allude to the theft of valuable birds. That the poultry and Pigeons which have disappeared so mysteriously during the last twelve months were stolen from exhibitions, for the most part probably during "packing-up time," I have no doubt. Every one must acknowledge that such thefts, unless strong and prompt preventive measures be taken, will speedily bring fowl-fancying into such ill repute as to make all right-thinking persons recoil with horror from a pursuit so intimately connected with fraud. I could write a little volume (I mean a large volume) upon the varieties of fraudulent practices in which "the fancy" indulge; but having no wish to overtax your patience, I will simply give one instance of roguery, of which I was the victim. At the same time I enclose for your perusal two letters, one from our most esteemed Judge, the other from an exhibitor of the highest integrity, both sufficiently corroborative, I fear, of the unpleasant statements with which I have felt it my duty to furnish you.

This month, a year ago, at one of the most important poultry shows held during the season, I claimed a pen of Colonred Dorking pullets at eight guineas. After the show was over two old hens were forwarded to me in place of the birds I had claimed. Unless much mistaken, I had observed these hens (one of them even then in a dying state) unnoticed in the Selling class. Having ascertained from the Secretary that Mr. Hewitt was one of the Judges of the Dorkings, I at once wrote to that gentleman, asking to be allowed to forward to him the birds which I had received from the show, that he might substantiate my assertion that they had not constituted the pen which I had claimed, and to which the third prize had been awarded in the pullet class. Mr. Hewitt, in reply, sent me a very kind letter, but in it he juetly observed that he could not undertake to arbitrate in matters of dispute between vendors and purchasers.

So kind, however, was his letter, that I ventured to write to him again for his assistance to this effect:—"I want very good Dorkings. I am a fair judge of a fowl for an amateur, but I never can obtain good birds; for if on the one hand I ask would-be vendors of certain prizewinners to send on approval, they shirk out of it; and if on the other hand I claim a pen of birds at a poultry show, they are stolen. What can I do?" In conclusion, the following quotation from Shakespeare expresses my humble opinion in relation to "the fancy," and it might, I think, be advantageously adopted as a motto by ardent amateurs generally:—

> "Because I will not do them
> The wrong to mistrust any, I will do myself
> The right to trust none."
>
> —(*Much Ado about Nothing*, Act i. Sc. 1.)

—H. Seymour Fraser, *Headley, near Petersfield.*

Mr. Hewitt's letter was as follows:—

"I really am sorry to find complaints so very general, as they evidently are becoming, respecting the identity of 'claimed' fowls, as it must at least compromise the honour and credit of some one or more parties. It seems at first blush incredible, but it is nevertheless a fact, that since your affair no less than three parties have written to me for advice to this effect, 'What can they do?' One says, he 'claimed a pen of birds more than a month ago. They went back, and he says he can prove that the birds he has got were bought and sent on direct to him from a dealer, and never shown at all. I advised this applicant to 'take the case to the County Court, and prove it to conviction, if certain that it is so.' The other cases are both alike. They saw the birds at the time, bought them, and, as one expresses it 'they aint them.' I really do not myself know how to advise, but this I well know, such mean actions will help a good deal to break up the fancy among many of its most creditable and most-to-be-valued supporters. Again, I cannot help thinking that at least some of these cases are beyond question facts, and I grieve to find it so.—Edward Hewitt."

[It is very disheartening, but not to be wondered at, that villains mingle with true-hearted poultry fanciers. Not only would we sue for compensation if the birds we bought were not sent, but others in their place; but we would indict the vendor for felony—it being undoubtedly a larceny. One poultry changer suffering six months imprisonment with hard labour would have a most wholesome effect. We advise all committees to give notice that they will not deliver claimed birds to anyone who has not a written order from the purchaser. In future, when purchasing at a show, we shall give notice in writing to

the committee not to deliver what we have purchased to anyone but the bearer of half a card, the counter half of which we shall give to the secretary.—Eds.]

NORWICH POULTRY SHOW.

There is a slight error in your columns last week in alluding to the Norwich Poultry Show. A protest is made against Hamburghs of all varieties being included in one class. This is not the case, but it is precisely like the Dublin and many other important schedules—having a class for Gold or Silver-pencilled, and a class for Gold or Silver-spangled. It would doubtless be far better to have four classes, dividing the Gold and Silver; but these classes in the eastern counties are generally very badly represented. It would be indeed bad policy to offer liberal prizes for any variety or breed for which there is little or no competition. As regards Dorkings, these are sparingly exhibited in this district. If fanciers of these varieties are desirous of increasing the number of classes, I should recommend them to exhibit more liberally to induce those who have the framing of prize lists to comply with their wishes, and who would gladly provide for all varieties likely to receive support. I can only add, that I will willingly instruct the Judges to award additional prizes in any class for deserving specimens. —Wm. Groom, *Ipswich, General Manager.*

MAIDSTONE POULTRY SHOW.

This was held on the 20th and 21st, and obtained a complete success, which was due to a most energetic Secretary and a few hard-working Committeemen. This year the Show was confined to the county, and it will most likely in future be thrown open. Nearly 420 pens of unusually good birds were exhibited. *Dorkings* headed the list. Coloured and Silver-Grey were good. Then came the *Cochins*. Among the Whites were the cream of the year, and the Judge ordered "A very good class" to be added to the prize list of this class. *Brahmas*, too, were well represented. Mr. Knight won the £15 15s. cup for Brahma chickens with the bird he was third with at the Palace —a grand cockerel indeed. Why Mr. Dring's birds, which took Southampton by storm, were not second remains to be proved. *Hamburghs* were well represented, especially the Golden-pencilled variety. *Polands* were, in every case save one, sent with two hens, which was a disqualification, and this one pen was so poor that no prize could be awarded. Then came the *French*. The second-prize Houdans should have been first, but both classes were good. The *Variety* class had good La Flèche, Silkies, and Andalusians. There was a large Game *Bantam* class with some good birds. Mrs. Dring had a pretty pen, which well deserved a high commendation. Good Aylesbury, Rouen, and Black *Ducks* put in a strong appearance, and very large Selling classes wound up the lot.

The *Pigeons* were few but good. A lovely pair of Barbs was first in the Variety class; and a very neat pair of Antwerps won the extra prize given by "Albus," a gentleman who need not conceal his name.

Dorkings.—*Coloured.*—1, R. Cheeseman, Westwell, Ashford. 2, W. Haynes. Maidstone. 3, Dr. Jepson, Stone. *Chickens.*— 1 and Cup, G. W. Greenhill, Ashford. 2, W. S. Marsh, jun., Deal. 3, W. Reeves, Crittenden. *hc*, E. J. W. Stratford, Maidstone.

Dorkings.—*Silver-Grey.*—1, G. W. Greenhill. 2, Rev. T. E. Cato, Wye Vicarage. 3, F. Cheeseman. *Chickens.*—1 and 2, Rev. T. E. Cato. 3 and *hc*, F. Cheeseman.

Cochins.—*White.*—1 and Cup, R. S. S. Woodgate, Pembury, Tunbridge Wells. 2, Miss Hales, Canterbury. *hc*, R. S. S. Woodgate (2); Miss Hales. *c*, R. S. S. Woodgate. *Any other Variety.*—1, W. Jacob, Shepherdswell. 2, E. Hook, Chatham.

Spanish.—*Black.*—1, J. Francis, Hildenboro, Tunbridge Wells. 2 and 3, E. J. W. Stratford. *Chickens.*—1 and Cup, E. J. W. Stratford. 2, J. Francis. 3, Rev. P. H. Moneypenny, Hallow Vicarage, Tunbridge Wells.

Brahmas.—*Dark.*—1, Cup, and 2, W. Jacob. 3, H. Kennett, Wincheap, Canterbury. *c*, E. J. W. Stratford. *Chickens.*—1 and Cup, Rev. J. G. B. Knight, Wrotham, Sevenoaks. 2, W. Jacob. 3, E. J. W. Stratford. *hc*, Mrs. Jenner, Preston Vicarage, Sandwich; J. K. Parton, Maidstone; T. Goodwin, Thornhills, Maidstone; E. J. W. Stratford (2). *c*, W. Dring, Faversham.

Brahmas.—*Light.*—1 and 2, Rev. F. T. Scott. 3, H. Mitchell. *Chickens.*—1, H. Mitchell, Sydenham. 2, G. Mills, Dover. 3, Rev. F. T. Scott, Sibertswold Vicarage. *hc*, Rev. F. T. Scott. *c*, Rev. F. T. Scott; Miss Hales; Mrs. H. Brassey, Preston Hall, Aylesford.

Game.—*Black-breasted and other Reds.*—1 and Cup, G. Braham, Ashford. 2, J. Jekin, Eltham. 3, J. G. Ledger, Folkestone. *hc*, W. Foster, Deal; J. Jekin. *Chickens.*—1 and 2, J. Jekin. 3, W. Foster. *hc*, J. A. Harms, Ashford.

Game.—*Any other Variety.*—1, E. Rice, Danecourt, Sandwich. 2 and 3, J. Jekin. *c*, W. Foster; T. Griffin, Broadmead Manor, Folkestone. *Cocks.*—1, W. Foster. 2, J. Jekin. *hc*, G. Braham.

Hamburghs.—*Golden-spangled.*—1, W. Taylor, Maidstone. 2, H. Saker, Maidstone. *Silver-spangled.*—1, H. H. Stickings, Ashford. 2, Miss L. Derman, Ashford. *hc*, W. Taylor (2). *Golden-pencilled.*—1 and 2, R. S. S. Woodgate. *hc*, J. Chapman, Ashford; G. Mills. *Silver-pencilled.*—1, J. Chapman. 2, B. Norton, Town Malling.

Creve-Cœurs.—1 and 2, W. Dring.

Houdans.—1 and 3, E. J. W. Stratford. 2, W. Dring. *c*, E. J. W. Stratford; W. Dring.

Any other Variety.—1, Mrs. S. E. Bacon, River, Dover. 2, Miss Hales. 3, G. Springett, East Farleigh. *hc*, R. S. S. Woodgate; Misses Mansell, Wrotham; E. J. W. Stratford.

Game Bantams.—1, W. S. Marsh, jun. 2, E. F. Wells. 3, A. J. B. B. Hope, M.P., Bedgebury Park. *hc*, E. J. W. Stratford. *c*, T. W. R. Hore, Tunbridge; J. Burch, Canterbury.

Bantams.—*Any variety, excepting Game.*—1, Master G. Ramsden, Ashurst. 2, J. S. Crundwell. *c*, Miss E. J. N. Hawker, Wycliffe, Tunbridge Wells.

Ducks.—*Aylesbury.*—1 and 2, W. Jacob. *hc*, G. W. Greenhill. *Rouen.*—1, F. Cheeseman. 2, F. E. Arter, Barham, Canterbury. *hc*, W. Jacob. *c*, C. Ratcliffe, Womenswould, Canterbury; W. S. Holding, Yalding. *Any other Variety.*—1, R. S. S. Woodgate. 2, A. J. B. B. Hope, M.P. *hc*, Major Archer, Tunbridge.

Geese.—1, E. J. W. Stratford. 2, Mrs. Powell, East Lenham. *hc*, H. White, Wateringbury; Mrs. Powell; A. J. B. B. Hope, M.P.

Turkeys.—1 and 2, A. Warde, Tutsham. *hc*, G. Springett; E. J. W. Stratford. *c*, A. J. B. B. Hope, M.P. (2).

PIGEONS.

Carriers.—1, G. H. Nutt, Maidstone. 2, W. S. Marsh, jun. *c*, W. S. Marsh, jun.; G. H. Nutt; E. J. W. Stratford.

Pouters.—1, W. Wells. 2, A. Watkins, jun.

Fantails.—1, G. Mills. 2, Mrs. J. Viner.

Tumblers.—1, R. S. S. Woodgate.

Any other Variety.—1, W. S. Marsh, jun. 2 and 3, Miss Hales. Extra 8, G. H. Nutt. Extra prize given by the Judge, G. H. Nutt. *hc*, E. J. W. Stratford; G. H. Nutt. *c*, T. H. Spencer, Maidstone.

Selling Class.—*Cock.*—1, G. W. Greenhill. 2, Mrs. W. M. Cheere, Aylesford. 3, C. Terrill, Maidstone. Extra 3, Rev. F. T. Scott. *hc*, A. Rigg, Wrotham Hill Park (2); C. Brown, Charing; Mrs. W. M. Cheere; W. Foster; —Jeken; E. J. W. Stratford (2). *Hens.*—1, Rev. F. T. Scott. 2, R. Cheeseman. 3, E. J. W. Stratford. *hc*, A. Rigg; W. Foster; S. Hubbard; E. J. W. Stratford. *c*, W. Dring.

BARTON AND NORTH LINCOLNSHIRE POULTRY SHOW.

The fourth Annual Exhibition was held at the Volunteers' Hall, Barton-on-Humber, on Wednesday, December 20th. There were upwards of 200 entries in the All-England classes besides a fair sprinkling in the Local classes, which were for farmers only, and confined to North Lincolnshire. A department for dead poultry dressed for the spit was also provided. This latter department was unsatisfactory in its results, as it has ever been. The Show altogether was a great success. The specimens were of the highest order of merit in the open classes, especially *Dorkings*, *Brahmas*, and *Game*. *Game Bantams* and *Bantams* of any other variety were especially good, and obtained the highest praise. *Pigeons* were a good Show; Mr. Yardley, Birmingham, and Mr. Hairsine, Hull, had some beautiful specimens, and with Mr. W. G. Waters of Elsham, and Mr. W. Beecroft a new exhibitor, pretty evenly divided the honours.

Spanish.—J. H. Yardley, Birmingham. 2, R. Cograve, Hessle.

Dorkings.—1, Lieut.-Col. Eyre, Newark. 2, H. Smith, Brigg.

Brahma Pootra.—1, Dr. Holmes, Chesterfield. 2, E. Corney, Whithy.

Cochin-China.—1, J. Brown, Hull. 2, J. Johnstone, Newark.

Game.—*Black-breasted or other Reds.*—1, F. Sales, Crowle. 2, H. E. Martin, Scunthorpe, Fakenham. *Any other Variety.*—1, F. Sales. 2, J. B. Hepworth, Hatfield. *Cock.*—2, T. Ward, Goxhill.

Hamburghs.—*Golden-spangled.*—1, W. Beecroft, Hull. 2, Master F. Astley, Elsham Hall. *Silver-spangled.*—1, W. G. Waters, Elsham. 2, Master F. Astley. *Golden-pencilled.*—2, G. W. Canty. *Silver-pencilled.*—2, R. E. Stringer, Brigg.

Game Bantams.—1, —Robson, Hull. 2, Rev. F. Cooper, Ampney. *hc*, —Hudson, Epworth; J. C. Meggit, Barton; Miss Wells, Winterton. *Any other Variety.*—2, W. G. Waters.

Any other Variety.—1, Mrs. J. Cross. 2, H. J. Tomlinson, Barton. *hc*, J. Wicks, Appleby. *Cock.*—2, J. Naimby, Brigg. *hc*, Lieut.-Col. Eyre. *Hen.*—1, Mrs. J. Cross. 2, F. Sales.

Selling Class.—1, F. Sales. 2, W. Beecroft.

Ducks.—*Aylesbury.*—1, H. Lawson, Hull. 2, R. Robinson, Goxhill. *Rouen.*—1, W. Yonhill, Goxhill. 2, Miss Wright, Broughton. *Any other Variety.*—1, H. B. Hardy, Ewerdy Manor. 2, Miss Wright.

Pigeons.—*Carriers.*—1, H. Yardley. 2, J. Hairsine, Hull. *Pouters.*—1, W. Beecroft. 2, H. Yardley. *Tumblers.*—1, H. Yardley. 2, W. G. Waters. *Fantails.*—1, J. Hairsine. 2, H. Yardley. *Jacobins.*—1, J. Hairsine. 2, H. Yardley. *Turbits.*—1, H. Lawson. 2, H. Yardley. *Antwerps.*—1 and 2, J. Hairsine. *hc*, H. Yardley. *Trumpeters.*—1, H. Yardley. 2, W. Beecroft. *Barbs.*—1, H. Yardley. 2, H. Lawson. *Any other Variety.*—1, H. Yardley. 2, W. G. Waters.

Cage Birds.—*Canary.*—1 and 2, T. S. Petch, Hull. *Any other Variety.*—1, J. Clarke, Doncaster. 2, T. Britton. *Linnet.*—2, J. Bacon. *Any other Variety.*—1, T. S. Petch. 2, J. Fox.

Rabbits.—*Lop-eared Buck.*—1, J. Fletcher, Hull. 2, P. Ashton. *Lop-eared Doe.*—1 and 2, J. Fletcher. *Pair Lop-eared*—1, P. Ashton. 2, H. J. Tomlinson. *Any other Variety.*—1, E. Walker. 2, T. McLellan.

The Judges were Mr. Edwin Newbitt, London House, Epworth, Bawtry, and Mr. George Pashby, Charlotte Street, Hull.

GUERNSEY POULTRY SHOW.

An Exhibition of poultry took place at the Militia Crescent on Wednesday and Thursday, the 20th and 21st inst. The Show was open to the United Kingdom and Channel Islands, but in consequence of the short notice given of the Exhibition, poultry-fanciers in England did not exhibit, consequently the Channel Islands had it all to themselves. There were upwards of two hundred pens of poultry, sixty of Pigeons, as well as several pens of Turkeys, Geese, and Ducks. On the whole, considering that this was the first Show of such a kind in the Island, it may be looked upon as most successful, and we beg now to attach a small summary of the Show. The *Spanish* were nothing remarkable. Mr. L. S. Robin, of Jersey, took the first prize with a fair pen; Mr. Ralfe, of Guernsey, a second. *Andalusians* were also very fair, Mr. Hutton carrying off the first prize in the class with a very neat pen; the cock was a particularly nice bird. Mr. Spencer, of the Castle, Guernsey, was awarded the first prize in the *Dorking* class, and a rare pen they were; the Rev. T. Bell, also of Guernsey, taking the first and second for chickens of 1871, two excellent pens of birds, and fit to exhibit at any show. The *Game* classes were very strong, and this splendid breed was nobly represented. Mr. Voisin, of Jersey, took the first prize for Black Reds over one year, closely pressed by Mr. Hutcheson, of Guernsey, who was awarded the second prize. Both had excellent specimens. In chickens of this year, Mr. Davey, of Guernsey, carried off both first and second prizes with two first-class pens. In Brown Reds over one year Lieut-Col. Guerin, of Guernsey, received the first prize, and Colonel Bell, also of Guernsey, took the first prize with chickens, and the silver cup for the best pen of poultry in the Exhibition.

The Judge in awarding the prize remarked that it was a splendid pen of birds. The *Houdans* were admirably represented, Mr. Bronard, of Guernsey, being first, and Mr. De Faye, of Jersey, second. Messrs. Le Mottée, Kinnersley, Guerin, and Bell were commended; although we must add pen 108, Mr. Dobrée's birds were very fine specimens. As for the rest of the Exhibition there is little to add with reference to it, except that in the *Selling Class*, Mr. Carré, of Guernsey, exhibited some remarkably nice birds, as also the Rev. T. Bell. The *Pigeons* were also very good.

SPANISH.—*Black.*—1, L. S. Roblu, Jersey. 2, W. V. Ralls, Cätel. *c*, G. De Faye, Jersey; E. C. Musson.
MINORCAS.—2, G. De Faye.
ANDALUSIANS.—1, T. B. Hatton, Candie. 2, W. H. Tozer, St. Sampson's. *hc*, E. Tomkins, Jersey. *c*, S. Bishop, Rohais.
DORKINGS.—1, H. Spencer, The Castle. 2, Rev. T. Bell, The Vale. *Chickens* —1 and 2, Rev. T. Bell.
CUCKOO.—3, T. B. Le Page. *Chickens.*—2, A. Helyar, Croûtes.
COCHINS.—*Buff.*—1, E. L. Vos, Nashville. *Chickens.*—1, J. Downing, Jersey. 2, J. De Gruchy, jun., Jersey. *Partridge.*—1, W. T. Kinnersley. 2, L. S. Robin. *Chickens.*—1 and 2, Miss E. Tupper, Les Cotils. *hc*, W. T. Kinnersley.
BRAHMAS.—*Dark.*—1, L. S. Robin. 2, Miss C. B. Carey, Candie. *Chickens.*—1 and 2, E. Messervy, Jersey. *Light.*—1, T. W. Cluett. *Chickens.*—1, E. Guerin. 2, J. De Gruchy, jun.
GAME.—*Black Red.*—1, J. Voisin, Jersey. 2, F. P. Hutcheson. *hc*, J. Davey, Gravées. *c*, J. Downing; Col. Miller, Kilburn. *Chickens.*—1 and 2, J. Davey. *c*, F. P. Hutcheson; Dr. C. Crewe; Dr. Sheppard. *Brown Red.*—1, Lieut.-Col. Guerin. *Duckwing.*—1, G. W. Wood. 2, Lieut. Col. J. Guerin. *Chickens.*—1, J. Davey. 2, W. Hancock. *Pile.*—1, J. H. Carré. 2, S. Cooper. *hc*, G. Rose; G. Warr.
BEST PEN OF FOWLS IN EXHIBITION.—1 and Cup, Col. W. Bell. 2, J. Hamley, St. Sampson's.
MALAYS.—1, J. Dowaine, Jersey. 2, J. Le Rossignol. *hc*, Col. Miller.
HAMBURGHS.—*Pencilled.*—1, J. De Gruchy, jun. *Chickens.*—1 and 2, J. De Gruchy, jun. *c*, E. Tomkins, Jersey. *Spangled.*—2, G. De Faye. *Chickens.*—1, A. Sheppard. 2, G. De Faye.
POLANDS.—*Silver-spangled.*—1 and 2, F. Alban, Vrangue. *c*, J. Carré; J. Le Rossigool. *Golden-spangled.*—1, J. Le Rossignol. 2, J. Downing. *White-Crested Black.*—1, F. Alban. 2, G. De Faye.
HOUDANS.—1, — Brouard, Millbrook. 2, G. De Faye. *vhc*, J. Le Mottée, Vauquiedor. *hc*, W. J. Kinnersley; L. S. Robin. *c*, Col. Bell, Swissville. Lieut.-Col. Guerin.
CREVE-CŒUR.—1, L. S. Robin. 2, G. De Faye. *hc*, Miss E. Tupper. *c*, Col. Bell.
LA FLECHE.—1, L. S. Robin. 2, G. De Faye.
ANY OTHER VARIETY.—1, L. S. Robin. 2, W. T. Kinnersley.
GAME BANTAMS.—1 and 2, N. Abercrombie, Jersey. *hc*, N. Abercrombie; J. Le Bass, Jersey. *c*, J. Le Rossignol. *Any other Variety.*—1. J. B. Carey, St. Helens.
TURKEYS.—1, H. Spencer. 2, Rev. T. Bell.
GEESE.—1, J. Talbot. 2, T. B. Falls.
DUCKS.—*Aylesbury.*—1, F. Gosselin, Springfield. 2 and *c*, G. Payne, Coutanchez. *Rouen.*—1, J. L. Hocart. 2, Mrs. H. Hubert. *Any other Variety.*—1, J. Le Rossignol. 2, Miss C. B. Carey. *hc*, Miss L. R. Hocart. *c*, J. B. Carey.
GUINEA FOWLS.—1, E. L. Vos.
SELLING CLASS FOR GAME.—*Cock or Cockerel.*—1 and 2, J. A. Carré, Hauteville. *hc*, G. Balsam; Dr. Crewe. 3, F. Gosselin. *Hens or Pullets.*—1, J. A. Carré. 2, Rev. T. Bell. *vhc*, W. V. Ralls. *hc*, J. B. Carey; E. Messervy. *c*, Dr. Crewe; J. De Gruchy, jun.; Mrs. Elliott.
SELLING CLASS.—1, E. Messervy. 2, Rev. T. Bell. *hc*, Col. Fannce; Rev. T. Bell; J. D. B. Dobrée. *c*, W. A. Hendy.
PHEASANTS.—1, G. De Jersey. 2, Mrs. Rogers, Les Godaines.

PIGEONS.

POUTERS.—1, G. H. Vos. 2, J. Le Rossignol.
TUMBLERS.—1, J. A. De La Mare. 2, Col. Gordon.
BARBS.—1, J. Le Rossignol. 2. J. H. Hardy.
JACOBINS.—1, J. De La Mare. 2, W. James.
FANTAILS.—1, D. De Mouilpied.
OWLS.—1, J. A. De La Mare. 2, J. M. Reilly. *c*, Miss E. Tupper; J. Hardy; J. Le Rossignol.
CARRIERS.—1, J. A. De La Mare. 2, J. E. Paint.
TRUMPETERS.—1 and 2, P. J. De Carteret, Jersey.
ANTWERPS.—1, H. A. Chick. 2, W. Ferguson.
RUNTS.—1, 2, and *c*, Lieut.-Col. Guerin. *c*, Mrs. Kinnersley.
ANY OTHER VARIETY.—1, E. Cadie (Blue Swallows). 2, J. L. Cadie (Suabians).

CAGE BIRDS.

CANARIES.—*Belgian.*—1, Mrs. Pirie. 2, J. Hennessy. *Any other Variety.*—2, Miss Layard. *Cock.*—1, Miss Layard. 2, Mrs. Pirie. 3, J. Hennessy.
GOLDFINCHES.—1, Mrs. Ramos. 2, Lady Carey, The Cottage.
LINNETS.—1, Mrs. Hutton, Candie. 2, Mrs. Randell.
MULES.—1, G. Cochrane. 2, Miss Layard.
PARROTS.—1, Miss M. Le Messurier. 2, — Brand.
COCKATOO.—1, Capt. Lenfestey. 2, Mrs. De Grellier.
FOREIGN.—1, Mrs. Pirie. 2. Mrs. Ramos (Cardinal).
BRITISH.—1, Mrs. Ramos (Bullfinch). 2, Mrs. Reilly (Redpoles.)

Mr. Jones, of Fulham was the Judge.

SCOTTISH METROPOLITAN POULTRY SHOW.

THIS, the first Scottish Metropolitan Poultry Show, was held on Saturday, Monday, and Tuesday last in a commodious hall on the grounds of the Royal Gymnasium, Edinburgh. The arrangements and fittings in every part of the hall were of the most complete description, the pens for the various classes of birds having been excellently arranged at a proper elevation, so that they could be inspected without the least difficulty. The decorations around the hall were of tasteful designs, interspersed with several appropriate mottoes. Everything, indeed, betokened that the utmost care had been taken for the comfort of the birds. That the entries numbered upwards of eight hundred on this the first occasion of such an Exhibition is not a little remarkable, and shows that a very great amount of interest attaches to exhibitions of this description. We may state that the general arrangements were made under the able superintendence of Mr. J. M. D. Brown, while Mr. George Billett, of Southampton, attended to the "naturalist" department, and it is not too much to say that both gentlemen performed their duties in the most satisfactory manner. We may also state that the prizes amounted to £400, and, although it is usual in such cases elsewhere when a bird is awarded a first prize, should it be a cup with money added, the money is withheld and only the cup given, at this Exhibition the winner of the first prize takes both cup and money. The cups and medals were furnished by Messrs. Hamilton & Inches, jewellers, Edinburgh, and were greatly admired, being of solid silver. The Show, as a whole, was truly excellent, and seldom, if ever, has such a fine selection of birds been brought together. It would be impossible to enter into the merits of all the prize birds, and we must content ourselves by alluding to only a few of the principal pens. A very fine specimen of the Coloured cockerel *Dorkings*, the property of Messrs. Gunson & Jefferson, Whitehaven, obtained the first prize in that class. In the class for pullets Mr. D. Gellatly, Meigle, carried off the first prize with a pair of finely-marked specimens. Mr. Will was first with a Coloured cock in Class 3, and Mr. D. Gellatly, Meigle, was again to the fore in Class 4. For the Silver Dorking cockerels Mr. Raines, Stirling, obtained the first award with a specimen having high general qualities. Mr. Will's *Cochin* was deservedly awarded the first prize in that class. The *Game* birds were, however, by far the most attractive portion of the Exhibition, and they were truly a fine lot throughout. Mr. Fletcher took the first prize with a very finely-shaped and beautifully-marked cock. Mr. Fletcher again led the way with a very pretty pen of pullets. Mr. Harley, Edinburgh, was first in the hen class with a hen of beautiful shape and of almost faultless colour. The show of *Ducks* was rather above what is commonly seen at even the best shows. They are large heavy birds. The Shelldrakes, Carolinas, Muscovies, and other fancy Ducks, were most attractive, and elicited general marks of attention, as also did the Golden *Pheasants*. The classes of *Bantams* were also very interesting, being divided into seventy-eight pens, and from their neat and sprightly air commanded a very large share of attention.

DORKINGS (Coloured).—*Cockerel.*—1, Gunson & Jefferson. 2, D. Gellatly. 3, J. Fotheringham. *Pullets.*—1, D. Gellatly. 2, J. Fotheringham. 3, J. Glessall. *hc*, Rev. E. Bartrum; Mrs. M'Donald; T. Raines; J. H. Wilson. *Cock.*—1 and Cup, J. W. Will. 2, Gunson & Jefferson. 3, J. Gibson. *hc*, H. Beldon; T. Raines. *Hens.*—1 and Cup, D. Gellatly. 2, W. H. & G. A. Perrin. 3, Hon. J. Massey. *hc*, A. Haggart; W. W. Ruttlidge; J. White; J. W. Will.
DORKINGS (Silver-Grey).—*Cockerel.*—1, T. Raines. 2, J. H. Macnab. 3, J. Curror. *hc*, D. Hardie; Earl of Haddington; T. Raines. *Pullets.*—1, J. Turnbull. 2, R. Smalley. 3, J. Cunningham. *hc*, Capt. Downman; R. Smalley; A. M. Sanderson. *Cock.*—1, J. H. Macnab. 2, J. Turnbull. 3, J. Curror. *Hens.*—1, J. H. Macoab. 2, D. Annan. 3, W. W. Ruttlidge. *hc*. W. Christie; T. Raines.
COCHINS (Cinnamon and Buff).—*Cockerel.*—1 and Cup, J. W. Will. 2, J. Sichel. 3, J. Pollock. *hc*, H. Lloyd, jun.; E. Leech. *Pullets.*—1, E. Fearon. 2, J. Sichel. 3, H. White. *hc*, Brown & Fleming; Capt. Downman; W. H. & G. A. Perrin; J. W. Will. *Cock.*—1, H. Lloyd, jun. 2, H. Lacy. 3, J. Sichel. *hc*, H Tomlinson. *Hens.*—1 and 2, H. Lacy. 3, Mrs. Wilkin. *hc*, H. Lloyd jun.
COCHINS (Any other variety).—*Cockerel or Cock.*—1, H. Lacy (Partridge). 2, J. Sichel (White). 3, H. Lloyd, jun. (Partridge). *hc*, E. Fearon (White). *c*, E. Leech. *Pullets or Hens.*—1, J. Sichel (White). 2, R. Smalley (White). 3, E. Fearon (White). *hc*, J. W. Will.
BRAHMAS (Dark).—*Cockerel.*—1, Hon. Mrs. A. B. Hamilton. 2, Mrs. Gillison. 3, R. Brownlie. *hc*, D. Annan; P. Campbell; R. Brownlie; Mrs. Gillison; Mrs. Wilkin. *Pullets.*—1 and Cup, H. Lacy. 2, Mrs. Gillison. 3, J. W. Will. *hc*, R. Brownlie; T. Raines; H. S. G. Stephenson. *c*, H. Lacy; H. B. Smith. *Cock.*—1 and Cup, T. F. Ansdell. 2, H. Lacy. 3, R. Brownlie. *hc*, J. Cowman. *Hens.*—1 and 3, H. Lacy. 2, T. F. Ansdell. *hc*, E. Leech; W. G. Mulligan; T. Raines; J. Sichel. *c*, J. Riddell.
BRAHMAS (Light).—*Cockerel or Cock.*—1, J. R. Rodbard. 2, Capt. Downman. 3, Mrs. Harvey. *hc*, Hon. R. B. Hamilton. *Pullets or Hens.*—1, J. R. Rodbard. 2, J. Beech. 3, J. Pares.
SPANISH.—*Cockerel.*—1 and Cup, H. Beldon. 2, W. Paterson. 3, A. Shepherd. *hc*, A. Glendinning; Hon. Miss D. Pennant; J. Thresh; Miss Wilson; J. Walker. *Pullets.*—1, Boulton & Gliddon. 2, Hon. Miss D. Pennant. 3, J. Walker. *hc*, A. C. Mollons; J. Thresh. *Cock.*—1, Hon. Miss D. Pennant. 2, Mrs. H. Lane. 3, R. Waugh. *Hens.*—1 and Cup, J. Thresh. 2, H. Beldon. 3, Hon. Miss D. Pennant. *hc*, R. Somerville (2); J. H. Wilson.
FRENCH FOWLS.—*Cockerel or Cock.*—1, W. R. Park. 2 and 3, J. Sichel. *hc*, W. O. Quibell. *Pullets or Hens.*—1, W. R. Park. 2, J. Sichel. 3, J. J. Malden.
HAMBURGHS (Golden-spangled).—*Cockerel or Cock.*—1, S. & R. Ashton. 2, H. Beldon. 3, W. A. Hyde. *hc*, R. Dickson; E. T. Gardom; J. W. Will. *Pullets or Hens.*—1 and Cup, J. Rollinson. 2, H. Beldon. 3, E. T. Gardom. *hc*, R. Dickson.
HAMBURGHS (Silver-spangled).—*Cockerel or Cock.*—1 and Cup, Ashton and Booth. 2, H. Beldon. 3, W. M'Intosh. *hc*, J. M. Campbell; R. Mackie; W. R. Park. *c*, Miss Wilson. *Pullets or Hens.*—1, Ashton & Booth. 2, H. Adams. 3, W. R. Park. *hc*, R. Cunningham.
HAMBURGHS (Golden-pencilled).—*Cockerel or Cock.*—1, J. Walker. 2, H. Beldon. 3, R. Dickson. *hc*, J. Armstrong; J. W. Will. *Pullets or Hens.*—1 and Cup, H. Beldon. 2, W. R. Park. 3, J. Walker.
HAMBURGHS (Silver-pencilled).—*Cockerel or Cock.*—1 and Cup, W. M. Mann. 2, H. Beldon. 3, Countess of Tankerville. *Pullets or Hens.*—1, H. Beldon. 2, W. M. Mann. 3, Countess of Tankerville.
HAMBURGHS (Black).—*Cockerel or Cock.*—1, Rev. W. Serjeantson. 2, H. Beldon. 3, C. Parsons. *hc*, Miss Wilson. *Pullets or Hens.*—1, C. Sidgwick. 2, Rev. W. Serjeantson. 3, H. Beldon.
GAME (Black-breasted Reds).—*Cockerel.*—1 and 3, J. Fletcher. 2, J. Forsyth. *hc*, W. Pearsun. *Pullet.*—1, J. Fletcher. 2, W. H. L. Clare. 3, D. Harley. *hc*, C. W. Brierley. *Cock.*—1 and Cup, J. Fletcher. 2, J. H. Wilson. 3, W. H. and G. A. Perrin. *hc*, J. Dick; J. Forsyth; J. Fletcher. *Hen.*—1 and Cup, D. Harley. 2, J. H. Wilson. 3, J. Fletcher. *hc*, J. Forsyth; D. Harley.
GAME (Brown and other Reds, except Black-breasted).—*Cockerel.*—1, J. Wood. 2, E. Aykroyd. 3, C. W. Brierley. *vhc*, E. Mann. *Pullet.*—1, W. Bearpark. 2, J. Fletcher. 3, J. Wood. *c*, C. W. Brierley. *Cock.*—1 and Cup, E. Aykroyd. 2, C. W. Brierley. 3, J. Fletcher. *hc*, J. H. Wilson. *Hen.*—1 and Cup, C. W. Brierley. 2, J. Wood. 3, H. M. Julian. *hc*, E. Mann.
GAME (Any other variety).—*Cockerel.*—1, C. W. Brierley. 2 and 3, D. Harley (Duckwing). *vhc*, W. Nelson. *Pullet.*—1, E. Aykruyd (Duckwing). 2, C. W. Brierley. 3, J. Fletcher. *vhc*, A. S. Brewster (Duckwing). *Cock.*—1, 2, and Cup, C. W. Brierley. 3, H. M. Julian (Duckwing). *vhc*, J. Fletcher. *hc*, J. Fletcher; D. Harley (Duckwing); J. W. Will. *Hen.*—1 and Cup, C. W. Brierley. 2 and 3, D. Harley (Duckwing). *hc*, H. M. Julian (Duckwing).
POLISH.—1, 2, and Cup, H. Beldon. 3, G. W. Boothby. *hc*, Parsons & Wilson (Golden); W. Silvester (Golden); A. Wylie (Silver); T. Waddington.
ANY OTHER VARIETY.—1, J. Bell (White Dorking). 2, W. Gibb (Scotch Grey). 3, R. Loft (Sultan). *hc*, W. B. Mackay; J. Schiel (Sultan); D. Waldie (Scotch Grey).
DUCKS (White Aylesbury). — 1, H. S. G. Stephenson. 2, E. Leech. 3, A. Robertson.
DUCKS.—*Rouen.*—1 and Cup, A. Dickinson. 2, D. Hardie. 3, G. W. Mulligan. *vhc*, H. B. Smith. *Any other variety.*—1, C. W. Brierley. 2, W. Binns (Mandarin). 3, H. S. G. Stephenson (Carolina). *hc*, H. B. Smith (Fancy).
GEESE.—1, Rev. G. Hustler. 2, E. Leech. 3, D. Hardie.
TURKEYS.—1 and Cup, Mrs. Houldsworth. 2, Earl of Haddington. 3, Miss Stenhouse.
GAME BANTAMS (Black-breasted Reds).—1 and Cup, G. Hall. 2, J. W. Morris

3, G. Maples, jun. *hc*, J. Gow & Walker; H. J. Nicolson; W. Robinson; T. Raines; T. Sharples; J. W. Will.

GAME BANTAMS (Brown-breasted Reds).—1, J. Dick. 2, G. Hall. 3, Miss J. M. Frew.

GAME BANTAMS (Any other variety).—1 and Cup, G. Hall (Duckwing). 2, Rev. F. Cooper (Duckwing). 3, J. Gew & Walker (Pile). *hc*, G. M'Millan. *Cock.*—1, J. W. Morris. 2, J. Clark. 3, D. Hardie. *hc*, J. M. Campbell; Miss Wilson.

BANTAMS (Any other variety except Game).—1 and Cup, W. H. Robinson (Black). 2, J. Sickel (Pekin). 3, Master A. Frew (Silver-laced Sebrights). 4, Countess of Tankerville (White Frizzled Japanese). 5, C. Reed (White Rose-comb). *hc*, H. Beldon; G. W. Boothby (Silver-laced); T. Waddington (Black); C. Reed (Black Rose-comb).

SELLING CLASS.—*Cock or Cockerel.*—1, J. Sichel (Buff Cochin). 2, C. W. Brierley. 3, J. Clark (Dorking). 4, C. Sidgwick (Cochin). *hc*, E. Fearon; P. Gray; J. Clark (Dorking); Capt. G. F. Lyon, R.N.; W. Linton; J. Mansell (Spanish); T. Mason (Game); W. R. Park (Crève-Cœur); J. Oldfield; Mrs. T. S. Thomson (Brahma); J. H. Wilson (Dorking); J. W. Will; A. Robertson (Spanish). *Hens or Pullets.*—1, C. W. Brierley. 2, A. Robertson (Spanish). 3, W. Grice (Game). 4, J. J. Waller (Dorking). *hc*, J. Chapman (Scotch Grey); E. Fearon; Capt. G. F. Lyon, R.N.; W. W. Rattlidge (Dorking); J. Sichel (Buff Cochin); Mrs. Wilkin (Brahma).

PHEASANTS.—1, J. F. Dewar (Gold). 2, Countess of Tankerville (Gold).

The Judges were Mr. Richard Teebay, Fulwood, near Preston, and Mr. John Douglas, The Aviaries, Clumber, Worksop.

DURHAM POULTRY SHOW.

THIS was held on the 20th and 21st inst., when the following awards were made:—

COCHIN-CHINAS (Cinnamon and Buff).—1, C. Sidgwick, Keighley. 2, T. H. Redman, Whitby. *Chickens.*—Cup, 1, and 2. G. H. Procter, Durham.

COCHIN-CHINAS (Any other variety).—1, G. Calvert, Darlington. 2, J. Bell, Thirsk. *Chickens.*—1, C. Sidgwick. 2, G. H. Procter.

BRAHMA POOTRA.—1, R. Shield, Swalwell. 2, Mrs. Wilkinson, Buckledale, Frosterly. *Chickens.*—1, T. Rutherford, Durham. 2, J. Stalker, Bedlington.

BRAHMA POOTRA.—*Chickens.*—1 and Medal, T. Rutherford. 2, J. N. Lawson, Ryhope.

DORKING.—1, J. White, Warlaby, Northallerton. 2, J. T. Proud, Bishop Auckland. *Chickens.*—1, J. White. 2, W. Swann, Bedlington.

SPANISH.—1, H. Wilkinson, Earby, Skipton, York. 2, G. Holmes, Driffield. *Chickens.*—1, H. Wilkinson. 2, J. Thresh.

POLAND.—1, G. Speedy, Whitby. 2, J. T. Proud. *Chickens.*—1, Buglass and Williamson, Carrville, Durham. 2, G. W. Boothby, Louth.

GAME (Black-breasted and other Reds).—1, J. Gibson, Stanhope. 2, T. Robson, Bishop Auckland. *Chickens.*—1, J. Watson, Knaresbrough. 2, R. Sharp, Blyth.

GAME (Any other variety).—1, L. Casson, Ulverstone. 2, J. Gibson. *Chickens.*—1, H. Martin. 2, L. Casson, Ulverstone.

HAMBURGHS (Golden-spangled).—1, G. & J. Duckworth, Church. 2, G. Speedy, Whitby. *Chickens.*—1, H. Pickles, jun., Earby, Skipton. 2, W. Whitfield, Fence Houses.

HAMBURGHS (Silver-spangled).—1 and 2, H. Pickles, jun. *Chickens.*—1 and 2, H. Pickles, jun.

HAMBURGHS (Golden-pencilled).—1, T. H. Redman, Whitby. 2, G. Holmes. *Chickens.*—1, J. Webster, Whitby. 2, H. Pickles, jun.

HAMBURGHS (Silver-pencilled).—1 and 2, H. Pickles, jun. *Chickens.*—1, J. Walker, Birstwith, Ripley, Leeds. 2, W. M. Mason, Kendal.

GAME BANTAM (Black Reds).—1 and Cup, G. Hall, Kendal. 2, W. Dixon, Sunderland. 3, W. Adams, Ipswich.

BANTAM (Game).—1, G. Hall. 2, G. Todd, Sunderland. 3, W. Adams.

BANTAM (Any other variety except Game).—1, T. Waddington, Feniscowles, Blackburn. 2, S. & R. Ashton, Mottram.

ANY OTHER VARIETY.—1, J. Elgar, Newark. 2, R. Hawkins, Seaham Harbour.

DUCKS (Rouen).—1, H. Simpson, Pyclose, Frosterley. 2, R. Gladstone, jun., Liverpool. (Aylesbury).—1, W. Stonehouse, Whitby. 2, T. P. Carver, Langthorpe, Boroughbridge. (Any other Variety).—1, J. J. Waller, Kendal. 2, J. A. Smith, Durham.

SELLING CLASS.—1, G. H. Procter, Durham. 2, J. P. Fawcett, Whitby.

PIGEONS.

CARRIERS (Black).—*Cocks.*—Medal, H. Yardley, Birmingham. 2, A. Brown, Durham. *Hens.*—1, T. Waddington, Feniscowles, Blackburn. 2, T. Sanderson, Stanhope.

CARRIERS (Any other colour).—1, G. W. Lilburn, Sunderland. 2, E. C. Stretch Ormskirk, N.B.

POUTERS (Blue).—*Cocks.*—Medal, T. Rule, Durham. 2, E. T. Dew, Weston-super-Mare. *Hens.*—1, E. T. Dew. 2, W. Rowell, Clough Dean, Barnopfield.

POUTERS (Any other colour).—1, A. Frame, Lark Hall, Lanarkshire. 2, G. J. Taylor, Fartown, Huddersfield.

TUMBLERS (Almonds).—*Cocks.*—Medal, J. M. Brsid, Cambridge. 2, J. Fielding, jun., Rochdale. *Hens.*—1, E. T. Dew. 2, J. Ford, London.

TUMBLERS (Any other colour).—1, G. J. Taylor. 2, W. R. & H. O. Blenkinsop, Newcastle.

BARBS.—*Cocks.*—Medal, T. Waddington. 2, W. E. Easten, Hull. *Hens.*—1, T. Waddington. 2 G. J. Taylor.

TRUMPETERS (Mottled).—Medal, T. Rule. 2, G. W. Lilburn, Sunderland. (Any other colour).—1, W. H. C. Oates, Bestborpe, Newark. 2, T. Rule.

FANTAILS (White).—Medal, J. Gault, Kilbirnie. 2, J. Walker, Newark. (Any other colour).—1, H. Yardley. 2, T. Rule.

JACOBINS (Red).—1, W. Massey, Spalding. 2, T. Rule. (Any other colour).—Medal, G. Roper, Croydon. 2, R. G. Sanders, Leven, Beverley.

TURBITS (Blue).—1, J. G. Dunn, Newcastle. (Any other colour).—Medal and 2, W. Croft, Killinghall, Ripley.

OWLS (Foreign).—Medal, J. Stanley, Blackburn. 2, J. Fielding, jun. (English).—1, J. Chadwick, Bolton. 2, J. Thresh, Bradford.

TUMBLERS (Long-faced).—1, E. C. Stretch. 2, R. G. Teebay, Latham, Ormskirk.

BALDS OR BEARDS.—1, W. H. C. Oates. 2, J. Donkin, Newcastle.

NUNS.—1, W. Bearpark, Northallerton. 2, W. Croft.

MAGPIES.—1, W. Kitchen. 2, W. C. Dawson.

DRAGOONS.—1, F. Graham, South Birkenhead. 2, W. Reddihough, Kelbrook Colne.

ANTWERPS.—1, H. Yardley. 2, W. H. Mitchell, Moseley, Birmingham.

ANY OTHER VARIETY.—Medal, T. Waddington. 2, W. C. Dawson.

SELLING CLASS.—1, R. Anderson, Newcastle. 2, A. Frame. 3, J. Cundle, Copt Hewick, Ripon. 4, W. R. & H. O. Blenkinsop. c, M. Ord.

JUDGES.—*Poultry:* Mr. R. Teebay, Fulwood, Preston. *Pigeons:* Mr. E. L. Corker, Croydon.

NORTHERN COLUMBARIAN SOCIETY'S SHOW.

I CLAIM the right of reply to your anonymous correspondent, "FAIRPLAY," because many of the statements made in his account of the Northern Columbarian Society's Show of Pigeons at Newcastle-on-Tyne are untrue, and calculated to damage the interests of the Society and to stultify the Judge, Mr. P. H. Jones, besides condemning the birds of several exhibitors unjustly. If "FAIRPLAY" had tried, he could not have written a letter more calculated to hurt our Society, but I have not the slightest hesitation in saying, that whoever he is, he has no knowledge of the subject which he professes to criticise. I will take "FAIRPLAY'S" statements *seriatim*. Firstly, he says that Mr. T. Rule, myself, and Mr. Blenkinsop were the originators of our Society; this is incorrect. Mr. Rule had nothing to do with the formation of our Society, and was not elected a member until the 3rd March, 1871; the Society was formed on 28th January, by Messrs. T. W. Kilburn, J. Pringle, N. Dunn, H. O. Blenkinsop, W. R. Blenkinsop, and myself. Now I must enter upon a subject which I would willingly have avoided, but cannot in justice to Mr. Jones. "FAIRPLAY" says that Mr. Rule's Trumpeters were the best in the Exhibition, and ought to have won the cup, first, and second prizes instead of being passed over. Now they were not passed over; all four pens were ticketed "Disqualified, trimmed," having been clipped in front of the crest to make that look larger and better-formed. I am very sorry to have to state this, and had passed it over in my account to you, but as you published "FAIRPLAY'S" statement, you must in fairness publish mine. In case "FAIRPLAY" may say that the "trimmed cards" were not up when he wrote his criticism, I beg to say they were up, because "FAIRPLAY" alludes to the sale by auction of some birds which did not take place until long after the cards were put up.

As to "FAIRPLAY'S" statement that my Trumpeters were of no merit, I beg to say that the cup bird was good enough to beat Mr. P. H. Jones's celebrated pair of Blacks at the open Show at Newcastle.

Now as to the Jacobins. "FAIRPLAY" calls Mr. Royds' Black a coarse bird and inferior to Mr. Waddington's. This is not the case. Mr. Royds' bird is one of the best Black Jacks in the fancy, and Mr. Waddington's, though a good bird is short in frill, and cut very low, low enough for a Baldhead Tumbler. In Red Jacks, "FAIRPLAY" says Mr. Rule's Red hen ought to have had the first prize. Very likely she ought, but she happened to have been trimmed the same as the Trumpeters, and had the trimmed card fixed on her pen instead. In the Carrier classes, "FAIRPLAY" says the Dun bird winning first ought to have had the cup, and was so young that its sex could not be ascertained. How does he know this? The bird is entered by its owner as a cock, and I suppose he ought to know. What "FAIRPLAY" means when he states "That Mr. E. E. M. Royds showed in the Jacobin classes several old birds which were admitted by telegram," I am at a loss to know. He says further, "but not before Mr. Jones had judged them; in any case none of them had a chance, the young birds clearly beating them." Now Mr. Royds' brother accompanied his birds, and under my direction he took out all his old birds (brought in mistake), and they were not put back until long after the judging was finished, and were ticketed "not for competition." Whether they were better or worse than the young birds shown has nothing to do with the subject under discussion, only I should not like to have to compete with young birds against them.—W. B. VAN HAANSBERGEN, *Hon. Sec. Northern Columbarian Society.*

[We readily insert the foregoing, and we shall decline inserting any reply.—EDS.]

BEES NOT FRUIT-ROBBERS—LIGURIANS.

I HAVE read with interest the accounts of "J. R. S. C.," on the predatory insects of our gardens, and I much regret to find him placing the honey bee amongst these. I do not know where he obtained the information of bees attacking and destroying fruit, but I can testify, after considerable experience with bees, that I never yet knew them to attack sound fruit. I have seen them by the thousand on damaged Strawberries, but I never yet saw them meddle with fresh ones. I have seen them on Peaches, Pears, Plums, &c., but they appeared to act merely as scavengers in this respect, and it was only after the skin had been broken by some other insect, such as earwigs and beetles, that they ever interfered with them. Nay, I have even presented fresh fruit to them, and they always refused it, but fruit in a half-decomposed state they appeared to eat greedily. I hope, therefore, before waging war against our favourites, he will satisfy himself and others that they are really the depredators in the first instance.

As to their destroying flowers by boring a hole in the right position to enable them to rifle the flower of its treasures, although I have heard it mooted before, I must also give my evidence in this respect rather contrary to that of your correspondent. I may mention, however, that I have not hitherto paid due attention farther than I invariably find the common or black bee getting access to the honey in the blossom of the bean through a hole at the base of the flower previously made, as I suppose, either by some insect, or, perhaps, a bee that had visited the flower before. But it is very different with the Ligurian bee, for whilst the black gets access to the honey at the base of the flower, the Ligurian invariably enters at the mouth of the blossom. So mark the difference in this respect

between the two varieties. Some writers affirm there is no difference but that of colour between the two species, the palm of superiority resting with the black bee, and Mr. Pettigrew in his "Handy Book of Bees," clings to this opinion. I have, however, been already found fault with in pointing out his errors, and it might be conjectured that I would leave that gentleman alone, and cease to doubt the accuracy of his statement. So I would were I as ignorant as the author of the "Handy Book" is about the Italian bee. I say "ignorant," because he asks questions on the Italian bee, and replies to them all in the negative, not one of which answers is in accordance with the facts.

Before giving my experience of Ligurian bees, I will review Mr. Pettigrew's chapter on that insect. He is bold enough to assert that his book is for the guidance of "inexperienced bee-keepers," but I must confess that it is only an attempt of the blind to lead the blind, particularly in this chapter. Had he stated his experience of these insects, we would have been able to detect why he has given them such a bad character; but as he has not done this, it keeps us entirely in the dark as to whether he ever possessed an Italian bee. It must be patent to everyone who reads the chapter, that his object has not been so much to make known the qualities of these bees, as it has been to ridicule the English.

Mr. Pettigrew's first question on the Ligurian bees is, Do they fly faster? I will not here endeavour to state how much faster they do fly, but it is sufficient to say that their motions when working are in the ratio of five to three of the blacks, and in a race of a thousand yards they are faster by about a quarter of a minute. His second question, Do they carry heavier loads? may not be far wrong, but they carry equal to the blacks. As to his third question, Do they lay more eggs? In the case of four hives, of which two were Ligurians and two blacks, the latter having the advantage in numbers, the former laid, on an average, two to three hundred eggs more daily, beginning earlier and continuing longer in the season. His fourth question, Do their eggs become perfect bees sooner? may not be faulty. His fifth and sixth questions may be answered thus. When honey is to be had, not only are the Ligurians earlier at work in the morning, but they are also later at work at night. This year, when we took our bees to the heather, there were fourteen blacks to one Italian, and whenever they were let free we started "o'er the moor amang the heather," for nearly a mile, and there saw hundreds of Ligurian bees long before a black was visible; in fact, we never saw any of the latter until we were half way on the road home. On a visit to our bees some time after, we took a roundabout tour, and nearly lost our way, and the thing that showed us our course when several miles distant, was the Ligurian bees in great numbers unaccompanied by a single black one. The Ligurians are also the first to find out any new flower or concealed honey. His seventh question, as to whether they gather more honey, I can answer thus—not only do they gather more honey, but they produce it far finer, and more highly flavoured. Wherever these bees have been introduced they give the same satisfaction, and this year, in the month of May, I had letters from different parties reporting that the Ligurians were, on an average, 10 lbs. heavier than the blacks. His eighth question regarding their rate of breeding is soon disposed of, for as they lay more eggs they must breed faster; whilst his ninth question with regard to their swarming more, is absurd. They not only swarm more, but their swarms are larger in proportion. When he compares the wasp to the excellency of the bee, we can only exclaim that he is a man preferring colour to symmetry and usefulness. I hope, therefore, for the benefit of your readers and of his own honour, he will give us an account of his experience with the Ligurian bee. We shall then be able to understand why he has given them a character they do not deserve.

Though the sting of the bee is so dreaded by many, I believe imagination has much to do with the pain and evil that follows in some persons. There are several instances which have come under my observation, that make me often believe people are sometimes more benefited by a sting than otherwise. I have found in hot sultry weather, when it was difficult to move about without oppression, that a smart sting or two caused me perspire more freely, and to feel much lighter afterwards. There is also another fact that may be of some importance, and that is, in two different cases of vaccination, where the patients had been stung, the lymph had no effect, whilst those vaccinated at the same time, but not stung, did well. I have also known persons suffering from sores which, although painful at the time, invariably when stung healed soon after.

It is but a short time since I doubted the accuracy of the statement that two queens would exist for some months together in one hive. I was not long, however, in being convinced of the fact, as several instances came under my notice; but since they were all much alike, and all support the theory advanced by your esteemed correspondent, "R. S."—viz., that aged queens may be tolerated in a hive, I will mention but one of them. This will not only prove the existence of two queens, but will give evidence of several other facts at the same time.

The hive in the present case was that of an imported queen in the summer of 1867. During the month of August, 1870, I put this queen and her bees into an empty hive, and in consequence of a little feeding, and their own industry, it was soon in a fit state to stand the winter. From the abundance of brood and young bees which there were in a month, I felt no anxiety about my beautiful and prolific queen, nor was I at all alarmed in February, when hundreds of young bees sported on and around the hive. Perhaps I was not a little vain, when in the month of March, many drones made their appearance, for as I was sure this was not a case of drone-breeding, I anxiously looked for an early swarm of pure Italians, having no doubt but that they were so. I had satisfied myself a few days before that my queen was alive, and, though aged, able to lay the numerous eggs which produced such lovely-coloured bees. By this time I had determined how many almost-yellow queens I was to have from this stock alone, but "the best-laid schemes o' mice and men gang aft aglee," and one day came from the hive a rush of bees, that did not possess such fine markings as they ought. I was apprehensive, but why? Had I not just the other day seen both queen and workers? And what need was there to surmise when I could see no signs of hybrids? It was not possible after September to have a case of pure fertilisation when there were no pure drones, these having been all destroyed long before the middle of August. So I allowed matters to go on, believing that I must have been deceived with the colour of the last relay of young bees, and not until one day in the beginning of May was I made fully aware of the fact that two queens had been living together for nearly a year. On taking a look round my hives I picked up a beautifully marked queen that had been thrown out of the hive. This I knew to be my favourite one, but her shell only remained, as the inside had been thoroughly cleaned out by insects. My first act after finding her was to examine the hive and see what was the result, when to my astonishment I found another dead queen, with her head in an empty queen cell. This one I subjected to *post mortem* examination, and found her perfectly fertilised. From the appearance of the hive it was clear that the colony was divided, because the one side of the hive contained worker brood and eggs, whilst the other side had mostly drone brood with a few worker brood. How both queens came to grief at the same time we can only conjecture.

My next object was to raise a young queen, and to be certain that what I was going to raise should be pure, I removed all worker eggs, and inserted a frame of comb of undoubted purity from another hive. Meanwhile the bees had already commenced to raise a number of queen cells containing drone eggs. What a pity Mr. Pettigrew had not a chance like this! It would surely have satisfied him and refuted the absurd idea that drone eggs are capable of being transformed into queens. One of these was rather singular in its construction; instead of being hung in its usual vertical way, it was nearly 2 inches long, and extended in a horizontal manner. Notwithstanding this extravagance its occupant, as well as those of the rest, emerged from the cell at the usual time as perfect drones. As I had not a chance of entering into this subject when it was last discussed by our deeply-lamented friend "A Devonshire Bee-keeper," I may, perhaps, be allowed now to express my opinion on the matter.

I say that no person who understands the nature and anatomy of the honey bee, will advance the theory that queens can be raised from drone eggs. Mr. Woodbury, in his last letter, very wisely showed where a mistake might arise with those who did not fully understand the nature of the hive and its occupants—viz., that of the transitionary cells, where a worker egg might be placed in the midst of the drone ones. There is, however, another case in which the ignorant, or even some with considerable knowledge may be deceived, and it is that of the hermaphrodite bees being raised in queen-cells; the resemblance that many of these bees bear to the true worker in many cases, perhaps, deceiving the apiarian. I have myself seen these hermaphrodites transformed into queens, and but for some slight part of the male, such as the antennæ, or leg being pro-

minent, I would have remained ignorant of their not being true queens. The hermaphrodite bees, in many instances, approach so nearly to the one sex, that not only is the bee-keeper sometimes cheated, but the insects themselves are in doubt. The description of one hive that produced nothing but these compound bees may be of interest. They were produced in prodigious numbers, and varied from the appearance of a perfect drone to that of a worker. These singular bees carried pollen in large pellets in the ordinary way, but I am not aware that any of the pollen was ever stored inside of the hive; it appeared either to be dropped on the board or around the hive, and was lying there in great quantities. Their hum was also of a peculiar sound. I fully intended to have secured this queen for examination, but the owner, before I was aware, crushed it between his finger and thumb.

I have, however, found queens with an ulcer on one side of the spermatheca bag, and I doubt not but it is through some defect of this kind that these bees are produced. Fertile workers, on the other hand I believe, are raised in consequence of the bees supplying the larvæ when too far advanced with royal food. These fertile workers are a great annoyance to the bee-keeper, as they bring many a hive to ruin and dispel his hopes. They kill the fertilised queen, and the eggs put into a hive which they occupy are invariably destroyed.

I will describe the case of one that came under my observation this autumn. A friend brought me a hive of black bees for the purpose of being ligurianised by introducing some eggs; this I did from a healthy hive and with a pure queen. The bees of the black hive commenced at once and raised two queen cells, but in consequence of its being affected with foul brood none of the queens hatched, and only two of those in worker cells came out. One of these cells was a little convex, and had almost the appearance of a drone cell; and although I gave this hive a piece of brood comb every third day for nearly a fortnight, every egg and grub was always removed, and in exactly four weeks from the hatching of the fertile worker, young Italian drones were hatched.—A Lanarkshire Bee-keeper.

LARGE AND SMALL HIVES—WINTERING BEES.

The size, form, and material of bee-domiciles, and the wintering of bees, are, and ever have been, fertile themes of discussion amongst apiarians, so that even practical bee-keepers, sometimes, of no small experience, are apt to get perplexed amidst the many discordant opinions and distracting theories which have from time to time been propounded on these subjects.

In regard to whether large or small hives are best suited to the successful and economic cultivation of the bee, it is refreshing to read such sound remarks as are appended to an article on this head in last number by the Editors. Yes. "Circumstances can alone decide what is fitting in each case." The experienced cultivator well knows that a propitious season, a rich pasturage, a strong and vigorous colony, are the real elements of prosperity, and according to the character of these must we be guided by the size of domicile used. Independently of these, it is a complete fallacy to suppose that bees can be forced, as it were, to augment their sweets according to the mere whim, crotchet, or caprice of their owners. In ordinary localities we must avoid extremes, both being equally unsuitable, if not injurious. A hive too small is certainly far more damaging to prosperity than one too large. In the former case there is insufficient space for breeding, and, consequently, for storage of honey. In the latter, on the other hand, the capacity of the hive being beyond the necessity of the case, it is generally unfilled with comb, and when filled, exceptionally, we rarely get that purest of honey which is stored in supers.

I have tried both extremes, and find a medium is best. I shall not say what that medium is, because each locality must determine that according to the elements of the prosperity I have already indicated. I more than once wintered bees in small hives, and found the results in every case most prejudicial. The swarms emanating from these were most diminutive, and the honey collected was, from inadequate numbers, as well as inadequate space, necessarily very small. As a general rule, I might remark, that any hive which can be filled with comb in two or three weeks in summer, by a swarm of 4 lbs. or 5 lbs. weight, may be considered a suitable-sized domicile for an ordinary good locality. Circumstances, however, vary so much that experience is alone the safest guide.

I must reserve my remarks on "wintering of bees," referred to by "B. & W.," till a future occasion.—J. Lowe.

OUR LETTER BOX.

Our Reports.—A bookseller writes thus to us, "I should add several subscribers to my list if you could give a good and impartial critical report of all the principal shows in each county. There are complaints that the reports are written for the great breeders, and when an amateur wins he is quite ignored."

[Of unjust charges the above is among the superlative. Our reports are usually written by men who are the best judges, and as far as we know, unbiassed. When correspondents favour us with reports we omit all that we think exaggerated. It is quite impossible to notice every successful exhibitor, except in the prize list.]

Preserving Bird Nets (*Rush*).—This was printed "birds' nests" on page 500.

Leeds Poultry Show.—For Dorking chickens the second prize, we are informed, was awarded to Mr. J. White, Warlaby, and not to Mr. Kell, of Wetherby.

Northern Columbarian Society's Show.—We have received several letters replying to "Fairplay's" criticisms, but we cannot insert them. It would be a mere contest of opinions. Mr. Justice, Salford, we are informed, took the second prizes for Black and Any other coloured Jacobins.

Tredegar Poultry Show.—Mr. Thomas May, Wolverhampton, informs us that he gained the second prize for Golden-spangled Hamburghs.

Plymouth Poultry Show (*Westernman*).—We are obliged by the details you send us. Such proceedings must put an end to the exhibition. No wonder it was unsuccessful. We shall make further inquiries and warn exhibitors in time.

Durham Show (*J. F. B.*).—You are not the only one who has written to complain of the judging. Representations should be made to the Committee.

Matching Jacobins (*Captain*).—We have seen very good coloured Jacobins bred from Blacks crossed by Reds, and their progeny, if two be mated of the same colour, throwing back the other colour. Black and yellow are not so good to cross; these colours often produce a kind of strawberry colour not at all worth having.

METEOROLOGICAL OBSERVATIONS.

Camden Square, London.

Lat. 51° 32′ 40″ N.; Long. 0° 8′ 0″ W.; Altitude 111 feet.

Date. 1871. Dec.	9 A.M. Barometer at 32° and Sea Level.	9 A.M. Hygrometer. Dry.	9 A.M. Hygrometer. Wet.	9 A.M. Direction of Wind.	9 A.M. Temp. of Soil at 1 ft.	In the Day. Shade Temperature. Max.	In the Day. Shade Temperature. Min.	In the Day. Radiation Temperature. In sun.	In the Day. Radiation Temperature. On grass	Rain.
	Inches.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	In.
We. 20	29.854	42.3	41.5	S.W.	41.5	48.9	36.0	50.0	33.4	0.180
Th. 21	29.964	36.8	35.5	N.W.	41.3	44.2	34.0	47.2	30.0	0.020
Fri. 22	29.871	38.6	38.4	N.E.	41.0	44.8	36.2	44.0	33.7	0.010
Sat. 23	30.142	40.5	40 2	N.W.	41.2	42.5	37.8	44.2	38.1	—
Sun. 24	30.165	40.1	38.8	S.E.	41.0	44.8	37.1	54.1	32.1	—
Mo. 25	29 967	40.5	39.1	S.	40.6	44.2	38.4	44.6	33.5	0.405
Tu. 26	29.766	45.3	45.0	S.W.	41.0	46.8	42.5	47.7	39.5	0.050
Means	29.961	40.6	39.8		41.1	45.0	37.4	47.4	33.6	0.665

REMARKS.

20th.—Deep roseate sky at sunrise, overcast by 9 A.M., rain at 10 A.M., and at intervals all day; fine evening.

21st.—Fine morning, but soon clouded over, slight rain between 1 and 2 P.M., and at intervals afterwards.

22nd.—Overcast, dark and foggy, wetting mist but no rain, fine at night.

23rd.—Dark and foggy morning, clearer after noon, but overcast throughout.

24th.—Fine morning, with bright sunshine about noon, lunar halo from 7.55 to 8.20 P.M.

25th.—Fair but overcast in the forenoon, slight rain began about 4 P.M., and continued at intervals till 9 P.M., fair till 10 P.M., and steady rain till midnight.

26th.—Heavy rain until 5 A.M., slight until 7.30 A.M., fair till evening, sharp shower at 7 P.M.; a damp muggy day.

Owing to the generally overcast state of the sky, and the great dampness of the atmosphere, the temperature this week has been singularly uniform, and though rather less than in the previous week, is still nearly 4° warmer than usual.—G. J. Symons.

COVENT GARDEN MARKET.—December 27.

With the exception of the influence of Christmas on the demand here we have nothing to report worth notice. The supply of everything but Apples and Pears is ample, the importations having been moderate from the Continent lately, and confined to Glou Morceau and Easter Bourré Pears. Potato trade heavy, with large stocks of inferior descriptions.

FRUIT.

		s.	d.		s.	d.
Apples	½ sieve	2	0	to 4	0	
Apricots	doz.	0	0	0	0	
Cherries	lb.	0	0	0	0	
Chestnuts	bushel	10	0	20	0	
Currants	½ sieve	0	0	0	0	
Black	do.	0	0	0	0	
Figs	doz.	0	0	0	0	
Filberts	lb.	0	6	1	0	
Cobs	lb.	0	6	1	0	
Grapes, Hothouse	lb.	2	0	6	0	
Gooseberries	quart	0	0	0	0	
Lemons	₱100	8	0	12	0	
Melons	each	2	0	3	0	
Mulberries	lb.	0	0	to 0	0	
Nectarines	doz.	0	0	0	0	
Oranges	₱100	4	0	10	0	
Peaches	doz.	0	0	0	0	
Pears, kitchen	doz.	2	0	4	0	
dessert	doz.	2	0	6	0	
Pine Apples	lb.	3	0	6	0	
Plums	½ sieve	0	0	0	0	
Raspberries	lb.	0	0	0	0	
Strawberries	lb.	0	0	0	0	
Quinces	doz.	0	0	0	0	
Walnuts	bushel	10	0	25	0	
ditto	₱100	1	0	2	0	