FOURTH BULLETIN

OF THE

NATIONAL INSTITUTE

FOR THE

PROMOTION OF SCIENCE,

WASHINGTON, D. C.,

February, 1845, to November, 1846.

WASHINGTON:
PRINTED BY WILLIAM Q. FORCE,
PENN. AVENUE, CORNER 10TH STREET.
1846.

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NOTICE

TO THE MEMBERS

OF THE

NATIONAL INSTITUTE.

A reference to the last "Memorial to Congress," (p. 503,) which was presented to the Senate by the honorable Lewis Cass, and to the House of Representatives by the venerable John Quincy Adams, will afford the members some idea of the present condition of the National Institute. Notwithstanding that renewed appeal, Congress has again omitted to grant relief. More than a thousand boxes, barrels, trunks, &c., &c., embracing collections of value, variety, and rarity in literature, in the arts, and in natural history, remain on hand unopened—the liberal contributions of members at home and abroad—of Governments—of learned and scientific societies and institutions of foreign countries and of our own—and of munificent friends and patrons in every part of the world. The worth, extent, and American interest of these collections may be understood, though imperfectly, by a perusal of the four Bulletins which are now before the public. For the preservation, reception, and display of these, the Institute has neither funds, nor a suitable depository. The usual meetings of the members have been suspended for a considerable period. Hence the regular proceedings have

been interrupted; and, hence, the present volume—(which has been published by the subscription of a few members and others, a subscription so limited as to have rendered it indispensably necessary to abridge the publication within the narrowest possible compass,)—instead of presenting, in the usual form, the *proceedings* of the Institute;—gives a mere and meager abstract of a voluminous and valuable correspondence, and an imperfect account of donations and contributions to its library and cabinet.

WASHINGTON, *November* 25, 1846.

ABSTRACT

OF

COMMUNICATIONS AND PRESENTS

TO THE

NATIONAL INSTITUTE.

Communications, &c.

From Señor Sinibaldo de Mas, Spanish Chargé d'Affaires in China, Macao, May 12, 1844: Submitting his essay on Ideography, &c., to the examination of the Institute.

*From J. C. Pickett, late U. S. minister to Lima, Peru, August 15, 1844: On the fate and character of Major André, &c.

*From the same, Lima, Peru, September 30, 1844. Third letter; on the canal communication between the Atlantic and Pacific oceans.

*From C. C. Rafn, Perpetual Secretary of the Royal Society of Northern Antiquarians, Copenhagen, October 10, 1844: Describing, at large, the Museum of American Antiquities of the Royal Society, &c.

*From J. C. Pickett, late U. S. minister to Lima, Peru, October 20, 1844: On maté, the yerba, or tea of Paraguay, &c.

From the Berlin Society for the Encouragement of Horticulture in Prussia: G. A. Tintelman, Secretary General, Berlin, November 20, 1844.

*From T. G. Clemson, U. S. Chargé d'Affaires in Belgium, Brussels, December 12, 1844: Describing a new loom, invented and patented in Brussels, by C. de Poorter, and recommending its introduction into the United States.

*From Henry A. Wise, American minister, Brazil, Rio Janeiro, January 13, 1845: Describing the Boabab of Senegambia, the Adansonia digitata, a remarkable tree of Africa, &c.

*From John A. Bryan, late Chargé d'Affaires of the United States at Lima, February 14, 1845: On the communication between the Atlantic and Pacific oceans.

*From Rev. John G. Morris, Baltimore, February 15, 1845: Remarks on the natural history and habits of a remarkable larva from New Zealand, having a plant growing out of its head, called by the natives hotté. For further remarks on this subject, see page 506.

From Dr. Joseph Johnson, Charleston, South Carolina, February

*The communications marked thus * have been published in full in the Washington newspapers and elsewhere.

18, 1845: Referring to Captain Aulick, U. S. Navy, for information respecting the fate of the U. S. sloop Wasp, Captain Blakely.

*From G. Voglesang, Austrian consul, New Orleans, March 3, 1845: Observations on the practicability and advantage of introducing a universal system of weights, measures, and coins, among all nations, &c.

From Eugenio Alberi, of Florence, March 6, 1845: Offering to the Institute, by permission of the Grand Duke of Tuscany, a copy of the complete works of Galileo Galilei, recently published from the original manuscripts.

From R. M. Hamilton, U. S. consul, Monte Video, March 8, 1845: Promising that, when peace shall be restored, he will collect for, and forward to, the Institute, a full series of mineral and other specimens of the Banda Oriental.

From Dr. Joseph Johnson, Charleston, South Carolina, March 10, 1845: Biography (MSS.) of Captain Blakely, U. S. Navy, who commanded, and was lost in the U. S. sloop-of-war Wasp, during the last war with England; with a chart giving the supposed route of that ill-fated vessel.

From D. S. Lamme, of Missouri, March 24, 1845: Proposing to sell, to the Institute, the large collection of mastodon, and other fossil bones, &c., from Missouri, now deposited in the great hall of the Patent Office.

*From M. Fialin de Persigny, Paris, March 24, 1845: Giving an abstract of his new theory of the design and uses of the pyramids, &c.

*From Commodore J. D. Elliott, U. S. Navy, April 8, 1845: Correspondence with General Andrew Jackson respecting the Roman sarcophagus, &c.

From A. H. Palmer, American and foreign agency, N. Y., April 15, 1845: Announcing a present from Siam for the Institute.

*From Robert Wickliffe, jr., U. S. Chargé d'Affaires, Sardinia, Turin, April 20, 1845: Historic hints on the origin of the Guelphs and Ghibbelines, &c.

*From J. A. Bryan, late Chargé d'Affaires of the United States at Lima, April 23, 1845: Second letter on the Isthmus of Darien, and Panama, &c.

*From Commodore M. C. Perry, U. S. Navy, April 29, 1845: Giving a list and description of articles of curiosity, &c., brought home by him from the African station.

From S. T. Olney, Secretary of the Providence Franklin Society, Providence, Rhode Island, April 30, 1845: Proposing to exchange plants, &c., with the Institute, &c.

*From William H. Thomas, Washington, May 5, 1845: On the knowledge of the mechanic arts and progress of improvement among the Indians, &c.

*From Stanislaus Hernisz, late attaché of the U. S. Chinese mission, May 6, 1845: On the Chinese language, with illustrations, &c.

From William B. Hodgson, Savannah, Georgia, May 18, 1845:

Offering to publish at his own expense, with illustrations, his paper on the megatherioid fossils of the United States, read at the meeting of April, 1844.

From D. Groux, New York, June 15, 1845: On the subject of his large and valuable cabinet of coins, medals, &c., offered by him for sale to the Institute.

*From Verina S. Moore, Newbern, North Carolina, June 20, 1845: Description of the manner in which one of the bolts to which Columbus was chained when a prisoner at St. Domingo, was procured by the late Purser R. S. Moore, U. S. Navy, in 1844.

*From C. S. Todd, American minister in Russia, July 4, 1845: Describing an undecayed body that was buried one hundred and thirty years ago at Revel, in Russia, &c.

*From C. Edwards Lester, U. S. consul, Genoa, July 29, 1845: On the scientific meetings of Italian savans.

*From J. G. Bruff, Washington, August 12, 1845: Description of the effects of lightning on a house near Washington, by which three persons were destroyed, with an illustrative drawing.

*From Captain J. H. Aulick, U. S. Navy, August 19, 1845: Notice of Mr. Wheelright, an American, who first introduced steam navigation into the Pacific, &c.

From Robert Wilson, Louisiana, August 22, 1845: Describing the silk plant of Louisiana, &c.

*From J. C. Pickett, late U. S. minister to Lima, Peru, August 23, 1845: On the subject of guano of Peru, &c.

From M. G. de Lisboa, Envoy Extraordinary, &c., Brazil, August 24, 1845: Proposing to establish relations of correspondence, &c., between the National Institute, and the Historical and Geographical Institute of Brazil.

*From W. Maxwell Wood, M. D., U. S. Navy, (enclosed in letter from Mr. Pickett,) August 25, 1845: Description of the volcano of Kilauea, or Pele's Den, Sandwich Islands.

From Mr. McGuigan, Philadelphia, August 30, 1845: Proposing to buy the animals sent to the Institute by the Hon. Mr. Wise, U. S. minister in Brazil, or to exchange objects of natural history for them.

From T. W. Bacot, Postmaster, Charleston, September 3, 1845: Announcing that he has a fine rattlesnake, sent for the Institute by Mr. Tharin, and asking how he is to send it on, &c.

*From General Thomas H. Bradley, of Tennessee, September 4, 1845: Correspondence respecting the military coat worn by General Jackson at the battle of New Orleans, and the remarks of N. P. Trist, chief clerk, Department of State, made before the Institute on the occasion of the presentation of the coat by General Bradley, in the name of the citizens of Tennessee.

*From the Rev. George Duffield, Detroit, September 8, 1845: Observations on the mineral region of Lake Superior, &c.

*From Captain Phil. St. George Cooke, first regiment U. S. dragoons, September 9, 1845: Describing the recent expedition to the Rocky Mountains by the dragoons, under Colonel Kearney, and the

objects of natural history, &c., collected during the expedition, for the National Institute.

*From John P. Brown, U. S. Dragoman, Constantinople, September 25, 1845: Describing a series of oriental coins presented by him to the Institute, &c.

*From John A. Bryan, Chagres, September 25, 1845: Third letter on the junction of the Atlantic and Pacific oceans.

*From Dr. Joseph Johnson, Charleston, October 4, 1845: Describing the silk plant reared in South Carolina from seeds sent from Asia Minor, &c.

*From Henry Wheaton, American minister to Prussia, Berlin, October 5, 1845: On the destruction of the liberties of Arragon by Philip II.

From W. Henry Carter, New Orleans, October 20, 1845: Offering to the Institute a Mexican bomb used at the storming of the Alamo, Texas.

From Rev. Thomas S. Savage, Missionary, Cape Palmas, West Africa, October 23, 1845: Announcing that he had sent a box of African shells, and would continue collecting for the Institute, &c.

From the Royal Academy of Sciences, Stockholm, Dr. Svedbohm secretary, November 1, 1845: Transmitting its proceedings, &c.

From G. Sheepmaker, Amsterdam, December 5, 1845: Transmitting list of the shells presented by him to the Institute.

*From A. G. Jewett, American minister in Peru, No. 1, December 16, 1845: No. 1, on the best route and modes of travelling from the United States to the Pacific Ocean, &c.

From G. Sheepmaker, Amsterdam, December 18, 1845: Announcing a donation to the cabinet of the Institute.

From W. S. Stratford, Nautical Almanac Office, London, December 23, 1845: Stating that the British Association had presented a copy of its catalogue of stars to the Institute, &c.

From A. G. Jewett, U. S. Chargé d'Affaires, Peru, No. 2, December 28, 1845: On the best mode of transmitting intelligence from the United States to the Pacific ocean, &c.

*From Alexandre Vattemare, Paris, December 30, 1845: Transmitting letters, enumerating the presents he has on hand for the National Institute, and inquiring how he is to forward them, &c.

From Elie de Beaumont, Paris, December 30, 1845: Presenting a copy of his late work on geology.

From J. Balestier, U. S. consul, Singapore, December 31, 1845: Enclosing bill of lading for a box of curiosities from Siam, &c.

*From William P. Chandler, U. S. consul, Puerto Cabello, February 3, 1846: Describing certain hieroglyphic characters inscribed upon a rock near Puerto Cabello, Venezuela, of which he sends a facsimile sketch, and forwarding a specimen of the rock, and other curiosities, for the National Institute.

*From A. R. Johnson, U. S. Army, Camp Boone, Cherokee country, February 4, 1846: On the causes of, and remedy for, the disease, in the potato, called the potato rot.

From John Jay, Corresponding Secretary of the Historical Society of New York, February 21, 1846: Asking the co-operation of the Institute in an application to Congress to publish a sufficient number of copies of the scientific books of the Exploring Expedition to supply the institutions and societies of the United States, &c.

From Robert Hamilton, U. S. consul, Monte Video, February 21, 1846: Describing the guano of Patagonia, of which he sends a sample to the Institute, &c.

From Alexandre Vattemare, France, February 24, 1846: Enclosing a list of books, &c., for the Institute, which he has sent in a box to the Secretary of the Treasury.

From Frederick A. Davisson, M. D., Loudon county, Virginia, February 25, 1846: Stating that he has sent to the Institute a box of shells and reptiles, &c., of Virginia, &c.

From Hon. Lewis Cass, U. S. Senate, February 28, 1846: Respecting the Memorial of the Institute, which he has presented to the Senate, &c.

From the Association of American Geologists and Naturalists, March 1, 1846: Circular—invitation to the meeting to be held in New York in September, and list of papers to be read before it.

From J. G. Norwood, M. D., Madison, Iowa, March 2, 1846: Description (with plates) of a new fossil fish, from the palæozic rocks of Indiana, by himself and D. D. Owen, M. D., to which they propose to give the name of macropetalychthys rapheidolaris.

From John P. Brown, U. S. Dragoman, Turkey, March 10, 1846: Describing the Kundret Halvasi, or providential sweetmeats, which resembles the manna of the Israelites, and is used as a food in Asia Minor; and presenting a box of it to the Institute.

From Christopher Hughes, late minister of the United States at the Hague, Baltimore, March 18, 1846: Presenting a collection of Irish birds, made at Londonderry by his brother-in-law, the late Col. Samuel Moore, of Baltimore.

From the Historical and Geographical Society of Brazil, by M. F. Lagos, Perpetual Secretary, Rio de Janeiro, March 25, 1846: Presenting the transactions of the society, &c.

From Alexandre Vattemare, Paris, April 15, 1846: Announcing that Louis Philip, King of the French, had presented to the National Institute a splendid copy of the great work on the expedition to Egypt, and mentioning other valuable presents, &c.

From B. S. Buckley, West Dresden, New York, April 28, 1846: Presenting, through the Hon. Mr. Ellsworth, a collection of dried plants, and offering others, and asking for the bulletins of the Institute, &c.

From H. P. Sartwell, Penn Yan, New York, April 30, 1845: Sending, by the Hon. Mr. Ellsworth, a collection of Carices, and catalogue of plants, and asking for the publications of the Institute, &c.

From C. A. Holmboe, Professor of Oriental Languages, Christiania, Norway, May 2, 1846: Transmitting to the Institute, by the hands of M. Lövenskiold, the newly appointed minister of Sweden

and Norway, a bronze medal of the late king, Charles John, in his coronation dress, at Drontheim, struck by the city of Christiania twenty-five years after the event; also, three coins struck by King Oscar, &c.

From M. Auguste Lamare Piquot (Traveling naturalist,) near Prairie du Chien, May 3, 1846: Pointing out a peculiarity in the female of an animal found on the Western prairies by him, and supposed by Dr. Morton, of Philadelphia, to whom the letter was referred, to be the *Geomys Bursarius*.—(See proceedings of the Academy of Sciences of Philadelphia, where the simple facts of the statement are published.)

From Col. B. L. C. Wailes, Washington, Mississippi, May 16, 1846: Inquiring as to the best mode of forwarding a collection he has made for the Institute of fossil basilosaurus, zeuglodon, &c., and minerals, &c.

From D. E. Groux, Philadelphia, June 6, 1846: Transmitting a complete catalogue of his collection of coins and medals, eight thousand two hundred and seventy-two in number, which he offers to the Institute at a low price.

From Joshua Dodge, Washington, June 8, 1846: Offering a present to the Institute, &c.

From Hon. R. B. Taney, Chief Justice U. S., Baltimore, June 15, 1846: Communicating extract of a letter announcing that the French Government intended to transmit several valuable works to the Institute.

From M. Serope M. Alishan, Constantinople, June 17, 1846: Giving a historical account of the Armenian medals presented by him to the Institute.

From E. Lamb & Brother, Boston, August 11, 1846: Respecting a box from Smyrna for the Institute, and another lying in the custom-house.

From Arthur Middleton, of South Carolina, August 16, 1846: Presenting a collection of French books on political economy and war, &c.

From Dr. J. H. Causten, jr., Washington, September 4, 1846: With several works on medical subjects, committed to his care in Europe for the Institute by their authors; recommending certain persons as members of the Institute, &c.

From F. Zantideschi, Venice: Presenting the continuation of the series of his works to the Institute.

From J. L. Bardsley, Manchester, England: Transmitting a work by Mr. Adshead, &c.

From John Joseph Preehtl, Vienna: Presenting his work on the flight of birds, just published, and offering his services, &c.

From Maj. E. G.W. Butler, Louisiana: Sending specimens of wild cherries and cherry stones, referred to in former correspondence, &c.

From George Read, U. S. consul, Malaga, Spain: Transmitting various presents to the Institute, &c.

From Hon. Levi Woodbury, Maine: Contributing ten dollars towards the publication of the fourth bulletin, &c.

From Prof. McCulloh, Baltimore: Enclosing a letter from M. Berzelius, &c.

From H. W. Ellsworth, U. S. Chargé d'Affaires, Sweden: Suggesting exchanges of scientific works, &c., between the National Institute and the Royal Academy of Sciences of Stockholm, and other Swedish societies, &c.

*From A. Vattemare, Paris: Transmitting a descriptive catalogue of books, engravings, statues, medals, maps, &c., presented by ministerial departments, societies, and eminent persons in France, placed in charge of the Hon. Reverdy Johnson, U. S. Senator from Maryland.

*From Dr. J. Johnson: On oceanic currents, &c.

From C. W. Dabney, late U. S. consul Fayal: Stating that he is engaged in collecting a complete suite of the mineralogical and geological specimens of the Azores, for the Institute.

From Lieut. D. Ruggles, U. S. Army, Corpus Christi: Stating that before he was ordered to Texas he had forwarded to the Institute specimens of copper, &c., from Michigan, &c.

*From Charles Saxton: Describing various specimens, minerals, fossils, and objects collected by him in Oregon, &c.

From F. Morand, (for F. J. Grund,) U. S. Consulate, Antwerp, August 12, 1846: Announcing that M. Quetelet, Perpetual Secretary of the Academy of Sciences, at Brussels, had placed in his hands various publications of the Academy, for the National Institute.

From S. J. Thomas, Naval Store-keeper, Boston, October 8, 1846: Apprising Secretary that eleven boxes of objects of natural history, collected during the late cruise of the Frigate Constitution, Captain Percival, for the National Institute, were in store, and would be promptly shipped to Washington.

From John Appleton, Chief Clerk, Navy Department, Washington, October 12, 1846: Mentioning the arrival of the boxes by the Constitution, and stating that the report of J. C. Reinhart, who went out in the frigate, as naturalist, would be communicated to the Institute, with a list of boxes, &c.

Many letters, and communications, on a great diversity of topics, acknowledging letters, and membership, and the publications of the Institute with thanks; applauding and encouraging its objects, offering exchanges, presents, and a variety of suggestions, have been received, viz:

From Don A. Ildefonso Gomez, Brazil.
Alexandre Vattemare, Paris.
Prof. Parker Cleveland, Brunswick, Maine.
Erastus Smith, Hartford, Connecticut.
Michel Tenore, Director, &c., Royal Botanical Garden at Naples.
B. B. Minor, Editor of the Southern Literary Messenger, Richmond, Va.
J. K. Kane, Philadelphia.

From S. Stettinius, Agent railroad depôt, Washington.
J. Carroll Brent, Washington.
J. M. Tucker, Columbus, Mississippi.
Rev. H. Humphreys, President St. John's College, Annapolis, Maryland.
Dr. T. Purrington, Washington.
O. de A. Santangelo, New York.
Josiah Quincy, President Cambridge College, Mass.
Prof. Richard S. McCulloh, Washington.
B. Homans, Washington.
W. Spillman, M. D., Columbus, Mississippi.
Capt. C. Scarpati, brig Maria, of Naples.
E. D. Ingraham, Philadelphia.
J. Mills Brown, Cold Springs, New York.
Mrs. E. P. Buck, Washington.
Hon. Judge L. Woodbury, President National Institute, &c.
Dr. McClery, Washington,
Major S. Cooper, U. S. Army.
J. H. Offley, Washington.
T. B. Greene & Co., Havre.
Wm. Rich, Washington.
S. Wetmore, New York.
Crocker & Warren, New York.
W. C. Berryhill, Augusta, Georgia.
A. Waring, New York.
C. W. Sears, Michigan.
Dr. J. W. Kirk, South Carolina.
Cheston Root, Mobile, Alabama.
John Varden, Washington.
Thomas D. Hailes, parish De Soto, Louisiana.
John A. Cornean, Springfield, Illinois.
Robert Hooper, Boston.
J. K. Townsend, Washington.
Prof. J. P. Espy, Washington.
O. A. Norris, Philadelphia.
Hon. J. R. Donnell, North Carolina.
C. W. Lawrence, collector, New York.
Edward Stubbs, Washington.
Hon. George Bancroft, Secretary of the Navy.
Judge H. W. Collier, Tuscaloosa, Alabama.
J. L. Edwards, Washington.
Hon. W. L. Marcy, Secretary of War.
J. L. Baldwin, New York.
A. D. Bache, Superintendent U. S. coast survey.
S. J. Thomas, Boston.
Charles M. Keller, Washington.
Lieut. Col. Hart, U. S. A., New Orleans.
Capt. S. B. Dusenbery, U. S. A., Baltimore.
W. F. Switzler, Columbia, Missouri.

From Dr. R. Dunglison, Philadelphia.
J. H. Lathrop, President State University, Columbia, Miss.
H. Maxwell, Rosslyn, New York.
E. C. Watmough, Philadelphia.
W. S. Craig, Cagliari, Sardinia.
M. Lerebours, Paris.
Aug. Barre, sculptor, Paris.
M. Dubufe, painter, Paris.
M. Amadée Thierry, Paris.
Baron de Watteville, Paris.
Dr. Blandin, Paris.
M. Fratin, sculptor, Paris.
The Duke Pasquier, Chancellor of France, Paris.
M. de Laurentie, Paris.
M. de Lafarelle, Paris.
M. Flourens, Perpetual Secretary of the Academy of Sciences, Paris.
J. Tod, Secretary Royal Scottish Society of Arts, Edinburgh.
G. Sangiovanne, Professor and Director of the Zoological Museum, Naples.
Prof. Giov. Guarini, Naples.
Lieut. C. H. Davis, U. S. Navy.
H. C. Lombard, M. D., Geneva, Switzerland.
Baron de Reiffenberg, Brussels.
Dr. James Paget, London.
T. P. Teale, Leeds, England.
A. Caldcleugh, Santiago, Chile.
G. A. Hamill, Bedford, Pa.
Hon. R. McClelland, House of Representatives, Washington.
J. Linsley, Principal Secretary of the Horticultural Society, London.
Hon. Desiré Nisard, &c., Paris.
F. Taylor, Washington.
J. Varden, Washington.
Lewis W. Minor, Virginia.
New York Historical Society.
A. H. Palmer, New York.
C. F. Foresti, New York.
Don Pedro de Angelis, Buenos Ayres.
Geological Society of Dublin.
S. M. Burnside, Worcester, Massachusetts.
J. Slocum, of Syracuse, New York.
Thomas Carew Hunt, Her Britannic Majesty's Consul General for the Azores, &c.
M. Flourens, Perpetual Secretary of the Royal Academy of Sciences, Paris, September 22, 1846.
Francis Palackey, Perpetual Secretary of the Royal Bohemian Society of Sciences, Prague, Bohemia.
And many others.

DONATIONS AND CONTRIBUTIONS.

For the Cabinet.

Collection of Seeds of Russian plants from the northern parts of Central Asia, collected chiefly by Dr. Schrenk, travelling in the service of the Emperor.—*From Professor Fischer, Imperial Botanical Garden, St. Petersburg.*

Turkish MSS. and other curious articles, &c.—*From Samuel Hazard, Philadelphia.*

Fruit of the Boabab of Senegambia, Africa, or Adansonia digitata. *From H. A. Wise, American Minister, Brazil.*

Minerals and Geological Specimens from Cape of Good Hope.—*From Isaac Chase, American Consul.*

Vesuvian Minerals.—*From T. Lloyd Halsey.*

Large Sarcophagus, inscribed with hieroglyphics, supposed to have contained the coffin of the Roman Emperor Alexander Severus; procured at Beyroot, in Syria, and brought to the United States in the frigate Constitution.—*From Commodore Jesse D. Elliot, U. S. N.*

Tetraedon cornutum, from Cape May, New Jersey.—*From Hon. S. N. Palmer, Pottsville, Pennsylvania.*

Various articles, as follows, collected by Commodore Perry, while in command of the African Squadron, from which he has lately returned.—*From Commodore M. C. Perry, U. S. N.*

Monkey Bread Fruit, Island of St. Jago, one of the Cape de Verds.

A curious Fish, from the Cape de Verd Islands.

Water Serpent, Island of Martinique, West Indies.

Frog, Island of Martinique, West Indies.

Opossum, Island of Martinique, West Indies.

Native Iron, Western Africa.

Cartridge Box of a celebrated war chief of Western Africa. The charges are filled with loose powder; but that which is purchased from the traders is so weak, that an entire charger full is required, even to load their cast-iron barreled muskets.

A Mask worn by the Grand Devil, whose haunt was on the Cavally river, near Cape Palmas, west coast of Africa.

[Almost every tribe has its Grand Devil, a cunning impostor, known only to the kings, and one or two of the confidential chiefs: he lives apart in some retired place in the forest, called the "Devil's Bush." The natives believe that he holds communion with the evil one, and consequently invoke his influence with his royal patron in their behalf. He rarely shows himself, and then only in the most

hideous disguise In most instances he delivers his reponses, like the ancient oracles, from some concealed place, and they are invariably favorable or otherwise, according to the value of the offering, which must be previously deposited in some designated spot, before he will deign any notice of their inquiry. These offerings are frequently of considerable value.]

Rifle Pistol, made by Salola (or Squirrel) a Cherokee Indian, &c.—*From W. H. Thomas.*

Skin of an Ant Eater, from the river of Plate.—*From C. Gantt, Maryland.*

One of the Bolts to which Columbus was chained in prison at St. Domingo; obtained by Purser R. S. Moore, U. S. Navy, in 1844.—*From V. S. Moore.*

Box of Fossils from the Sivalik Hills, Himelaya Mountains, &c.—*From Captain Proby Cautley, British Army, Bengal.*

Box, containing prepared Fish and other animals, &c.—*From G. G. Fleurot, U. S. Consul, Martinique.*

Portrait (framed) of Wm. Wheelwright.—*From Commodore J. H. Aulick, U. S. Navy.*

Box, containing Auerhan and Auerhenne, (cock and hen,) Tetrao uragallus, of Westphalia.—*From E. Schwendler, U. S. Consul, at Frankfort on the Main.*

Fossils, from Bedford, Pennsylvania, &c.—*From G. A. Hamill.*

The Military Coat worn by General Jackson at the battle of New Orleans.—*From General T. A. Bradley, in the name of a number of citizens of Tennessee.*

Three boxes of Berber Ware.—*From J. F. Mullowny, late American Consul, Tangier.*

Box, containing Ornithorynchus paradoxicus, from Van Dieman's Land.—*From Lt. M. Hunt, U. S. N.*

Quadrupeds and Birds (forty-seven specimens) obtained by Capt. Fremont in Oregon and California.—*From Captain Fremont.*

Box of Oriental Coins, &c.—*From J. P. Brown, Dragoman, U. S. Legation, Constantinople.*

Specimens of Silk Plant reared in Charleston, South Carolina.—Seeds of Melon of Casaba, Asia Minor.—*From Dr. Joseph Johnson.*

Meteorite, fragments, &c., which fell in 1839, in the Bokkeneld, Worcester, Cape of Good Hope.—*From Dr. J. Versfeld, by the hands of Mr. Chase, American Consul, Cape of Good Hope.*

Lock of Hair of General Bolivar; fragment of the Flag of Pizarro, the conqueror of Peru.—*From J. C. Pickett, late U. S. Chargé d'Affaires to Peru.*

Eagle, from Texas.—*From Captain McCall, U. S. Army.*

Box of Birds, Fishes, and other objects of natural history of Mexico.—*From Baron Von Gerolt, Prussian Minister, Washington.*

Hotté, a remarkable insect, found at New Zealand.—*From John B. Williams, Salem, Massachusetts.*

Box of Turkish curiosities.—*From Dr. Boyd Reilly.*

Bottle, Grapes and Guava of South America.—*From Miss M. N. Simmons.*

Bronze Statue (caricature) of M. Fratin, sculptor.—*From*

Box containing Medal of General Lafayette, by M. Gatteaux; ten large Medals, Six Medals, Five Medallions, by M. Gallé.

Collection of Engravings, &c.—*From Alexandre Vattemare.*

Pod, leaf, flower, and silk, of a Silk Plant, with a description of its culture in Louisiana.—*From Robert Wilson, Editor of the Planters' Banner, Franklin, Attakapas, Louisiana.*

Package of specimens from the Gold Mines of Brazil, sent by Dr. Ildefonso Gomez, through H. A. Wise, American Minister in Brazil.

Box, containing specimens of the Tripoli Vegetable Silk and Silk Plant, and seed for distribution.—*From D. S. Macauley, U. S. Consul, Tripoli.*

Box, containing Skin, Horns, &c., of a large Moose Elk.—*From Lt. Thom, U. S. Topographical Engineer Corps.*

Box, containing the following curiosities, collected by Capt. Cooke, U. S. A., during a late expedition to the Rocky Mountains, and described in his letter Sept. 9, 1845.—*From Captain P. St. Geo. Cooke, of the 1st Regiment of Dragoons.*

1. Collection of Dried Flowers and Plants.
2. Collection of Mineralogical specimens, &c.
3. Portion of Stem of Artemesia, six inches in diameter.
4. Horns and Skull of Chamois, or Big Horn, (a small specimen, but weighing eighteen pounds.)
5. Portion of scalp of Buffalo Bull, (a most curious and distinctive specimen.)
6. Horned Frog, (*alive.*)
7. Mammoth Tooth of some extinct animal found in a clay bank on a branch of the Blue River, a tributary of the Kanzas.

Collection of Minerals, Fossils, &c., from the Oregon Territory.—*From Charles Saxton.*

Two boxes, containing valuable Books, Medals, Medallions, Statues, &c., from different branches of the French Government, and eminent men of France.—*Sent by M. Vattemare, Paris, under the care of Hon. Reverdy Johnson, of Baltimore.*

Box, containing Shells from Western Africa.—*From Rev. Thomas Savage, Missionary Cape Palmas, W. Africa.*

Box, containing a very large and valuable framed Picture; subject, View of Constantinople as it was several hundred years ago; author unknown; purchased in Rome, at the sale of Cardinal Fiesche's collections, by Thomas Lloyd Halsey—*From Thomas Lloyd Halsey.*

Two boxes, containing objects of natural history, viz: Plants, Fossils, &c., of the Banda Oriental.—*From R. M. Hamilton, U. S. Consul, Monte Video.*

Vessels of Earthen Ware; Knives, Dart-heads, &c., of itzli, or obsidian, dug up from the ruins of an Indian temple, on the Island of Los Sacrificios, near Vera Cruz, Mexico.—*From Midshipman Wm. Van Wyck, U. S. N.*

Box, containing Birds of Ireland, as enumerated in the following list, procured in Londonderry, for Colonel S. Moore, of Baltimore, in 1845.—*From Christopher Hughes, Esq., late Minister of the United States at the Hague.*

3 brace of Grouse,
1 pair of Magpies,
1 brace of Quails,
1 pair of Starling,
1 " Blackbirds,
1 brace of Woodcock,
1 pair of Curlew,
1 Horse Curlew,
1 Bald Pate,
1 Trout Hawk,
1 Martin Hawk,
1 pair Mountain Blackbirds,
1 " Gold Finches,
1 " Grey Wagtails,
1 " Snow Birds,
1 " Green Plover,
1 " Grey Plover,
1 " Red Shanks,
1 " Blue Felts,
1 " Red Wings,
1 Water Ousel,
1 pair Thrushes,
1 " Chaff Finches,
1 " Black Caps,
1 " Blue Bonnets,
1 " Cock of the North,
1 Wheat Ear,
1 Briar Bunting,
1 brace Jack Snipe,
1 pair White Checkers,
1 " Golden Crested Wren,
1 Moss Cheyrer,
1 Yellow Wagtail,
1 pair Grey Linnets,
1 Water Hen,
1 Oyster Catcher,
1 Yellow Hammer,
1 pair Reed Sparrows,
1 " Robbins,
1 Wader,
1 brace Partridges,
1 Cuckoo,
1 Corn Creak,
1 pair Water Rail,
1 brace Snipe,
1 pair Brown Wrens,
1 " House Sparrows,
1 " Green Linnets,
1 " Moss Greys,
1 " Hedge Sparrows,
1 " Sand Snipe,
1 " Tit Larks,
1 " Sky Larks,
1 " Wood Larks,
1 " White Finches,
1 Red Pole,
1 Siskin,
1 Creeper,
1 White Wren,
1 Chirlan Goldfinch,
1 pair Sand Pipers,
1 Yellow Macaroni,
1 Thistle Cock,
1 pair Marl Bullfinch,
1 " Long Tail Titmouse,
1 " Wood Quest,
1 Barn Door Owl,
1 Long-eared Owl,
1 Sheildrake,
1 pair Blackhead Diver Widgeon,
1 " Goldenheaded Widgeon,
1 Scoup Duck,
1 Teal,
1 Crebe Diver,
1 Redhead Diver Widgeon,
2 Male Pheasants, (Golden.)

127 specimens, prepared, set up, and labelled.

Box, containing objects of natural history and curiosity from Venezuela.—*From W. P. Chandler, U. S. Consul, Puerto Cabello.*

Box, containing a series of the Shells of Holland, (list enclosed.)—*From G. Sheepmaker, Amsterdam.*

Box of curiosities, &c., sent through Mr. Balestier, U. S. Consul, Singapore, and Mr. A. H. Palmer, of New York.—*From His Royal Highness, Prince Momfanoi of Bankok, Siam.*

Box, containing a Bomb, thrown by the Mexicans at the siege of the Alamo, Texas.—*From Lt. W. H. Carter, U. S. Navy.*

Box, containing Kudret Halvasi, or Providential Sweetmeats of Asia Minor.—*From J. P. Brown, Dragoman, Turkey.*

An antique Compass of 1604.—*From H. A. Wise, American Minister in Brazil, in the name of Lt. B. Sheppard, U. S. Navy.*

Two boxes American Birds (with a list).—*From assistant Surgeon Abadie, U. S. A., through Surgeon General Lawson.*

Mastodon Teeth, Ammonite, &c., from the Little Osage river.—*From J. Vaughan, Indian Agent.*

Collection of Seeds, &c.—*From William Prince, Flushing, Long Island.*

Box, containing Guano from Penguin's Island, coast of Patagonia, &c.—*From Robert M. Hamilton, U. S. Consul, Monte Video.*

Box, containing Stalactites from the Cave of Adelsberg, in Carniola, &c.—*From Joshua Dodge.*

Six rare Armenian Coins of the Rupinyan Kings, between the eleventh and thirteenth centuries.—*From S. M. Alishan, of Constantinople.*

Box, containing Cotton of Corrientes, Argentine Confederation, as picked from the trees.—Napkin, &c., formed of the cotton, &c.—Implements used in carding, spinning, &c.—*From Joseph Graham, U. S. Consul, Buenos Ayres.*

Package of Dried Plants, &c.—*From S. B. Buckley, West Dresden, New York.*

Package, containing Carices from vicinity of Seneca, &c.; catalogue of Plants, &c.—*From H. P. Sartwell, Penn Yan, N. York.*

Wild Cherries (a bottle) and Cherry Stones, grown in Louisiana, and taken originally from Mount Vernon, having changed their nature by transplanting.—*From Major E. G. W. Butler, of Louisiana.*

Two boxes, containing Minerals, Ores, &c., of Spain; Corals from the Mediterranean, and specimens of ancient Moorish Pottery, &c. *From Geo. Read, U. S. Consul, Malaga.*

Japanese Dwelling-house (model.)—*From R. P. De Silver.*

Box containing Minerals, Geological Specimens, &c.—*From*

Medal of Charles John, of Norway; three Coins of King Oscar, of Sweden.—*From Professor C. A. Holmboe, Norway.*

Copper Coin, Geo. III, 1773, Virginia.—*From Edward Stubbs.*

A collection of Seeds of various species of Russian plants; interesting as ornamental plants, or in a scientific point of view.—*From Professsor F. E. L. Fischer, of the Imperial Botanic Garden, St. Petersburg.*

DONATIONS AND CONTRIBUTIONS.

For the Library.

Transactions of the Royal Bohemian Society of Sciences, 2 vols., last series.—*From the Society, by the hands of Francis Palacky, Perpetual Secretary.*

Memoirs of the Royal Society of Northern Antiquarians, 1842, 1843.—Memoirs; Discovery of America in the tenth century, and several other vols.—*From C. C. Rafn, Perpetual Secretary, Royal Society of Northern Antiquaries.*

Memoire sur Ideographie, par D. Sinibaldo de Mas, Chargé d'Affaires of Spain in China, Macao, 1844.—Vocabulaire Ideographique, (by the same.)—Vocabulaire Ideographique-Francais, Francois-Ideographique, (by the same.)—*From the Author.*

Descripcion de la Nueva Provincia de Otuqués, en Bolivia; Buenos Ayres, 1843.—Historical Sketch of Pepy's Island, in the South Pacific Ocean, Buenos Ayres, 1842.—*From the author, Pedro de Angelis.*

Nieuwe Werken, &c.; New Works of the Society of Netherlands Literature, Leyden, vol. 6.—*From the Society, by J. T. Bodel Nyenheus, Secretary.*

Transactions (late vols.) of the Berlin Society for the Encouragement of Horticulture in Prussia.—*From the Society, by G. A. Tintelmann, Secretary.*

Transactions of the Royal Scottish Society of Arts, vol. 2, part 4, Edinburg, 1844.—*From the Society, J. Tod, Secretary.*

Observations on the practicability of introducing an universal system of Weights, Measures, and Coins, among all nations, by G. Vogelsang, Austrian Consul, New Orleans.—*From the Author.*

De la Destination et de l'Utilite Permanente des Pyramides d'Egypte et de Nubie contre les Irruptions Sablonneuses du Désert, &c., par M. Fialin de Persigny; Paris, 1845.—*From the Author.*

Map of China (in Chinese) large.—Chinese State Papers.—Christomathy.—Red Book, (Chinese) 6 vols.—National Register, &c., (Chinese.)—Various curiosities.—*From Commodore Lawrence Kearney, U. S. N.*

Dictionnaire de Belgique, &c.—Dictionnaire des Hommes des Lettres, &c.—*From Phil. Vandermaelen, founder of the geographical establishment at Brussels, Belgium.*

D'Aquino delle Delizie Tarentine, verzione del Signor Filippo de Jorio da Paterno; Napoli, 1831—Elogio Storico-Critico dell'abate Marciano di Leo, &c.; Napoli, 1833, by the same.—Sul Circondario di Paterno, Memoria Fisico-Economica; Napoli, 1835, by the same.—Della Coltivazione delle Cereali, &c., Regno di Napoli, by the same: and other works.—*From the Author.*

Collection of Historical Documents relating to North Carolina.—1. Documents relating to the "Mechlenberg (N. C.) Declaration of Independence," 1775.—2. Journal of the Provincial Congress of North Carolina, 1776.—3. North Carolina University Magazine, No. 1, containing two historical articles.—4. Indexes to documents relative to North Carolina during its colonial existence, now on file in the offices of the Board of Trade and State paper offices in London; transmitted by Mr. Gallatin in 1827.—Proceedings of the "Safety Committee," of the town of Wilmington, 1774, 1776.—5. Bishop Ives' Introductory Address, &c., Historical Society.—6. Hon. Judge Murphy's Address, &c., History of Literature in the State of North Carolina.—*From Professor C. M. F. Deems, Chapel Hill University, North Carolina.*

Corsi di Osservazioni Meteorologiche nella Zona Torrida, &c.; Naples, 1844.—Relazione di una Gita in Catanea e all'Etna, &c., 1843.—Discorso de G. Ceva Grinaldi, &c.—*From Sig. Monticelli, Perpetual Secretary, Academy of Sciences, Naples.*

Manual, &c., respecting growth, &c., of the Mulberry, and culture of Silk, &c., by J. H. Cobb, A. M..—Treatise on Mulberry Tree and Silk, &c., with engravings, by J. Clarke, Superintendent Morodendron Silk Company, Philadelphia.—Journal American Silk Society, &c.—*From J. F. Callan.*

Transactions of Society for Encouragement of Arts, &c.; London, 1845, vol. 55.—*From F. Taylor.*

Thesé pour le Doctorat en Medecine, &c., par J. V. Bodinier, &c.—*From the Author.*

Drawing of Pennington's Steam Balloon, &c.—*From J. H. Pennington.*

Box, containing twenty-five volumes on Natural History.—*From D. B. Warden, Paris.*

Histoire Primitive des Races Océaniennes et Americaines, par Gustave d'Eichthal; Paris, 1845.—*From the Author.*

Several Pamphlets, London.—*From the Hon. Mr. Joseph Hume, M. P.*

Box of Books, large collection, embracing works of great value and rarity, and many of them superbly illustrated.—*From A. Vattemare, Paris.*

Annuaire Magnetique, &c., 3 vols., quarto, Russia.—*From Major General Tscheffkine, &c.*

Transactions of the Society for the encouragement of Arts, Manufactures, and Commerce; London; 54 vols., 8vo., from 1783 to 1844.—*From the Society.*

Ephemerides Astronomicas, calculadas para o Meridiano do Observatorio da Universidade de Coimbra, para o anno de 1846.—The same, for the year 1847.—*From the Commander J. C. de Figanière e Morão, Minister of Portugal, Washington.*

Glory and Shame of England, &c., 2 vols.—Condition and Fate of

England, 2 vols.—Medici Series of Italian Prose.—Artist, Merchant, and Statesman, &c., embracing the works of C. Edwards Lester.—*From the Author, &c.*

Royal Gazette, &c., Bermuda, containing Meteorological Tables, to September, 1846.—*From his Excellency Mr. Reid, Governor.*

Observations made at the Magnetical and Meteorological Observatory at Toronto, Canada, quarto, 1st vol., 1840, 1841, 1842; printed 1845.—*Presented by direction of the British Government.*

Proceedings connected with the Magnetic and Meteorological Conference held at Cambridge, in June, 1845, during the Meeting of the British Association.—*From the same, by the hands of the Hon. E. Everett, Envoy Extraordinary and Minister Plenipotentiary of the United States, London.*

Transactions of the Royal Scottish Society of Arts, Edinburg.—*From the Society, by the hands of James Tod, Secretary.*

Report on the Standard of Weight and Measure for the State of Maryland, and on the Yard measure, by J. H. Alexander.—*From the Author.*

Papers on Practical Engineering, No. 3.—*From Col. J. G. Totten, Chief Engineer Corps, U. S.*

Work in Polish, by K. B. Stolzmann.—*From the Author, by the hands of M. Kallussowski.*

Guida dell' Educatore e Letture per la Gioventu Compilati da R. Lambruschini, &c., &c., 1844, 6 vols.—Atti dei Georgofili di Firenze e Giornale Agrario Toscano; Firenze, 1843, 1844, 8 vols.—Le Opere de Galileo Galilei, prima edizione completa, condotta sugli autagraphi manoscritti palatini, e dedicata A. S. A. J. e R. Leopoldo II, Granduca di Toscana, Programma; Firenze, 1845, by Eugenio Alberi.—Riporta di E. Alberi, &c.; Marsilia, 1844.—Brevis Disquisitio Eugeni Alberié, &c., de Galileo Galilei, &c.—*From C. Edwards Lester, U. S. Consul, Genoa.*

Bulletin de l'Academie Royale des Sciences et Belles Lettres de Bruxelles, octavo, 1843, 1844, 12 vols.—Annuaire de l'Academie, &c., 1844.—Annales de l'Observatorie Royale, quarto, tome 3, 1844.—Memoires Couronnés et Memoires des Savants Etrangers, &c., Bruxelles, 1844, quarto.—Observations des Phenomenes Periodiques, par A. Quetelet, &c.—Recherches Statistiques, 1844, by A. Quetelet, Astronomer Royal, and Perpetual Secretary of the Academy of Sciences, Brussels.—*From M. Quetelet.*

Various Works of J. Grœberg di Hemsó, 7 vols.—*From the Author, by the hands of C. Edwards Lester, Florence.*

Various Works of Baron de Reiffenberg, Brussels, 1845.—*From the Author.*

Manuscript Koran, handsomely bound.—*From J. F. Mullowny, late U. S. Consul for Morocco.*

Religious Book in German, published in Pennsylvania, 1762.—*From Lt. W. D. Porter, U. S. Navy.*

Transactions of the Zoological Society of London, 1843, 1844, 1845.—*From the Society.*

Trattato del Magnetismo e della Elettricita, dell'Ab. Francesco Zantedeschi; Venice, 1844, part 1, two copies.—Several other works, by the same.—*From the Author.*

Metier de Poorter, &c., Bruxelles, 1844.—Copy of Report of Chamber of Commerce, Brussels, on Mr. de Poorter's Weaving Loom.—*From T. G. Clemson, U. S. Chargé d'Affaires, Belgium.*

Memoire sur la Famille des Primulacées, par M. J. E. Duby, &c., Genève, 1844.—*From the Author.*

Annual Report of the Regents of the University of New York, 1845.—*From the University.*

First Annual Report on the Geology of Vermont, 1845.—*From C. B. Adams, State Geologist.*

Southern Literary Messenger, April, 1845, Richmond, Va.—*From B. B. Minor, Editor.*

Report of Chemical Analysis of Sugars, Molasses, &c., by Professor R. S. McCulloh, 1845, &c.—*From the Author.*

Schoolcraft's Report on Aboriginal Names and Geographical Terminology of the State of New York, 1845.—*From the Committee of New York Historical Society.*

Proceedings of the Boston Society of Natural History, May 17, 1843, to November, 1845.—*From the Society.*

Proceedings of the Academy of Natural Sciences of Philadelphia, January, 1845, to October, 1845.—*From the Academy.*

Proceedings of the American Philosophical Society, Philadelphia, from January to August, 1845.—*From the Society.*

A great variety of Pamphlets, Documents, Circulars, Papers, &c.—*From Authors, Editors, &c.*

Map of New York Bay and Harbor, &c., U. S. Coast Survey.—*From A. D. Bache, Superintendent U. S. Coast Survey.*

New System of Stenography, by C. Saxton, 1843.—*From the Author.*

Collection of Public Documents relating to affairs of Buenos Ayres and the English and French Missions, 1845.—*From Don Pedro de Angelis, Buenos Ayres.*

Verhandlungen der Kaiserlich-Russischen Mineralogischen Geselischaft, zu St. Petersburg, 1843.—The same, 1844.—*From the Imperial Mineralogical Society of St. Petersburg, by the hands of Charles Cramer.*

Transactions of Royal Academy of Sciences; Stockholm, 1844, 1845.—*From the Society.*

Proceedings of the Franklin Society of Providence, Rhode Island, vol. 1, No. 1, 1846.—*From the Society.*

Pamphlets, &c., &c.—*From Robert Lawrence, New York.*

On Hernia, by T. P. Teale, F. Z. S., M. D., &c., London.—*From the Author.*

Four packages of Books, &c., &c.—*From A. Vattemare.*

Revista Trimensal de Historica e Geographica, or Journal of the Historical and Geographical Institute of Brazil, from 1839 to 1846, 26 vols., octavo.—Memorias de Instituto Historico, &c.—Da Vida e Feitos de A. de Gusmã, &c.—As primeiras Negociações Diplomaticas Respectivas aõ Brazil, &c.—*From the Institute of Brazil, by the hands of his Excellency Mr. Lisboa, Envoy Extraordinary and Minister Plenipotentiary of Brazil, at Washington.*

Correspondencia, &c.; Diplomatic Correspondence with France and England, 1846, quarto; Buenos Ayres.—*From Don Pedro de Angelis.*

Proceedings of Academy of Natural Sciences of Philadelphia, to April, 1846.—*From the Academy.*

Memoirs of the Administrations of Washington and John Adams, edited from the papers of Oliver Wolcott, Secretary of the Treasury, by George Gibbs, 2 vols., octavo; New York, 1846.—*From the Editor.*

Lithographic Portrait of the Abbé General of the Mekitarists of Venice.—*From M. Alishan.*

Transactions of the New York State Agricultural Society, 1845.—*From Robert Lawrence.*

Annals of the Lyceum of Natural History of New York, vol. 4, No. 5; February, 1846.—*From the Lyceum.*

Box (large) containing a collection of French works on Political Economy and War, &c.—*From Arthur Middleton, of South Carolina.*

Works (4 vols.) of Francesco Zantideschi, of Venice.—*From the Author.*

Prisons and Prisoners, by Mr. Joseph Adshead, 1 vol., octavo; London, 1845.—*From the Author.*

Flight of Birds, &c., (in German,) octavo; Vienna, 1846.—*From Joh. Jos. Prechtl, of Vienna.*

Registration of Births, Deaths, Marriages, &c., of Massachusetts, 1845, by J. G. Palfrey.—Report of Census of Boston, &c., by L. Shattuck.—*From Mr. Shattuck.*

Discourse on the Life and Character of Sir Walter Raleigh, delivered by J. Morrison Harris, before the Maryland Historical Society, May, 1846.—*From the Historical Society.*

The Eneis, &c., in English blank iambic, &c., by J. Henry, M. D.; London, 1845.—*From the Author.*

Observations sur le Voyage au Darfour, suivie d'un Vocabulaire de la Langue des Habitans, &c., par M. Jomard, Paris, 1845.—*From*

Rivista trimensal de Historia e Geographica, au Jornal do Instituto Historico e Geographico Brazileiro, &c.; Rio Janeiro, tome 1, No. 1, 1846.—*From H. A. Wise, American Minister, Brazil.*

Brief Memoir, explanatory of a new trace of a front of fortification, in place of the present bastioned front, by W. H. Chase, Major Topographical Engineers; New Orleans, 1846.—*From*

Meteorological, &c., Tables, &c.—*From Governor Reid, of Bermuda.*

Physiological Essay on the Thymus Gland, by Jno. Simon, F. R. S., London, 1845, quarto.—Comparative Anatomy of the Thyroid Gland, by the same, 1844, quarto.—*From the Author.*

Jardin de St. Petersbourg, 1846.—Sertum Petropolitanum, seu Icones et Descriptiones Plantarum, quæ in horto botanico Imperiali Petropolitano, floruerunt, 1846—Auctoribus F. E. L. Fischer et C. A. Meyer, folio, (to be transmitted as published.)—*From Professor Fischer.*

Annals of the Lyceum of Natural History of New York, vol. IV, Nos. 6, 7.—*From the Lyceum.*

Two packages, containing books and seeds.—*From the Imperial Botanical Society of St. Petersburg, Professor Fischer, by the hands of J. Slocum, of Syracuse, New York.*

MEMORIAL TO CONGRESS.

The following appeal was made to Congress, at its late session, (1st session of 29th Congress,) in favor of the National Institute, and was presented to the Senate by the Hon. Lewis Cass, and to the House of Representatives by the Hon. John Quincy Adams.

To the Senate and House of Representatives in Congress assembled:

The undersigned would respectfully petition that the memorials* heretofore presented to your honorable bodies in behalf of the National Institute may again be taken into consideration, and the prayers therein be granted.

In addition to the reasons before set forth in their favor, the undersigned would beg leave to state, what they most sincerely deplore—the increasing difficulties of the Institute. It is becoming entirely impracticable, by mere private contributions and taxes, to pay the large incidental expenses attendant on the collection and preservation of so much valuable property connected with the advancement of science, literature, and the arts. The Institute asks, and has asked, nothing for the private emolument of its members; it merely seeks means to secure the property coming into its custody from time to time, so that it may not be injured or lost, and so that it may be exhibited and used by the public, as it is dedicated to the public, and the title to it is intended to be in the Government.

For want of pecuniary means, all our collections, whether in possession or increasing by new additions weekly, are in jeopardy; and unless Congress interfere to save what is so public in its character, and so peculiarly under its guardianship as is the encouragement of matters of this kind within this District, subject to its exclusive legislation, the prospect is that the operations of the Institute must of necessity cease, and the property be abandoned.

Deprecating, as we do, an event so unfortunate for the cause of science and the arts, not only here, but from here, in some degree, over the whole Union, and not a little disreputable to our character abroad, the undersigned would earnestly pray that Congress, at an early day, may avert the calamity by taking steps to aid efficiently in preserving this important public property; and the more especially do we ask this, when, for various reasons, it can be done at moderate expense, and in entire conformity to the provisions of the constitution.

The undersigned respectfully refer to the documents annexed, which exhibit the character of the Institute, and the course of its proceedings.

LEVI WOODBURY, *President.*
PETER FORCE, *Vice President.*

FRANCIS MARKOE, Jr., *Corresponding Secretary.*
G. W. RIGGS, Jr., *Treasurer.*

DIRECTORS.

ROBERT J. WALKER, *Secretary of the Treasury.*
J. J. ABERT, *Topographical Engineers.*
J. G. TOTTEN, *Engineer Corps.*
M. F. MAURY, *U. S. Navy.*
A. O. DAYTON, *Fourth Auditor.*

WASHINGTON, *December* 16, 1845.

List of Documents accompanying the above Memorial.

First Bulletin of the proceedings of the National Institution for the Promotion of Science, established at Washington, 1840: Washington, 1841.

Second Bulletin, &c., March, 1841, to February, 1842: Washington, 1842.

Third Bulletin, &c., February, 1842, to February, 1845; also, proceedings of the meeting of April, 1844: Washington, 1845.

*Copies of these memorials will be found at pp. 383 and 386 of the third Bulletin of the proceedings of the National Institute, which accompanies this memorial.

CORRESPONDENCE BETWEEN Mr. McLANE AND Sir H. T. DE LA BECHE, DIRECTOR OF THE GEOLOGICAL SURVEY OF GREAT BRITAIN AND IRELAND,

On the subject of presenting to the National Institute at Washington, from the British Government, the Maps, Sections, and Memoirs of the Geological Survey of Great Britain.

Geological Survey Office, Craig's Court, Charing Cross,
May 18, 1846.

Sir: Having been instructed to present, on the part of her majesty's Government, copies of the maps, sections, and memoirs of the geological survey of Great Britain and Ireland, which have been and will hereafter be published, to one of the chief libraries of the United States; being desirous that these works may be most conveniently deposited for consultation by scientific men, and feeling that your Excellency would be interested in having these Government publications properly placed for this purpose, probably your Excellency would inform me if some chief library or institution in New York, viewing the situation and magnitude of that city, would not be a proper place of deposit for the maps, sections, and memoirs of the geological survey of Great Britain and Ireland.

I have the honor to be, sir, your Excellency's very obedient servant,

H. T. DE LA BECHE, *Director General.*

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38 Harley street, *May* 21, 1846.

Sir: I regret that, in consequence of rather a severe indisposition, I have been prevented from earlier acknowledging your letter of the 18th instant.

Certainly I should feel much interested in having the important works you are about liberally to present to one of the chief libraries of the United States so placed that the beneficial object of the present might be most effectually promoted; and I would suggest the National Institute, at Washington, as a more appropriate place of deposit for these publications than one of the libraries of any one of our other cities.

The National Institute comprehends within its list of members most, if not all, of the scientific men of the United States; its correspondence is very extensive, and besides the frequency of its meetings, other occasions of general resort to Washington are annually becoming more numerous. It enjoys the patronage of the most eminent men in our country, and its library has already become quite extensive.

I ought, perhaps, to add that I am an honorary and corresponding member of the Institute, and that it will afford me much pleasure to give any aid in my power towards the accomplishment of the object with which you are entrusted.

I have the honor to be, sir, your obedient servant,

LOUIS McLANE.

To Sir H. T. de la Beche, *&c., &c., &c.*

Geological Survey Office, *May* 23, 1846.

Sir: I have the honor to acknowledge the receipt of your Excellency's letter of the 21st instant, and in reply, to state that, in consequence of the suggestions and observations contained in it, the maps, sections, and memoirs of the geological survey of Great Britain and Ireland will be presented to the National Institute, at Washington.

As your Excellency has expressed a desire to forward the object with which I am entrusted, might I ask if it would be agreeable to you that the maps and sections now ready should be transmitted to the National Institute, at Washington, through

you, the copies for the Academy of Sciences, of Berlin, having been forwarded by his Excellency the Prussian ambassador, and those for the Imperial Mining Establishment, of Vienna, through his Excellency the Austrian ambassador.

I have the honor to be, sir, your Excellency's very obedient servant,

H. T. DE LA BECHE.

His Excellency LOUIS MCLANE, *&c., &c.*

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38 HARLEY STREET, *May* 25, 1846.

SIR: I beg leave to state, in reply to your letter of the 23d instant, that it will afford me great pleasure to take charge of and transmit to their appropriate destination such maps and sections and memoirs of the geological survey of Great Britain and Ireland as you may be pleased at any time to present to the National Institute at Washington.

I have the honor to be, sir, your most obedient servant,

LOUIS McLANE.

Sir H. T. DE LA BECHE, *&c, &c. &c.*

GEOLOGICAL SURVEY OFFICE, *June* 4, 1846.

SIR: I have the honor herewith to transmit the official communication to the President of the National Institute, of Washington, respecting the maps and sections of the geological survey of Great Britain, presented, on the part of her majesty's Government, to that establishment, a copy of which I also forward to your Excellency.

As the case containing the maps and sections is somewhat large, I have not forwarded it to your Excellency's residence, but await your wishes respecting the manner in which it should be forwarded to Washington.

I have the honor to be, sir, your Excellency's most obedient servant,

H. T. DE LA BECHE.

His Excellency LOUIS MCLANE, *&c., &c., &c.*

From Sir H. T. de la Beche.

GEOLOGICAL SURVEY OF GREAT BRITAIN AND IRELAND,
LONDON, *June* 4, 1846.

SIR: I am directed by the Chief Commissioner of Woods, Works, and Land Revenues to present to the National Institute, of Washington, on the part of her Britannic Majesty's Government, the maps and sections of the geological survey of Great Britain enumerated in the accompanying list.

And I am further instructed to state that all the maps, sections, and memoirs of the geological survey of Great Britain and Ireland will be forwarded to the National Institute, of Washington, for its acceptance, as they become ready for publication.

I have the honor to be, sir, your very obedient servant,

H. T. DE LA BECHE, *Director General.*

List of Maps and Sections of the Geological Survey of Great Britain, herewith transmitted to the National Institute, of Washington.

25 sheets of maps.
17 horizontal sections.
15 vertical sections.
1 index sheet of colors.

TRENHAM REEKS, *Secretary.*

THE HOTTE, OF NEW ZEALAND.*

The following is an extract from a letter of the Rev. John G. Morris, D. D., of Baltimore, on the subject of a very remarkable insect or *larva:*

"This animal, it is said, travels up both the *rata* and *perriri* trees, and entering into the top, eats its way, perforating the trunk of the tree, until it reaches the root. It then comes out of the root and dies, or lies dormant, and the plant propagates out of its head; the body remains perfect and entire, of a harder substance than when alive. From this insect the natives of New Zealand make a coloring for tattooing."

The following are the remarks of Dr. Morris upon the subject, which probably contain the true account of the habits of this remarkable insect, and all that is at present known in regard to it. He says:

"This animal feeds upon the sweet potato, (*convolvulus batatus,*) and is often found, when *dead*, with a parasitic plant (*Sphœria Robertsi*) growing out of its head. You will see a figure of the larva and the plant in Hooker's *Icones Plantarum*, vol. 1, tab. 2, where the plant is more specifically described. Hooker says 'the plant is not uncommon in New Zealand, always growing on the dead larva of a caterpillar.' The question is, why is the seed deposited always on the head? Does the plant begin to grow before the animal dies, and does its growth kill the larva; or is it only after death that it forms an animal *soil* for the production of this extraordinary parasite? The account of the habits of this insect which you have received, and caused to be exhibited with the specimens in your collection, is altogether fabulous.

"I should have stated before that it is the caterpillar of a butterfly that is subject to this strange *capital* accompaniment. The butterfly is unknown to me, and until some intelligent entomologist visits that country, and makes proper observations, we must be content with the imperfect knowledge we have. In one of my works I have a figure of a small plant growing out of the body of a perfect fly, (*musca vegetans,*) said to occur in Havana, but the story is not authentic, and is open to doubt. I regret that my investigations have not led to a more satisfactory result."

The following letter from Consul Williams, on the same subject, has lately been received:

AUCKLAND, NEW ZEALAND, *October* 30, 1845.

DEAR SIR: Having on a former occasion sent you a concise account of the Hotté, I now take great pleasure in herewith enclosing a number of the Hotté, bulrush caterpillar. This singular plant, which is a native of New Zealand, may be classed among the most remarkable productions of the vegetable kingdom, making the body of an insect—and that too, very probably, a living one—the foundation from which it bears its stem, and the source from which it derives its support. It certainly forms one of the most surprising links between the animal and vegetable kingdom yet noticed, and as such, merits as circumstantial a description as the personal imperfect acquaintance with it will allow. It is only found at the foot of a particular tree, the "rata," the female pohutakawa, which, in every instance, exactly fills the body of the caterpillar, in the finest specimens attains a length of three inches and a half; and the stem which germinates from this metamorphosed body of the caterpillar is from six to ten inches high; its apex fructification resembles the club-headed bulrush in miniature, and when examined with a powerful glass, presents a wonderful appearance. There are no leaves—a solitary stem comprises the whole plant. If broken off, a second stem arises from the same spot. The body is not only always found buried, but the greater portion of the stalk as well, the seed vessel alone being above ground; and when the plant has attained its maturity it soon dies away. These curious plants are far from being uncommon in this country; the natives eat them when fresh, and likewise

* See pp. 483, 493.

use them, when burnt, as coloring matter for their tattooing, rubbing the powder into the wounds, in which state they are said to have a strong animal smell. When newly dug up, the caterpillar is soft; and when divided, the intestinal canal is distinctly seen. Most specimens possess the less entire, with the horny part of the head and claws. The vegetating process is said invariably to proceed from the nape of the neck, from which it may be inferred that the insect, in crawling to the place where it inhumes itself prior to its metamorphosis, whilst burrowing in the light vegetable soil, gets some of the minute seed of this fungus between the scales of its neck, from which, in its sickening state, it is unable to free itself, and consequently, being nourished by the warmth and moisture of the insect's body, then lying in a motionless state, vegetates, and not only impedes the process of change, but likewise occasions the death of the insect. That the vegetating process, then, commences during the life of the insect, appears certain, from the fact of the caterpillar, when converted into a plant, always preserving its perfect form; in no one instance, it is said, has decomposition appeared to have commenced, or any part to have contracted or expanded beyond its natural size. It has been observed that a plant of a similar kind has been discovered growing in abundance on the banks of the Murimbdge, New South Wales, in a rich, black, alluvial soil. Both are cryptogamous plants.

It is a curious step in nature when the insect, instead of rising to the higher order of the butterfly, and soaring to the skies, sinks into a plant and remains attached to the soil in which it buried itself.

I am, very respectfully, sir, your most obedient servant,

JOHN B. WILLIAMS, *Consul U. S. A.*

FRANCIS MARKOE, Jr, Esq.,
Corresponding Secretary National Institute, Washington.

LETTER FROM HON. HENRY A. WISE, AMERICAN MINISTER IN BRAZIL, PRESENTING AN ANTIQUE COMPASS, MANUFACTURED IN 1604, WITH A DESCRIPTION.

LEGATION OF THE UNITED STATES, RIO DE JANEIRO,
February 2, 1846.

MY DEAR SIR: I send you, by the hands of Passed Midshipman Warrington, an antique instrument of science, for the National Institute.

The accompanying correspondence with Lieut. B. Shepard, of the United States frigate Raritan, will describe it.

Very respectfully and truly yours,

HENRY A. WISE.

To F. MARKOE, JR., Esq.,
Corresponding Secretary of the National Institute, Washington, D. C.

U. S. SHIP RARITAN, RIO DE JANEIRO, *January* 30, 1846.

MY DEAR SIR: I send ashore, to be forwarded to you by Mr. Garrett, *the* compass. If there is any merit in its having marked the magnetic poles through all their variations for two hundred and forty-two years, then it may claim some; for that the date (1604) borne on it is genuine, scarcely admits of a doubt.

The idea that so complicated an affair, with quite an almanac inscribed on its plates, evidently calculated for "time long, long ago," would be constructed for deceptive speculation, and sold for twenty-two milrces—the amount I obtained it for—appears to me absurd. Besides, it shows such true signs of age as, I think, would defy imitation in recent manufacture. I have no doubt there may be other compasses of more ancient date, but I believe it would be difficult to find one more unique in its construction.

Professor Ward has been so kind as to examine it, and the result of his decipherings I enclose—though he thinks, for want of leisure, he has been able to do but partial justice to its configurations. For my own part, I have not had the time to examine it with attention.

If you consider it sufficiently curious to render it worthy of preservation, you are at liberty to dispose of it as you may think best calculated to achieve that end. I only have the favor to ask, in case you should send it to the National Institute, that my name may appear in the matter with as little conspicuousness as possible.

If I can make it convenient to ride out and see you before I leave, I will do so; if not, in departing from the Brazils I shall leave behind me my sincere wishes for your own and your family's happiness.

I remain, very truly, your most obedient servant,

B. SHEPARD.

Hon. HENRY A. WISE.

Description of the Almanac.

Top.—The lines on the centre brass circle show the aspects which the moon makes during a revolution round the earth: namely, sextile, or 60° ✱; a square or quadrate, 90° □; a trine, 120° △.

The first and third lines on the steel circle I cannot make out. The middle circle on the steel shows the age of the moon. The use of the seventeen points, or prongs, not known. The next circle contains the names of the months and days. The outer circle contains the lunar epact, or the excess of the solar above the lunar year.

The reverse.—The first and second circles from the centre show the Dominical or Sunday letter. The third shows the golden number from C to 19, as after a period of nineteen years the moon returns to the same place she was nineteen years ago, and the new and full moon, the tides, &c., occur at the same times as before. The other circles contain the names of the planets, the days of the week. The rest of the figures I cannot make out at present.

Second compartment.—A compass in the centre, variation marked about a point east. The first circle has the hours marked for the shadow of the gnomon of a sun dial, which is wanting, as the holes are there in which it has been placed. The next circle contains the letters of the alphabet. I think the outer circle contains the twenty-four hours of the astronomical day.

The reverse.—Compass turned round. The first circle appears to contain the names of countries, and the outer circle, which is a compass, shows the bearings from the place where this instrument was made. Around the outside are marked the four cardinal points, E. W. N. S.

The bottom.—The first circle contains the names of the first six signs of the zodiac; the second the signs and their characters; third, the degrees of each sign; fourth, the names of the months; fifth, the days of the month for every ten days. The outer circle contains every day in the half year, the next inner circle the Sunday letter, the next broad circle the names of saints and celebrated men for every day in the half year.

I perceive in this circle that the sun entered each sign on or about the tenth of each month; now it enters each sign about the twentieth or twenty-first of each month. The reverse is the same for the other six months.

E. E. W.

LEGATION UNITED STATES, RIO DE JANEIRO, *January* 31, 1846.

MY DEAR SIR: I accept with pleasure your very curious and antique present for the National Institute. I have no doubt of its being a genuine relic of 1604, and as such, both for its apparent uses and ingenious contrivance, it is highly worth preserving. It shall be transmitted by the first opportunity, with Professor Ward's description, to Francis Markoe, esq., of Washington, naming you simply as the donor, who has been mindful abroad of your country's institutions at home for the promotion and preservation of human knowledge.

We shall be very happy to see you whenever you can make it convenient to pay us a visit; and I assure you, sir, that when you depart from this station you will carry with you the best wishes of myself and family.

Yours truly,

HENRY A. WISE.

To Lieut. B. SHEPARD, *U. S. frigate Raritan.*

VIEW OF THE ANCIENT GEOGRAPHY OF THE ARCTIC REGIONS OF AMERICA,* BY CHARLES C. RAFN, PERPETUAL SECRETARY OF THE ROYAL SOCIETY OF NORTHERN ANTIQUARIES, COPENHAGEN, MARCH 18, 1846: COMMUNICATED FOR THE BULLETIN OF THE NATIONAL INSTITUTE, BY MR. RAFN.

The east coast of Greenland was, in ancient times, uninhabited by Europeans, although from the account of Are Frode, the earliest Icelandic historian, it would appear that on the discovery of the country and survey of its coast, there were found, both on the east coast and on the west coast, remains indicative of their having been resorted to at an earlier period by the Skrœlingar or Esquimaux of America. The SVOLBARDE of the ancient Scandinavians, discovered in 1194, appears to be the tract of coast surveyed in 1761 by Volkert Bohn of the island of Foehr in Denmark, and rediscovered by Scoresby, by whom it is called Liverpool coast. The GUNNBIARNARSKER or Gunnbiarnareyiar, discovered in 877 by Gunnbiorn Ulfson, will be the islands seen off the coast by Captain W. A. Graah, R. N., in latitude 65° 20″ N. HVITSERK, the southernmost promontory, Cape Farwell; the chief seat of the colony EYSTRIBYGD, the present district of Julianæhaab. The most important of the colonized firths are named in order from South to North in four original written sources, of which the latest and most circumstantial is a chorography by War Bardson, who in 1341 was sent by Hakon, bishop of Bergen, to Greenland, and who for many years was superintendent of the episcopal see of Gardar. HERIULFSNES with HERIULFSFIRTH, where Heriulf Bardson settled in 986, and where his son Biarne Heriulfson arrived in the autumn of the same year, after having seen the more southern American coast, is the Ikigat of the present day. Of the church mentioned in Bishop Gudmund Arason's Saga, some of the ruins are still left, and several inscriptions have here been found. Ketilsfirth, with its two churches, is the modern Tessermuit, where Mr. J. J. A. Aroe found a quantity of ruins. RAFNSFIRTH, which, in the first year of the landnam, or colonization, 986, was colonized by the landnamsmann Rafn, is now Ounartok. According to the ancient description of War Bardson, of the 14th century, there were in this firth islets with springs of hot water. There are in the island of Ounartok three warm springs, which have given to the island and firth their Esquimaux name, signifying in that language the boiling. Captain Graah, who visited the place in July, 1828, found the temperature of the water in these springs ranging from 26 to 33½ R. SIGLUFIRTH is now Agluitsok; here the rudera of Voga church were discovered by the Rev. Valentine Muller, who visited this firth in the years 1832 and 1833, on behalf of the Society. He saw, moreover, the ruins of a mansion belonging to the king, by War Bardson, called Foss, or waterfall, situated near a large stream forming a waterfall of two hundred feet in height. EINARSFIRTH is Igalikko, the ruins of the cathedral and episcopal see of GARDAR, (which was founded in 1126, and stood for upwards of three centuries,) were rediscovered at Kaksiarsuk, on the eastern arm of this firth. ERICSFIRTH, where the the chief leader of the landnamsmenn or colonists, Eric the Red, settled in 986, is now Tunnudluarbik, together with the northern arm of Igalikko firth, at which the ruins of the principal settlement of BRATTAHLID, with Leidar Kirkia, (the church of the district,) have been found, and especially among the numerous buildings there, rudera of the house of Brattahlid itself, so denominated from its having been built up against the side of a steep precipice—from *bratti* and *hlid*. The Rev. Mr. George F. Jœrgensen, who has furnished a description and ground plan of the whole settlement, which may be compared to an entire town, observes that a steep rock forms one of the walls of this house, the building of which was accomplished with incredible labor. This house was built by Eric the Red, who, in the year 986, made it his residence. It was subsequently occupied at the commencement of the eleventh century by his celebrated son, Leif the Happy, and by his grandson, Thorkel Leifson, and it continued down to the latest times of the colony to be the abode of the sheriffs, (logmenn.) Here in this house the far-famed couple Thorfin Karlsefne and Gudrid Thorbiornsdotter celebrated, in 1007, their nuptials, and determined on their remarkable voyage of discovery to that more southern land which, seven years before, had been discovered and visited by Leif Ericson, viz: Vinland (the present Massachusetts and Rhode Island.) ISAFIRTH, which was the most western firth in the Eystribygd, will be

* From accounts contained in old northern manuscripts.

the great bay in which lies the island of Sennerut. One arm of this firth was called UTIBLIKSFIRTH, a name adopted by the ancient Northmen from the Esquimaux, with whom they must consequently have held intercourse at an early period in Greenland; for it is the Esquimaux word *Utiblik*, signifying an isthmus, and there is here a remarkable isthmus which the Esquimaux still call by that name. Eystribygd comprised anciently one hundred and ninety settlements, with twelve churches, of most of which unquestionable ruins have been found. The site of VESTRIBYGD, which included but ninety settlements and four churches, lay farther towards the north, and the ancient STEINSNES must be placed in Aglomersot, RANGEFIRTH at Amaraglik; AGNAFIRTH, with a church at HOPE, in Baals Revier, in the present district of Gotthaab, and LYSUFIRTH will be Isertok, in Sukkertoppens district. Of the ancient NORORSETUR, or summer stations for fishing and hunting, we may mention BIARNEY, (which had been already visited in 1007 by Thorfinn Karlsefne, in his voyage to Vinland.) now Disco, the island of Kingiktorsoak, to the north of the most northern of the present Danish settlements, Upernivik, where a curious runic stone from 1135 was found in 1824, and KROKSFIRTH, through which some clergymen from the episcopal see of Gardar performed, in 1266, an exploratory voyage, and which, from the astronomical notices contained in the ancient accounts of his journey, are proved to be Sir James Lancaster's Sound and Barrow's Strait, together with Prince Regent Inlet.

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THE ROYAL SOCIETY OF NORTHERN ANTIQUARIES published in 1845, GRONLANDS HISTORISKE MINDESMŒRKER, (*The Historical Monuments of Greenland,*) vol. III, (958 pages, with twelve copperplates,) which closes this work. The first and second volumes, pp. 814 and 794 respectively, were published in 1838. After Professor Rafn had finished the compilation of his separate work, ANTIQUITATES AMERICANÆ, which was published by the society in 1837, he joined himself along with Professor Finn Magnusen for the purpose of editing (also under the auspices of the society) the great collection of original written sources of the ancient history of that remarkable polar land, which was first seen in 877, and colonized in 986. With a view of doing all that lay in its power to throw light on ancient Greenland, the society, during the ten years from 1832 to 1841, caused journeys to be undertaken and explorations to be performed in such of the Greenland firths as were of the greatest importance in respect to the ancient colonization. By excavations made among the ruins remaining from the ancient colony, there was obtained a collection of inscriptions and other antiquities, which are now preserved in the American Museum erected by the society, and drawings were taken of the ground plans of several edifices. Of the reports received on this occasion, we must in an especial manner notice, as exhibiting evidence of the most assiduous care, and as moreover embracing the most important part of the country, the explorations undertaken by the Rev. George F. Joergensen of the firths of Igalikko and Tunnudluarbik, where the most considerable ruins are situated. The present volume 3 contains extracts from annals and a collection of diplomas relating to Greenland, compiled by Finn Magnusen, (to this part appertains a plate exhibiting seals of the Greenland bishops;) ancient geographical writings, compiled by Finn Magnusen and Charles C. Rafn; the voyages of the brothers Zeno, with introductory notes and remarks by Dr. Bredsdorff; a view of more recent voyages for the re-discovery of Greenland, by Dr. C. Pingel; an antiquarian chorography of Greenland, drawn up by J. J. A. Worsaal from the accounts furnished by various travellers of the explorations undertaken by them. The work is closed by a view of the ancient geography of Greenland, by Professor Charles C. Rafn, based on a collation of the notices contained in the ancient manuscripts and the accounts of the country furnished by the travellers; to which is added a list of the bishops and a chronological conspectus of the ancient and modern history of the country, a historical index of names, a geographical index, and an antiquarian index rerum. Copperplate maps are annexed of the two most important districts of ancient Greenland: the eastern settlement, (Eystribygd,) and the western settlement, (Vestribygd,) exhibiting the position of the numerous ruins. Moreover plans and elevations of the most important ecclesiastical ruins and other rudera; also, delineations of runic stones and other northern antiquities found in Greenland.

SCRIPTA HISTORICA BLANDORUM, Latine reddita et apparatu critico instructa, curante Societate Regia Antiquariorum Septentrionalium, vol. XII. The edition first commenced by the Society of the Historical Sagas, recording events which happened out of America, (Iceland, Greenland, and Vinland,) particularly in Norway, Sweden, and Denmark, in the original Icelandic text, with two translations, one into Latin and another into Danish, thirty-six volumes, has now been brought to a completion by the publication of the abovementioned volume, (pp. 658 in 8vo.) wherein are contained regesta geographica to the whole work, which, for this large atlas of Sagas, may be considered as tantamount to an old northern geographical gazetteer, inasmuch as attention has also been paid to other old northern manuscripts of importance in a geographical point of view. Complete, however, it cannot by any means be called, neither as regards Iceland especially, and other lands in America, whose copious historical sources have in the present instance been but partially made use of, nor, also, as regards the European countries, without the Scandinavian north, for whose remote history and ancient geography the old northern writings contain such important materials; but it is to be hoped that the society will in due time take an opportunity of extending its labors in that direction also. The present volume does, however, contain a number of names of places situated without the bounds of Scandinavia, in countries of which mention is made in the writings published in the work itself. To the name of each place is annexed its Icelandic or Old Danish form, and the position of the place is investigated by means of comparison with other historical data and with modern geography.

SOUTH AMERICAN COTTON.

LETTER FROM Mr. GRAHAM, U. S. CONSUL, BUENOS AYRES,

On the cotton of Corrientes, a province of the Argentine Confederation,—the mode of cultivating, carding, spinning, weaving, &c., &c.

CONSULATE OF THE UNITED STATES OF AMERICA,
BUENOS AYRES, *March* 17, 1846.

SIR: I send you herewith a specimen of the cotton of Corrientes, as it is picked from the tree. Corrientes is one of the provinces of the Argentine Confederation, and is now in rebellion against this Government. It is on the Parana river, between Entre Rios and Paraguay. I also send you the implements used by the Corrientenos for carding and spinning this cotton, and a specimen of the cloth manufactured from it. These were presented to me by Mr. John C. Hayes. Mr. Hayes is a native of New York, has lived sixteen years in Corrientes, and is now a resident of this city. From him I obtained an account of the manner in which the cotton is cultivated. The seed is planted about six feet apart each way; the tree bears the first year, and, in his language, "forever after." It attains about the size of our quince tree, and requires no cultivation except the occasional cutting off the top to prevent it from growing too high. At the time for picking, a hide is drawn by a horse between the rows, and the cotton picked and thrown into it. The seed is picked out by hand. The females then, with a small bow, one of which I send you, "card" or bow the cotton, so as to lay the fibres all in one way, and to remove all foreign particles.

It is then spun with little sticks, one of which I send you, by twirling the stick with the fingers and letting it run on the floor whilst the fingers are employed in drawing out the cotton. Mrs. Hayes, who is a native of Corrientes, showed me the process of carding and spinning, with the implements I send you. The raw cotton around the stick was prepared with the bow, and the thread spun by her.

The weaving is performed in a manner as primitive as the spinning. They drive

four sticks into the ground under the shade of a tree, and stretch the warp on these. The reed and beam are suspended from the branches of the tree, and the shuttle is a rude instrument fashioned with a knife. I never witnessed the weaving, but had it described to me by Mrs. Hayes.

The napkin I send you was spun and wove by her in Corrientes. The open work at the ends was done with bobbins around pins stuck in a cushion. These napkins are used for wiping the hands after dining, and for covering presents of fruits and other things sent to friends. They are highly prized here; the one I send you was worth, when new, a gold ounce. The wealthy people of Corrientes wear goods manufactured in the manner I have described, some of which are very fine and durable. Foreign cottons are not much worn, and chiefly by the poor.

Mr. Hayes could not tell me how much cotton an acre would produce, but he says the crop is abundant, and land so cheap that they never estimate it by the acre. He bought a large tract at the rate of about three or four cents per acre. He says the climate is healthy, and the means of living abundant and cheap. Labor is low, and he thinks if the government were stable and the taxes and export duties moderate, that cotton could be put on board vessels baled, even as it is now cultivated, for about five cents per pound. Paraguay, Salto, and parts of Entre Rios and Tucaman, are as well adapted to the growth of cotton as Corrientes. Paraguay and Corrientes are leagued by treaty in a war against Governor Rosas.

With much respect, your obedient servant,

JOS. GRAHAM, *U. S. Consul.*

FRANCIS MARKOE, JR., Esq.,
Corresponding Secretary National Institute, Washington.

LETTER FROM ALEXANDRE VATTEMARE, PARIS,

Announcing a present, of the great work of the French Government on Egypt, and other valuable books, to the National Institute at Washington.

PARIS, *April* 15, 1846.

MY DEAR SIR: The following is a true copy of his majesty's ordinance granting, at the request of the Minister of the Interior, to the "National Institute of Washington for the Promotion of Science and the Useful Arts" a copy, on fine paper, of the great work on Egypt. I trust that the members of the Institute and the citizens of the United States will receive this additional token of our brotherly feelings towards them with a gratification equal to that which I feel in transmitting to you this flattering intelligence, &c.

Your friend and obedient servant,

ALEXANDRE VATTEMARE.

Minister of the Interior, Division of the Fine Arts.

LOUIS PHILIP, KING OF THE FRENCH, *To all to whom these presents shall come, greeting:*

On the report of our Minister Secretary of State of the Interior, we have ordered and we do order as follows:

ARTICLE I. A copy, on fine paper, of the great work of the expedition to Egypt, is presented to the National Institute of the United States.

ARTICLE II. Our Minister, Secretary of State of the Interior, is charged with the execution of this ordinance.

PALACE OF THE TUILLERIES, *April* 5, 1846.

LOUIS PHILIP.

BY THE KING:

The Minister, Secretary of State of the Interior,

DUCHATEL.

P. S. I received at the same time the following letter from M. Lebrun, peer of France, Director of the royal printing office, and of the Journal des Savans.

PARIS, *March* 17, 1846.

SIR: I have the honor to advise you that, at my suggestion, his Excellency the Keeper of the Seals (Minister of Justice) has just granted to the National Institute a gratuitous subscription to the "Journal des Savans," including the volumes published since 1st January, 1844. These numbers, and those to be published hereafter, will be placed at your disposition, &c.

LEBRUN.

The continuation of this important work, with that of the Bulletin de l'Academie des Sciences, and numbers of other important publications, of which but one copy is to be disposed of in behalf of the United States, have been sent to me to be presented to the National Institute, &c.

A. V.

FRANCIS MARKOE, JR. Esq.,
Corresponding Secretary of the National Institute, Washington.

LETTER FROM DR. MACGOWAN, PRESENTING VARIOUS ARTICLES OF CHINESE MANUFACTURES.

NINGPO, *October*, 1845.

SIR: I beg to transmit for the museum of the National Institute the accompanying articles, to illustrate the state of some of the manufactures of this part of the Chinese empire. I purpose forwarding by some future opportunity a variety of seeds, with specimens of horticultural produce, with a view to their introduction into the United States. I am, sir, respectfully, yours,

D. J. MACGOWAN.

P. S. Does the Institute publish a journal of its proceedings? If so, I should be glad to receive a copy. Address D. J. Macgowan, M. D., Ningpo, China.

To F. MARKOE, JR., ESQ.
Corresponding Secretary of the National Institute, Washington.

List.

1. The common brick, used in the north of China for building purposes generally, but especially for thin, light walls. The groove on the upper surface receives a bamboo rod, connected at each end to posts which extend from the ground to the ceiling. They are well adapted for partitions in upper rooms, and in China are cheaper than boards.
2. The tile, used in the construction of thick walls. A series of hollow squares are formed with them, which are filled up with earth and rubbish.
3. The tile used for roofs. These articles are all made from a ferruginous clay which turns blue in burning. They are made of various sizes.
4. Straw shoes and sandals—articles which, at some future day, if not now, might be introduced into some parts of the Union.
5. Specimens of Chinese cutlery—a pair of scissors, a razor, and some needles. The first two articles are sold for between two and three cents each. Twenty-four of the latter are sold for a cent.
6. Specimen of the grass twine in common use in China.
7. A brush, of bamboo and hogs' bristles.
8. Soap made from lard and a species of steatite. It possesses active detergent properties, but is employed only for cloth.
9. Specimen of the candles made from the product of the tallow tree, (*craton sibiferum.*) The size sent sells for less than half a cent. The accompanying candlestick is of the usual form.
10. A Chinese lock and key; cost but five cents each.

The box will leave Canton for New York probably in December, and will be forwarded to Washington by my friends in New York.

LETTER FROM HENRY T. JOHNSON,

Offering suggestions and hints on the cultivation, manufacture, and consumption of various articles the similar growth of America and India, and of others which might be introduced into the United States with a prospect of success.

HONG KONG, CHINA, *April* 18, 1846.

SIR: Knowing the interest the National Institute, of which you are so active an officer, takes in whatever concerns the development of the resources of our common country, I am induced to offer you a few suggestions and hints on the cultivation, manufacture, and consumption of various articles the similar growth of America and India, and of others which might be introduced with a prospect of good success. They are made from personal observations and inquiries at the different places mentioned.

COTTON.—This product is cultivated throughout the vast regions of the east, between the latitudes of 30° south and north of the line, but nowhere is the quality equal to our own. The principal part which is grown comes from the Presidencies of Madras and Bombay, under the East India Company's government. It is also now attempting in Ceylon, but it will fail if it is attempted to be grown largely. The preparation is exceedingly careless and negligent, the quality of short staple, and very inferior. It is brought from the districts of Tinnivilly and Southeast India, in Madras, and Tutecoreen, Cochin, Guzerat, Surat, and other provinces of the Bombay government. It is always repicked and packed in those two cities, under the inspection of the native and European merchants, and pressed into bales containing not less than three hundred pounds by powerful screw presses, worked by *manual labor*, something on the principle of working a capstan on board ship, by capstan bars. Its principal market is China, where, on account of old prejudices, and its short, silky, tough fibre, it is preferred to American. The shipments to China rarely exceed two hundred and fifty thousand bales a year, and are falling off on account of the low price that manufactured cottons and yarns can be put down here from England and America. The consumption in China of manufactured cottons of various kinds, foreign and domestic, can be safely stated at fifty cents per annum for each individual of a population of three hundred and fifty millions. The consequence of this large consumption is extensive importations from America and England, chiefly confined to stout fabrics and yarns undyed. They are *thoroughly* acquainted with the art of dyeing in all its branches.

The Chinese, from remote times, have used cotton for various other purposes besides clothing. Their coverlets, answering the purpose of blankets, are used, as I understand, throughout the nation, north and south, in conjunction with woollen blankets. They are made by carding the cotton in layers, something or rather in the precise form of what we call "cotton batting" in the United States, and covered with calico ticking, quilted as we do at home. This, and the making it into mattresses and pillows, and also stuffing into clothes, which are quilted in the same way as their coverlets, makes a large consumption throughout the country. A Chinese in the southern provinces uses very little wool in winter, preferring silks and these stuffed cotton jackets and cloaks to any thing else. They likewise use it in large quantities, in conjunction with bamboo, for making the finest qualities of their paper. These facts are well worthy the attention of our cotton planters.

There is a large consumption of native-grown cotton in Java and the other Dutch possessions of the Eastern Archipelago, as there is also in the Spanish islands of Luconia and Mindinao. The Malays of these islands are very ingenious in the manufacture of their cotton fabrics, and make nearly enough to supply the demands of their several countries. They are tolerably acquainted with the art of dyeing, and their dyes stand well. If the Dutch and Spanish Governments were not so monopolizing in their policy, there would be, doubtless, a much larger consumption of American yarns and cotton fabrics in these vast continental regions of the east. It is a singular fact, not generally known, however, that Javanese and Bugese made cotton fabrics meet in the Singapore and Penang markets in large competition with English and American articles of the same nature.

The people of India will never be able to compete to any extent with the United

States in the cultivation of cotton. The nature of English and native capitalists is too monopolizing, obstinate, and prejudiced in its *effects* to perform any thing in this way to frighten us. Truly it is difficult to learn an Englishman any thing, on account of his strong prejudice of pride and conceit of the kingdom of Cockneydom and its subjects. They are likewise very expensive in their management of business, which is a great drawback to success in a full competition. It is difficult for an Englishman to make an estimate, unless based on large, and, according to his fashion, generous and liberal principles. He does not know how to cramp and economise like the Scotch, and never likes to do any thing in a small way. The consequence is a cumbrous and most expensive government of his Indian kingdom, but yet full of energy and power, which inspires confidence. The "Honorable John Company" can borrow money of the native and European capitalists at five and six per cent., when other parties, as merchants and others, have to pay seven, eight, and nine per cent. Singular facts in favor of John's honor, and likewise of his *penchant* for manufacturing offices, places, and jobs for his darling young scions of nobility and gentry.

The consequenee of operating on these principles is, that he meets a fearful competitor in his son Jonathan, who, in the first place, constitutes a cheap and liberal Government; secondly, sells his lands cheap; thirdly, taxes his children lightly; and fourthly, encourages emigration as much as possible. An expensive Government will always oblige the ruling power to levy heavy taxes to pay its officers and other contingencies, which will press on the means of subsistence of the poorer and middling classes of its subjects. It prevents the consumption of foreign products by lessening the facility of free competition with other nations, in some degrees favorably situated for performing what they themselves could do much cheaper by their heavy capitals. An instance of this is palpably evident, now operating throughout the British possessions in the east and west in the article of shipping. To assist to raise the several heavy revenues of the British Government, the East India Company, and the colonies, they are *obliged* to (or they do) lay heavy duties on the provisions, timber, and other articles from foreign countries used in ships and shipping. This of course induces the shipowners, in consequence of the great increase of expense, to ask a monopoly of shipping for their own crafts between their own possessions and from foreign countries. It need not be stated that this makes them careless, extravagant, and, consequently, monopolizing and lazy. It is a fact that an American ship can be sailed and worked on a short or long voyage for two-thirds the expense of a British or colonial one! The Americans carry less men and work them harder, but their provisions and treatment are generally far better than on board English ships. At this present time American ships are taking freight from India and China for 4 to £5 per ton to America, while English and Company's ships to India and Britain are asking and getting 5, 6, 7, and £8 per ton to their several destinations. And yet the American profits are better, because they sail much faster, and load and unload quicker. Can any thing plainer exhibit the effects of monopoly and high duties?

The entire growth of cotton in British India and Ceylon may be safely put down, after much inquiry on the subject, at 800,000 bales of 300 pounds each. The disposition of this crop, more or less, is nearly as follows:

Shipped to China from Calcutta, Madras, and Bombay.....230,000 bales.
Shipped to England from the same places.....200,000 "
Manufactured in India by hand looms.....570,000 "

The manufacture of cottons in India is still in a vigorous state in many parts, particularly in Madras, where the workmen are very ingenious. They are much superior in quality, as regards strength and durability, to any other. Their manufactures consist of longcloths, (selling in the markets under the style of Corahs, piece goods, &c.,) towels, sheets, bedticks, coverlets, tablecloths, maskelto nettings, &c.

Cotton seeds are used in India as food for cattle before and after they have been pressed. They make a good deal of oil from them for use in medicine—applied to the skin for clearing it of spots and freckles, and also, I believe, for burning and other purposes. Some years ago small quantities of oil were made in our southern States from the cotton seeds, and I do not see why it should not be made in an extensive way, for the purpose of lighting, oiling machinery, and other purposes. The seeds must be dried before pressing. The oil has been said to contain too much muci-

laginous matter to be used for burning. This may be got rid of by the same means that the oil manufacturers free common train oil from its gum.

Rice.—This article consists of numerous varieties, of which few know even the name, and is susceptible of a wider range of climate and temperature than cotton. It grows throughout the regions of the east, at all altitudes below those of snow and frost, and even in some parts of China where the rivers are frozen almost every year, as at the mouths of the Yang Tze-Kiang (33° north) in northern China, where the product is very large. Of late years it has been extensively grown at very low prices in the English settlements of the Malacca straits, particularly in Arracan, Province Wellesley, and other districts in that neighborhood. These countries have become, since 1836, large exporters of rice to *China*, and in years of scarcity to various parts of India, the Cape of Good Hope, and Mauritius, and sometimes to Persia and Arabia. Its price is generally from $1 to $1 25 per picul of 133⅓ pounds. Bengal is, however, the granary of the east, producing on its low grounds not only immense crops of rice, but wheat, and other esculent grains and pulses. In years of plenty large shipments are made at low prices to Arabia, the Red Sea, Persia, Muscat, and other countries of the east. But little Bengal rice comes to China. It is likewise sent to England, the Cape of Good Hope, the Mauritius, and Bourbon. At these two latter Islands they pursue the foolish policy of the West Indian and our southern planters, who buy *all* their provisions, and use their capital entirely in the production of coffee and sugar.

There are probably not more than thirty foreign ships—American, Spanish, Dutch, and English—which bring rice to China. It is procured by these vessels in the islands of Java, Luconia, Bally, Lombock, and other countries of the Archipelago. The price per picul (133⅓ pounds avoirdupois) in these countries is often as low as 60, 70, and 80 cents. But the greatest importations of rice into China come from Siam, where there is a numerous population of Chinese emigrants, and from the colonies of Honan and Formosa. It is likewise brought from Tonkin, Cochin China, Cambodia, and the islands of the Archipelago. From these several countries the Chinese junks, frequently of 500, 600, and 800 tons, bring the largest importations, which of course must be very great, as the duty is merely nominal and the consumption obtains among the whole nation of three hundred and fifty millions. It is literally the "staff of life."

Rice is cultivated in the east, on the lowlands, in a similar manner to our South Carolina and Georgia method, but of course not so scientifically. It is done mostly by small proprietors of two, three, four, and ten or twenty acres—seldom more. The whole family, men, women, and children, assist in the cultivation, gathering, and preparation for market. The harvest, in all parts of India and the east, is a great time of merriment, feasting, and jollity, particularly as I have seen it in India and the island of Ceylon. All the neighbors assist each other, when necessary, in the weeding, gathering, and preparation, and I may well add, universally in the eating of it. It is the custom to steam it for a short time before husking. The rice is then dried on small mats in the sun, and pounded in a wooden mortar, when it is cleaned by the women by sifting and winnowing in bamboo sieves, shaped like a flat shovel or scoop, with a raised rim around the part held by the hand. The steaming lightly enables them to get off the red skin with much greater facility.

Rice is raised in the mountains of Ceylon, India, and other parts of the east, on terraces formed by embankments made with much labor, where there are small intervals, with rivulets or brooks, capable of answering the purposes of irrigation. At a distance, when the grain is ripe, nothing can be more beautiful in nature than these cultivated terraces, interspersed with cottages—which are generally very neat and well kept in Ceylon and India in these situations, the mountaineers being a hardy, independent race of men, half embosomed in the shade of the beautiful and luxuriant trees and foliage of the tropics. These situations are very valuable and healthy, and, where there are three or four hundred acres available, usually appears a small village, with its shops, smithery, temple, and other appurtenances of oriental civilization.

Rice may be divided into two great orders, each subdivided into numerous species, cultivated at different altitudes, and in different temperatures, viz: that cultivated by laying it under water at certain times, and the other raised on dry land. In Bengal and all low countries throughout the east they pursue the same principles, by a more roundabout method, that we do in Carolina and Georgia, viz: by

laying the land under water, light ploughing, hoeing, manuring, &c. Their manner of gathering and preparing it for market is likewise on the same principle as ours: cutting it down with sickle or reaping hook, (with serrated teeth, cut only on one side of the hook, and at an inclination with the handle,) and pounding it in a mortar. It is never attempted to be polished, as with us, and *it is always much broken* in the preparation. There are but few qualities of Asiatic rice equal to American, and these confined to the edges of the tropics and the higher altitudes inland. There are no steam or water or wind mills, that I have heard or read of, in the east, which are used for facilitating the husking of the grain, and so cheapening its price and saving much of it from bruising and breaking. This is a singular fact. The English, with all their capital, have never, to my knowledge, erected a single rice mill or threshing machine in their Indian possessions, though they have, in conjunction with our own citizens, erected large and expensive establishments at Charleston, Savannah, and other places. From what causes this has arisen, when there are so many projects afloat in India, and have been for the last thirty years, and large English and native capitalists ready to embark in any undertaking promising a moderate profit, I am unable to conjecture. If some of our sharp southern planters or New England mechanics, acquainted with this subject, were to come out to India, particularly Calcutta, I have no doubt, with prudence and economy, they would eventually overcome all difficulties and realize handsome fortunes. But they must exercise much patience. The East India Company's government is very willing to encourage foreigners in any undertaking of this character.

The other quality of rice is raised on virgin land, on the highlands. The trees and brushwood are first cut down and burnt as clean as possible, when the ground (just after the rainy season has terminated, or rather a spell of wet weather) is sown broadcast with the rough rice. I really do not know if lowland rice is capable of being raised in these dry situations. The quality is always superior to any other, fetching higher prices. Rice throughout the east, before it is sown, is soaked, and even often allowed to vegetate, before it is put into the ground. At the time of sowing, and before it has taken root, there is much difficulty experienced from the birds destroying it. To scare these away they use precisely the same plans that we practise in the States to keep the crows from our cornfields.

These are facts interesting to our southern and western planters. As the price of cotton is so low at present, I have no doubt they would find it of great advantage, after felling the forest and clearing the new lands, to sow two crops of rice before they put in their cotton. The Cingalese sow two crops of rice *in the year* on these lands, and the yield is very great and of the finest quality. If they wish to cultivate them in rice another year they have to manure the land, and return the chaff and straw to the soil by burning. They never cultivate the same piece of land the third year, as this kind of rice is a *great exhauster* of the soil. Such lands are then left to grow up in jungle again for ten or twelve years, when it is again felled and planted. Probably our planters on the rich bottoms of Alabama, Mississippi, Louisiana, and Florida, by their skill and knowledge acquired after a few years, may be able, by manures and rotation of crops, to grow the two products of rice and cotton on the same land. In Java the Malays grow a change of crops on their lands, by sowing rice at the beginning of the season and tobacco at the end of the rice crop. The rice is flooded, and the tobacco is produced without the use of water. I was told by a gentleman resident in Manilla that he had frequently seen rice growing at the commencement of the season, and, after it had been reaped and the land turned over by ploughing and hoeing, waving with a rich crop of wheat. It may safely be stated that *rice* forms the staple food of the population of the following eastern countries:

China	350 millions.
Siam, Cochin China, Cambodia, and Tonkin	15 "
India	200 "
Indian Archipelago	20 "
Ceylon	2½ "
Arabia, Persia, Mauritius, Bourbon, and Madagascar	10 "

Sugar.—Sugarcane is grown in Bengal, Madras, Ceylon, the Malacca settlements, Siam, Burmah, Cochin China, China, Java, Luconia, Mauritius, Bourbon, and finally everywhere within the tropical east. The cultivation has surprisingly

extended in Bengal within the last five years, and since 1843, in Province Wellesley, (in Malacca Straits,) Ceylon, and Madras, particularly the last. In the Province Wellesley planters have entered largely into the speculation of sugar growing within the last year, from the East India Company having offered great facilities in the shape of very cheap lands. They have an abundant supply of Chinese laborers at very low rates, who are acquainted with the cultivation and growth of sugar in their own country. Their prospects are said to be very good, as the land is very rich, and they are near the seacoast; but the country is overrun with elephants, tigers, and other varmints. There are also a few estates in Penang and Singapore island. The quality of British Indian sugars is much better than formerly, as capitalists have erected large refineries and boiling-houses with all the latest improvements. In Bengal and Madras, and some parts of Bombay, they purchase the raw sugar or the cane from the cultivators, and grind and manufacture it into the different qualities to suit the English markets. I have no doubt that the English in India in a few years will be able to sell their sugars in England at four cents a pound with a good profit, as labor is very low and living cheap. The estates in Ceylon are only sufficient to supply the demand for that island.

The cultivation is also much extending in Luconia, under the Spanish Government, who are offering facilities to capitalists to grow the cane. Land is sold cheap, labor is low, and living very moderate. The only drawback is the want of roads and partial insecurity of the Government. Most of the Manilla sugar goes to England, New South Wales, and the British possessions in that quarter. Many cargoes of the Siam sugar are shipped to Bombay, the Persian Gulf, and the Red Sea, and much of it goes to China. The sugar of Java goes principally to Holland, some to England, and a few cargoes to America and New South Wales. That of Cochin China and Burmah finds its way to China or Bengal, where it is remanufactured. The Mauritius sugars are of very strong quality, and almost entirely consumed by the English refiners. The Chinese sugars are principally brought to Canton from the islands of Formosa and Honan, and the province of Fukein. The consumption in China is very great, but it may be often bought in Canton for from three dollars and a half to seven and a half per hundred. The latter price is for Canton refined or rock candy, which is of a strong quality. If the cost of freight were not so high it would leave a fair margin of profit for shipping to England and America. The sugars of Bourbon are shipped to France. The cultivation of sugar is not at present extending in Java, from the most of the lands susceptible of cultivation being already under culture, and from the monopolizing selfish policy of the Dutch.

Tobacco.—This article is of universal consumption in the east, and is grown in all the islands, and in China, India, and other countries eastward of the Cape. The best quality is grown in Manilla and Persia. The Manilla is sold entirely in the shape of cheroots, and it has the complete monopoly of the eastern market among Europeans and their descendants. The Persian is principally sold among the Arabs of Arabia, the Red Sea, Egypt, and Judea. It is of very fine quality. An account of the cultivation and preparation may be seen in Porter's Tropical Agriculturist. The tobacco of Trinchinopoly, in Madras, is also very fair, and is much used in the manufacture of cheroots, the consumption of which is large among certain classes in the Presidencies of Madras and Bombay and the island of Ceylon. The tobacco of Java is not so good in quality, and the consumption principally confined to that country and to a small extent in China. The tobacco of China is of very inferior quality, very weak, and of unpleasant flavor. Tobacco is used throughout the east in combination with the areca nut, betel leaf, and other stimulating articles, as a masticatory. They are ten times filthier than tobacco chewers. If small shipments of the best American *leaf* tobacco were made to China, at low prices, it might, in the course of a few years, become a considerable export to that country. The East Indies at this time offer also a very good opening for the cigars manufactured in our different eastern towns of Spanish tobacco. They ought never to be shipped, however, even of the best qualities, at a higher price than twelve dollars per thousand. An article between eight and ten dollars would, I am convinced, if the quality were fair, always meet with a fair demand in India, Ceylon, Mauritius, the Cape, and China. The price of the best Manilla cheroots is seldom under eleven dollars per thousand.

Much of the tobacco of Java goes to Holland in baskets. The Burmese tobacco is of very good quality.

Coffee.—This article is not cultivated by us, and all our lands are subject to the visitation of frost, which speedily kills the tree. The cultivation of coffee is not extending in Java, but it is in Luconia and Sumatra. The coffee of Sumatra is not first rate, from the bad preparation; that of Luconia is among the best. The cultivation of coffee is very much extending just now in the Madras territory, on account of the lowering of the duties in England, which is bringing it into consumption; but the quality is very poor, from the ignorance of the natives.

But the greatest field which has been opened for the cultivation of coffee for the last ten years is undoubtedly the fine cool mountain lands of the island of Ceylon. The Government, to induce the cultivation of the article, in 1839 sold the land in fee simple, with a good title, for five shillings sterling per acre. It had previously been tried in various localities and proved successful. Such was the demand for these lands after 1841, that the Government afterwards raised the price to one pound an acre, and finally to two pounds in 1844.

No country is better suited for the cultivation of coffee than the island of Ceylon, as respects soil and climate. They have also great facilities in procuring laborers from the Malabar coast, at a cost of seven pence sterling per day. The Government is safe; but, like all other English colonies, very expensive. Ceylon is one of the few colonies which pays its entire expenses, civil and military, and is no burden to the mother country.

There are not far from five or six hundred estates at the present time in the interior of Ceylon, having not far from three millions of pounds invested in the cultivation of this commodity. The quality is very superior, and I have seen it sold in the island for a higher price than Mocha. The yield of the trees is also very heavy, often producing six, seven, and eight pounds a tree, and always, in good situations, an average of three pounds on the whole estate's crop. Eight hundred trees are planted to the acre. The exportation to England in 1846 will be very large, as most of the estates will be in full bearing by the end of the year.

Many are the fortunes lucky individuals made in Ceylon during those years in which we experienced such great commercial and financial difficulties in England and America. The whole business has sprung up since 1837, and, generally, on solid bases, being the investments of civil and military officers, and English and Indian capitalists. The rage for lands is at present very great, and doubtless the consequence will be an overproduction and great fall of prices. Those persons who have estates in bearing now (for the tree comes into bearing in three years) are reaping harvests of gold, and the consequence is great prosperity in the country and extravagance of living. I have seen a good many old West Indians who had come out on hearing from their friends the prospects of those engaged in the business. But John Bull, with his horde of hungry officers, will soon lay the stripes of taxation and monopoly on the backs of these lucky individuals. Some of the cautious old hands are even now, while the estates are yielding such handsome profits, quietly eking out of the market.

Ceylon offers also many openings for the cultivation of the cocoa nut and sugar-cane; the first of which is a valuable product, and has been the staple of the island from time immemorial. Yet the demand is very great, and cocoa-nut lands are worth, at the Government land sales, two pounds per acre. The tree comes into bearing in seven years, and after the second year needs no further attention.

A small number of men is sufficient to keep one hundred acres in order. The cocoa nuts are sold as they drop from the tree to the Mahomedan merchants of the island, or broken, and the kernel taken out after it has been exposed to the sun for a few days, and sold to the English merchants, who have large mills in Columbo for making the oil for shipment to India and England. It is used in England for making candles, and in India for burning, cooking, &c. Arrack is manufactured from the spatha of the flower before bursting, by tapping it and suspending an earthen pot over night at the incision. It is then fermented, and afterwards distilled in the small distilleries which line the whole coast of Ceylon for five hundred miles, for the entire seashore of Ceylon is belted with these useful trees. The fibrous covering of the nut is taken off for making "coir rope," which is used throughout the east in the rigging of vessels and for every purpose for which rope is wanted. It forms a large article of export to England and India, and is afforded at very low prices. The cocoa-nut tree is likewise used for making canoes, houses, and for various other purposes. The seams of their small schoon-

ers, called "dhorices," and of their boats, are never made close like ours, but filled with the loose coir, and *sewed* with the lacings of bamboo, ratans, and other fibrous plants, and the timbers not kept together in any way by nails or spikes. The ribs of their boats are also few in number. The reason of this singular construction is, that the surf is so high and dangerous all around the island, that these boats are able to stand the terrific thumpings caused by the heavy swells of the ocean, where an American or European boat or vessel of the same size would go to pieces in twenty minutes. The value to the island of Ceylon of the cocoa-nut tree cannot be far from three millions of pounds per annum.

The best quality of cinnamon, called the "true cinnamon," is only grown in this fertile island, not far from the seacoast. The Government have sold out their monopoly of the Cinnamon Garden to private parties, who are making a very good thing of it. The colony levies an export duty of sixpence a pound, which brings in a considerable revenue. The nutmeg, clove, and spice is likewise grown in Ceylon, but not as yet to any extent, though the experiments made have all succeeded. The black pepper is also grown with much success, but not as an article of profit. Cotton has been tried, but will be able to do nothing in competition with the American and Indian.

The Bamboo Cane.—This article is similar in its appearance to the "cane" which grows in our southern States, and the numerous purposes to which it is applied in India and China astonishes an American. It is a much larger variety than ours. It is used for fences and hedges, for making paper, for laths, for scaffolding for builders, for making rope and cables, (it is always split by sharp drawing knives, after being soaked in water, before it is used for this purpose,) making drinking cups, baskets, hats, and other uses which it would be difficult to enumerate. The consumption of paper manufactured from the bamboo is of almost infinite variety of quality in India and China. The bamboo is cut down when not too old, split, and then soaked in water. It is afterwards cut up into small billets and pounded in mortars until all the fibre is separated and reduced to a pulp. It is said then to go through nearly the same method of preparation as we have in America and Europe. The paper this is written on is made for the use of foreigners, and is sized with alum and a glue made from seaweeds. Some of the finer kinds are made by mixing refuse cotton and cotton rags. This quality is made principally at Nankin. Large shipments are made to all parts of the Archipelago of the inferior qualities of Chinese paper. There are two European establishments for manufacturing paper at Calcutta which use bamboo freely. The Calcutta press is principally supplied by these two establishments. One of them is owned by Mr. Marshman, son of the late Dr. Marshman, of the English Baptist Missionary Society at Serampore, a short distance above Calcutta. The other belongs to a Parsee gentleman. I do not see what is to prevent our countrymen from entering into the business by using the article which grows so plentifully at the south and west. It evidently only wants application and a little attention to show that we can do with the same article what the Chinese and Hindoos have done with it from time immemorial. The young shoots of the bamboo, as they emerge from the grounds, are also *extensively* used in China as a vegetable and pickle.

White and black Mustard Seed is grown in large quantities in continental India, for the purpose of pressing into oil, which enters into the consumption of Indian cookery to a greater extent than any other vegetable oil. It is also used for burning where cocoanut oil is dear. The seeds are also exported in large quantities to England, for the manufacture of mustard. Jute is raised in large quantities in Bengal, for the manufacture of gunny bags and gunny cloth, used in these countries for bagging coffee, rice, seeds, &c. The cloth is used for making tents, cotton bagging, &c. The raw fibre is used for coarse ropes for the baling of cotton, hides, hemp, mats, and various other purposes.

Linsced is sent in large quantities to England and America for pressing into oil. It is chiefly grown in Bengal. The article we call peanuts or groundnuts, in America, is largely used in China and some parts of India for the purpose of making into oil for burning. The Chinese use large quantities of it for this purpose, but it is not so good as some other vegetable oils for giving light.

The following is a recipe for making cocoa nut oil soap, which, with bene oil, is used exclusively in India, and is very strong. Possibly cotton seed or lard oil may be substituted for cocoanut and bene. It has the property of washing in *salt*

or hard water. It is manufactured largely in the cocoanut district along the Malabar and Coromandel coasts, particularly at Tranquebar:

Overmunnoo and poonheer, (native names for substances containing *soda*, used likewise in dyeing, bleaching, tanning, and making native glass.) common salt, saltpetre, and lime; *proper* proportions of each of these being chosen, they are bruised together, and to the whole is added water sufficient to dissolve their active properties; the mixture is well agitated for several hours, and allowed to stand for three days. The clear liquid is then drawn off and boiled to the same consistence as we do our soaps. The *oil* is put in when the liquid *begins* to boil.

Gambier (i. e. cutch) is extensively grown in the island of Singapore, for the purpose of being boiled down to an *extract* used for tanning leather in England, and in China for mixing with betelnut as an astringent. The plant is a small shrub, which grows up quickly, and is principally cultivated by the Chinese emigrants in the Strait settlements. Could not madder, sumac, quercitron, and other vegetable substances used for dyeing and tanning, be concentrated in a similar way—thus saving much expense of freight?

The sesamun, bene seed, or *gingilee* oil is much used for burning, cookery, and medicine in the south of India. The leaves of the castor oil plant are used in some parts of India for feeding *silk*-worms. The castor oil bean is pressed in large quantities in Calcutta for the English and native markets. It is of better quality than any other in the world. In some parts of the country it is used for burning. In China it is used in medicine. The Chinese also use large quantities of the young soft horn of the deer for *medicine*. It brings sometimes the price of five dollars per catty (one and one-third pound.)

Indigo.—This article is produced in the largest quantities and of the best quality in Bengal. Some good qualities also come from southern India, by the way of Madras and Bombay. It is also grown to much extent in Manilla and Java. The Chinese, who use blue dyes extensively for their cottons and silks, are the principal consumers of these last qualities. That of Bengal and Madras goes to Europe, Arabia, Persia, the Red Sea, and America. The indigo plant is grown with the greatest success in precisely the same kind of country, and nearly the same latitudes, as the lower part of Louisiana, Florida, and Alabama. What is to prevent our planters embarking in the speculation but want of knowledge on the subject? It is at present the most valuable staple of India after rice and opium, and supplies the markets of the world, with but small exceptions. But it is right to mention, though the profits of it are large, that it is attended with great risk, and many fortunes are gained and lost in the business in a period of three years.

There are large quantities of *liquid indigo* used by the Chinese, which is grown and manufactured for them by their countrymen in Luconia. How it is made. I am not aware of.

There are likewise many other eastern products which might be grown in our southern States bordering on the Gulf. The Mangoestein, which grows in Siam, and Dorian plum in Java and Malacca, I have very little doubt, could be grown there. Probably the bread fruit might also be propagated in those countries; and if the banana and plantain are not already there, I do not see why a trial should not be made of them, as well as the cocoanut. Probably the southern part of Texas would grow these articles as well as be admirably suited for indigo.

Indian Corn.—This article is grown throughout India, China, Java, Luconia, and other parts of the east; but it does not enter much into the consumption of the people of this part of the world, except to a limited extent by the Chinese and in the south of India. The English in India do not understand or appreciate the value of it as an article of food either for man or beast. The Chinese cook it in the same way as we do in the green state. It is not exported.

Gram.—This is a grain of a similar species to our buckwheat, only the corns are much larger and of a red color. It has a three-cornered shape. It is grown all over India, but principally in Bengal, in the same latitudes as the lower part of Alabama, Mississippi, and Louisiana. It is used throughout the Company's territories as the staple food of horses, elephants, camels, sheep, &c. It is used but little for human food. I have never heard of Indian corn being used for feeding animals in India. *Gram* and *rice paddy* are universally used for these purposes in British India, and the consumption is immense. It is exported to Madras, Mauritius, Cape Colony, and Bourbon. It is always soaked for half an hour in water, and the paddy pounded before given to the animals.

YAMS.—These grow in almost every part of India, but are much inferior to the West India and Ceylon. *Cocos*, a root of a similar species, are grown extensively in the English settlements of the Straits of Malacca, and used in the same way as we do potatoes. They are capital farinaceous food when of good quality, and the product very large. They are quite as good as the West India root of the same name. Radishes, of a large species, are grown in the Malacca settlements and China, frequently weighing five and six pounds, of good flavor, and not pithy. They are used by the Chinese in large quantities, the same as we do turnips, and they are very *sweet* and nutritious. The tarro plant is also grown in China and the Indian Archipelago, and forms a large staple of food for the lower class of people. They were introduced from the South Sea Islands. They are grown on poor sandy soils. The okra plant and tomatoes grow every where in India, but they do not understand how to use them. They are generally put in curries.* Carrots of a *particularly fine* species are grown in China. They are very sweet and nutritious. They have not that rank, strong taste that ours have. They are largely used by the people here, as are cauliflowers, cabbages, and other vegetables we know of. The cabbages are much used by them in the same way as the Dutch sourkrout. The sweet potato plant forms a large item of consumption in China, the Archipelago, and Malacca settlements. They are grown on the thin sandy soils of China, by a constant system of high manuring with the contents of privies. The Chinese understand the art of manufacturing and applying manures to the soil, better even than the English or Belgians. The business is a very extensive one, and employs a great number of laborers, particularly in the gathering preparation and sale of human excrements and urine. They have been acquainted with the use of lime as a manure no one knows how long. All substances that cannot be readily manufactured are gathered up by numerous laborers among the poorer classes, and sold to the farmers and manufacturers for being burnt to get the ashes.

Many of the trees of the East might be introduced into our Southern country. I have never seen the "Pride of India" in this part of the world growing as large as it does with us; it seldom grows above ten feet. The wild mulberry I have frequently seen. The teak tree, tallow tree, and other beautiful shrubs and trees, may be introduced with great certainty of success, as they grow in precisely the same latitudes as Louisiana and other Southern States. I have no doubt the tea shrub would grow in the cool hills and rolling country of Texas, as they are in about the same latitude as the tea districts of China. It stands frost.

The gardeners in China grow a kind of fruit called "Chinese plums," precisely of the flavor of our persimmon, but as large as our largest tomatoes. It contains eight or nine seeds, similar to the persimmon. These, and another fine fruit called *lichees*, are grown very extensively in the interior and middle of China. A small delicate kind of pumpkin, weighing about a pound each, is cultivated in the neighborhood of Nankin, and sold to a considerable extent.

There are some curious plants in New Holland, Van Dieman's land, and New-Zealand, which might be introduced with us. There is a curious tree in New Holland called the *grass tree*, which I understand is fed to cattle and sheep. In New Zealand they have a species of fir which produces *at the roots* a curious resin or gum, partaking of the nature of *copal* and rosin. It has a slight terebinthine taste, and burns with a heavy thick flame. It is of light amber color, brittle, perfectly transparent, and of pleasant agreeable odor. It has been shipped in considerable quantities to England within the last year. There is another species of *tree* in the same islands which produces from the *roots* the celebrated New Zealand flax, which is largely exported to England and Australia.

Most of the islands in the Archipelago are claimed by the Dutch, even to New Guinea and Borneo! It is only to be hoped that neither England, France, nor

* The following is a good recipe for curries, used throughout India by Europeans and natives, and eaten with rice: Take three cayenne peppers, viz. turmeric, in the root, (the powder does not keep good,) one dozen grains of black pepper, one dozen seeds of coriander, a quarter of a cocoa-nut grated, a few grains pimento and cummin seed, two garlics or onions, a few grains of mustard seed, and a table spoonful of butter. Pound all the articles in a mortar, excepting the butter and cocoa-nut, adding a little water, until reduced to the consistence of heavy brown sugar. Put into your curry a half pint of water, and fish, flesh, or fowl, that you wish to curry and boil for an hour. The cocoanut may be omitted, but it is a great addition. Serve your curry up with rice, and eat the same as a stew. Any kind of vegetables may be substituted for the meats, or if you like put in along with them. A good curry is one of the most delicious things in the world to eat, and forms the every day meals of Asiatics.

America will pay any regard to the preposterous claims of Holland in this respect. They treat the natives very cruelly and unjustly, and their policy is of the most narrow and exclusive character. No Europeans but Dutchmen can get a footing where they are strong, as they are immediately ordered off. They have likewise nearly destroyed the effect of their treaty of 1824 with England, by making countervailing laws of protection for shipping and manufactures entirely contrary to every fair principle in the construction of treaties. They have now the effrontery to complain of the English forming settlements in Borneo, in parts where a Dutchman has never set his foot, and is even afraid to do so, as he knows with what strong hatred he is viewed by the Malays.

The Chinese, in all the islands claimed by Holland and Spain, carry on a large and lucrative commerce in their junks, with their fellow countrymen settled in these countries; as also with the English settlements in the Straits of Malacca, where the number of Chinese emigrants is said to amount to five or six hundred thousand. In the great islands above mentioned large numbers of Chinese agriculturists and artisans emigrate every year, particularly to Java, Borneo, and Sumatra. They are an industrious and plodding race of creatures, very patient, but also very proud, and the most arrant cowards in the world. John Bull, to his credit be it spoken, treats them with great kindness and justice, and throughout the East every man, from the Governor down to the lowest Hindoo, is the same in the eyes of the law, and has as fair a chance of getting justice, if he will have the patience to hang out against the delays of the law. It cannot but be confessed that throughout India, England shows the strongest desire to govern in the spirit of humanity and freedom; though she does it in a different way to what would appear at first sight to be the best. There is, however—and it ought to be known to Americans that the best class of Englishmen in India admit that there is—much room for reform, retrenchment, and *close* watching of officials and the Government. The liberal party in England and India ought to insist on a retrenchment of the expenses of the Government and a curtailment of the company's power, cautiously introduced. It will not do to carry on reforms with too high a hand in India, as the people are with difficulty induced to forsake old ways, however injurious. It may be said with truth also, that the British Government is beloved by the great bulk of the population of Hindostan, and they have only to confirm this conviction by the general introduction of the English language and English literature. One hundred thousand white men cannot always govern a hundred and fifty millions, even of ignorant heathen. Education should be extended to the lowest of the population, which will raise them from their present degraded and disgusting superstitions to the level of intelligent beings.

The English colonies in New Holland are just now said to be in a prosperous state, and the commerce increasing rapidly. The resources of the country are becoming every day more developed, and their only drawback is the want of capital and of good steady emigrants. They have lately discovered valuable deposites of copper, iron, and lead in the colony of South Australia, near the seacoast, with every facility for shipping. Several ship loads of copper ore have been shipped since August, 1845, to England. Their whale fishery is also extending, as is likewise the raising of sheep and cattle. The exports of wool have much increased since the rise in price. I could not help but notice, in reading some of their papers lately, a spirit of independence, keen discussion, and great energy and elasticity of mind. They also are quarrelling and wrangling (and particularly in Van Dieman's land) with our common father, John, on account of the very expensive nature of his disposition and the obstinacy of his character. John will have to give in in the end, and reduce the extravagant salaries of some of his sons, and their fondness for high living and dissipation. The Kangaroos won't stand it, as they are of Anglo-Saxon blood, and the children of a hot sun.

I have often been surprised that our citizens have never extended their travels to oriental regions, particularly some of our Southern people, as there are objects highly interesting to be seen. If some of the Southern agricultural societies were to raise a fund to pay the expenses of two gentlemen, practical agriculturists, they would derive the most valuable and interesting information concerning many articles which might be introduced with great profit into our country. They might be sure of being made heartily welcome wherever the English are located, only they would have to be careful, as they ought to be, not to offend John's prejudices, and

particularly not to get into broils on the subject of slavery. The wisest course for an American to pursue abroad in this respect is to waive the subject, or quit the company, as it is of very little use reasoning with foreigners in the matter. If you cannot make up your mind to pursue either of these plans, give your opponent a clout in the face, when, as is most likely, you will get a return, which will end in set fisticuffs, when you will be satisfied, if a hero.

If any American gentlemen should conclude to travel in India, they ought to be careful to do so in the healthy season, that is, from November to March.

There are some valuable and unique agricultural, religious, and scientific journals published in India, which are invariably filled with *original matter* relating to the country. There are also agricultural societies in Ceylon, Calcutta, Bombay, and Madras, &c., which every year give a vast fund of information to the agriculturists of the country. There are likewise superior breeds of dairy and working cattle, goats, hogs, horses, poultry, and sheep, in India, which might be introduced with great and undoubted success in our Southern country. On the Malabar coast there is a superior breed of long-horned cattle, as there is also of sheep and goats, and likewise the celebrated Cochin fowls. I have seen from the north of China a superior kind of long silky-haired *sheep and goats*, with branching horns, which I am convinced would be a great improvement on some of our breeds.

There is a kind of sheep mentioned by Moorcroft in his travels in Upper India, as having wool of very superior quality, and the flavor of the mutton very fine—of one kind the breed is so small that at their maturity they are no larger than our lambs five or six months old. These are called Purik sheep; they inhabit a region very similar in temperature and latitude to our extreme southern Alleghany chain.

In the north of India, in the Hamalayas, is found a large species of sheep, used by the natives for carrying burdens of thirty or forty pounds. It has large branching horns, and in winter the hair is very fine, and they assume a long majestic beard. Some of the wool is as fine as the hair of the cashmere goat. It is called *burrel* in these parts. In Nepaul they have another variety of small sheep, with fine wool, called *kahgai*.

There is another subject which might be mentioned. Why could not Chinese emigrants be introduced into our Southern country as agriculturists and mechanics. They are good sugar and rice growers, bricklayers, carpenters, and blacksmiths, and could be imported very cheap. Doubtless one day some plan will be formed to carry into effect a scheme of emigration at a cheap rate. The Chinese brick-makers make very handsome *sun-burnt bricks*, with which they build *all* their houses. They cannot afford wood to burn them properly. The plasterers are likewise very skilful in making figures in lime and mortar, with which every considerable Chinese house is adorned. They have a curious water-wheel, made by connecting a number of paddles on hinges of bamboo or ratan, and turned by a wheel worked by two persons. This wheel is used for emptying ponds, mines, and cellars, for irrigation of land, filling casks, &c. The whole is made of wood, and works on a similar principle to the water-band, and can be made for ten or twelve dollars. It is transported from place to place on two men's shoulders. Their *blacksmiths* likewise make capital carpenters' and other mechanics' tools by the simplest processes, generally using charcoal for fire. Their stonecutters' chisels are very hard steel, and the hammer he uses of soft iron. They are capital stone-dressers.

The Chinese preserve eggs in the following manner: They take soft clay and a small quantity of salt, and mix together to form a paste, and smear the eggs with it. They will keep a long time in this. In India eggs are kept fresh for long periods—perfectly fresh, in the poorer kinds of salt, which are about the consistence of sugar found at the bottom of molasses casks. If some cheap plan could be formed for preserving eggs in our Western States, they would form a large article of export to the West India islands and England.

There are two articles which are singular in their nature and of great value, which are of great consumption in China, viz: bird-nests and the sea-slug, called *beche de mar*. The bird-nests are taken in all the islands and mainlands of the China seas, and are sold at from eighty dollars to two hundred dollars per picul! The beche de mar is caught on the coral reefs in the neighborhood of New Guinea, Palawan, Borneo, the north of New Holland, Torres Straits, the Fejee Islands, and,

finally, throughout the eastern islands, where the coral insects breed. The Chinese junks go as far as Java and Borneo for the purpose of fishing for them, and, as the business is accompanied with much hazard and risk, the article is sold very high. Some American and Australian crafts have been engaged in this fishery, and also that of tortoise fishing, for many years, with good profit; but we know of no extension of the trade. The price ranges from eight dollars to one hundred and twenty dollars per picul, according to the size and quality and place of taking. The largest and cleanest are the highest in price. They are prepared for market by *slightly* salting and smoking until they become dry and hard. They are said to be very nutritious as an article of diet. I think if some of our sharp down east people would fit out small brigs for this fishery, *always carrying arms*, it would be a source of much profit to the adventurers. Their voyage could be completed in eighteen months.

If our Western farmers or merchants could afford to ship butter to India at low prices, say at six to eight cents, it would always meet an extensive demand there, as the consumption, under the name of *ghee*, is very great. The price realized in India for an article such as is made for these prices, (it should be sweet, and if a little oily does not matter,) would be from eleven to fifteen cents per pound.

The Chinese are large consumers of pork, lard, and oil. If we can afford these articles at low prices, it might hold out inducements for them to purchase, but not without. Probably New South Wales will have the monopoly of these articles in the Chinese market, if they should become large consumers, as provisions are sold very cheap there now. Our lard oil might find a good market if sold low, but I have very little knowledge on this subject. New South Wales will be a keen competitor with other countries in a few years for articles for the Indian and Chinese markets which Western countries have heretofore furnished. If they can sell their copper cheap it will be used very extensively in India and China, and affect the value of our new copper mines in Wisconsin and Iowa. Copper obtains a very great consumption throughout the Eastern world.

Hoping you may be able to cull some useful hints from these lengthy remarks, I have the honor to subscribe myself your obedient servant,

HENRY T. JOHNSON.

To Francis Markoe, Jr., Esq.,
Corresponding Secretary National Institute, Washington.

LETTER FROM SURGEON GENERAL LAWSON,

Presenting to the National Institute a valuable collection of the birds of the United States, in the name of Dr. E. H. Abadie, U. S. A., by whom they were collected and prepared.

Surgeon General's Office, Washington, *May* 11, 1846.

Sir: Under the discretion conferred upon me by Assistant Surgeon E. H. Abadie of the army, who lately forwarded to this office a collection of the birds of the United States prepared by himself, "either to form the nucleus of a cabinet for the Medical Department of the Army," or to be presented "in the name of the Medical Department of the Army to the National Institute or to any other scientific institution," I beg leave to offer them to the National Institute.

From the enclosed list you will perceive, that the cabinet consists of nearly two hundred and fifty specimens, all, I believe, in a pretty fair state of preservation.

In presenting this valuable collection of birds to the National Institute, I cannot do better than to accompany it with the communication of Doctor Abadie to myself, in which he so handsomely surrenders into my hands for the benefit of the public, the fruits of his industry and care for many years.

I have the honor to be, very respectfully, your obedient servant,

THOMAS LAWSON, *Surgeon General.*

Francis Markoe, Jr., Esq.,
Corresponding Secretary of National Institute, Washington City.

DR. ABADIE'S LETTER.

FORT MIFFLIN, PENNSYLVANIA, *August* 8, 1845.

SIR: Herewith I enclose a correct list of the collection of birds I tendered to you last fall, which you did me the honor to accept; either to form the nucleus of a cabinet for the Medical Department of the Army, or to be disposed of as you may deem it expedient, by presenting it in the name of the Medical Department to the National Institute, or to any other scientific institution you may prefer.

I regret very much, that during my long absence from home, what was a very complete collection of the birds of the United States, should, from want of proper care and attention have been reduced to some two hundred species only: fortunately, many very rare species have escaped destruction, viz: the Carracara Eagle, male and female, Florida Jay, Canada Jay, Cliff Swallow, a new species of Tyrant Fly-catcher, Ibis Fusea, Brown Crane, Spoonbill, Darter, Guillemot, Petrel, &c., &c.

I have retained, thus long, the list, for the purpose of availing myself of opportunities afforded here to replace some specimens, or to renew such as were not as good preparations as I could have wished: I will continue to do so in order to make the collection a complete one.

I would call your attention to a curious preparation accompanying the "Whistling Swan" of its sternum, showing the singular manner in which the trachea after reaching it, dips between the lamina of the bone, which separate to receive it; making a turn upon itself near the enciforms cartilage, it returns to the entering point and goes to be distributed in the usual manner to the lungs. Thus more than a third of the trachea is actually contained within the sternum, the external coat of the trachea being continuous with the internal periostium of the bone.

The birds are accurately labelled with the English and Latin names; they are securely packed in two boxes, ready to be shipped through whatever channel you may please to indicate.

I have the honor to be, very respectfully, your most obedient servant,

E. H. ABADIE, *Assistant Surgeon, U. S. A.*

THOMAS LAWSON, M. D.,
Surgeon General U. S. A., Washington City, D. C.

LIST OF NORTH AMERICAN BIRDS.

Arranged in accordance with the nomenclature of C. L. Bonaparte.

ORDER 1.—ACCIPITRES.

Family Rapaces.

2 Caracara Eagle, male and female, Polyborus braziliensis, Audubon.
1 Great Footed Hawk, Falco peregrinus.
1 American Sparrow Hawk, (male,) Falco sparverius.
1 Pigeon Hawk, Falco columbarius.
1 Broad-winged Hawk, (female,) Falco pennsylvanicus.
1 Black Hawk, (female,) Falco niger, Sancti johannis.
1 Winter Falcon, Falco hyemalis.
1 Red-shouldered Hawk, (young, male of above,) Falco hyemalis.
1 Marsh Hawk, (female,) Falco cyaneus.
1 Slate colored Hawk, (female,) Falco velox.
1 Mottled Owl, Strix asio.
1 Great Horned Owl, Strix virginianus.
1 Short Eared Owl, (female,) Strix brachyotos.
1 Barred Owl, Strix nebulosa.
1 White or Barn Owl, (female,) Strix flammea.

ORDER 2.—PASSERES.

1 Carolina Parrot, Psittacus carolinensis.
1 Yellow-billed Cuckoo, Coccyzus americanus.

1 Black-billed Cuckoo, Coccyzus erythrophthalmus.
1 Ivory-billed Woodpecker, Picus principalis.
1 Pilrated Woodpecker, Picus pilratus.
1 Yellow bellied Woodpecker, Picus varius.
1 Downy Woodpecker, (female,) Picus pubescens.
2 Belted Kingfisher, Alcedo alcyon.
2 Meadow Lark, Sturnus ludovicianus.
1 Baltimore Oriole, Icterus baltimore.
1 Orchard Oriole, 2d year, Icterus spurius.
1 Orchard Oriole, 4th year, Icterus spurius.
1 Red-winged Starling, (male,) Icterus phœniceus.
2 Yellow-headed Troopial, (male and female,) Icterus xanthocephalus.
2 Cow Bunting, Icterus pecoris.
1 Rice Bunting, Icterus agripennis.
1 Rice Bunting, changing from winter to summer plumage.
1 Purple Grakle, Quiscalus versicolor.
1 Rusty Grakle, Quiscalus ferrugineus.
2 Crow, Corvus corone.
1 Magpie, Corvus pica.
1 Blue Jay, Corvus cristatus.
1 Florida Jay, Corvus floridanus.
1 Canada Jay, Corvus canadensis.
1 Cedar Bird, Bombycilla carolinensis.
1 Chuckwill's Widow, Caprimulgus carolinensis.
1 Chimney Swallow, Cypsetus pelasgius.
1 Purple Martin, (female,) Hirundo purpurea.
2 Barn Swallow, Hirundo rufa.
1 Barn Swallow, turned white, probably by age.
2 Fulvous or Cliff Swallow, (male and female,) Hirundo fulva.
2 White bellied Swallow, Hirundo bicolor.
1 Bank Swallow, Hirundo riparia.
1 Tyrant Flycatcher, Muscicapa tyrannus.
2 Great Crested Flycatcher, Muscicapa crinita.
1 Large Tyrant Flycatcher, killed at Tampa Bay, Florida, where it breeds, A nondescript.
1 Pewit Flycatcher, Muscicapa fusca.
1 Wood Pewit, Muscipaca virens.
1 Small Green Flycatcher, Muscicapa acadica.
1 American Redstart, Muscicapa ruticilla.
1 Yellow brested Chat, Icteria viridis.
1 Yellow throated Flycatcher, Vireo flavifrons.
1 Solitary Flycatcher, Vireo solitarius.
1 White-eyed Flycatcher, Vireo noveboracensis.
1 Warbling Flycatcher, Vireo Gilvus.
1 Red eyed Flycatcher, Vireo olivaceus.
1 Great American Shrike, Lanius septentrionalis.
1 Mocking Bird, Turdus polyglottus.
1 Cat Bird, Turdus felivox.
1 Robin, Migratory Thrush, Turdus migratorius.
1 Ferruginous Thrush, Turdus rufus.
2 Wood Thrush, Turdus mustelinus.
1 Hermit Thrush, Turdus minor.
1 Golden-crowned Trush, Sylvia aurocapilla.
1 Water Thrush, Sylvia noveboracensis.
1 Yellow Rump Warbler, Sylvia coronata.
1 Yellow Rump Warbler, in winter plumage.
2 Palm Warbler, Sylvia palmarum.
1 Black and Yellow Warbler, Sylvia magnolia, maculosa
1 Cape May Warbler, Sylvia maritima.
2 Canada Flycatcher, Sylvia pardalina.
1 Hooded Flycatcher, Sylvia mitratata.
2 Chesnut Sided Warbler, Sylvia icterocephala.

1 Bay-breasted Warbler, Sylvia castanea.
4 Black poll Warbler, (male and female,) Sylvia striata.
3 Black and White Creper, (male and female,) Sylvia varia.
2 Pine Creeping Warbler, (female,) Sylvia pinus.
1 Hemlock Warbler, Sylvia parus.
1 Prairie Warbler, Sylvia discolor.
1 Blue-eyed Yellow Warbler, Sylvia cretiva.
1 Blue Yellow-backed Warbler, Sylvia americana.
1 Black-throated Blue Warbler, Sylvia canadensis.
1 Maryland Yellow Throat, Sylvia Trichas.
1 Mourning Warbler, Sylvia philadelphia.
1 Pine Swamp Warbler, Sylvia sphagnosa.
2 Cœrulean Warbler, (male and female,) Sylvia azurea.
1 Blue Gray Flycatcher, Sylvia cærulea.
1 Worm-eating Warbler, Sylvia vermivora.
1 Blue-winged Yellow Warbler, Sylvia solitaria.
1 Nashville Warbler, Sylvia rubricapilla.
1 Blue Bird, Saxicola sialis.
1 Brown Lark, Anthus spinoletta.
1 Ruby Crowned Wren, Regulus calendula.
1 Golden Crested Wren, Regulus cristatus.
1 House Wren, Troglodytes œdon.
2 Winter Wren, Troglodytes europeus.
1 Great Carolina Wren, Troglodytes ludovicianus.
1 Bewick's Wren, Troglodytes bewickii.
2 Marsh Wren, Troglodytes palustris.
1 Brown Creeper, Certhia familiaris.
1 White-breasted Black-capped Nuthatch, Sitta carolinensis.
1 Red-breasted Black-capped Nuthatch, Sitta canadensis.
1 Humming Bird, Trochilus colubris.
1 Black-capped Titmouse, Parus atricapillus.
1 Shore Lark, Alauda alpestris.
1 Snow Bunting, Emberiza nivalis.
2 Scarlet Tanager, (male and female,) Tanagra rubra.
1 Summer Red Bird, Tanagra æstiva.
1 Indigo Bird, Fringilla cyanea.
1 Black-throated Bunting, Fringilla americana.
1 White Crowned Bunting, Fringilla leucophrys.
2 White throated Sparrow, Fringilla pennsylvanica.
1 Bay-winged Bunting, Fringilla graminea.
1 Song Sparrow, Fringilla melodia.
1 Savannah Finch, Fringilla savanna.
1 Snow Bird, Fringilla hyemalis.
2 Yellow-winged Sparrow, Fringilla passerina.
1 Tree Sparrow, Fringilla canadensis.
1 Chipping Sparrow, Fringilla socialis.
2 Swamp Sparrow, Fringilla palustris.
1 Lincoln Pine-wood Finch, Pruccea lincolnii.
2 Pine Finch, Fringilla pinus.
2 Lesser Red Poll, Fringilla linaria.
1 Towhee Bunting, Fringilla erythrophthalma.
1 Cardinal Grosbeak, Fringilla cardinalis.
1 Blue Grosbeak, Fringilla cœrulea.
2 Pine Grosbeak, (female,) Pyrrhula enucleator.
1 American Crossbill, Loxia curvirostra.
1 Rose Breasted Grosbeak, Fringilla ludoviciana.

COLUMBA.

1 Zenaida Dove, Columba zenaida.
1 Carolina Pigeon or Dove, Columba carolinensis.
2 Passenger Pigeon, Columba migratoria.
1 Ground Dove, Columba passerina.

ORDER 3.—GALLINA.

1 Ruffed Grous or Pheasant, Tetrao umbellus.
1 Pinnated Grous, Tetrao cupido.

ORDER 4.—GRALLÆ.

1 Ringed Plover, Charadrius semipalmatus.
2 Ringed Plover, Charadrius melodus.
1 Kildeer Plover, Charadrius vociferus.
1 Black-bellied Plover, Charadrius helveticus.
1 Turn Stone, Strepsilas interpres.
1 Pied Oyster Catcher, Hœmatopus ostralegus.
1 Brown Crane, Grus canadensis.
1 Great White Heron, Ardea alba egretta.
1 Louisiana Heron, Ardea ludoviciana.
1 Yellow Crowned Heron, Ardea violacea.
2 Night Heron, (male and young,) Ardea nycticorax.
1 Blue Crane, Ardea cœrulea.
1 American Bittern, Ardea minor.
1 Green Heron, (young,) Ardea virescens.
3 Least Bittern, (male and female,) Ardea exilis.
1 Ibis Fusca, vel Tantalus Fusca ? Nondescript.
1 Long billed Curlew, Numenius longirostris.
1 Esquimaux Curlew, Numenius hudsonicus.
2 Semipalmated Sandpiper, Tringa semipalmata.
1 Cape Curlew, Tringa subarquata.
1 Red-backed Sandpiper, (Purre of Wilson,) Tringa alpinus.
2 Little Sandpiper, Tringa pusilla.
1 Ruddy Plover, (Sanderling of Wilson,) Tringa arenaria.
1 Semipalmated Snipe, Totanus semipalmatus.
1 Schinz Sandpiper, Tringa schinzii.
1 Yellow-shanks Snipe, Totanus flavipes.
1 Spotted Sandpiper, Totanus macularius.
1 Do. do. young, in summer plumage.
1 Red-breasted Snipe, Scolopax grisea.
1 Snipe, Scolopax wilsonii.
1 Woodcock, Scolopax minor.
1 Clapper Rail, Rallus crepitans.
1 Virginian Rail, Rallus virginianus.
1 Common Rail, Rallus carolinus.
1 Yellow-breasted Rail, Rallus noveboracensis.
1 Great Marbled Godwit, (female,) Limosa fedoa.
1 Common Coot, Fulica atra, Americana.
1 Roseate Spoonbill, Platalea ajaja.

ORDER 5.—ANSERES.

1 Black Skimmer, or Shearwater, (female,) Rhinehops nigra.
1 Great Tern, Sterna hirundo.
2 Lesser Tern, (male and female,) Sterna minuta.
1 Black-headed Gull, Larus atricilla.
1 Common Gull, Larus canus.
1 Herring Gull, Larus argentatus.
1 White-winged Silvery Gull, Larus leucopterus.
1 Black-backed Gull, Larus marinus.
1 Stormy Petrel, Thalassidroma wilsonii.
1 Whistling Swan, Cignus musicus.
2 Pintail Duck, (male and female,) Anas acuta.
1 American Widgeon, Anas americana.
1 Summer or Wood Duck, Anas sponsa.
1 Green-winged Teal, Anas crecca.
1 Scoter Duck, Fuligula nigra.
1 Scaup Duck, Fuligula marila.

1 Tufted Duck, Fuligula rufitorques.
1 Golden Eye, Fuligula elongula.
1 Long-tailed Duck, Fuligula glacialis.
1 Hooded merganser, Mergus cucullatus.
1 Black-bellied Darter, Plotus atringa.
1 Horned Grebe, Podiceps cornutus.
1 Great Northern Diver or Loon, (young,) Colymbus glacialis.
1 Black-throated Diver, (young,) Colymbus areticus.
1 Red-throated Diver, (young,) Colymbus septentrionalis.
1 Black Guillemot, Uria grylle.
1 Do. do. (young,) described as Uria marmoruta, (Viellot.)

LETTER FROM Mr. ROOT, OF MOBILE, ON THE SUBJECT OF AMERICAN SILK.

Mobile, *June* 20, 1846.

Sir: I received though your kindness twelve seeds of the silk plant, and am happy in saying that I have succeeded in growing six plants. They are now five feet high and in bloom. The plant seems hardy, and is unlike any thing I have met with in our country. The main stem and branches are somewhat like the senna of this region, but the foliage bears no resemblance. J. S. Skinner, esq., editor of the Farmer's Library, saw the plant growing in April, and thought the experiment a very fair one. The seeds were planted in January in pots and slightly forced under glass, and transplanted in May in dry sandy ground, six feet apart.

I shall not fail to send you a portion of the seeds and the silk when at maturity.

Very respectfully, your obedient servant,

CHESTER ROOT.

Francis Markoe, Jr., Esq.,
Corresponding Secretary of the National Institute, Washington.

LETTER FROM HON. RICHARD RUSH, OF PENNSYLVANIA, ON THE SUBJECT OF THE NATIONAL INSTITUTE.

Sydenham, near Philadelphia, *July* 18, 1846.

Dear Sir: Permit me to send you for the National Institute an old folio volume containing bound-up numbers of "The New York Mercury" and "New York Gazette and Weekly Mercury," from 1758 to 1768, the numbers being pretty full for some of the years, though scanty or deficient for others. From its pages may be gleaned items of information not without interest concerning portions of our political history before the Revolution, intermingled with little matters illustrative of habits, manners, and usages in New York and others of the old thirteen States at that colonial day. It is sent in the hope that the Institute will do me the honor to accept it as a slight token of the continued interest I take in its welfare, and of the undiminished gratification I derive from being continued on the list of its corresponding members.

In acknowledging your favor of the 8th instant, conveying a copy of the memorial presented by the Institute to Congress on the 16th of December, I cannot avoid some little expression of the deep regret I feel at the pecuniary embarrassments under which the Institute labors. Had these been brought on by imprudence—had the members or officers been seeking emoluments or pecuniary advantages in any conceivable way for themselves—or had there been any extravagance or waste in managing the concerns of the body, relief could little be expected from the hand of Government. But when nothing of this kind is the case—when all have

been acting without pay or reward, urged on by no feeling but that of doing public good in fields worthy to excite the noblest ambition, and when it has finally become impracticable, by mere private contributions and taxes, to pay even the incidental expenses attendant on the preservation of large collections of curious and valuable things connected with the advancement of science, literature, and the arts, which have come to the hands of the Institute, it is very lamentable to reflect upon its pecuniary embarrassments. Inexpressibly painful is it to know that the recent magnificent presents from the King of the French and the British Government—the latter consisting of the splendid and costly maps and sections of the geological survey of Great Britain and Ireland, which have been and will hereafter be published—with difficulty reach the Institute, for the want of funds to pay for their transportation.

Thus the merit of the Institute is turned to its misfortune! Unhappy anomaly! It has to pay the penalty of early and triumphant success! By its voluntary zeal—by its untiring and well-directed industry in the fields of science, literature, and the arts, it wins a name throughout the world. Distinguished individuals, ancient and learned societies in foreign countries and our own, hail with delight this new association which has suddenly sprung up in the metropolis of the New World. All seem anxious to welcome it into the brotherhood of science. Numerous testimonials of co-operation and sympathy, in the form of instructive correspondence, and in other forms substantial and gratifying, pour in upon it from all quarters, until already the heads of great nations deem it worthy of their marked attention and favor; yet the very donations to subserve the ends of its establishment, and which its own honorable and unaided exertions have so speedily earned, cannot be obtained through its want of even moderate funds.

And can it be that Congress will remain insensible to its wants—suffer it to languish, even to perish, under its extraordinary merits? Let us hope otherwise. The spirit of the age stands up for such an institution. Duties of high and inextinguishable obligation plead its cause. These, let us believe, are only required to be brought under the decided notice of Congress to be effectively recognised; for, consider the strong moral links between nations which fellowship in letters creates; consider how beneficent its influences—how it tends to soften political animosity—to re-enforce the ties which grow upon commercial intercourse and other material interests among nations, and to elevate and refine them. It cannot be that Congress will remain insensible to such considerations, when a very small appropriation of money would satisfy them—so small as not to be felt, even under the heavy calls which war makes. These, however great, need not bear down a minimum call for an object tending, indirectly, even to peace itself, amidst other inappreciable blessings. And least of all need Congress hesitate when its power is complete over this subject, centreing as it does in the national metropolis, and when the scientific collections are for national use, and when the title of them is intended to be vested in the Government as its own property. There would even be a moral beauty in rescuing a small sum for so saving and beneficent a purpose, in the midst of that devouring appetite for the treasury which the national honor demands should be appeased when war rages.

We read of an ancient king who hired a person to tell him every day of his faults. Having no king with us, the collective nation is as the sovereign, and praised in like superlatives, raised still higher by the absence of individuality, which would seem to screen us from flattery. But we forget that the collective nation is, after all, made up of human imperfection; and our national tendency is to self-laudation so uniform, if not excessive, as to be in danger of weakening the sense of our possible failings. We class ourselves with the greatest nations; we would ambitiously be above them—an exalted ambition when properly directed and followed up. But foreign pens and tongues roughly impugn our claims. How is this, and what the mitigation or corrective? All perceive our power—all acknowledge the quick and stupendous creations of our industry—all are struck with the marvellous energies of our freedom. Statistical, incontestible results attest it all. There are no sceptics in these fields. Prone as we may be to set our lights upon a hill, we can hardly exaggerate the mighty whole; or if we do, facts come up to it, grow up to it, whilst we are still speaking, as Burke once said even in reference to our colonial state seventy years ago. So active, incessant, and vast is the principle of

growth in our nation in all things, external and palpable, that the setting sun of every evening must behold it more powerful than when it rose.

But is it that we attend to these material results too exclusively, leaving MIND to shift for itself?—so that in the cultivation which it proudly seeks it has not fair play, from wanting those auxiliary means and appliances which it often requires, and without which, if mind does not sink, it may pine and fail to reach the towering heights its aspirations are fixed upon? And is it that little boons are withheld from it through that political vehemence and intensity which our admirable institutions, in the midst of their excellence, primarily beget, and which tend to absorb all else in that one grand heated vortex? This is to be feared, and is a danger to which the broad forecast of our legislators should look. The topic might become fruitful of both facts and reflections, but I confine myself to narrow limits. We can be roused to patriotic indignation—half the nation, all our presses, can be roused by an objugatory article in a foreign review, or a paragraph in the London Times; but we can be cold under the obligations we contracted as a nation in accepting Mr. Smithson's legacy. We can suffer his half million of dollars to lie dead in our hands for years and years, with his solemn will recorded on our archives. Alas for this fact! It neither stings nor rouses us. There is no political, no party excitement in it. But it is the more painful to dwell upon; and in the *principle* of such neglect there is a silent potency of reproach and mischief which not the marvellous increase of our population, nor the prodigious and universal accumulations of our thrift, nor all the incontestible evidences of our power, nor the victories of our gallant Taylor, can adequately counteract the workings of upon national character. Is it because that legacy was pledged to the interests of *mind* that all our sensibilities are so dead? And are we going, as a nation, to set ourselves against these precious interests, or be content with mediocrity in all that relates to them? In other things we are positively ahead at present; but are we in these? If we never desire to be, let us begin by burning poor Smithson in effigy in the rotunda of the capitol, with an ihkhorn round his neck—knocking the National Institute in the head outright, tumbling its collections from the national edifice where they have hitherto been deposited into the street, and above all, by obliterating from its records the names of all those high functionaries of our Government under whose sanction and auspices it was first ushered into being and introduced to the scientific world of all nations.

But I earnestly desire to give way to other hopes and expectations. In this spirit, for one I should say, as I think, that the opportunities of making known in other parts of the world the intellectual advancement existing in this country which this Institute, if only moderately aided by the Government, would afford, as well as of augmenting our own intellectual stores at the capital of the Union, thence to be disseminated throughout its borders, which the same small help extended to it would also enable it to effectuate, would do more towards creating and keeping alive just and favorable opinions of us with the wise, the learned, and the enlightened abroad, than any other national manifestation we could make. Political power, with all the respect which, under some views, it must command, and with the dread which, when formidable, it can inspire, is not necessarily linked to eminence in science, letters, and the arts, or with that social superiority, their glorious product, and humanizing as glorious, which has ever given to nations their highest contemporary splendor, and conferred upon them the most durable and enviable renown.

With this truth standing out in history, I sincerely wish that Congress may grant the Institute the small relief it seeks, and I will not part from the hope that it will. In which feeling I pray you, my dear sir, to believe me, with great cordiality and respect, your very faithful servant,

RICHARD RUSH.

FRANCIS MARKOE, JR., Esq.,
Corresponding Secretary of the National Institute, Washington.

LETTER FROM THE HON. J. Y. MASON, SECRETARY OF THE NAVY,

Communicating the report of Mr. Reinhardt, the naturalist who sailed in the United States ship Constitution, and presenting eleven boxes of objects of natural history, &c., &c., collected during the cruise, for the National Institute.

NAVY DEPARTMENT, *October* 14, 1846.

SIR: During the recent cruise of the United States frigate Constitution, Captain Percival, along the east coast of Africa, and in the Indian and China seas, she was accompanied by Dr. J. C. Reinhardt, who gave much time and attention in making observations and collecting specimens in natural history for the benefit of the National Institute. I have now the pleasure to enclose to you his report.

In communicating this report to the department, Captain Percival testifies in the strongest language to the devoted interest which was manifested by its author throughout the voyage in his favorite pursuit, and earnestly recommends him as a most suitable person to procure any seeds and specimens of natural history which may be desired from Brazil.

Dr. Reinhardt joined the Constitution at Rio Janeiro, where he was compelled by circumstances of a private nature to leave her on her return, and he will therefore have no opportunity at present, to confer personally with any officer of the Institute in reference to the collections which he was enabled to make during his cruise.

These collections are contained in eleven boxes, which are now in Boston. They will be transported at an early day to this city, and placed in charge of the National Institute.

I am, sir, respectfully, your obedient servant,

J. Y. MASON.

FRANCIS MARKOE, JR., Esq.,
Corresponding Secretary of the National Institute for the Promotion of Science and the Useful Arts, Washington.

REPORT OF J. C. REINHARDT, NATURALIST.

U. S. FRIGATE CONSTITUTION, *August* 5, 1846.

SIR: I have hereby the honor to forward the accompanying report of the observations and collections in Natural History, made up to the present date, as also to present some ideas which have suggested themselves to me, relative to the capabilities of different ports to supply the wants of vessels of our country trading in the eastern seas. You will also meet with some suggestions which I would respectfully submit to your consideration, relative to the introduction of some plants with which we have met, into the United States, where the climate would be favorable to their growth and propagation, and from the cultivation of which, advantage might accrue to our country. Also in relation to some ports, more particularly St. Augustin Bay, where many of our vessels, particularly whalers, are wont to touch for fresh water and refreshments, I have advised the introduction of some fruit trees which they have not at present, and the advantages which would accrue could not fail to be great, and would be felt principally by our countrymen who after long cruises off the cape and in the channel, resort there, where the supplies which can be procured are very cheap, and where they are free from port charges while refitting and invigorating their crews.

Many of the countries, the ports of which we visited, (being the first time for an American man-of-war,) are inhabited by savage tribes who are frequently at war with each other, and you therefore thought proper not to permit me to go far from the shore, as it would endanger life, or might detain the vessel. Indeed the little time which can be spent in port by a vessel of war, when many distant places are

to be visited, precludes the possibility of obtaining much information of the country or its productions, especially when the language is not understood.

In Borneo I could not remain three hours on shore, but as the Rajah of that city had disposed of the exclusive right of obtaining coal to the English, it could only have been of interest to science to have remained there longer.

In China, the restrictive laws imposed upon foreigners prevented me from visiting the country or even all parts of the city. I could therefore only employ a Chinese to go in the country and obtain such objects as might be of interest. In this manner I obtained many seeds, which will be sent to many parts of the United States, and I hope will be of advantage to the agricultural interests of our country. Under such disadvantages to my vocation, I could only make inquiries into the manufactures, exports and imports, their prices, &c.

From the long indisposition with which I was afflicted from that scourge of the east, (Asiatic dysentery,) many of the specimens I had collected were destroyed by the mice and cockroaches, with which the vessel was much infested; and many of the prepared plants were destroyed from mould, caused by the dampness of the climate; but these accidents are always met with on board vessels, where it is impossible to have the means of preservation that may be resorted to on shore.

J. C. REINHARDT, *Naturalist*.

To Captain JOHN PERCIVAL,
Commanding U. S. Frigate Constitution.

October, 1844.—The landscape in the vicinity of St. Augustin Bay, Madagascar, has nothing in appearance tropical, but resembles more, at this season of the year, the opening of spring in a temperate climate. This is caused by the long drought which occurs in the dry season, when the trees and shrubs on the mountains, where the soil is shallow, shed their leaves, while those which grow along the river bottom remain verdant throughout the year. The same cause for the falling of leaves, I have observed in temperate climates, where there was but a slight soil on the mountains, when after a drought the leaves fall from the trees, long before the frost nipped those that grew in a more favorable situation and supplied with more moisture.

There is an entire absence of palm-trees here, which gives the peculiar tropical character to a country, and renders it apparent.

The most conspicuous tree to the view here, growing along the river and low grounds is the tamarind, which grows very abundantly on the western coast, but is said not to be found on the eastern. It is, perhaps, the most important of all the trees found here, to the inhabitants, as they make a large use of the fruit as food. It is possessed of important anti-scorbutic properties, allays thirst, is nutritive, refrigerant, and in full doses laxative. It is well adapted for febrile and inflammatory cases in general. In the former it is often given with the double purpose of acting as a refrigerant and operating gently on the bowels. An infusion of tamarinds forms a very cooling and pleasant drink, as does also tamarind whey.

The fruit has been analyzed by Vanquelin, and found to contain citric, tartaric, and malic acids, with bitartrate of potash, sugar, gum, and vegetable jelly.

There are two varieties, which are considered by Roxburgh and Decandolle to be distinct species. The only difference between them is in the pod. This is the species called Tamarindus Indicus by Decandolle, and has the legume elongated, six or more times longer than broad, and six to twelve seeded, whilst the West Indian variety has the legume abbreviated, scarcely three times longer than broad, and one to four seeded.

This tree is generally found along the banks of rivers or moist places, where alone it naturally grows. While on the mountains at St. Augustin Bay I was very much oppressed with thirst, when observing a tamarind tree growing in a ravine, with a species of scirpus, I took the hint that there might be water near, or these two members of the vegetable kingdom would not have been found there. After a search under the dried leaves near the base of the tree I found a small quantity of water contained in a rock, and from appearance, indicated that there

had been a spring there some time before, and that the soil was still damp. The natural vegetation is thus frequently a certain indication of water, and is well worthy the attention of persons who traverse uncultivated countries, where they frequently suffer excessively from thirst, as in the traffic which is annually carried on between Independence, in Missouri, and Sante Fe, in Mexico, where it is necessary to pass through regions but scantily supplied with water.

There is a large tree growing very abundantly along the river at St. Augustin Bay, and also on the islands near Mozambique. The botanical relations of this tree I have not yet determined, not having been able to procure either flower or fruit. It is a large tree, the trunk generally inclined, with a smooth, slightly rugose bark. The leaves are opposite, slender-ovate, tapering to each end, glaucus beneath, dark green above, midrib distinct, petiole short. The wood is heavy, difficult to split, and the fibres cross each other in a very regular diagonal manner.

As no other tree is known to botanists in which the fibres of the wood are disposed in this manner, except the Guiacum officinale, this probably, also, may belong to the same natural family Tygophylleae.

Should this wood prove valuable in cabinet work, any demand might almost be supplied here.

On the long extent of shingle which stretches south of the river is found a tree which belongs to the genus Euphorbia, which furnishes a notable quantity of caoutchouc. It is very abundant, and the gum appears to be used by the natives, but for what purpose, I could not ascertain.

The mountains here furnish an abundance of lichen, the Rocella tinctoria, which is also largely obtained at the Canaries, Azores, and on the western coast of Africa, together with another species, the fuciformis. In 1840, four thousand one hundred and seventy-five hundred weight of this moss was imported into England. The latter species is sometimes called in commerce "Madeira-weed." It is distinguished from the Rocella tinctoria by its large size, its paler color, and its broader flat fronds.

It has been analyzed by Essenbeck, who found it to contain a brown resin, wax, glutinous matter, chloride of sodium, tartrate and oxalate of lime. If digested in a weak solution of ammonia in a corked phial, at a heat not exceeding one hundred and thirty degrees, the plant yields a rich violet red color. Formerly litmus was prepared from this plant, but now it is obtained from the Leconora tartarea. At present the substance called orchil or archil, of which there is the blue and red, is the only coloring matter prepared from this lichen. Blue orchil is procured by steeping the lichen in an ammoniacal solution in a covered vessel. Red orchil is made with the same liquor in common earthen jars placed in a room heated by steam. It is employed for coloring, dyeing, and staining.

The excessive aridity of these mountains during a great part of the year, is highly favorable to the growth of this lichen, as it is never developed in damp places, groves, or situations deprived of intense light and heat.

The French of the island of Bourbon are at present engaged in the trade; from that island it is exported to France.

The natives here were using a kind of gum as food, which in appearance and form seems identical with gum senegal. It is of a reddish color, in large tears, more difficult to break than gum arabic, and the fracture is more conchoidal. The principal difference between this gum and gum arabic is, it contains more soluble gum and less water and ashes in analysis. The tree which yields this gum was not growing immediately on the coast, and I was therefore unable to ascertain what tree produced it. From the manner in which it was used, I presume it is abundant.

The articles cultivated here by the natives consist principally of rice, corn, pumpkins, sweet-potatoes, a large bean similar to the lima, and a small quantity of cotton of an inferior quality, which is spun into yarn by the females, dyed with the bark of the Rhyzophorca ovata, and woven into a coarse cloth.

The cattle are of the kind designated as the Bos Indicus, and are peculiar in having a large protuberance of fat immediately over their withers.

The sheep are supposed to be aboriginal, and are covered with coarse hair, instead of wool. The ears are pendulous and the tails are very large, weighing from ten to twenty pounds, being composed of a mass of fat.

Goats are also abundant.

A large land tortoise is found on the mountains, some having the weight of thirty pounds. I also found a smaller kind weighing three or four pounds. Both kinds were excellent as food. They belong to different genera; the former to Testudo, the latter to Pyxis.

The vegetables and animals being purchased at a low price, and fresh water being easily obtained a short distance up the river with little labor, has caused this port to be much frequented by whalers and ships going to the East Indies when in want of provisions.

It would certainly be a great advantage to persons navigating the seas, and particularly to those engaged in the whaling trade, to have the orange, banana, cocoa-nut, pine-apple, and other tropical fruits introduced here, which are so essential to health in tropical climates. Those fruits no doubt would flourish here, the climate and soil appearing very propitious, and the inhabitants are disposed to cultivation. It would be preferable to have them introduced from the Brazils, as the fruit of South America is much superior to that found on the eastern coast of Africa.

The geological character of this vast island is yet but imperfectly known. The Europeans who have resided in the interior describe the formations as principally primitive, and containing ores of the more important metals used in the arts. Of these, the most abundant are iron and copper, the ores of the former being very rich, and the only one of which the inhabitants have the knowledge of smelting. The cliffs of St. Augustin Bay are four or five hundred feet high, and are composed of a secondary limestone of not very ancient date. The strata are nearly horizontal; the inferior consists of a coarse conglomerate largely intermixed with a ferruginous sand, which readily decomposes and yields to the force of the breakers. The superior strata of a firm white fine grained limestone, which would give excellent lime. From the terraced manner of the rocks, and their perforation by shells, now several feet above high tide, it is evident that there is a gradual upheaving of the land here. No trace of ore has been discovered in this part of the island, but it is probable that coal may exist between the secondary formations here and those of the primitive of the opposite coast. The natives here manufacture spears, but the iron they obtain principally from whale ships.

October, 1844.—The exceedingly short stay at Mozambique caused the observations and collections to be but few. The island of ————, in the harbor of Mozambique, is elevated about fifteen feet above high tide, and has sufficient soil in some places to support large trees. The rock on which it is based is a conglomerated carbonate of lime formed of comminuted coral, madrepore shells, &c. The rock disintegrates very readily from the waves striking against the base, forming large caverns, which in time become unsupported and fall in, and thus the island at present is much smaller than formerly.

Near the northern part of the island the water is very shallow, and the bottom is an entire bed of coral, upon which are found several species of asteria, echina, shells, and many other marine productions.

Upon the island there grows in great abundance a species of salicarea and dioscorea; also the tree mentioned as growing at St. Augustin Bay is also found here. A small tree, native here, a species of acaccia, is planted in the city in yards as a shade tree. The plant called Argemene Mexicana is growing abundantly in the streets of the city, and no doubt was introduced by the Portuguese. This plant has a very wide distribution, being found in the United States, Mexico, West Indies, Brazil, Africa, and India. Its medicinal properties are much esteemed in different countries. In the West Indies the seeds are used as a substitute for ipecacuanha. In Brazil it is called cardo santo, and the juice is there administered to persons bitten by serpents. In India it is used in opthalmia, being dropped into the eye; and it is also used in venereal diseases. Ainsle says, it is purgative and deobstruent.

Several trees of the Ficus Indica were growing in the city.

But few vegetables, &c., could be obtained here, consisting of a few oranges, bananas, cocoa-nuts, mandioc, and cabbage, all of very inferior quality.

A small quantity of Mocha coffee is cultivated here, for which was asked thirty three cents per pound. I was informed that a small quantity of gold dust was brought to market here, also a small quantity of ivory. The chief market for these

articles at present in the Portuguese possessions on this coast, is at Sofala. The chief commodities given in exchange for ivory and gold dust are large brass rings, and coarse colored calicoes, blue and red colors being preferred. The rings are made of round bar brass of an inch diameter, and the ring thus made being six or eight inches diameter. They are not welded, and worn around the neck. Smaller ones are worn on the ankles and wrists. Formerly there was, on an average, ten thousand slaves exported from this place annually, and the slave trade is still probably carried on to a small extent, but all commerce appears declining, and at present not more than two hundred Europeans remain. During the spring months of the northern hemisphere, this place is said to be very unhealthy, and is probably caused by a large extent of ground which is left uncovered by water when the tide ebbs, and from which a very disagreeable smell emanates.

November, 1844.—The immediate vicinity of Bembetooka bay presents comparatively little to the botanist for a tropical country, and although the ground is parched in the same manner as the neighborhood of St. Augustin bay, yet it has a very different aspect; for here near the village may be seen the mango, cocoa-nut, banana, and orange tree, although, from appearance, the two latter have been but lately introduced. The opposite side of the bay has apparently a much better soil, and denser vegetation, but is inhabited by the Sackalavas, who are at present hostile with the Hoovas, so that in consequence of this circumstance and the distance, I found it impracticable to visit it. I regretted this the more, as the silk worm is reared there, and is said to be very different from the European varieties, being much larger and covered with hair, and are said to be fed on a kind of pea. I saw none of the silk fabric produced from this worm, and consequently am unable to compare it with the kind produced in the United States; but I think the subject merits attention, as there can be no doubt but that in a few years silk will form one of our staple productions, for even in Pennsylvania, at present, nothing repays the careful cultivator so well in proportion to the extent of ground tilled as this branch of industry, and much more so will it be in the southern States when properly understood, where the climate is much more congenial.

The Datura stramonium is seen growing in the streets of Bembetooka, and no doubt has been introduced by the Arabs, who have had considerable trade with this port.

The Euphorbia splendida is cultivated in the village for hedges, and although a large shrub, it is not well adapted for this purpose, having no thorns or asperities. The buds on this shrub were just beginning to burst, in consequence of a slight shower of rain which had fallen, and denoted the commencement of the rainy season.

A tree found abundantly on the small stony hills in the vicinity of the town, resembling an ash in habit, but belonging to the Leguminosa, yields a gum in properties identical with gum sulo. I obtained seed of this tree in a good state, and I think it may bear the climate of our southern country.

In the small groves which are situated at the base of some of the small hills, will frequently be found the tangena, (Tanghinia venemflua,) a pentandrous shrub, having a white flower. The corolla is tubular, five cleft, with the divisions somewhat reflexed, the leaves are lance ob-ovate, accuminate and slightly revolute on the margin. Petiole short, fruit adrupe.

The fruit of this plant appears to be a violent emetic, and is frequently used by the officers of justice in this kingdom, as an ordeal to ascertain the guilt or innocence of suspected criminals, where the evidence is not clear. The criminal is made to swallow three pieces of skin of a black fowl, when a copious decoction of the fruit of this plant is given, which produces violent emesis, and if the three pieces of skin are ejected, the prisoner is declared innocent; but should any remain, he suffers the penalty of the crime of which he is accused, and which frequently, for the most trivial offence, is death. It is very probable this plant would possess medical properties if it were properly investigated.

I obtained here two varieties of indigo seed, the coloring matter of which the natives use in dyeing their cloth, and a piece which has been the labor of three weeks they eagerly sell for one dollar.

The Hymenora verrucosa grows only in the interior, and produces gum copal, of which there are two kinds brought to market at this port, one kind, called "Jack-

ass copal," is much inferior to the other in not drying so readily. It is very probable that they are the produce of different trees.

A large tree, the Chrysophia faciculata, is much valued by the natives for the timber, of which they construct their canoes. It is also the principal timber used in building their proahs at this port.

A species of Adansonia is found very abundant on this coast.

Canes made of the Dyospyrus ebenaster were exposed for sale here, and the natives informed me that this wood was very abundant in the interior.

The bark of a species of Hibusscus is used here for making coarse cordage.

Two species of Pandamus or Screwpine is found here—the Pandamus hofa and the Pandamus sylvestris. The seed of some species can be eaten. The stem is remarkable for sending down aerial roots.

Among other plants found here, the more remarkable are the Urania speciosa, Cassurina equesitifolia, Urtica furialis, Barringtonia speciosa, two species of Bignonia, Mirnosa madagascar, &c.

But little fruit could be obtained here, consisting of a few bananas and cocoa-nuts. The water is not good, being obtained from wells fifteen or twenty feet deep, in which the water rises and falls with the tide.

Many of the small hills in the vicinity of Majunga are composed of a ferruginous sand, and incapable of being cultivated, although between these very frequently is a small extent of alluvial soil, which is generally cultivated with rice, and which is flooded with water at times, may be the cause of the fever which prevails here at times, and proves very fatal to foreigners, as also to natives from the interior. It is a highly inflammatory remittent fever at first, but soon passes into the continued form with typhoid characters, coma, &c.

Mr. Marks, an American, who has resided here several years, engaged in mercantile business, informed me that he has had but one attack of fever, and it appears from the experience of others also, that after recovering fully from the first attack the chances are much less of taking it again.

The cliffs at the entrance of the bay are low, the lower strata being composed of fossiliferous carbonate of lime, the strata alternating with a finer carbonate containing but few fossils. Occasionally there is a stratum of a very pure clay interposed. The strata is nearly horizontal.

The soil is largely impregnated with oxide of iron, so much so at some places, as to give it a dark red color. I found in the village a specimen of serpentine containing a large quantity of chromate of iron, but its locality I could not determine. It is said here that the natives in the interior find native steel, but it is most probably meteoric iron, as that is capable of being wrought without undergoing any process, and is harder than common iron.

Since the government has been usurped by the present Queen, great exertions have been used to check the progress of the christian religion, which had been extensively promulgated by English missionaries during a term of ten years, which grant they received from King Radama to reside that length of time on the island, establish schools, and instruct the natives in the mechanic arts. Some time after the death of Radama, several hundred natives having been converted to the christian faith, it became obnoxious to the Queen and her officers, and the penalty of death was imposed upon all those who would not renounce their new faith. Many suffered death, some in the most cruel manner; and it appears the persecution still continues, as the Governor's secretary, who accompanied me one day as a guide in this neighborhood, informed me that he had been educated at the capital by the English missionaries, and that his brother had lately been put to death near the capital, for having been discovered praying and having religious books in his possession. This person informed me that he believed in the christian faith, but was obliged to conceal his books, and to profess the religion of the country.

The geological formation of Noos Beh, Madagascar, is of volcanic formation of ancient date. Many of the bare rounded hills still present the forms of craters. A large deposit of chert flanks the base of one of the hills, dipping at an angle of 35°; and several dykes of a very compact sandstone, evidently in a state of fusion once from its highly crystallized structure, traverse the chert.

Immense blocks of granite are strewn along the shore. The loftiest peak of the surrounding hills is perhaps five hundred feet, and is covered with large timber, which affords some valuable woods. A large portion of the timber has been cut off

on that side next to the bay, and is now under cultivation by the natives, large patches of which have been planted with the banana, (which has been introduced by the French,) and in the course of a few years will render this fruit abundant here. There is a native pepper (capsicum) much cultivated here. The bushes of the shore are covered with a beautiful species of twining convolvulus. A species of euphorbia, apparently identical with hypericifolia, is used by the natives in decoctions for the cure of venereal diseases. This plant is found abundantly in the United States, and is supposed by many agriculturists to be the cause of the salivation of horses while in pasture.

The harbor being easy of access, the water very good and abundant, running from the mountain in several streams, induces many of our whale ships to visit this port.

The inhabitants of Madagascar do not appear to have had their origin from one source, but appear to have descended from the Ethiopian, Malay, and Hindoo, and at present form a number of distinct tribes, differing also in many respects from each other, though nominally comprised in one political empire.

The distinction most strongly marked is that of color, and this, although producing slight variations in each tribe, separates the population in two great classes, and is supposed by some to allow of its being traced to only two sources, viz: the Malay, distinguished by a slight, well formed person, fair complexion, and straight hair; the Ethiopian, more robust and dark colored, with woolly hair.

But to these two races we must also add the Hindoo, as many individuals are seen that from their features and color must have had their origin, in part, from that race. They may also be said to possess but one language, for an inhabitant from any part of the island may be understood in any other part, but frequently some words are used in some districts which are not found universal. Many Arabic words are also incorporated in the language of some parts of the coast, and have been introduced by the Arabic traders, with whom they have long had intercourse, and have also received some of their religious tenets as well as language. Circumcision is practised universally on the coast.

The language, which is undoubtedly a branch of the Polynesian, is also another proof of the origin of a part of these people, while the unity of the language over the whole island indicates a remote period at which their emigration must have occurred.

November, 1844.—The prospect around the city of Zanzibar, when viewed at the distance of several miles is exceedingly beautiful. The land is elevated along the shore ten or fifteen feet, for the distance of a fourth of a mile interior, which is densely covered with the cocoa-nut tree. The land then rises in gently sloping hills on which are cultivated the clove tree, in beautiful plantations, for several miles. This tree (Caryophyllus aromatica) when young resembles a pear tree somewhat in shape; the bark is smooth and adheres closely to the wood. The leaves when young are reddish on the upper and green on the under side, and the whole plant, like the cinnamon tree, has a strong aromatic odor. When an exotic the tree does not begin to produce until eight or nine years of age, but in its native soil is usually productive at five or six years of age. The buds appear in the beginning of the rainy season, about the first of May, and during the four following months are perfected; but, as with many trees in the tropics, buds, flowers, and fruit may be found upon the tree at the same time. The buds are green at first, then yellow, and finally, when ripe, change to a blood red color soon after the flowers open; and in three weeks the seeds are fully ripe. They are gathered very carefully by the hand and with crooked sticks, in order that the trees may not be injured.

Sir T. Herbert gives the following fanciful description of the buds of the clove: "It blossoms early, but becomes exceedingly inconstant in complexion, from a virgin white varying into other colors, for in the noon it shows a pale green, in the meridian a distempered red, and sets in blackness. The cloves manifest themselves at the extremity of the branches, and in their growing evaporate such sense ravishing odors as if a compendium of nature's sweetest gums were there extracted and united."

They are cured by placing them in hurdles over the fire for a few days, and then exposed to the sun until thoroughly dried. The produce varies in different years;

the average quantity for an orchard is from six to ten pounds for each tree. Some trees have produced, it is said, in their native soil, one hundred and fifty pounds in one season. The ordinary age is about seventy years, but in their native place ninety. In commerce, there are four different varieties of the clove known—the common, the female, the royal, and the wild or rice clove. The two latter are smaller and more scarce than the other kinds. The best cloves are large, heavy, have a hot taste and oily feel. Those which have had the essential oil extracted are shrivelled, and usually want the knob at the top.

The Arabs are increasing their plantations by cutting down the cocoa and bananas trees, and clearing away the natural brushwood and planting this spice-tree, the produce of which, in a few years, no doubt, will be the principal export of this island.

The next most important article of cultivation is the Jatropha manihot, which constitutes a very large part of the food of the inhabitants. It is cultivated in the same manner as in Brazil, but not used so much in the form of flour, and the Tapioca is very seldom extracted. It is very singular that the root in a raw state is a very active poison to the human and animal race, but after being subjected to boiling or dried in the sun until the acrid juice has escaped, it becomes one of the most wholesome and nutritious productions of the vegetable kingdom, and is supposed to furnish nutriment to three-fifths of the human race. The poisonous principle of this root is yet undetermined, but Guibourt thinks it is hydrocyanic acid; if so, it would probably be profitable to extract it, if a proper method was known.

The cocoa-nut tree is also extensively cultivated for food, for the oil which is obtained from the mature fruit for a beverage, and for a spirit obtained from the fermented sap. The oil is obtained by crushing the mature fruit in a wooden mortar, in which a large stick of timber is made to revolve by means of a camel attached to the end of a long lever. The unripe fruit furnishes a very refreshing beverage which may be drank by the most delicate, with perfect impunity, and the immature pulp may be eaten without any danger of exciting those diseases so common in tropical climates. This is one of the few examples in the vegetable kingdom, where a fruit may be eaten or used in any stage of its growth and be nutritious and perfectly innocuous.

The mango tree grows here to a very large size, and bears an abundance of fruit of large size and fine flavor.

The cashew-nut is also very abundant.

The oranges are vastly inferior to those cultivated in Brazil, which, no doubt, is to be attributed to the kind, and not to the climate or soil.

The pine-apple is very abundant, and grows apparently without cultivation.

Bananas and plantains can be obtained in any quantity and of a very good quality, also pumpkins and culinary herbs.

Among the indigenous plants found here, is the Hypoxis erecta, a small grass-like plant, having a yellow flower with six petals, disposed in a star-like manner. This plant grows abundantly in North and South America, and the bulbous root bruised and applied to wounds caused by poisonous serpents is supposed in some parts of the United States to be an effectual remedy.

I observed on the uncultivated grounds of the low extent which borders the bay, the Nauclea gambir, a plant much cultivated in the East Indies, for an astringent extract called catechu, which it produces. I do not know that this plant is cultivated here, but it certainly could be to great advantage, as the specimens I saw were extremely large and flourishing.

In the cultivated fields I saw the papaw, a plant that is common now throughout the tropics, although a native of America. The fruit, when cooked, is much esteemed by some persons, but it appears to have little to recommend it. Its great peculiarities are, that the juice of the unripe fruit is a most powerful and efficient vermifuge; the powder of the seed even answers the same purpose, and that a principal constituent of this juice is fibrine, a principal otherwise supposed to be peculiar to the animal kingdom and to fungi. It is also said by Dr. Lindley and other authors, that this tree has the singular property of rendering the toughest animal substances tender, by causing a separation of the animal fibre; its vapor even does this, for it is said that newly killed meat suspended among the leaves, and even old hogs and old poultry become tender in a few hours, when fed on the leaves and fruit.

Latham's island, situated near the island of Zanzibar, is elevated about fifteen feet above high tide, and contains about twenty acres. It appears to have been a breeding place for birds for many years, and consequently about three-fourths of the surface is covered to the average depth of two feet with the substance called guano, which is the excrement of several species of sea bird, their feathers, and the remains of many that perish. This substance is undoubtedly the richest manure known, being composed of the urate, phosphate, and oxalate of ammonia, oxalate and phosphate of lime, and undetermined organic substances, of which but a small part is soluble in water. These are the principle constituents, according to the analysis of Voeclkel. It is only necessary to add a small quantity of guano to a barren soil, consisting only of clay and sand, to produce a rich crop of corn. Its action by some has been attributed to the organic substances which it contains, and which furnish the nitrogen to the vegetable albumen, which is the principal constituent of plants.

The birds which frequent this island appear to feed their young on the flying-fish. While on the island, I observed several old birds, after flying round in circles for some time, descend where their brood were sitting, so as to touch the ground with their feet but without alighting, and at the same time disgorge several flying fish.

Were there enterprise enough among the Arabs on the island of Zanzibar to import this manure, which is but twenty miles distant, and apply it to the sterile hills on their island, it would render that beautiful spot one of the most productive on the globe, capable of yielding all the tropical productions in the greatest perfection. An English man-of-war has lately been ordered to stop and examine it.

The rock is a calcareous conglomerate, formed of broken shells, corals, &c., cemented by oxide of iron, and is decreasing in size in consequence of the waves of the ocean wearing away the base, when the top, unsupported, falls down. No herbage is found on the island, not even a spear of grass, or no member of the animal kingdom, but birds, which constantly cover about three-fourths of the surface, and so tame that thousands might be killed with a stick.

January, 1845.—Quallah Battoo appears to be on the decline rather than improving either in appearance or importance. This is caused, no doubt, by the feuds and jealousies which exist between petty Rajahs, which, in its consequence, leads to the destruction of much life and property. The town consists of twenty or thirty houses, enclosed within a quadrangular picket fence made of bamboos, which are inserted into the ground and pointed at the top, about eight feet high, having other pieces running in a horizontal manner and tied to the upright sticks with hair, so that it would be but little labor with a large jack-knife, to make an entrance in a few minutes. There are two entrances opposite each other, one facing the shore and just large enough to admit a single person. The houses are small, and situated in the centre of the enclosure, having one principal street, in which fish, fruits, &c., were exposed for sale, forming a kind of bazaar. The comparative abundance of fruits, fish, &c., would appear to show, that the Malays here have turned their attention more to agriculture than their kindred elsewhere. This is probably owing to the extensive cultivation of pepper. The nearest plantations are situated about two miles from town. The cultivation of this spice is between the longitude of 90° to 115°, beyond which no pepper is to be found, and they reach from 5° south latitude to 12° north, where it again ceases.

The species cultivated here is the piper nigrum, although, according to Dr. Roxburgh, the trioicum yields excellent pepper also. The climbing stem is trained on stakes at the distance of about eight feet, and allowed to rise about ten feet high. When any of the berries on a spadix change from green to red, the whole are considered fit for gathering, for if they are allowed to become fully ripe, they are somewhat less acrid, and moreover easily drop off. When collected, they are spread out and dried in the sun, and the stalks separated by hand-rubbing, and they are afterwards winnowed. White pepper is prepared from the soundest and best grains taken at their most perfect stage of maturity. These being soaked in water swell and burst their integuments, which is afterwards carefully separated by drying in the sun, hand-rubbing, and winnowing. Mr. Crawford estimates that fifty millions pounds of pepper are produced annually, and of this amount, the west coast of Sumatra alone supplies twenty millions.

February, 1845.—Singapore is rapidly rising to a large city, and may well be styled the key of the Gulf of Siam and the China Sea. It is situated on an island of an elliptical form, twenty-five to twenty-seven miles in its greatest breadth from north to south, and containing an estimated area of two hundred and seventy square miles, with about fifty small desert isles within ten miles around it, in the adjacent straits, whose area is about sixty miles, the whole settlement embracing a maritime and insular dominion of about one hundred miles in circumference. The island is, on the north, separated from the main land of the Malayan peninsula by a very small strait, which in its narrowest part is not more than a quarter of a mile wide; on the front, and distant about ten miles, is an extensive chain of almost desert isles, the channel between which and Singapore is the grand route of commerce between Europe and America and western Asia. The aspect is low and level, with an extensive chain of saline and fresh water marshes in several parts, covered with lofty timber and luxuriant vegetation, here and there low rounded sand hills, interspersed with spots of level ground, formed of a ferruginous clay with a sandy substratum.

The principal rock is red sand-stone, which changes in some parts to a breccia or conglomerate, containing large fragments and crystals of quartz.

The whole contiguous group of isles, about thirty in number, as well as Singapore, are apparently of a submarine origin, and their evulsion probably of no very distant date.

On several of the small islands of the strait are fine quarries of syenite, which are worked by the Chinese, and used for most of the buildings now being constructed in Singapore.

The town stands on the south coast, on a point of land near the west end of a bay, where there is a salt creek or river navigable for lighters, nearly a mile from the sea; on the east side of the town is a deep inlet for the shelter of native boats. The town consists generally of stone houses of two stories high, but in the suburbs, called Campong Glam, (Campong, Malacca, and Glam, China,) bamboo huts are erected on posts, most of them standing in the stagnant water on the east side of the harbor. Enterprising merchants have erected many substantial and ornamental houses fronting the harbor, and presenting a strange contrast with the wretched tenements of the natives. The ground is generally raised three feet, and they have an elegant entrance by an ascent of granite stairs. The rooms are lofty, with venetian windows down to the floor, and many are furnished in a luxuriant manner, with baths, &c., while the grounds are tastily laid out with shrubs of beautiful foliage, affording a most picturesque prospect from the shipping in the harbor.

On the design of Sir Stanford Raffles, the settlement of Singapore was first formed in February, 1818, and declared a free port in 1819, and its sovereignty, in its present extent, confirmed to Great Britain in 1825, by a convention with the King of Holland and the Malay Princes of Johore. There is, it is said, a pension of $24,000 Spanish, a year, paid by the East India Company to this Rajah as an equivalent for the cession. In 1823, the town consisted of only a few buildings, but it now can boast of the handsomest, most regular, and best built bazaar, it is said, in India. The shops and houses (upper stories) are all pukka, uniform, neat, and respectable, with fine wide streets, and are occupied solely by Chinese, who carry on the business of the place, not excepting commercial speculations, as their houses are full of goods, and they themselves are in a thriving condition.

Singapore was down to the year 1818 a haunt of pirates; no European or native vessels ever visited it, and as late as the year 1810 the boats of the English frigate Greyhound cut out and recaptured from one of the most secure spots of the present harbor a European vessel which had fallen into the hands of the pirates in question.

The population of Singapore is, at present, computed at more than sixty thousand, two-thirds of which are Chinese, and the remainder Malays, Hindoos, and foreigners.

During our stay there of five weeks more than seven thousand Chinese arrived as settlers, but it was the proper season for the arrival of their junks, as they are obliged to come down near the termination of the northeast monsoon, not being able to beat against an adverse wind with their ill constructed vessels. Upwards of forty of these vessels were lying in the harbor, some of six hundred weight tonnage.

Notwithstanding its lowness, marshiness, intertropical position, and consequent high temperature, with a constant and rapid evaporation by a nearly vertical sun, from a rank and luxuriant vegetation and a profusion of animal and vegetable mat-

ter in every stage of putrefaction, it has hitherto proved remarkable for its salubrity, and is much resorted to by invalids from India. Being so near the equator, there is of course little variety of seasons, neither summer nor winter. Fahrenheit ranges from 71° to 89°. The periodical rains are brief, indistinctly marked, and extending over about one hundred and fifty days of the year, and about one hundred inches of rain fall annually. Almost all the tropical fruits are cultivated here, many of which are in great perfection, as the pine-apple, banana, mangosteen, &c. The nutmeg is being extensively cultivated in large plantations, but as yet does not yield a large crop, as the tree requires ten or twelve years from the time of planting for that purpose. They are generally planted on the ferruginous sandy hills, and require an artificial soil and compost to be placed around the roots of the young trees, and it is also necessary to keep them shaded from the sun by mats for three years, and when five years old produce, but it is only when ten or twelve years old that they yield a full crop.

The nutmeg tree (Myristica moschata) in its general appearance resembles the clove tree; the bark is smooth and ash colored, the leaves green above and grey beneath, and if rubbed in the hand, have a gratefully aromatic odor. The sap has the property of staining cloth indelibly. The tree bears fruit, flowers, and buds at the same time. The flower resembles the lilly of the valley very much. The fruit in size and appearance resembles the nectarine, and is marked with a furrow like the peach, and as it ripens has the same delicate blush. The following description by Sir Thomas Herbert is somewhat fanciful and at the same time true. "The nutmeg, like trees most excellent, is not very lofty in height, scarcely rising as high as the cherry, and by some it is resembled to the peach, but varies in form of leaf and grain, and effects more compass. The nut is clothed with a defensive husk like those of a baser quality, and resembles the thick rind of a walnut, but at full ripeness discovers her naked purity, and the mace chastely entwines (with a vermillion blush) her endeared fruit and sister, which hath a thin coat; and both of them breathe out most pleasing smells. The mace in a few days (like choice beauties) by the sun's flames become tawny, yet in that complexion best pleases the rustic gatherer." The plant bears three crops in a year, but the fruit requires nine months to become perfect. The nutmeg has three coverings, which are all of different textures. The fruit is the outside coat, which is about an half inch thick, and when ripe cracks and opens of itself in two parts; the second is the reticulated mace which appears through the fissures of the first, and has a bright scarlet color; the third is a hard black shell, which encloses the nutmeg. Good trees will produce from ten to twelve pounds of nuts and mace annually, but the average of an orchard is sixty-five ounces avoirdupois or about two peculs to an acre. Nutmegs of a lightish grey color, a strong fragrant smell, an aromatic taste, large, oily, and round, and of a fine texture, are the best. The holes made by insects eating into the kernel are often filled up, and can be ascertained by the inferior weight. In commerce, they are divided into royal and green; the former of an oblong shape, and the latter of a round shape. This spice, no doubt, in a few years will be the principal production of this island, and is capable of supplying the whole British Empire.

Another natural production of the island, is the Agar-agar of the Malays, (Fucus sacharinus,) resembling a fern, and abounds on the coral shoals around Singapore, and produces in China from six to eight dollars, in its dry bulky state. By the Chinese, it is converted into glue, paint, &c., for glazing their cottons, and sacrifice paper; the finest portion is made into a rich jelly, which makes a delicious sweetmeat, when preserved in syrup. The harvest of this sea-weed is from six thousand to twelve thousand peculs, annually.

Between the sandy hills is much marshy soil, which formerly was densely covered with timber and jungle; much of this has been cleared and ditched, and the peat, of which there are large quantities, in some places, is thrown in heaps, burned, and serves as a compost. More than a thousand acres of this soil have been planted with the sugar cane, and it is found to yield exceedingly well, the sugar being produced at one cent per pound. The laborers are Chinese and Hindoos, the wages paid are from three to four dollars per month, out of which they find themselves.

An excellent road has been made by government, with convicts from India, across the island, much to the advantage of the agriculturists.

The American consul, Mr. Ballister, who is extensively engaged in manufacturing sugar here, has made an experiment with guano, as a manure for cane, and found it to succeed remarkably well. That which he used was obtained near the island of Pulo Penang, and is said to be much inferior to that obtained in the Pacific.

The cultivation of cotton has been tried here, but does not succeed, the pods not coming to maturity; being previously affected with a fungous decay, which is probably owing to the hygrometrical state of the atmosphere, nearly one hundred inches of rain falling annually, and the variation of the thermometer being but a few degrees during the year. I may remark, also, that I examined some cotton growing in the vicinity of Zanzibar that was affected with disease in the same manner. Indeed, from what I have observed, and from what I could learn from others, I think it extremely improbable that the culture of cotton, in any of the European colonies of the east, will ever sensibly affect that of the United States.

The Uncaria gambier or Nauclea gambier is one of the productions of this island, and is very extensively cultivated in many of the East India islands, particularly Bintang, where there are more than sixty thousand plantations. Gambier is the Malay name for the extract prepared from this plant.

This plant belongs to the natural order Cinchonaceae. It is a scandant shrub, rising to the height of ten to fifteen feet, with round branches, leaves ovate, lanceolate, acute with short petioles smooth on both sides, stipules ovate, peduncles axillary, solitary, opposite, bracteolated about the middle, the lowest one sterile converted into hooked spines. Florets pink and green. Capsules stalked, clavate, two-celled, two-valved.

Two methods are employed in obtaining gambier. One consists in boiling the leaves in the water, and inspissating the decoction; the other, which yields the best gambier, consists in infusing the leaves in warm water, by which a fecula is obtained, which is inspissated by the heat of the sun, and formed into cakes. The method as practised at Singapore consists in plucking the leaves from the prunings, which are boiled in a qualic or cauldron, made of bark, with an iron bottom.

After being boiled twice and rinsed, they are used as manure for the pepper vine. The decoction is evaporated to a very thick extract, of a light yellowish brown color like clay, which is placed in oblong moulds. The pieces thus obtained are formed into squares, and dried in the sun, or on a raised platform. The best is made at Bintang, the next best is that of Lingin.

There are also some plantations of pepper on the island, and also of the betel leaf, which is the piper betel; and a considerable revenue is derived from a small tax on the latter production.

It is as a commercial mart and key to the navigation of the seas in which it is situated, that this settlement is of incalculable importance to the British empire, and that it has sprung up in a few years from a desert isle to a rich and flourishing settlement, importing and exporting more than £3,000,000 worth of goods annually. The opening of the Chinese markets does not appear to have affected it sensibly.

Situated as it is in the centre of myriads of active and industrious nations, inhabiting rich and fertile lands, abounding in every species of tropical produce of which Europe or America or China has need, it will no doubt continue to increase as a depot for the manufactures of Europe and the United States, to an almost illimitable extent; and being unmolested in its progress by harbor duties, dues, or charges of any description, it only requires a liberal policy of England to make this, in the course of time, one of the most important commercial depots in the world.

March, 1845.—The river of Sambas, in the island of Borneo, reaches the coast in latitude 1° 13′ N., longitude 109° 03′ E. The width of the mouth is about half a mile, having two small mountains, situated, one on each side.

That on the south is perhaps four hundred feet high and has the greater elevation. It is cultivated to near the summit by the Chinese, who have a village immediately on the west side, containing perhaps two thousand inhabitants. The other eminence, on the north side, is very densely covered with vegetation, and has an elevation of three hundred feet. The rock of these mountains is chert, and belongs to the unstratified series, with the lines of fracture very distinct.

Ascending the river it takes a northeast course for about half a mile, where it

turns E. N. E., and keeps that general direction. making several small flexures for about twelve miles, where the tributary on which the town of Sambas is situated joins it on the right.

About two miles below the junction of this stream, a small creek enters on the left, which we followed with a small boat, for a distance of perhaps two and a half miles, where a small path led through a marsh covered with high grass (andropogon) for the distance of a quarter of a mile to a Malay village, of perhaps thirty houses, elevated on piles four feet above the marsh. The inhabitants were not to be seen, probably absent fishing, as several nets were drying in the village.

There was a large grove of cocoanut trees, loaded with fruit, some banana trees jack-fruit, bread-fruit, paw-paw, and a small quantity of pepper, which looked unhealthy, as the soil was too moist. The inhabitants of this village subsist principally by fishing, as the soil is unfit for cultivation.

A short distance above this small stream a range of hills is visible, having five elevated points, the nearest distant two miles from the river. The branch on which Sambas is situated has a tortuous course, and is at one place obstructed by rocks; but vessels drawing twelve feet water can pass without difficulty. The village is situated thirty miles from the coast, and contains about ten thousand inhabitants, two-thirds of which are Malays, and the remainder Chinese. This town was burned in 1815 by the English, and taken possession of by the Dutch in 1817, who have it defended by a fort mounting a few guns, with about eighty soldiers, principally Javanese, who are preferred by the Dutch to the Malays, as they say they are more active and industrious.

Foreign vessels pay a port charge of a rupee (forty cents) on each ton, and Dutch vessels half that amount.

The Government have a monopoly on salt, and gun-powder and tobacco, but all other articles are free of duty.

Gold is the chief article; the principal mine is situated at the base of a mountain, perhaps fifteen hundred feet elevation, and about twenty miles distant from the village. The mines are worked by Chinese, and produce, according to the Governor, fifteen peculs of gold annually. It is called stuff-gold, and occurs in thin lamina and grains; sometimes in masses of imperfect crystallization. It is washed from the soil at the base of the mountain.

The Chinese cut a kind of timber on the head waters of this river, called by the Dutch eiser-wood, (iron-wood,) from its weight. It has the color of mahogany, is very hard and heavy, is not attacked by insects, and is said to endure when inserted into the ground for more than half a century. The fort is constructed of this wood, and is now twenty-five years old, and is still perfectly sound. It is too heavy for ship building. A considerable quantity is exported to China.

The cocoa-nut and betel trees are planted here to some extent, but the land is too marshy ever to become an agricultural district, without immense expense in draining. A Malay prince has become wealthy, by raising coffee on some of the small round hills which rise above the low grounds.

The cassia alata is found growing here, and also, on several others of the eastern islands, and is conspicuous for its large spikes of yellow flowers, and the neat contour of its leaves.

Nearly all the species of cassia are medicinal, and are used principally as purgatives, but this species is celebrated in the east as a remedy in cutaneous affections, as porrigo, &c.

The principal shrubs growing along the river, and in the swamps, are two species of the mangrove, together with a species of magnolia, which attains a height of twenty feet.

The tribe of plants called Dilleniscea is nearly allied to Ranunculaceae, but differs in the persistent calyx and stamens, and also in habit. From Magnoliacea, they differ by their want of stipula, and quinary arrangement of the parts of fructification.

The species so common here is the Dillenia ovata, a shrub from ten to fifteen feet high, and is much used by the Malays for fencing, and takes root after being inserted into the ground. The calyx in one species is used for culinary purposes.

A very large species of Sparganium is found bending over the margin of the river, growing sometimes to the height of fifteen feet, and the stem with a diameter

of three inches. This statcly species appears different in habit from the small species growing in the United States, where they only reach the height of a foot.

There is also a large tree found in the swamps, belonging to the order Anacardiaceae, and bears a large fruit, similar to the mango, but not edible.

The province of Sambas is said to be very salubrious, not only with regard to the natives, but also Europeans. This would not be the conclusion arrived at from an inspection of the country, which consists of extensive marshes principally, and a few rounded hills, which occur irregularly unconnected with a mountain chain.

In the small Malayan village before mentioned the soil was a black marl, and apparently overflowed at times, and when stirred up to the depth of a foot, emitted an almost insupportable stench, probably of sulphurctted hydrogen gas. This condition appears irreconcilable with its salubrity. Dr. Ferguson has written a treatise on the history and nature of marsh poison, (much referred to,) the result of his investigations in Holland, Spain, Portugal, and the West Indies. He tries to prove the fact that the driest situations are very frequently, contrary to expectation, the most unhealthy.

In his remarks he says, "one only condition seems indispensable to the production of marsh poison on all surfaces capable of absorption, and that is the paucity of water, where it has recently abounded. To this there is no exception in climates of high temperature, and from which we may justly infer that the poison is produced at a highly advanced stage of the drying process."

In another place Dr. Ferguson says, "it is from these, (the dried and half dried margins of lakes and marshes,) that the poison uniformly emanates, and never from the body of the lake or pond; and I think it may be fairly presumed, that water as long as it can preserve its particles above the surface is innoxious, and that it must first be absorbed into the soil, and disappear before the eye, before it can produce any mischievous effects. Whoever in malarious countries waits for the evidence of putrefaction, will, in all the most dangerous places, wait too long; as every one can testify, who has seen pestilence teem forth to the paralyzation of armies, from the bare barren sands of the Alentogo in Portugal, the arid burnt plains of the Estremadura in Spain, and the recently flooded table lands of Barbadoes."

Baron Humboldt, speaking of the intermittents which are so common near the great cataracts of the river Orinoko, says, "the causes are violent heats, joined with the excessive humidity of the air, bad nutriment, and, if we may believe the natives, (as well as the missionaries,) the pestilent exhalations that arise from the bare rocks of the cataracts." Many persons are spoken of, who, having passed the night on the black and naked rock, have awakened in the morning with a strong paroxysm of fever. Humboldt thinks that this is caused by the high temperature of the rocks, in consequence of their being coated over with a layer of the oxide of manganese and iron. The highor temperature of these rocks is a very doubtful cause; but there is a relation between this fact and those mentioned by Dr. Ferguson, of which the desiccation of nearly bare rocks in Spain, and of a very thin bed of earth overlaying coral rocks in the West-Indies, has given rise to the most pestiferous exhalation.

I may also mention a fact corroborating Baron Humboldt's observations at the cataracts. Singapore is celebrated for its salubrity, although having several marshes extending into the town and the immediate neighborhood; and I was informed by Dr. Oxly, surgeon of the honorable East India Company, that but one case of malignant fever had occurred to his knowledge since the place has been in the possession of the English, since 1819.

But an island in the harbor, called "Blatten Matte," about two and a half miles distant from the town of Singapore, is notorious for being unhealthy. This island I took occasion to visit in a Malay boat, and when passing one end where the rocks were exposed, I requested one to step out and break me off a portion; but they all declined, saying that the people always took sick who went upon those rocks, but were willing to pull a quarter of a mile farther, where they said they could obtain some on the island. These rocks are composed of a coarse sandstone, containing much oxide of iron, and coated with black oxide of manganese. I am induced to believe the opinions of these ignorant people correct, for they have no doubt been obtained from experience, for they are much accustomed to fishing about these islands, and visiting them for the purpose of obtaining pine-apples.

It is doubtful, however, that these rocks have any thing poisonous in their composition, but more probable that they attract the poisonous matter emanating from the island; for the same rock is largely exposed in and around Singapore, without producing obnoxious effects. The frigate Constitution was anchored about two and a half miles from this island, with the wind blowing from that quarter, but without any of the crew suffering from fever.

It would thus appear that no definite condition of circumstances can be pointed out which is certainly productive of this poison; as for instance the Pontine Marshes of Italy, and the arid burnt plains of the Estremadura, both highly productive of this effluvia, yet very different. Again, the arid plains of Brazil, and the swamps of Sambas, both destitute of malaria.

We may justly infer then that the poison which is so deleterious to the human constitution is not always the same in nature, but producing the same effects on the constitution; or that it is always the same, but produced under an entirely different condition of things. One state alone seems always necessary for its elimination, that is a high temperature; for I believe that there is no instance on record where it has existed under a low temperature. In all countries where there is a regular change of seasons to wet and dry, it is always most abundant at the commencement of the dry season.

It is also capable of being driven by winds to some distance from where it emanates, but probably never more than two miles. It also appears more abundant at night, is sooner imbibed or takes more effect on the system.

It is a subject fraught with much interest to mankind, and has occupied the attention of highly gifted minds for many years, but so evanescent is it in its character, that not only is its nature entirely unknown, but even its pathological effects on the system are not known to be exerted first upon the stomach or lungs.

April, 1845.—At 4 o'clock, A. M., April 8th, we left the Constitution for the city of Borneo, with three boats and about forty men, under the command of Lieut. W. C. Chaplin.

The ship was anchored about seven miles from the entrance of the bay, which is denoted by a low extent of land, which is an island partly enclosing the bay, and runs parallel with the coast, and appearing at a short distance as forming part of it. The trees on that part of the island around which it is necessary to pass are a species of pine, and are standing solitary, and the ground is elevated but a few feet.

After rounding that point we took a southwest course, keeping in a parallel direction with the right hand shore, for the bay widens and is studded with islands, which makes it difficult to ascertain where the river empties into the bay. After passing a distance of perhaps eight miles, we came to a small island with six prominent trees upon it, and containing perhaps ten acres of ground. The lower part of the island is quite low and is defended by a battery of seven or more guns, which are almost even with the water's edge, and so much covered with grass that we were within two hundred yards before we discovered them, but from appearance they were not mounted on carriages.

Judging from the muzzle, they were probably eight or ten pounds. There are several large rocks lying on this side of the island, perhaps fifteen or twenty feet in height, while the upper end is much more elevated, being thirty or forty feet in height, and has somewhat the appearance of an artificial work. On the summit of this elevation there is a small house or shed, intended, no doubt, as a lookout.

There is a small partly demolished house near the water's edge, on the river side of the island, which is inhabited by a family. This island is situated immediately below the mouth of the river, and is called, according to Mr. Lay, "Pulo Chermin" or Mirror Island, as he supposes, in allusion to the polished pieces of coal found upon it. When approaching this island we met one of the Rajah's war proahs, commanded by an officer, it was said, second in command to the chief Rajah. They had a large ensign flying at the stern, of a pale reddish yellow silk, with a triangular piece of red sed in the outer margin, with the point nearest the staff. This boat carried about forty men, and was paddled by twenty-four men, sitting along the side from about two-thirds of the bow aft. The bow of the boat was very little elevated above the water, and near the stern was a covered part extending about fifteen feet, under which the officers were seated.

One small gun was mounted amidships, perhaps four feet long and of two pounds

calibre, and also one of the same size in the bow. These guns were on carriages. Their krises were hung up in front of the covered part, the boat was sharp at the bow and stern, with the rudder on one side near the stern.

They were on a visit to the ship, but after a short conversation they concluded to return to the city, probably thinking we had some presents with us.

After getting under way again, the proah took the lead, and they commenced beating their gongs and singing, to which they kept time with their paddles, by giving two strokes in quick succession, and then pausing and giving three, and one, &c., &c. The gong, it is said, is the token of welcome.

When arriving at the island before mentioned, the proah stopped at the old house, and sent a smaller boat ahead to announce our coming; we continued on, but they hailed us, and apparently wished the small boat to arrive at the city first.

The river at the mouth is about one-fourth of a mile wide, with a slow current, and half a mile above the island becomes confined between two ridges of mountains of three hundred feet elevation, and having numerous peaks, some of which are extremely pointed; and frequently these sharp summits are covered with timber, although at many places they are entirely destitute of wood, having only a few stunted bushes and grass upon the sides, which at a distance appeared cultivated; but this is a deception, for only a few patches are really cultivated, as the soil is in most places too scanty and too sterile to admit of it. A few scattered houses are seen on the sides of the mountains, in groups of three or four, and at several places there are also a few situated in the river, twenty or thirty yards from the shore.

I observed that at a few places along the shore cocoa-nut and banana trees were cultivated, but I saw no pepper. The distance from the mouth of the river where it empties into the bay to the city, is perhaps eight miles, and on an average is four hundred yards wide. Below the small island mentioned before, there are large portions of water staked off for the purpose of fishing. These form enclosures which lead to a basket made of rattan, where the fish enter, but cannot return.

A short distance before arriving at the city, the river takes a short turn to the right; and at the inner angle, there is a rectangular mound thirty feet in height, having several mortised posts on the top, which probably once supported a building. The river widens where the city is situated, and is divided into two branches.

The houses are all, with the exception of one, built over the river on piles of the Nipa palm, and the sides are thatched. The houses are elevated about four feet above the water. There is one row of houses near each side of the river, being perhaps thirty yards from the shore, and one row in the centre, thus forming two streets about one hundred yards wide, having cross streets, making it necessary to pass in canoes from one block of buildings to another.

The Rajahs' houses are somewhat better looking, being formed of plank, instead of bamboo and thatch; yet looking more like sheds than dwellings, and would scarcely be distinguished but for the flags and cannon, and a large drum in the gable end of the buildings.

There were four flags flying in different parts of the city, three being yellow silk, with a triangular piece of red; the other was red, with a white border on the upper and lower edge.

The singular practice of building their houses over the water, where there are good sites on the shore, appears to be unaccounted for, unless it be the convenience of bathing, for they are of the Mahomedan faith; and it may also tend to keep their houses clean from vermin, particularly ants, which generally abound in tropical countries.

The principal Rajah had twelve small brass cannon, mounted under a small shed, about four feet above the water, adjoining one side of the residence.

The cannon were very neatly made, and carried a two pound ball, the metal at the muzzle being six or eight inches in diameter, and mounted on swivels.

On the point of land forming the fork of the river were several very large brass cannon, unmounted.

On entering the city we were saluted with the small cannon, and two other war proah's manned, each came out to meet us, beating their gongs, and having in the center two very large silk umbrellas, formed of gaudy colored silks, under which the officers sat, and from one to two hundred small canoes soon made their appearance from all parts of the city, all armed with small spears, but principally

containing old men and boys. Many of these canoes were very small and shallow, the sides not more than two inches above the water. There was a large shed erected near the fork of the river, containing a very large drum, made of a large hollow trunk of a tree, with leather stretched over the end, and a person was stationed by this with a drum stick in his hand. This, no doubt, was for the purpose of giving alarm, in case of attack.

The houses were crowded with natives all eagerly looking, as though it were the first time that they had beheld a foreigner. Most of the children were entirely naked; even girls ten or twelve years of age, in their anxiety to see the white men, forgetting their complete nudity, would rush through the crowd, and only withdraw when reminded by some elder member of the community.

The majority shave their heads, according to the Mahomedan faith, but several were seen with long hair.

Many were affected with cutaneous diseases, many were blind of an eye, and numbers were affected with different diseases of that organ.

The women were more corpulent than the men, and have a great sameness of appearance, marry very young, frequently at twelve years of age, and at the age of thirty are often hideously ugly.

We endeavored to purchase some fowls, but found them very scarce and dear, they asking one dollar for six.

Goats and pigs could scarcely be purchased for money, while no fruit could be had. Indeed every thing wore an appearance of poverty and wretchedness; but probably if we could have waited a few days, they might have supplied us with some provisions, as the cultivated grounds are probably some distance from the river.

As we returned, we stopped at the lower part of the city, where a few small springs issue from the bank, and where the inhabitants obtain their water, carrying it in pieces of bamboo, six or eight inches in diameter. Here I obtained a few minutes on shore, and ascending the hill, had a good view of the city, which appeared more extensive than I before supposed from a view from the river. I think fifteen thousand inhabitants for the city a low estimate.

I have found a new species of Rubas, and a twining plant, with a large yellow flower, belonging to Convolvulae.

The Dillencaceas were very abundant.

The Flacourtia cataphracta is found growing here on the sides of the hills, the trunk being exceedingly thickly covered with thorns.

We left the village, and descended with the tide, until about nine o'clock, when having run out of the channel we struck aground, and remained there until one o'clock in the morning, when we made sail, and at half past three o'clock in the morning arrived on board the ship.

We observed no Chinese in Borneo, but, within the entrance of the bay, was a large merchant proah, manned with half-breeds; their mothers having been Malays, and fathers Chinese.

They wore their hair in a queue, the same as the Chinese.

April 10.—As the ship was getting under way I had permission to visit the island of Laboan with one of the boats.

It was distant about twelve miles from the anchorage of the ship. This is the island from which it is said coal has been obtained, and that formerly the English had a settlement upon it, on the opposite side from where I landed. I found the shore low where I touched, very thickly wooded with dense under-brush, so that for want of time I was only able to penetrate about half a mile into the interior, the ground gradually ascending, but there was no outcropping of the rocks by which a satisfactory conclusion might be drawn. The shore was strewn with large fragments of sandstone, apparently of the old red sandstone formation.

I discovered here in great numbers on the trees a species of sciurus of an extremely black color, and I think the species is undescribed.

Immense quantities of pagurus were found on the shore, and I can confirm the opinion of some naturalists, that some species only inhabit particular shells.

A beautiful kind of yellow wood, similar to box, is abundant here, and a quantity appeared to have been cut some time previous for exportation; it is probably used by the Malays for the handles of their krises.

There were no habitations on this part of the island, nor did I meet with any inhabitants. I ran across with the boat to a small island about one mile distant from Laboan, and which consists of a high rock elevated about twenty feet above the water, covered with vegetation, and the sides overhanging, having been undermined by the breakers. There was but one side where a boat could land, where I found a small cave in which were a great number of small bats.

The principal tree here was the Pandanus flabelliformis, which is peculiar for the aerial roots which it sends down from its stem, at the height of from four to six feet from the ground, and which diverge from the trunk. and take root several feet from the base, and evidently is a wise provision to enable it to grow in sandy soils, its favorite situation, where it could not without these supports maintain itself, with its heavy top of leaves and fruits, against the high winds which frequently occur in the tropics.

These trees are covered with fruit, and bear a nut, which, when mature, can be eaten.

On a rock near the edge of the water I found a very large serpent, the palamis vicolor. It appeared very sluggish, was eight feet in length, and when preparing it I found in its abdomen a very large spotted eel, one half of which was entirely digested, but even the skin of the remaining part was entire, the digestion appearing to have proceeded from the head.

Several smaller fish were found with the eel. These serpents inhabit salt water, and are provided with fangs which are poisonous, but are much smaller, in comparison to the size of the serpent, than those of the Crotalis or Trigocephalus.

The tail is flattened like an oar, and acts as a rudder when the snake is moving through the water.

The rock of this island I found to be carbonet of lime, which I supposed to be the mountain series, and it is pleasing to observe that here in the tropics, in this remote part of the globe from the theatre of geological investigations, the same rocks and the same order of succession follow as in Europe, America, and other parts of the world, where geological investigations have been made.

The opposite side of the island, no doubt, is much more elevated, and it is there, I presume, that there is an outcropping which discovers the coal, and I have been informed that experiments have been made upon some obtained from this island, which has been found to be of an excellent quality. Mr. Lay, who visited Borneo in 1838, described coal cropping out about two miles from the city. If it could be worked advantageously there, it would still, no doubt, be highly valuable, notwithstanding the land carriage of two miles to the river.

A signal from the ship called my return, and however reluctantly I left this interesting place to a naturalist, still a survey of the coal field here could have been of no benefit to our country, as the English had about two weeks previously negociated for the priviledge of the exclusive right of working all coal mines in Borneo proper.

It is their intention of forming an English settlement on the island of Laboan, and will no doubt be a valuable acquisition to their already extensive possessions in the east.

The soil of the island is very fertile, and is covered with large timber, and the locality is peculiarly healthy, having no endemic diseases, and even those epidemics, the scourges of most tropical countries, are unknown here.

The privilege of working the coal here, which the English have obtained, has been through the influence of Mr. Brooks, an English gentleman who has privately purchased the government of Sarawak, and has since offered it to the English government, and which no doubt may be regarded as a prelude to the possession of Borneo proper.

May, 1845.—The beautiful harbor of Turon, Cochin China, resembles somewhat that of Rio Janeiro, Brazil; but the surrounding scenery is not so grand, nor is the bay so capacious or secure, as one side is formed by a peninsular promontory, which is low where it joins the main land, and where the town is situated; but this perhaps would be but little objection for the safety of a vessel during a gale from that direction, as a ship would be driven to sea and off the coast.

The mountains surrounding the harbor are lofty and very abrupt, of a primi-

tive formation, and nearly destitute of large trees, but very thickly covered with brush wood, which is cut by the inhabitants, and disposed of in the city, or sold to ships, which only touch here for refreshments, wood, or water, in consequence of the king reserving the exclusive right of trade to himself, and it is only by permission of the mandarins, that their subjects can dispose or purchase the smallest article from foreigners.

Several streams of water flow from the mountains into the bay, of an excellent quality, and fruits, such as are found in tropical countries, can be had in abundance and at a reasonable price, together with pigs, poultry, and bullocks. They prepare a large quantity of dried fish, on which principally the poorer inhabitants appear to subsist, and may perhaps be the cause of the prevalence of cutaneous diseases.

The condition of the lower classes indeed appears to be more abject and servile than I had yet observed. Their clothing was of the coarsest material of grass cloth, and not removed until lost in rags; and frequently their only mantle consisted of dried leaves stitched together, which was thrown over the shoulders descending to the knees, with a small strip of grass cloth about their hips, serving as a fig-leaf. The children of this class were entirely naked.

Their food consisted of salt fish and rice, with a sauce made of shrimp and small fish of a reddish color, and used in a putrescent state. Banana leaves serve them for plates, while their rice is eaten from small bowls with chop-sticks.

Although the plebeians appeared to be in such an abject state of wretchedness, the more favored classes appear to have comprehended the advantages to be derived from the improvements of civilized nations, more than their neighbors the Chinese, for they no longer use the matchlock in their army, but have purchased muskets from the French and English, and their cannon are mounted on carriages after the European mode, and their forts are also built after the European method, which knowledge they have obtained from French missionaries, who have resided among them for many years, and have converted thousands of the natives to the Christian faith, but appear of late years to have become obnoxious to some of the mandarins, and have been persecuted and imprisoned, and some have been under sentence of death for some time, but the king's signature could never be obtained for their execution, from his pusillanimity and fear of bringing the vengeance of the French government upon his nation.

Mr. Ballister, the American consul at Singapore is his acting agent, and has educated two Cochin Chinese subjects. Having heard from one of these subjects, when on a visit to Singapore, that three French missionaries were confined in prison and under sentence of death, he sent the king word, by this means, that if they were executed they would certainly bring the vengeance of the French power upon them. The execution was delayed, and in the mean while he gave information to the French commodore in Manilla, despatched a brig to Turon, and carried them from the country. After the most positive denial of having the missionaries in their custody, it was only after the third day, when the brig had been placed in a position to fire upon the city, that they were liberated.

Their character for duplicity is well known to those who are acquainted with them, and should always be kept in view when treating with them.

The similar circumstances which detained the Constitution in this place for some days in the meritorious attempt to release bishop Lefevre, who was then under sentence of death and asked for aid, and although it did not prove successful at the time, yet no doubt may have been the means of preserving his life until the arrival of the French ship; and however much I regret the circumstance which prevented me from exploring the neighboring country, yet, the reflection that it probably was the means of saving a worthy man from a cruel death, is certainly a more pleasing recollection than the partial examination of this place, during the limited time which would otherwise have been afforded, had this event not occurred with this jealous and peculiar people.

From the little opportunity I had on shore at this place, I found many plants here common to Singapore and Borneo, but the vegetation was not of that luxuriant character, owing perhaps to the sterility of the soil immediately contiguous to the bay, but from the appearance of several cultivated vallies at a distance, the soil there was very fertile. There is said to be a very fine quality of rice cultivated in this country, which only grows on dry ground, and I had made arrangements with

one of the mandarins to procure some for me from the interior, but, unfortunately, before it arrived from the country the effort made to save the bishop stopped all intercourse.

July, 1845.—Owing to the jealous and restrictive policy of the Chinese, with regard to foreigners, I was prohibited from visiting the neighborhood of Canton, and my only resource to obtain any thing from the interior, was to employ a Chinese to go into the country, and obtain seeds of their cultivated plants, and such other objects as he thought might be of interest to me.

By this means, I obtained a large variety of seeds, and also insects in a good state of preservation; while in the mean time I employed myself in examining what could be found in the markets, inspecting their manufactories, the articles of export and import, and, by a certain deportment, which I found most agreeable to them, I ascertained that I could gain access to places where but few foreigners had ever been allowed to go, and with a small present always found the attendants polite and courteous, though while passing through those streets but seldom visited by foreigners, the crowds of spectators rendered progress almost impossible, while at the same time the stranger is saluted with the most base and insulting language—the words "fan-qui-lo" (foreign devil man) being repeated with peculiar emphasis. But I observed that it was only the lowest orders of Chinese that were thus uncivil to foreigners; but this prejudice, no doubt, has been fostered by the more influential class, who, from education and breeding, cannot themselves thus treat a stranger.

Indeed I am able to say with assurance, that, with a proper course of conduct, a stranger might pass to any part of the empire, without the least molestation; but it would be necessary to use the habit of the natives, and conform in all respects to their peculiar manners, and avoid all collision with them, and, in intercourse with them, the more urbanity and courtesy that was used, the greater would be the success. I am induced to say this in consequence of the oft reiterated remark, that it is impossible for strangers to visit the interior of China; and indeed it would be an impossibility to visit it, as travellers commonly journey in foreign countries, in their own dress, which only attracts attention. But if the traveller's object is to obtain a knowledge of the country, its productions and inhabitants, the proper course would be that of Dr. Horsefield, (an American,) who visited Java some years since, who, by adopting the dress of the Javanese, and conforming to their customs, was enabled to travel through that country with perfect safety, and highly respected for his medical skill.

The only persons who of late years have had an opportunity of visiting China, have been embassadors and their retinue, and certain Jesuits. The former have had but little opportunity of examining the productions of the country, or obtaining much information, in consequence of the hurried manner in which they passed through the country; and the latter, from being devoted entirely to religious subjects, have not been prepared, or neglected, to investigate the natural productions of the country so much desired, and which no doubt would be of great importance to the United States, as the Chinese empire is similarly situated, being on the eastern side of a large continent, in the northern hemisphere, under similar degrees of latitude, and having the extremes of summer and winter nearly the same. Being celebrated for their agricultural and horticultural knowledge, which has scarcely been interrupted for the space of three or four thousand years, we may expect therefore that there are many productions in their extended country which would be profitable in our own, and flourish there; for it is a singular fact that many species of plants in the two countries are identical; and part of their country lying in the tropics, it is very probable that they have succeeded in gradually acclimating many productions of the tropics to endure the more rigorous winters of the temperate zone.

Nearly all the productions of the temperate regions which are valuable have been derived from the tropics, which during a long course of gradual acclimation have become naturalized; but many require the preservation of their seeds through the winter, without which they would soon become extinct. This capability of naturalizing vegetable productions should always be taken into consideration when plants are introduced into temperate climates from the tropics, always preferring those which grow farthest north, or on the most elevated ground. This was well illustrated by the morus multicaulis, which first reached the United States from

the Phillipine islands, and was greatly injured by the frosts, while those procured from China have resisted the severest cold of our winters.

Therefore the similarity of the climate of Northern China and the United States would lead us to expect that the productions of the former would thrive in the latter; for the mean temperature of Pekin, for the warmest month in summer is 84° 38, and the coldest 24° 62, while that of Philadelphia is 77° and 32° 72.

Albany is 72° 38 and 23° 38; and it is very probable that southern and tropical plants, during the space of many centuries, may have gradually been taken to the north, and thus become enured to the cold of the seasons there.

These considerations would certainly warrant an investigation of the products of this extensive empire, as one which may be of incalculable value in the future improvement of our country.

Naturalists nearly all agree now in considering tea, (the great staple of China,) the production of one species, (thea viridis,) notwithstanding the many varieties which are known in commerce, more than thirty different kinds being known to the Chinese, but a few of these being exported. I obtained in Canton twenty-five different varieties, but have not yet had an opportunity of infusing and opening the leaves, but a specific difference may not be found alone in the leaf; and I was informed by Mr. Hallam, tea inspector in the American consul's hong, that of the kinds known in foreign commerce, he has not been able to detect a specific difference, but that the different varieties are produced by culture, manufacture, time of gathering, &c., &c.

The black tea of commerce is grown and manufactured in the province of Fokyen, with the exception of about one-third of that sort called by us Bohea, which one-third part is produced in the north-east corner of the province of Canton, in a district called No-ping, which gives the name to the tea in question.

The green tea is all grown in the provinces of Kiang-nan, Kiang-si, and Che-kiang, but chiefly in the two former. Green tea has been made in the districts from whence the blak tea comes, and vice versa. Some of the buds of the plant in Fokyen, are picked in the early part of the spring, before they have burst; these form the Pekoe, the most valuable tea. A small portion of these buds is mixed with the best parcels of Congo, to give them a flavor. Pekoe is also brought to Canton, unmixed with other leaves. The tea sent to Russia is said to be Pekoe, slightly adulterated by the mixture of other leaves.

In the beginning of May, the leaves are stript off the plant; a new crop is then thrown out, and picked about six weeks afterwards, and a third crop about the end of the summer. The two first pickings are the best, and nearly equal in quality. The third crop of leaves yields tea of little strength, and inferior flavor; hence the best crops are composed wholly of the choice leaves of the two first gatherings, with a small sprinkling of the buds of Pekoe. The inferior crops contain a large share of the third pickings, and none of the Pekoe.

Green teas, like the black teas, are formed by selecting the better from the inferior leaves after they have been dried, the light leaves being separated by a winnowing machine from the heavier hyson-skins. Much of the skins of Twankay, are sold as hyson skins. Copper is never used in making green tea. The bloom appearance of hyson, gunpowder, &c., is said to arise from the effects of carefully roasting the leaves in iron vases, placed over a fire, and by rubbing them against the sides of the vessel. In this process with the green teas much skill is requisite, and there is a class of persons who are hired by some of the tea merchants to superintend their respective factories.

Bohea tea is composed partly of the lower grades of the Woo-y-shan tea, which has been left unsold, after the departure of the last ships of the season, and partly of the tea grown in the district of Canton called Wo-ping. The most productive tea districts in China, according to all accounts, lie in the maritime provinces of Fokyen, Kyanti, and Kiang-nam, chiefly between 27° 30′ and 31° north latitude, and longitude 112° to 117° east. One kind, Cunguacha, a superior sort of hyson, is said by the Jesuite missionaries to be produced so high as north latitude 38°, and east longitude 100°; and another, Paeulcha, brought from the province of Yannam, is said to be procured from mountains in the latitude of 25°, on the frontiers of Ava and Pegue.

The tea plant is grown on the sloping sides of mountains or in vallies, but chief-

ly at the foot of mountains. It is also produced on level tracts, but less advantageously. Besides the explicit information given by Dr. Abel, from actual examination of one district, it is sufficiently certain that the rock formations in most of the tea districts are chiefly primary, from their being productive of metals which are only found in such formations.

The best soils are said to be light gravelly, sandy and whitish, (probably calcareous,) with little accumulation of vegetable mould. Le Conte says the best tea is produced in a gravelly soil; and inferior in yellow, (probably clayey soil.) It also thrives best with an open exposure to the south.

The circumstances of climate, therefore, in regard of temperature and moisture, under which the tea-plant is cultivated in China, may be stated thus; that tea is produced over an extent of country where the mean annual heat ranges from 73° to 54° 5′ Fahrenheit, where the heat of summer does not descend below 80°, and the cold of winter ranges from 54° to 26°, where the difference between summer and winter heat is on the northern limit 59° and on the southern 30° Fahrenheit; that it is cultivated in highest perfection, where the mean annual heat ranges from 56° to 64°. That rain falls in all months of the year; and that the moisture of the climate is on the whole moderate.

The foregoing remarks will apply, in some measure, to some portions of our southern countries, where, if labor could be had at a more moderate rate, would probably form a profitable article of the planter's attention.

In Brazil, the tea-plant has been introduced for some years by the government, and Chinese accustomed to the culture in China were employed for some time, but notwithstanding it languished, for some cause unknown to me; but of late years, the culture has been revived in the province of St. Paul's, where I was informed that it was the most profitable crop raised, and flourished well, where coffee frequently failed from frost. It is being exported from the province now, in considerable quantities.

Ginseng.—The root of the Panax quinquefolium has long been used in China in large quantities, being obtained in Tartary, and also brought from the United States. That from Tartary they consider vastly superior to the American, and think it altogether distinct, and are greatly surprized to hear that we think it identical with our own; but the only difference that I could perceive, is that the roots were smaller, better clarified, and appeared to be prepared with greater care; yet from the root alone it is impossible to determine whether it is the same, or a different species. As the Chinese are very superstitious and whimsical in their opinions and actions, and governed or influenced more or less by them, it is owing to this that they put so much more value on that brought from Tartary, as I was informed by several Chinese, that their ginseng comes from the "cold country," (Tartary,) and is found but on one island, which is inhabited by tigers, making it very dangerous to visit it, and that the ginseng is without leaves, and therefore cannot be seen in the day-time, but at night a flame issues from it, at which time the island is visited by those who wish to procure it, and shoot arrows at the place, leaving them to mark the spot, until the next day, when the roots are dug up. Immense quantities are consumed by the Chinese, who consider it a panacea, and think that it gives great efficacy to other medicines, with which they always mix a small quantity, or the more wealthy use it alone in tea, esteeming it a great tonic and aphrodisiac. That brought from the United States in 1834 sold for twenty five cents per pound; in 1838, it brought fifty cents; and in 1845, it was worth sixty cents. No doubt much higher prices could be obtained, if more care was taken in the preparation and transporting it, as the American appears in the market in Canton as very inferior. The Tartar ginseng is carefully put up in boxes, made of pasteboard and handsomely gilt.

The root is also enveloped in gilt paper stamped with the druggist's name who vends it, and other particulars, and the box is half filled with roasted rice. Prepared in this manner, some of the best clarified roots, with odd forms, will sell for more than their weight in gold. The Panax quinquefolia is found in the United States, from Canada to Alabama, growing in thick shady woods on the mountain's side, but is most abundant in North Carolina, where a large quantity is dug every year, and sold to persons in a green state for six and seven cents per pound, who clarify it by steaming and then drying it. If the process of preparing it were better

understood, and the plant could be cultivated, (as probably could be done,) it would form, for many years, a considerable export to this peculiar people, who are so exceedingly tenacious of their prejudices and predilections.

Agar-Agar.—This is a sea-weed, the Fucus saccharinus, and is much used by the Chinese as a paste, and is the article of which they make their transparent lanterns. It forms an excellent paste, and is said not to be eaten by insects. It is also used in the manufacture of paper and silk, and is extensively used as a sweetmeat. It is brought from New-Holland, New-Guinea, Singapore, and all the adjacent islands. It sells in Canton at $1 50 to $2 00 per pecul (133⅓ pounds.) Its cheapness and qualities as a paste, render it worthy the attention of manufacturers of other countries.

Betel-nut.—The leaf of the Betel pepper, (piper betel,) and the nut of the areca palm, (areca catechu) constitute together the article which is improperly called betel-nut, and is used as a masticatory throughout the east. As an article of commerce, it is sold separately under the name of betel nut, so called, because it is always used with the leaf of the betel pepper. The areca nut is the fruit of a slender palm, from six to twelve inches diameter, and about thirty feet high. The tree produces fruit from the age of five to twenty-five years. The nut resembles a nutmeg in shape, color, and internal structure, but is a little longer and harder. The annual produce of a tree is about fourteen pounds, and the little care required in procuring it, enables the cultivator to sell it at fifty cents per pecul. The betel pepper is the vine from which the leaf is obtained, and from which alone it is cultivated. The flavor of the leaf is very peculiar, being between a herbaceous and an aromatic taste, and a little pungent. The vine requires a rich moist soil. The tree on which it is supported, it is affirmed, affects the quality and quantity of the produce. In the preparation the nut is cut in pieces, wrapped in the raw leaves with a small quantity of lime, sufficient to give it a flavor.

All classes of people are in the habit of chewing it, male and female, and they say that it sweetens the breath, rectifies and strengthens the stomach, and preserves the teeth, and gives the gums, lips, and teeth a dark red color, which is esteemed a mark of beauty in proportion to the darkness. There is probably less objection to its use than tobacco; its narcotic properties are not so great, and its taste is more pleasant. It probably does not preserve the teeth, as the teeth of those nations who use it are not so liable to decay as Europeans or their descendants. It is said by some to be an effectual preventive for dysentery, which may also be doubted. Those brought from the coast of Malabar are not so good as those from the Indian Islands. The betel-nut leaf is used in India for dying cottons. It sells for $2 or $3 per pecul.

Aniseed-Stars.—These are the fruit of a small tree, (the Illicium anisatum,) which is cultivated in China. They are valuable for the volatile oil obtained from them, and also for the husks, which have a more aromatic flavor than the seed, but are not so sweet. The Chinese use them to season sweet dishes. They are exported at $11 or $12 a pecul; the oil at $2 per catty, which is generally used for medicinal purposes.

Benzoin or Benjamin.—This resin is the concrete juice of a small tree, (the styrax benzoin,) which grows in Sumatra, in rich moist soil. Its geograpical limits are the same as the camphor tree, being only found in Borneo proper, and in the country of the Battacks, in Sumatra; but, unlike that tree, is cultivated. When the trees are seven years old, an incision is made in the bark, and the gum which exudes is carefully scraped off. The trees produce the best Benzoin in three years. This first gathering is called "head;" that which is produced during the next eight or ten years, and which is inferior in quality, is known by the name of "belly;" and at the end of the above period, the tree is supposed to be worn out, and is cut down and split to pieces, and all the gum is scraped off from the fragments of wood, which last is denominated "foot," and is full of sticks and dirt. The price is $50 to $100 a pecul for the best, $25 to $45 for the second, and from $8 to $20 for the third. It is used for incense in the churches, and for fumigating houses.

Galangal.—This root is obtained from two different plants, the greater from the haempferia galanga; the smaller from the maranta galanga. The greater is a tough woody root with a thin bark, and full of knobby circles on the outside. It is bitter-

ish, less aromatic, and less valuable than the smaller. This latter is a root of a reddish brown color outside, and pale red within. The roots are about two inches long, and the best are full, oval, and plump, have a bright color, a hot acrid peppery taste, and an aromatic smell. The smaller, which should be obtained if possible, sells for $3 50 to $4 a pecul. It is used in cookery.

Gamboge.—This is a well known gum-resin, produced by the Staglamitis gambogioides, which grows in most of the warm countries of the east, and is shipped in considerable quantities from China to the west. It is used as a beautiful pigment, and as a valuable purgative medicine. The price varies from $70 to $75 a pecul.

Cotton.—Raw cotton is brought mostly from Bombay and Bengal; and usually it sells from nine to thirty-one taels per pecul. Except sheetings, which are from the United States, cotton piece goods are imported from England, the chief of which are cambric, muslins, chintzes, and long-cloths. Good unbleached long-cloths are the most suitable; cambrics are much in demand. Cotton yarn comes from England and India; that from numbers twenty-two to forty-five is the most saleable. The sale of cotton goods, of all descriptions, is annually increasing. The Chinese tacitly acknowledge their superiority by slowing adopting them in the place of their own goods.

Cubebs.—These are the fruit of the piper cubeba, a vine growing in China, Java, and Napal. Cubebs are valued at Canton, at from $18 to $20 per pecul. Eighteen thousand five hundred pounds have been imported into England in one year, but the Dutch carry on the largest trade.

Damar.—This is a resin flowing spontaneously from several species of pines in the Malay peninsula. It is found in hard lumps, both under the trees and on their trunks. It is used for closing the seams of vessels.

Dragon's Blood.—This substance was well known to the ancients, and is obtained from the calamus ratang, a large ratan which grows in Borneo and Sumatra. It is found in the markets in oval drops, or in large and impure masses, composed of several tears. It is often adulterated with other gums, but that which is genuine melts readily, and burns wholly away. It is scarcely soluble in water, but fluent in alcohol. Its uses are various, in painting, medicine, varnishing, and other arts. The best is procured at Banjermassen, in Borneo, and is brought to this market in reeds. Its price varies from $80 to $100 per pecul. The Chinese hold dragon's blood in much estimation as a medicine.

Ebony.—This is the heart-wood of the dyrsperas ebeneus, a tree found abundantly on the islands of the Indian ocean. The price of Mauritius ebony is about $6 per pecul, and that of Ceylon and India $2 50.

Campoor Cutchery.—This is the root of a plant which grows in China, but what plant produces it I have not been able to determine, having seen nothing of the plant but the root. It is about half an inch in diameter, and is cut into small pieces, and dried for exportation to India, and from thence to Persia and Arabia. It is of a whitish color inside, but externally it is of a reddish color, having a pungent and bitterish taste, and a slight aromatic smell. It is used for medicinal purposes, and to preserve clothes from insects, but is liable to be eaten by insects, as I experienced with some I purchased in Canton. It sells for about $6 a pecul.

Cardamons.—The lesser and greater cardamons are the products of two different plants, Elettaria cardamomum and Amomum cardamomum. The capsule alone is used, and merely requires drying to be ready for sale. The lesser grows principally on the coast of Malabar, while the greater grows in China and Ceylon. Both are used in China to a considerable extent for culinary purposes.

Nutmegs.—The illiberal policy of the Dutch with regard to the spices has forced the raising of the nutmeg tree at Bencoolen, in Sumatra, at Penang and Singapoore, and many other places in the Archipelago, but attended with some disadvantages. In the Canton market, nutmegs sell from $120 to $140 a pecul. Considerable quantities are brought in junks, but the greater part in foreign vessels.

Musk-Seed.—These are the fruits of the hibescus abelmoschus, which grows in China and other countries. The Arabians use them to give flavor to their coffee. The seeds are flat, kidney-shaped, and about the size of a large pin's head, and have a considerable odor of musk, with a slight aromatic, bitterish taste. They are now raised in South America and the West Indies.

Myrrh.—This celebrated gum is brought from Arabia and Abyssinia, and is much used by the Chinese for incense and perfumery. It exudes spontaneously from a tree of the genus acacia, or is obtained by an incision. The pieces ought to be light, clear, and unctuous, but very often other gums are mixed with it. The price varies from $3 to $4 per pecul in the Canton market.

Mace.—This article is taken to China in some quantity. There is a kind of mace found in Malabar which externally resembles the true, so that the sight alone cannot distinguish them. That from this coast has a resinous taste, and is but slightly aromatic.

Camphor.—The camphor-tree (dryobalanops camphora) is only found in Borneo and Sumatra, and there confined to a small extent of country, extending about three degrees north of the equator.

In Sumatra the best gum is obtained in the district of Barus, and hence all similarly good brought from these two islands is called Barus camphor. To collect it the natives go into the forest, cut down the trees, and split them open, and scrape the gum from the fragments; it is there found in small fragments as a thick gum, ready for use.

Not one tenth part of the trees yield gum or oil, and, not being cultivated, the Barus camphor is becoming more and more scarce. Before cutting the trees down it cannot be determined if the trees are productive or not.

It is divided into three kinds. The best is in lumps, apparently crystallized in the crevices of the tree; the second is somewhat brownish, and but few sticks in it; while the third, and worst, is the refuse scrapings.

All that is produced in Sumatra and Borneo, about eight hundred peculs annually, is brought to China, where it brings nearly eighteen dollars a pound, while that from Japan brings but one dollar, although there is no perceptible difference between them. Nearly all the camphor exported to Europe and America is obtained from the laurus camphora, a tree which grows in China, Japan, and Formosa. The tree, including the roots, is cut into small pieces and boiled, the sublime gum being received into inverted straw cones. It is then made into greyish cakes of a crumbling consistence and brought to market. That from Japan is esteemed the best. The Dutch sent from Japan in seven years to Europe 310,520 pounds. The price is from twenty to thirty dollars per pecul, while that of Barus is from one thousand to two thousand dollars.

Amomum.—This is the seed of the amomum verum, and has a strong taste and pungent aromatic smell. The fruit is shaped like a grape, and contains three cells, in each of which there is a number of blackish seeds. The pods are of little value, as are the seeds also when they are wrinkled and small. When good, the pods are heavy, of a light grey color, and filled with grains. Their uses are similar to those of star aniseeds.

Assafoetida.—There are considerable quantities of this gum brought to Canton, and it ranks very high in the materia medica of the Chinese physician. It sells at from four to five dollars a pecul.

Bamboo.—The different uses to which this plant is applied in China is perhaps greater than any other vegetable production in the known world. It is used for building for masts, and for all the purposes to which round timber can be applied, when it is not required to be exceedingly strong; also for food, the young shoots being eaten when six or eight inches high, and three to four inches in diameter. From it most of their paper is produced; cups, boats, sails, ropes, medicine, sweetmeats, lamp-wicks, beds, pillows, fodder; and the roots are also fashioned into the form of gods, after the manner of old sages, the small fibres forming the beard; and in many of their houses are paintings of it, which is one of their objects of worship. It is exported in considerable quantities for canes, umbrella-sticks, &c.

Gambier, of which I have given a description before, is imported in considerable quantities into China from Java and other islands. The trade is in the hands of the Chinese, who pay at the emporia one dollar or two dollars per pecul. One of the principal of its uses among the islanders is as a masticatory with the betel-nut. It is used in China for tanning.

Oil of Nutmegs.—Nutmegs produce both an essential and volatile oil. The former is known under the name of Banda soap. It should be free from impurities, and of a pleasant aromatic smell. The volatile oil is not known in commerce.

The nutmeg from which the oil has been extracted is sometimes offered, but they are of no use or value.

Olibanum.—This is the frankincense of the ancients, and is used in China, as in other countries, for incense in temples and perfumery in houses. It is yielded by the juniperus lycia, a large tree which grows in Arabia and India. It is seen in market in tears of a pink color, brittle and adhesive. The boxes each contain one hundred weight of garbled olibanum which sells at six dollars per pecul: and the ungarbled, at two dollars and three dollars per pecul in the Canton markets.

Pepper.—This is the fruit of the piper nigrum. That brought from Sumatra and Penang is superior to that which comes from Java and Borneo. The pepper trade is larger than all the other spices, and solely because it is a free trade. Much comes to Canton from Malacca. It sells from six dollars to sixteen dollars per pecul.

Putchuck.—This is a medicine brought from India and Persia, and is the root of an undetermined plant in those countries. The color and smell are similar to rhubarb, and when chewed, it becomes mucilaginous in the mouth. The price varies from twenty to twenty-two dollars per pecul.

Rattans.—These are the branches of the calamus ratang, the same plant that produces the dragon's blood. They are found in most of the islands of the Indian Archipelago, but in the greatest perfection in the district of Banjerwassen in Borneo. The young shoots are the most valuable for their pliability and strength. After being stripped of their epidermis, the rattans are doubled and tied up in bundles, containing one hundred each. As they require no cultivation, the natives can afford to sell them at a very cheap rate. They are brought to Canton in junks, and sell from two and a half to four and a half dollars per pecul. Foreign vessels also bring them. The Chinese use them for cordage, chairs, mats, beds, &c. Rattan ropes, bamboo timbers, and palm leaf boards are all the materials employed in constructing a common house in China for the poor.

Rhubarb.—This drug is the dried roots of the rheum palmatum, a plant which grows in Tartary and China. The Chinese dig the roots early in the spring, before the leaves appear, and cut them into long flat pieces; dry them for two or three days, and then string them on cords, put them in cool places, and dry them thoroughly. Rhubarb varies in its prices, from thirty-eight to forty dollars per pecul for those roots cured without splitting, and fifty to seventy dollars per pecul for the cut. The rhubarb found in this market has always been inferior to that of Russia and Turkey.

Rice.—This is the great staple commodity among the Chinese, and the importation of it is encouraged by all possible means. Formosa, Luconia, Cochin China, and the Indian islands supply China with great quantities. To induce foreign shipping to bring it to this market, the government has permitted all ships laden solely with cargoes of rice to pass free of the cumsha and measurement duties required at Canton. The price given for a cargo of rice varies from one dollar twenty five to two dollars twenty-five, rising in seasons of scarcity to two dollars seventy-five, and for very good three dollars per pecul.

Rose maloes.—This is a substance of the consistence of tar. It is brought from Persia and India to China, and when good has a pearly appearance. The price is about thirty dollars per pecul.

Sandal wood.—This is the heart of a small tree, the santalum album, which grows in India and many of the islands of the Indian and Pacific oceans. The tree resembles myrrh in size and appearance, the flowers are red and the berries black and juicy. The color varies from a light red to a dark yellow. The deepest color is the best. The best sandal-wood comes from the Malabar coast, and sells from ten to eighteen dollars a pecul. That brought from Timor is worth from eight to ten dollars, while that found in the Sandwich islands is valued at from one to six dollars. The chips also form another sort. The Chinese use sandal-wood in the form of a fine powder made into incense sticks to burn in their temples and houses. An oil is extracted from sandal-wood, which is highly valued for its aromatic qualities. It has the consistence of castor-oil, a yellow color and a highly fragrant odor, and sinks in water.

Sapan-wood.—This is the wood of the cæsalpina sapan, a tree which grows in India, Luconia, and Burmah. The tree is of the same genus as the Brazil-wood, and has the same properties in an inferior degree, and on that account is not im-

ported into Europe. It is cultivated for its red dye, which is the best known to the Indian islanders. It is used in cabinet work for inlaying, to a limited extent. Its value is about two dollars a pecul in the Canton market, where large quantities are brought, chiefly from Manilla.

Cassia.—This is of three kinds, cassia lignea, which is the bark of the tree; cassia buds, and cassia fistula or pods; the latter is commonly known by the name of senna; cassia lignea is the substance commonly called cassia, and is exported from China to all parts of the world. It is the decorticated bark of the laurus cassia, a large tree, which grows in China and Japan in large quantities; the tree is also found in the Indian Archipelago. The cassia brought from Ceylon and Malabar is inferior to the Chinese, being more liable to foul packing, thicker and darker colored, and less aromatic.

The Chinese cassia is sewed up in mats, usually two or more rolls in each mat, and a pound in each roll, and is easily distinguished from cinnamon, which it resembles, for it is smaller quilled, breaks shorter, and is less purgent. The liability to mistake happens only in distant markets, as the trees grow in different countries.

Cassia fistula is the plant that produces the cassia pods. Cassia buds are the fleshy receptacles of the seeds of the cinnamon tree, and bear some resemblance to a clove, and when fresh possess a fine cinnamon flavor. The relative value of Cassia bark and buds is as eight to five, but this varies, however, with the quantity in market.

Cassia Oil.—This oil is obtained from the leaves of the cassia tree by distillation, and is used as a medicine under the name of oleum malabathri. It is easily tested by putting a small quantity on the hand, which will slowly evaporate, and thus any foreign substance will be detected. The leaves are exported under the name of folia malabathri. All parts of the cassia tree are useful; the wood, the bark, the leaves, the buds, and the oil, are all in request for various purposes, in carpentering, medicine, and cookery. The price of cassia varies from eight dollars to twelve dollars per pecul, and the buds a little in advance of that of the oil, which is from one dollar fifty to two dollars per catty.

China root.—This is the China smilax, a climbing plant. The roots are jointed, knobbed, thick, of a brown color, and break short; when cut, the surface is smooth, close, and glossy; but if old and wormy, dust flies from it when broken. The market price varies from three dollars twenty-five to four dollars per pecul. It is used by the Chinese extensively as a medicine, and is exported to India for the same purpose.

Turmeric.—This is dried root of the curcuma longa, a herbaceous plant, cultivated in all the Indian islands and on the continent, for its coloring and aromatic qualities. The color is very transitory, and no method has yet been found to set it. It has an aromatic smell resembling ginger, and a warm bitterish taste. It is used much as a spice, and is always an ingredient of curry, so much prized in the east. Turmeric is a good test for free alkalies, and the quantity used for this purpose is considerable. Its price varies from five to six dollars per pecul.

Whangees or Japan Canes.—These are the produce of a plant which grows in China. They are well calculated for walking sticks, and should be chosen with care. Their value is about eighteen dollars per thousand.

Cutch or Terra Japonica.—This substance was for a long time supposed to be an earth, but it is now ascertained to be the extract of the acasia catechu. It is imported from Bombay and Bengal. That brought from the former place is friable, and of a red brown color, and more hard and firm than that from Bengal. It varies considerably; some kinds being ponderous and compact, others very light and friable; some more, and others less astringent. The value varies from four to five dollars per pecul.

Horns and Bones.—These animal products are brought to Canton in junks from the adjacent countries, and form an important article of import with the native vessels. The horns are made into handles, combs, &c., and buttons, and other useful articles, and the bones serve for various fancy articles, and are sometimes burned into lime. In a single year five hundred and two peculs have been brought to Canton.

Mother-of-pearl Shells.—These are imported to and exported from this port. The Persian Gulf, the coasts of India, and the Indian Archipelago, produce them

in the greatest abundance. The Chinese manufacture pearl shells into a great number of trinkets and toys, as beads, seals, knife handles, spoons, boxes, &c. They also inlay them in lacquered ware to represent flowers, trees, &c., where the play of colors is very rich. But the Japanese excel in this work. The shells are brought in the rough state by the junks and foreign vessels, and sell from nine to twelve dollars per pecul. When exported the price is a little in advance.

Musk.—The genuine is much prized, and is rare and costly, on which account it is often much adulterated. It is found on a species of antelope, the mochus mochifera, inhabiting Thibet, Siberia, and China. In this market musk is found in the bags, about as large as a walnut, in which it grows on the animal. The price varies from forty-five to sixty dollars a catty, according to the quality. It is used for perfumery and medicine. The musk-ox of North America produces this substance of an inferior quality, and that which comes from Russia is very inferior.

Beeswax.—Considerable quantities of beeswax are imported into Canton from Europe and the Indian Archipelago, and in some measure it has superseded the product of the tallow-tree, (the stillingua sebefera.) It is used in Canton for cases or envelopes for the tallow of the stillingen in the manufacture of candles used in their temples. It is worth about five dollars per pecul.

Coral.—Coral is brought from all the islands of the Indian Archipelago, and is wrought by the Chinese into many ornaments. It sells at from forty to sixty dollars per pecul, according to the color, density, and size of the fragments. It is made into buttons and beads used among the Chinese as insignia of office.

Elephants' Teeth.—These are brought from Africa, Siam, Burmah, &c. The largest and best weigh from five to eight to a pecul, and decrease in size to twenty five in a pecul. The Chinese manufacture a great number of fancy articles from them, such as card cases, boxes, miniature ships, junks, &c. A Chinese will work a month on a card case and then sell it for three dollars. The figures are sketched first with a pencil, and with a number of small steel instruments the ivory is cut and scraped away so as to leave the figures in full relief. From a quantity of ivory worth three dollars, they will make a toy worth one hundred dollars. The ivory is softened previously to cutting, as is often supposed by foreigners. The largest teeth are valued at ninety dollars a pecul, and the cutting at seventy dollars. The principal part is brought from Burmah and Siam.

Fish-maws.—These are the stomacks of fishes, and are used as an article of luxury among the Chinese. These are of a cartilagenous nature. They are brought in junks from the India islands. The price is from thirty-five to seventy dollars per pecul. It is used for food, as a tonic and aphrodisiac.

Glue.—This article has become an article of export from China, being sent to India, and even beyond the cape, but is inferior in quality to American or European. It sells from eight to ten dollars per pecul.

Shark's Fins.—The fins of the shark are sought for from the Indian ocean to the Sandwich islands to supply this market. The chief supply is from Bombay and the Persian gulf. They are fat and cartilaginous, and when cooked, esteemed by the Chinese as a stimulant and tonic. They should be well dried, and kept from any moisture. About five hundred pieces are contained in a pecul. The price is from fifteen to forty-five dollars a pecul.

Skins.—These were formerly one of the most profitable articles that could be taken to Canton. But their high prices and the introduction of woolen goods has naturally lessened their importation. Seal and otter are the most in request, the latter selling as high as forty dollars a skin. Beaver, fox, and rabbit are in demand, but the supply is limited. Many skins are brought to Pekin from Siberia by the Russians.

Stock-fish.—These are dried fish brought from Germany, cured without the use of salt. In appearance, when preserved, they resemble codfish. The quantity brought is small. The price is about four dollars or five dollars a pecul.

Tortoise shell.—This is the crustaceous covering of the testudo imbricata, found on the shores of most of the Indian islands. The common name is hawk-bill tortoise. The shell is thicker, clearer, and more variegated than that of any other species, and constitutes the sole value of the animal. It is heart form, and consists of thirteen inner, with twenty-five marginal divisions. The middle side pieces are thickest, longest, and the most valuable. The others are denominated "hoof."

The Chinese use large quantities in the manufacture of combs, boxes, toys, &c. The marts of this are Canton and Singapore, from where it is sent to Europe and the United States. The price varies from one thousand to eleven hundred dollars per pecul. The thin kind from the Pacific is not saleable in Canton.

Bezoar.—This is a concretion found in the stomachs of several animals, but that of the goat was formerly most prized, and has sold for ten times its weight in gold; but since its constituent parts has been ascertained it is not so much sought after. The bezoar differs in the same species of animals, but that of the cow is most prized in China, and is valued at from twenty to twenty-five dollars a catty. It is caused by disease of the animals, and is only used for medicine.

Bicho-de-Mar.—This slug, as its name imports, is a product of the sea. This animal is of a dark or brown color, from four to six inches in length, and from a half to one inch diameter. It forms one of the most important articles of commerce between the islands of the Indian Archipelago and China, with the exception of perhaps pepper. It is found on all the islands from New Holland to Sumatra, and on most of those of the Pacific. It is found in most abundance on small coral islands. The Chinese call it "Hog-shum." It is taken by the hand with the natives, they diving for it; and after it has been cleansed, dried, and smoked, it is fit for sale. Latterly, Americans have been engaged in it, and have found it profitable, by visiting islands but little known in the Pacific. The Chinese use it in large quantities as food, and when boiled it is tremulous like pigs' feet, and rather insipid, but no doubt very nourishing, and they also think it an excellent aphrodisiac. The varieties into which they divide it are about thirty, varying in price from eighty to one hundred and fifty dollars per pecul. About seven thousand peculs are brought from Macassar annually, and about the same from Manilla.

Bird's-nests.—This article, which owes its celebrity only to the whimsical luxury of the Chinese, is brought principally from Sumatra and Java, also from Borneo, and most of the rocky islets of the Indian Archipelago. It is the nest of a small swallow, the hirundo esculenta. It is composed of a mucilaginous substance, perfectly insipid to the taste, and is used principally in soup, and is held in still higher reputation as an aphrodisiac than bicho-de-mar. They are of a light color, inclining to red, about four inches long and two inches wide, and about a quarter of an inch in thickness, and when dry, they are brittle and wrinkled. Those that are dry, white, and clean, are most valued. They are packed in bundles, run through them to preserve their shape. Those procured after the young are fledged are not saleable in China. The qualities of the nests vary with the caves in which they are found. Those that are most prized and bear the highest price, are taken before the nests are lined with feathers, while those with eggs are still valuable, but those that the young birds have remained in some time are dark colored, streaked with blood, dirty, and not saleable. The nests are procurable twice a year. Those procured in the deepest, dampest caves are the best. It was at one time supposed that they were only found near the coast, but they are obtained for more than fifty miles in the interior, as in Borneo, which refutes the idea that they are formed from bicho-de-mar or the spawn of fish. The business of obtaining these nests is at some places extremely perilous, it being necessary to descend from precipitous cliffs, by means of bamboo and cords, where the sea is breaking furiously below, and often necessary to use torch lights in the caves, where the slightest slip would be fatal to the adventurer. They are only purchased by the Chinese, by whom they are carried to Canton in junks, where there are merchants who deal extensively in this trade, and many persons are employed in picking the feathers and dirt from them, after being immersed in water until being softened, and many are broken and torn to pieces in the process. The best or white kind are often worth four thousand dollars per pecul, which is nearly twice their weight in silver. The middling kind is worth from twelve hundred to eighteen hundred dollars, while the worst is worth from one fifty to two hundred dollars per pecul. The best is sent to Pekin for the use of the court. It appears to be only an article of expensive luxury among the Chinese, the Japanese not using them at all; and how they came at first to use them, is indeed as singular as their persevering in it at such expense. The expense to render it fit for the table is enormous, where it is used in soup or made into a jelly. It is a monopoly with all the governments where it is found. About twenty-five thousand peculs, at a value of one million two hundred and seventy-five thousand dollars,

are annually brought to Canton. This comes from the islands of Java, Borneo, Sumatra, Macassar, and from the Súlú group. Java alone sends about twenty-seven thousand pounds of the best quality, estimated at sixty thousand dollars.

Cochineal.—China affords a considerable market for this dye, which is taken there from Mexico and England, and is used in dyeing silk, crapes, &c. Attempts have been made to raise it in India, Java, and Spain, but with little success. The climate and situation of Japan and China being similar to Mexico, it is probable that the cultivation of the plant and the domestication of the insect would be successful in those countries. It is occasionally imported into China from Manilla, which is called ungarbled, to distinguish it from that brought from England, which bears the name of garbled. Garbling is the name given to the process of repacking it free from impurities. Garbled cochineal is valued at two hundred and eighty to three hundred dollars per pecul; and ungarbled, at from one hundred and eighty to two hundred and forty dollars.

Gold.—This metal is brought from Borneo to China, generally in the shape of dust, and is there cast into bars called shoes, which are not used as coin, but merely as bullion. The purity of the metal is ascertained by the touchstone, which gives a different colored mark where the gold is of unequal purity. This is called a touch, and the color shows the proportion of pure gold. Needles for comparison are also made of different proportions of alloy, by which the stone is rubbed at the same time with the gold. It is also tested by nitric acid, but this is not allowed in Borneo. To express the fineness of gold, it is divided into one hundred parts, called "touches." Thus, if the gold is said to be ninety-six touches, it has four parts alloy. They become so expert in the use of the touchstone, that they can detect one and two per cent. of alloy. Their knowledge of assaying is very slight, and their silver in bullion, which contains some gold, has made it an object with foreigners on that account. The range of the touch is from seventy to one hundred dollars, and to each a different name is applied. Gold leaf is made by the Chinese in great quantities, and is used for ornaments in their temples, &c.

Iron.—Iron in rods, bars, and scraps, has lately become an article of importation in the market. Bar iron from one to three inches wide, and rod of one fourth inch and less, are the common sizes imported. Bar is worth from one dollar and eighty cents to two dollars per pecul. Rod from three to three dollars and fifty cents, and scrap about two dollars and fifty cents per pecul.

Lead.—Much of this metal is imported in the form of pig and sheet lead. The market price varies from five to six dollars per pecul. Very little lead is found in the east. A considerable part of that which is imported is made into paints by oxidation, and exported again as red and white lead. The red lead sells for about eleven dollars per pecul, and the white at ten dollars. The linings of the tea chests consume a large quantity. The mode of making the sheet lead is very simple. Two smooth stones of marble are placed near the melted lead, and the workman, holding the upper stone by the side, with the opposite edge resting on the lower stone, pours the liquid on the under one, and then drops that which he held in his hand. The art of dropping the upper stone in such a manner as to make the sheet of a uniform thickness is the only difficult part of the operation.

Quicksilver.—Quicksilver is brought to China in considerable quantities from Europe, and occasionally from America. The most part of it is converted into vermillion by oxidation, and in that state is used for painting on porcelain. Vermillion also forms an article of export to India and Europe. Quicksilver is frequently adulterated with tin or lead, and the fraud can be detected by boiling it to evaporation, when the other metals will remain. This metal ranges between sixty and one hundred and thirty dollars per pecul, and is one of the most variable commodities.

Copper.—This metal is found in Persia, Sumatra, Borneo, and Japan. It formed an export from Persia to England formerly, but is now sent from England to India. In the island of Borneo copper has lately been discovered, and it has been known a long time in Sumatra and Timor. The utensils made of this metal in those islands always contain some iron, and the bars or cakes into which it is cast, when sold for unalloyed, require much labor to make them pure and malleable. The ore is so rich as to produce half its weight of pure copper. The copper found in Japan contains gold in alloy, and occurs in the markets in small bars, six inches long,

flat on one side and convex on the other, weighing four or five ounces each. This copper is the most valuable of any found in Asia. South American copper is brought to this coast, but not latterly to the market in Canton, as it brings a higher price at Lintin for remittance to India. The price so obtained is from nineteen to twenty-two dollars per pecul. There is a natural alloy of several metals found in the interior of China, known under the name of white copper, which is used by the natives in great quantities. The constituents are not known, but copper and iron are probably the chief. It is used for spoons, dish covers, pipes, &c., which, when new and polished, look almost as well as silver; but I was informed by the Chinese that it was very difficult to work. It sells for about fifty cents a pound.

Tin.—This metal is found very abundantly, and of a pure quality, in the island of Banca. It is cast into ingots, weighing from twenty to sixty pounds, and is more pure than that from Malacca. The former is known in China as "Banca tin," and the latter as "Straits tin." The former sells for about seventeen dollars, and the latter from fourteen to fifteen dollars per pecul. Plate tin is brought from Europe and the United States in boxes containing from eighty to one hundred and twenty-six plates, and sells for about ten dollars per box.

Smalts.—This is an impure oxide of cobalt united with potash. In the mass it is not so much used, but when ground fine is employed in coloring glass and porcelain. The powder is of a fine azure blue. The demand is but limited. The price is from fifty to ninety dollars per pecul in the Canton market.

Tutenage or China Spelter.—This is an alloy of iron and copper and zinc. It is harder than zinc, but less so than iron, sonorous, compact, and has some malleability. The fresh fracture is brilliant, but soon tarnishes. It is used for dish-covers, household utensils, and other similar purposes. The art of making it is only known to the Chinese. Its export price used to be about fourteen dollars a pecul.

Steel.—Swedish and English are the kinds imported. The quantity brought is increasing annually, and probably the demand will be greater every year as the use becomes better known. From four to five dollars per tub is the usual price.

Spelter.—This is the impure zinc used in the manufacture of brass. It is in plates of half an inch in thickness, of a whitish blue. The Chinese import it but little, the mines found in their own country furnishing them with a supply. It sells for five dollars and a half per pecul.

Vermillion.—This is made of quicksilver by oxidation, and is then exported. It is also used for painting porcelain. The price, which is about thirty-three dollars a box, is regulated by that of quicksilver. The boxes contain fifty catties each.

Hartall or Orpiment.—This is an oxide of arsenic, and is used as a yellow paint. It is found in China, Hungary, and Turkey. When good, it has a yellow lemon color, with a shade of green, with a foliaceous shattery texture. Its lamina are a little flexible, and when burned it throws off much sulphurous smoke. The market price is from fourteen to sixteen dollars per pecul.

Alum.—This substance is obtained in considerable quantities by the Chinese, and exported to the Indian Archipelago. It is frequently adulterated with gypsum, lime, &c., and the taste is not so strong as that in our markets. Large quantities are employed to purify the water of the river for culinary purposes. The duty on the article when exported is five taels per pecul. Its value in the market is from two to three dollars per pecul.

Amber.—This substance is found on the shores of China, and is principally used for ornaments and incense. It frequently contains insects, which are valued as curiosities. The price is from eight to fourteen dollars per catty, and it is said that there is also false amber to be found in the markets.

Saltpetre.—Saltpetre is brought from India where it is obtained by lixiviating the soil. It is also found in Sumatra, in caves and other protected places, and is an article of importation from the Indian Archipelago. The quantity brought to this market is small, as the Chinese make nearly enough for their own consumption, and the unlimited importation is prohibited by the government, lest the people manufacture it into gunpowder too freely. The price varies from four dollars seventy-five cents to twelve dollars and upwards a pecul.

China Ware or Porcelain.—At present the foreign demand for this ware is very limited, and that which is purchased is more for curiosity as Chinese than for its

value or beauty, as the European manufacture is at present far superior, and even the foreign residents send to Europe for their ware. China ware is sold in sets, consisting of a table set of two hundred and seventy pieces, at from twelve to seventy-five dollars; a breakfast set of twenty pieces at three dollars, and a short tea set of forty-six pieces, at from five to six dollars. They manufacture articles to any pattern given.

Cudbear.—This is a powder used in dyeing violet or crimson. It is procured from the lichin tartareous, a plant found in Iceland. Its colors are not durable when employed alone, and it is therefore used as a body to other more expensive dyes, as indigo, cochineal, &c., making them more lively. It is used by the Chinese but little, and the demand is small.

Preserves.—Large quantities of preserved sweetmeats are exported from Canton, the principal of which is ginger, being the tender roots and tops of that plant. Also small oranges, and also another kind which is called "chow-chow," which is a mixture of citron, sea weeds, ginger, &c. These are neatly put up in delf-ware jars of about half a gallon each, and sell for about six dollars the dozen. Considerable quantities are carried to Hamburgh and Singapore, previous to being shipped to the United States and Europe.

Brass-leaf.—This is made in considerable quantities in China for the Indian markets. It is worth from forty-five to fifty dollars a box.

India-ink.—This is the only ink used by the Chinese. It is made of lampblack and glue, and formed into cakes and sticks, which are often perfumed and gilded. Good ink is of a shining black color and free from all grittiness, which last particular can be ascertained by rubbing it on the nail a little wet. It was once supposed to be made of the black fluid of the cuttle-fish.

Lacqucred-ware.—Formerly this ware was exported in large quantities to Europe and the United States, but at present the demand is small, owing to the great liability to be damaged. The articles now sent to the United States and Europe consist of those articles which have always been in demand, as fans, waiters, boxes, tea boards, &c. The patterns affect their sale, and the least mark spoils the varnish. The best kind of ware comes from Japan. The varnish with which this kind of ware is covered has never been successfully imitated in Europe, probably because the varnish tree does not grow in the west.

Mats.—Mats are made by the Chinese very beautifully. Those made of ratan are the best, and the demand is yearly increasing. They are very durable and handsome. Those made of rush and bamboo are inferior.

Soy.—This is a condiment made of a species of bean which grows in China and Japan. To make it the beans are boiled soft, and then an equal quantity of wheat or barley is added; after this has thoroughly fermented, a quantity of salt and three times as much water as the beans were at first are added. The whole compound is now left for two or three months and then pressed and strained. Good soy has an agreeable taste, and if shaken in a tumbler lines the vessel with a lively yellow brown froth. The color of soy in the vessel is nearly black; it improves much by age. The soy bean forms the national dish of Japan. Soy is beginning to be exported in considerable quantities to Europe and the United States. The price in Canton is twenty-five cents per bottle. I have procured seed for an experimental trial in the United States.

Sugar.—This article is made by the Chinese in sufficient quantities to supply themselves and to export. They have several varieties of cane, but many have a reddish juice, which injures the sale of the sugar. The kind cultivated is the same as that of the West Indies. The process of manufacturing is simple and laborious. Their machinery is coarse, and the power human strength. They do not appear to understand refining, but crystallize it, and in that state send large quantities to India, where it is much esteemed. Much is pulverized in mortars, when it forms a white sugar.

Thread.—Gold and silver thread is imported into China from England and Holland. It is used in borders of fine goods, in ornamenting ladies' dresses and other similar objects. The quantity imported is great. The English sells for from thirty-six to forty dollars per pecul.

Cloves.—Considerable quantities of this spice are imported into China. The price for Molucca cloves is from twenty-eight to thirty dollars a pecul, and for those

from Mauritius from twenty to twenty-four dollars per pecul. Mothu cloves is a larger and inferior kind brought from the Straits of Malacca. The price fluctuates greatly, according to the supply; from ten to twelve dollars per pecul is the average, and is used for scents. The oil of cloves is also used to some extent among the Chinese. The color when pure is of a reddish brown, which gradually becomes darker by age.

Nankeen.—This cotton cloth takes its name from the city of Nankin, but is also made at Canton, and goes by the name of the company's and narrow nankeens. The former are the finest and most esteemed. The price varies from sixty to ninety dollars per hundred pieces. They are sent to the United States and Europe; and it is said that American cloth is sent to China and dyed there for nankeens.

HONOLULU, SANDWICH ISLANDS, *November*, 1845.

No spot on the globe could be chosen perhaps which is more congenial to humanity than these favored isles, where the entire season is summer, with but from ten to fifteen degrees of variation in the thermometer during the year; thus forming a climate also particularly well adapted for that numerous class of invalids in our country, who suffer there from phthisis, owing to the rigor and variableness of our climate, and who generally survive but few years, where the exciting causes remain, but by removing to a climate so mild may live to an old age, without suffering any inconvenience from their predisposition to that fatal disease.

This has been verified in numerous instances, and every year causes the objections to be less in making these islands a place of residence, as civilization is rapidly advancing among the native population, and its wants will tend to increase the foreign community and thus afford permanent good society.

This port is visited by a greater number of whale ships than any other in the Pacific, between one and two hundred touching here annually for supplies and repairs; more than three-fourths of which are American. All whale ships are allowed to sell goods to the amount of two hundred dollars without paying duty, and thus perhaps fifteen thousand dollars worth of goods are introduced in this way into port.

The only import duty is three per cent. ad valorem upon all goods indiscriminately. Goods are allowed to be transhipped or re-exported, on payment of a duty of one half per cent. ad valorem, or, where the import duty has been paid, a drawback of two and a half per cent. ad valorem.

All duties on the export of gold and silver were abolished, as injurious to commerce, by the law of 28th April, 1843.

There is no export duty on any of the productions of the island.

The harbor dues at this port are the following, viz:

Twenty cents per ton on merchant vessels.

Six cents per ton on whale ships and merchant vessels, entering for obtaining refreshments.

Two dollars for the use of the buoys.

One dollar for certificate of clearance.

One dollar per foot for pilotage for taking a vessel in or out.

No harbor dues are exacted of a vessel having a Hawaiian register, or of a vessel belonging to a resident foreigner who has taken the oath of allegiance.

A vessel owned by a foreigner who has not taken the oath of allegiance, but who resides permanently on shore in the occupation of a dwelling house or shop, pays only one half of the usual dues.

The nett revenue of the kingdom is more than fifty thousand dollars, and no doubt could be much increased by a better policy to promote agriculture and population.

The island is capable of producing arrow root, castor oil, coffee, silk, indigo, tobacco, turmeric, rice, &c., to almost any extent, but it is only lately that attention is being devoted to these objects, and already considerable capital has been invested. More than six thousand tons of sugar and eighty thousand gallons of molasses are produced annually. The yearly produce of the kukui, or paint oil, is about ten thousand gallons. Horses, cattle, hogs, sheep, and goats, are abundant and rapidly multiplying, and in some places all but the first have become wild and are multiplying fast.

Most of the necessaries are cheap and good.

The whole population of these islands is estimated now not to exceed one hundred and ten thousand souls, and by all observations appears to be decreasing; but the estimation of Captain Cook, who attributed to these islands four hundred thousand, no doubt was overrated by one-half.

Amomum Zerumbet.—This plant will frequently be seen in small patches in the neighborhood of Honolulu; the leaves are broad and pinnate, the flower spike compact, bractea red, flowers pale yellow and without odor. It yields a fine fluid which allays thirst.

Cyrtandra Lessonia.—This is one of the forest trees of the Sandwich islands. It has white monapetalous flowers, which are very fragrant, and the fruit is a white berry, with two cells and many seeds.

Cyrtandra Triflora.—This is a shrub found in thick shady places near the Pali precipice.

Piper Methysticum.—This is the plant called kava or ava by the Polynesians. The leaves are alternate, on rather long petioles, broad heart-shaped and smooth, much veined and have a sombre green color. The root is used to prepare the intoxicating drink called awa. A half a pint of the infusion produces intoxication, but no excitement of body or mind, and a long continued use a leprous eruption of the skin. The king cultivates a considerable quantity, and is said to be under excitement of it more or less every evening. It has an extremely nauseous taste to those unaccustomed to it. It is much employed also in dropsy as a remedy, and is said to be very effectual.

January, 1846.—As a commercial place Mazatlan dates but eight or ten years back, when it consisted of but a few houses or miserable huts, principally occupied by Indians or half-breeds, and who in fact constitute the great majority of the inhabitants, the merchants only forming the white population.

At present it is a place of considerable trade, and in its rapid growth has resembled many of our western towns, but here many of the houses are mere hovels, while a few members of the mercantile community have splended mansions. I have been informed that it is at present the only town in Mexico that is rapidly increasing in population. The prosperity of this place is caused by the silver mines of the interior, a large amount of bullion and coin being brought here for exportation, which is nearly all smuggled on board English men-of-war. The Mexicans, in returning, take a large amount of merchandise of various kinds in the interior.

The aspect of the surrounding country is barren and uninviting, having a high range of mountains in the distance, among which are some fertile vallies, and from whence this place is supplied with fruit and vegetables, being transported a distance of more than fifty miles on mules, there being no roads whatever yet constructed for carrying of any kind, and in consequence provisions of all kinds are exceedingly dear.

There is a peculiar feature given to the country here by a species of cactus (columnarius) which often rises to the height of forty feet, having a trunk sometimes three feet in diameter with the summit much branched, the branches deeply furrowed and armed with spines. The flowers are of a pale red color, rather inconspicuous. Much of the cultivated land is enclosed with this plant, the branches being cut off six or eight feet long and inserted into the ground, where they soon take root, and by their spines prevent the ingress of animals.

The principal forest tree here is the , belonging to leguminosae, and it much resembles the locust in appearance. The natives call it ebony, from the resemblance of the heart wood to that timber. By the English it is called iron wood, from its weight. It takes a very high polish, but is very brittle, and is frequently fashioned into canes.

A beautiful species of justicia will frequently be found entwined around the cactus, with red terminal flowers in clusters.

The Cuscuta Americana is found abundantly in this neighborhood. It is a parasite, without roots, and entwines around other plants. The flowers are white.

There is a species of rhamnus in great abundance here, which the inhabitants use to give an acid taste to the water they drink. Some birds live entirely on the berries while in season. The flowers are yellow and the berries of an orange color.

Jatropha Urcens.—This is a plant with variegated leaves, armed with long silvery hairs, and when touched produces a stinging effect.

June, 1846.—The geology of the western coast of South America is very interesting, in consequence of the great convulsions of nature which have taken place since the settlement of the country by Europeans, and also the visible effects of these which have occurred at a remoter period. Here, cities have been sunk and long lines of coast elevated in a few minutes, while the shattered and broken rocks, traversed by innumerable dykes of green stone, show what commotions formerly took place. The surrounding hills of Valparaiso consist of a granitic formation, which sometimes assumes the character of gneiss, and sometimes of granite. Their summits are flat-topped, and their flanks are rounded. That side of these mountains which fronts the prevailing winds is generally covered with forest. Here, during the summer, which forms the greater part of the year, the wind blows straightly from the southward, and a little off shore, so that rain never falls; but during the three winter months it is sufficiently abundant. The vegetation in consequence is very scanty.

Chile is traversed by several mountain chains, between which are beautiful vallies, and these are connected by narrow passages. These vallies, together with the passages, were formerly the bottoms of inlets and bays. A very fine kind of wheat is extensively cultivated in these vallies, also Indian corn, peaches, figs, apples, grapes, strawberries, and many other kinds of fruit; but the staple food, particularly among the laboring classes, is a kind of bean.

Bell mountain is six thousand four hundred feet high, and twenty-six miles distant from Valparaiso, and at this season of the year presents a fine view, covered with snow.

In the neighborhood much copper is found, and the ore is mostly sent to Swansea, England, to be smelted. The Chile government, or rather the old Spanish law, encourages the searching for mines. The discoverer may work a mine on any ground by paying five shillings, and before paying, he may even try in the garden of another man. The Chilian method is still the cheapest. The two principal improvements introduced by foreigners have been, first, by roasting the copper pyrites, which is the common ore in Cornwall, and the English miners found this thrown away as useless; secondly, stamping and washing the scoria from the furnaces, by which process particles of metal are recovered in abundance. They send to England cargoes of this scoria or cinders. The Chilian miners thought that there was not a particle of copper in the pyrites, and were under this mistake for many years, and laughed at tho English who bought their richest veins for a few dollars. The workmen receive about one pound sterling per month and food, which consists of sixteen figs and two small loaves of bread for breakfast, and for dinner boiled beans, for supper broken roasted wheat grain. The miners who work in the mines receive about twenty-five shillings per month, and are allowed a little "charqui" or dried beef.

Very respectfuly submitted,

J. C. REINHARDT, *Naturalist.*

To Captain JOHN PERCIVAL,
Commanding United States Frigate Constitution.

[CORRECTION.]

WASHINGTON, *September* 15*th*, 1846.

FRANCIS MARKOE, JR., ESQ.,
Corresponding Secretary of the National Institute.

DEAR SIR: In the third Bulletin of the National Institute, containing the proceedings of the meeting of April, 1844, the following announcement appears at page 432:

"*On the measurement of Base Lines—Captain W. A. Swift, U. S. Army.*"

Supposing that the paper thus designated was intended to represent the title of the paper which I had the honor to read before the society on the 5th April, 1844, I beg to state, that the words used in the announcement quoted above, convey neither the idea of the character of the paper in question, nor the object which I had in view in making it.

The title, as prefixed by myself, is as follows:

"*Description of the Base of Long Island, (New York,) measured by Ferdinand R. Hassler, Esq., in the year* 1834, *for the survey of the coast of the United States.*"

I have to request the favor of you to cause the error which I have pointed out in the title to be stated in the forthcoming bulletin of the society's proceedings, in order that the purport of the paper may not be misunderstood. It does not profess to be upon the "Measurement of Base Lines;" on the contrary, it assumes to be a description of the *Base of Long Island*, in the operations of which it became my duty, as one of Mr. Hassler's assistants in the coast survey, to partake, from the commencement to the termination thereof.

Very respectfully, your obedient servant,

WM. H. SWIFT,
Capt. Topog. Engineers.