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Building for National Museum

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Recommended Citation

H.R. Rep. No. 244, 45th Cong., 2nd Sess. (1878)

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BUILDING FOR NATIONAL MUSEUM.

FEBRUARY 25, 1878.—Recommitted to the Committee on Public Buildings and Grounds and ordered to be printed.

Mr. YOUNG, from the Committee on Public Buildings and Grounds, submitted the following

REPORT:

[To accompany bill H. R. 2662.]

The Committee on Public Buildings and Grounds, to whom was referred bill H. R. 2662, to provide for the construction of a building suitable for a national museum, submit the following report:

The National Museum of the United States, at present in charge of the Smithsonian Institution, was first authorized and established by the act of Congress approved August 10, 1846, organizing the institution, which provides—

That in proportion as suitable arrangements can be made for their reception, all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens, belonging or hereafter to belong to the United States, which may be in the city of Washington, in whosesoever custody the same may be, shall be delivered to such persons as may be authorized by the Regents of the Smithsonian Institution to receive them, and shall be arranged in such order and so placed as best to facilitate the examination and study of them.

The same act also authorized the reception of donations generally, and provides for the increase of the museum by the exchange of duplicate specimens.

This action of Congress was in accordance with the practice and policy of all civilized nations, the national museums thus constituted being maintained at an expenditure of money which, however large, is considered as necessary and proper in the interest of the people. Conspicuous instances of such museums are found in the national establishments of Great Britain, France, Spain, Germany, Holland, Denmark, Sweden, Russia, Austria, Chili, Buenos Ayres, Brazil, Mexico, and many other countries.

When a national museum for the United States was authorized in 1846, the collections belonging to the government consisted principally of what had been brought home by the Wilkes Exploring Expedition, which at the time occupied and filled the upper story of what is now the south wing of the Patent Office. Appropriations had been made for several years for the care and supervision of these collections while in the Patent Office, and when they were transferred to the Smithsonian edifice, these appropriations were continued and increased from time to time as the material to be cared for required.

For several years but few additions were made to the National Museum beyond the occasional contributions of individuals; but in 1852 a great influx of specimens began from the numerous government expeditions

which were then carried on, among them the United States Naval Astronomical Expedition to Chili, under Lieutenant Gilliss; the Expedition to Japan, under Commodore Perry; the Behring Straits Expedition, under Captains Ringgold and Rodgers; the Surveys for a Railroad Route to the Pacific, under the War Department; the Mexican Boundary Survey, under the Interior Department; the numerous wagon-road expeditions, &c.

These were followed a little later by the contributions from the Northwestern Boundary Survey, in charge of Mr. Archibald Campbell, under the State Department; and, after another interval of a few years, by the results of the geological and other surveys by Professor Hayden, Lieutenant Wheeler, Major Powell, and others.

The number of important explorations, yielding results of decided magnitude, for the most part carried on under government auspices, or more or less at the expense of the Smithsonian fund to the end of 1877, or thirty-one years from the organization of the National Museum, amounts to about two hundred and fifty, while other contributions, from private sources, have constituted an enormous aggregate during the same period.

Up to the beginning of the year 1875 no appropriations were made by Congress for the purchase of specimens of any kind whatever, the expenditures being for salaries, cases, materials, transportation, &c., the collections of the various government expeditions, the contributions of correspondents, and the exchanges with museums at home and abroad constituting the sole mode of increase. The National Museum of the United States is believed to be the only one in the world which has grown from so small a beginning to such magnitude without the disbursement of large sums of money in the purchase of collections.

The occasion of the International Exhibition, intended to celebrate at Philadelphia the one hundredth anniversary of the foundation of the United States, was chosen by authority of Congress, and with funds provided for the purpose, to present an epitome of the powers and resources of the United States in peace and war, the various executive departments being called upon to do their part to carry out this object. The Smithsonian Institution, as having charge of the National Museum, undertook the labor of showing the economical value of the mineral and animal products of the country; and the United States Fish Commission to prepare whatever might illustrate the important subject of the national fisheries. The Agricultural Department prepared to complete the illustration of the natural resources of the United States so far as the vegetable kingdom and its products were concerned. In connection with the Indian Bureau of the Interior Department, the Smithsonian Institution also made arrangements to display the condition of the aboriginal tribes of the United States in both prehistoric and modern times.

Although, as the result of the various agencies already referred to, the National Museum contained a large amount of appropriate material before commencing operations for the purpose in question, there were yet many gaps that were required to be filled up before the United States could be worthily represented at Philadelphia, and the necessary appropriations for the purpose were made by Congress. The entire amount assigned to the service of the Smithsonian Institution in two successive appropriations was \$100,000; the United States Fish Commission received \$10,000, and the Indian Bureau \$31,370.55, for the purpose referred to, making a total of \$141,370.55. Of this a considerable portion was required toward the construction of the government build-

ings, the maintenance of guards and police, the salaries of persons employed in the building, &c. The expenditures tending directly toward the increase and perfection of the collection amounted, however, to at least \$120,000, this sum being disbursed exclusively in the collection, preparation, and display of objects belonging to the territories of the United States, and having no reference whatever to those of foreign countries.

In the appendix will be found a general statement of the collections thus exhibited, although full details would be too extended for the present report. It is estimated that a simple enumeration of the objects displayed under the head of the animal and fishery division alone will occupy a volume of six hundred octavo pages, the catalogue of the mineral and ethnological divisions requiring scarcely less space in addition.

The entire space in the government buildings at Philadelphia occupied by the various collections of the Smithsonian Institution, the United States Fish Commission, and the Indian Bureau amounted to about 33,500 feet, or about one-third of the whole.

It is satisfactory to know that the efforts of the Smithsonian Institution, with the co-operation above referred to, to carry out the wishes of Congress, were entirely successful, and that there was but one opinion both by Americans and foreigners as to the completeness and value of the exhibition.

During the progress of the Centennial Exhibition it was intimated to the Smithsonian Institution that a number of foreign collections would be presented to the United States Government at its close; but the number and magnitude of these donations proved to be vastly in excess of any anticipations that could have been formed. Many of the foreign commissioners had intended to divide their collections among different establishments in the United States; but as this promised to involve serious complications with the custom-house authorities, it was thought expedient by most of them to present the entire series to the United States, which, of course, would receive them free of duty, and with the understanding that any duplicates not needed for the National Museum might be distributed among the various educational and scientific establishments of the country. Accordingly, out of forty countries which made government exhibits at Philadelphia, thirty-four presented the greater part or the whole of their collections to the United States. These represented an aggregate of great magnitude and value, including a variety of valuable ores and samples of the metals derived from them, with their simpler applications in art and industry; buildingstones; pottery and porcelain earthenware, terra-cottas, porcelain, &c.; samples of furs and other animal products; woods, fibers, grains; vegetable substances used in dyeing, tanning, &c.; apparatus for the pursuit and capture of wild animals, for the taking of fish, and for fish-culture; collections showing the manners and customs of people of various degrees of civilization; industrial products, and other articles too numerous to mention, but referred to in somewhat greater detail in the appendix; thus placing at the service of the people of the United States that portion of the International Exhibition which was considered of most value, and permitting the reproduction, in better form and of more instructive character, of all the best part of the display.

In addition to the collective exhibit of the foreign commissioners thus referred to, many specimens were supplied by individuals and firms belonging to various foreign countries. The cost to the respective governments of the articles thus turned over to the United States was at least

half a million of dollars. Their value to the United States, in allowing a comparison of home products with those of foreign countries and in improving American methods and processes by study of the apparatus and results of those of the rest of the world, cannot be represented in figures.

In addition to the above-mentioned contributions, a large proportion of the State displays and those of individual American exhibitors at Philadelphia are also to be added to the list of acquisitions.

It having become evident, during the Philadelphia exhibition, that the Smithsonian building in Washington would be entirely inadequate to accommodate the expected acquisitions, Congress, by its act of July 31, 1876, appreciating this fact, placed at the disposal of the Institution the Armory building, between Sixth and Seventh streets, to enable it to store therein and to take care of the extensive series of the ores, of the precious metals, marbles, building stones, coals, and numerous objects of natural history then on exhibition in Philadelphia, including other objects of practical and economical value presented by various foreign governments, and appropriated the sum of \$4,500 for repairing and fitting it up for the purpose.

In addition to this, Congress appropriated, March 3, 1877, \$25,000 for the expenses of receiving, packing, and transporting the objects presented to the United States at the Centennial by State and foreign governments, and for properly storing and preserving them until a proper disposition can be made of the same.

In accordance with this arrangement, the specimens referred to were in great part deposited, on reaching Washington from Philadelphia, in the Armory building. This is an edifice 100 feet in length by 50 in breadth, having four stories, or representing a whole floor-capacity of 20,000 square feet. These rooms are now filled from floor to ceiling with the objects referred to, which, for the most part, still remain boxed up in the condition in which they were originally transferred from Philadelphia, some 4,000 boxes or packages in all, and subject to various forms of deterioration and injury.

The museum halls of the Smithsonian Institution, prior to the Philadelphia exhibition, were filled almost to their utmost capacity, and but a very small proportion of the collections either prepared on purpose for exhibition at Philadelphia, or obtained there, are displayed in them at the present time. Besides the 20,000 square feet of floor covered with packages in the Armory building, the entire basement of the Smithsonian building is filled with other packages, representing nearly an equal amount, and quite as important in an educational point of view to the people of the United States.

The collections in the Smithsonian building, now open to the public, occupy about 30,000 square feet of floor-space. It is quite within bounds to estimate that the articles stored away will require for their satisfactory exhibition between three and four times that area, even allowing for a great reduction of the objects by the elimination and distribution of the duplicate specimens. There is no provision whatever at present for the display of these articles, and unless Congress furnishes the means, this magnificent property of the people will go to decay and destruction in the course of time, the animal products being destroyed rapidly by insects and many objects of a mineral or metallurgical character by rust.

As every day of delay in arranging and exhibiting this collection, is accompanied with the question of erecting a suitable building for its accommodation, has occupied the attention of the Smithsonian Institu-

tion, and a plan has been devised which, it is believed, will furnish the facilities required in the shortest possible interval of time and at the minimum of expense.

To erect an edifice of the necessary magnitude, in the style of architecture heretofore adopted by the government for its use in Washington, would involve an expenditure of many millions of dollars, and it could not be completed and available for occupation in a shorter period than from five to eight years. Nevertheless, on a simple plan originally suggested by General Meigs, a building somewhat similar in character to those erected for the National Exposition, 300 feet square, or having an area of 90,000 square feet—something over two acres—perfectly fire-proof, amply lighted, and properly adapted for all its objects, can be constructed for about \$250,000, and can be ready for occupation within ten months, or at most a year, from the time of its commencement.

By the plan contemplated everything would be on one floor, without any stairways or second story, no cellar or fire-proof floor being required. The single floor of the building to be of concrete, and thus water and vermin proof; the walls and other portions of the building of brick; and the beams, rafters, and frame-work of the roof of iron, without a particle of wood.

It is, therefore, much to be desired that the means be furnished at an early day for the construction of this building, so that the rich material now belonging to the United States Government can be utilized.

It is believed that, when properly arranged, the National Museum of the United States will take rank as one of the great industrial and economical displays of the natural resources of the globe. The accommodation will then be afforded for the exhibition of the mineral wealth of every State and Territory, and the display of samples of every new mine, with all the appliances for rendering the study of the whole interesting and profitable. The coals, the marbles, and other ornamental minerals will be exhibited systematically; the useful and ornamental products and derivatives of the animal kingdom will be shown—not only such as relate to the United States, but with illustrations of the whole subject in other parts of the world—which cannot fail to suggest new and important applications in this country. Illustrations of the food and other fishes of this and other countries, the best methods of securing them and of preparing them for the requirements of mankind, and the varied productions of the aboriginal races of North America can also be displayed on a proper scale.

To illustrate more fully the necessity and importance of the early construction of the building provided for by this bill, the committee deem it proper to embrace in this report the following list of the more important collections presented by foreign commissioners to the United States Government and taken charge of in behalf of the National Museum by the Smithsonian Institution:

ARGENTINE REPUBLIC.

Dr. ERNESTO OLDENDORFF, *Commissioner*.

Ores of metals, minerals, pottery, tiles, stuffed animals, leathers and hides, nets, fishery products, samples of woods, fibers, seeds, grains, specimens of silk and wool in great variety. This donation embraces almost the whole of the exhibit in Agricultural Hall and a large portion of that in the main building.

AUSTRIA.

Dr. FRANCIS MIGERKA, *Commissioner*.

Specimens of mineral wax (ozokerite) and a variety of mineral and industrial products.

BELGIUM.

Count D'OULTREMONT, *Commissioner*.

Some specimens of industrial products.

BRAZIL.

Dr. J. M. DA SILVA COUTINHO, *Commissioner*.

Specimens of iron, coal, hides, leather, tiles, and pottery, in great variety; specimens in large number of woods; vegetable fibers; substances used as food; gums, resins, &c. This collection embraces nearly the whole of the immense display in the agricultural building and a part of that in the main building.

CHILI.

EDWARD SHIPPEN, Esq., *Commissioner*.

A collection of minerals and ores, artificial stone, tiles, terra-cottas, and an extensive variety of grains, seeds, and other vegetable products, embracing by far the largest part of the display of the Chilian Government in the main building.

CHINA.

J. L. HAMMOND, *Commissioner*.

The entire exhibit made by the commissioners of customs of China and displayed in the mineral annex. It includes a complete representation of the manners and customs of the Chinese, such as samples of their foods, medicines, clothing, their domestic and household utensils, their ornaments, objects used in their plays and festivities, &c. In the collection are numerous full-sized figures, beautifully executed and suitably dressed, representing the different ranks and classes in the community; many hundreds of clay figures, about one foot in height, illustrating the different races of the empire; specimens of cotton and silk in great variety; samples of paper, leather, and the like; samples of pottery, such as vases, tea-pots, pipes, matting, baskets, &c. This collection is of unparalleled interest, and cost the Chinese Government a large sum of money. It will require a space fully equal to half of one of the halls of the National Museum for its exhibition. There are also three ornamental gate-ways, three cases, and two pagodas, as used in the main building for purposes of exhibition; musical instruments, specimens of wrought iron and other metals, bamboo-ware, glass, specimens of tea, oils, wood, tobacco and sugar. The entire collection (exclusive of the ornamental gate-ways and cases) filled twenty-one large wagons.

EGYPT.

E. BRUGSCH, *Commissioner*.

Collection of minerals, tiles, and pottery; garden products in great variety; samples of wood; and a large collection of objects illustrating the habits and customs of the natives of Soudan, Nubia, and Abyssinia, such as musical instruments, weapons, clothing, &c.

FRANCE.

Captain ANFRYE, *Commissioner*.

No collective exhibit was made by the government, but Messrs. Haviland, of Limoges, France, presented a pair of centennial memorial vases, valued at \$17,000, and requiring the erection of a special kiln for their production, together with a large panel of tiles.

GERMANY.

Mr. BARTELS, *Commissioner*.

Specimens of tiles, cements, asphalt-work, fire-bricks, manufactures in metals and woods from the commissioner, and from Mr. F. Krupp, of Essen, a very extensive display illustrating the mineralogy and metallurgy of the iron-trade of Germany, with samples of the different manufactures made at the great gun-works at Essen. This collection is one of the largest and most complete at the exhibition, and attracted great attention. A special catalogue of this collection was printed by the exhibitor.

HAWAII.

H. H. HITCHCOCK, *Commissioner*.

Collections of the volcanic and other rocks and minerals, ropes and fibers, tobacco, sugar, oils, models of boats, nets and vegetable products in large variety.

ITALY.

JOSEPH DASSI, *Commissioner*.

Samples of alabaster, terra-cotta, marbles, &c.

JAPAN.

Lieut. Gen. SAIGO TSUKMACHI, *Commissioner*.

A valuable series of tiles and other pottery; the large exhibit of the fisheries of Japan in the agricultural building, including both products and apparatus; skins and hides of animals; various food preparations; and a series illustrating the materials and manipulations employed in the manufacture of tea and silks; also manufactures of bamboo.

MEXICO.

Dr. MARIANO BARCENA, *Commissioner*.

The greater part of the exhibit of the natural products of the country, as shown in the main building, including the ores of gold and silver, obsidian, woods, fibers, and other vegetable products, pottery, and terra-cotta. Among the most notable mineral specimens may be mentioned an iron meteorite weighing 4,000 pounds.

NETHERLANDS.

Dr. E. H. VON BAUMHAUER, *Commissioner*.

Agricultural products in considerable variety; specimens illustrating the fisheries of Holland, including cod-liver oil, &c.; tiles, cements, &c.

NORWAY.

WM. C. CHRISTOPHERSEN, *Commissioner*; GERHARD GADE, *Assistant Commissioner*.

A very large collection of ores and other specimens illustrating the metallurgy of iron, copper, nickel, &c. A collection illustrating the eatable fishes of Northern Europe, samples of prepared fishes, samples of food preparations, &c. Great variety of agricultural products.

ORANGE FREE STATE.

CHARLES W. RILEY, *Commissioner*.

A collection of agricultural products.

PERU.

JOSÉ CARLOS TRACY, *Commissioner*.

A series of the principal food and other vegetable products in that country.

PORTUGAL.

M. JAYME BATALHO REIS, *Agricultural Commissioner*; M. LOURENCO MALHEIRO, *Industrial Commissioner*.

The greater part of the very extensive exhibit of minerals, ores, &c., in the main building; also pottery, samples of industrial products, glass-work, paper, &c., and a full series of the vegetable productions of the kingdom in nearly two thousand varieties. A portion only of this collection filled sixty large boxes.

RUSSIA.

Gen. CHARLES DE BIELSKY, *Commissioner*; Captain NICHOLSKY and Captain SEMELSH KEN, *Assistant Commissioners*.

An enormous collection illustrating the metallurgy of copper and iron, including different varieties of Russian iron and steel; the very extensive collection of minerals of Siberia, exhibited by the school of mines, and valued at a high price; samples of rope and cordage, pottery, tiles, cement; isinglass and other products of the sturgeon.

SPAIN.

Col. F. LOPEZ FABRA, *Commissioner*.

A collection of great magnitude illustrating the mines and mining of coal, iron, copper, and silver, salt, &c., in the Kingdom of Spain; a very large number of bricks, tiles, earthenware and pottery; illustrations of the various fibers and other materials for basket-work, cordage, industrial products in great variety, including samples of paper, leather &c.; a complete series illustrating the agricultural resources of the country.

From the Philippine Islands, as one of the colonies of Spain, were received samples of native work in the form of baskets, nets, boats, &c., and hemp fibers.

SWEDEN.

C. JUHLIN DANNFELT, *Commissioner*.

The entire exhibit of Sweden made in the agricultural department illustrating the fisheries and agriculture of Sweden, including also specimens of fish, food-fish preparations, &c.; specimens of peat-working machinery, apparatus for deep-sea sounding and dredging, and also for collecting specimens of natural history, photographs of arctic scenery, &c.

SIAM.

(No commissioner.)

A collection illustrating the products, the industries, &c., of the Kingdom of Siam, made for the Centennial Exhibition, with the understanding that it should be presented to the United States at the close. This filled 216 boxes, and embraces many articles of great pecuniary value. This collection, with those from China and Japan, will require a room as large as the upper floor of the Smithsonian Institution for satisfactory display.

SWITZERLAND.

Mr. EDWARD GUYER, *Commissioner*.

Specimens illustrating the geology of the Alps and St. Gothard Tunnel.

TURKEY.

G. D'ARISTARCHI BEY, *Commissioner*.

Illustrations of the metal-work of the country, of its mines and minerals, its tiles and pottery, domestic and household utensils; samples of iron and steel, &c.

TUNIS.

G. H. HEAP, Esq., *Commissioner*.

A thrashing-machine, such as has been used from the time of the ancient Carthaginians.

UNITED KINGDOM OF GREAT BRITAIN AND IRELAND,
INCLUDING COLONIES.

GREAT BRITAIN.

Col. H. B. SANFORD, *Commissioner*.

A very large collection of the private exhibits of tiles, terra cottas, bricks, and pottery, sanitary ware, as also many industrial products in great variety. Among the more notable articles in the series are collections of tiles and mosaics from Messrs. Minton & Hollins, and many specimens from Messrs. Doulton, of Lambeth, among them several large vases. Some highly important deposits have also been made, subject to recall after a certain period. Chief among these is the allegorical representation of America, a duplicate of that furnished by the Messrs. Doulton to the Albert Memorial in London, embracing several colossal figures; this group is valued at \$15,000; also the large terra-cotta pulpit and font, and many other specimens of great variety; an extremely complete and important collection of samples of wools from all parts of the world, presented by Messrs. John L. Bowes & Brothers, embracing over 300 varieties, each suitably labeled, with prices marked, &c.; a similar collection of wools in the fleece exhibited by Messrs. James Oddy & Sons.

BERMUDA.

A. A. OUTERBRIDGE, Esq., *Commissioner*.

A great variety of specimens of corals, shells, and other marine objects, models of boats, samples of stone and wood.

CANADA.

Prof. A. L. SELWYN, *in charge of geological exhibit*.

An extensive collection of the rocks of British North America; many hundreds of specimens exhibited by the geological survey, specimens of coal from all parts of the Dominion; ores of different kinds, samples of iron, steel, and copper, stoneware and pottery.

NEW SOUTH WALES.

AUGUSTUS MORRIS, *Commissioner*.

The extensive exhibit illustrating the mining resources, the natural history, and the botany and agriculture of the province, including a large model of the gold products of the colony up to the year 1875, and specimens of coal-oil, shale, petroleum, &c.

NEW ZEALAND.

JAMES HECTOR, Esq., *Commissioner*.

The entire exhibit of the animal, vegetable, and mineral kingdoms of the colony, and also specimens illustrating its ethnology. Among these specimens is a model of the gold product of the colony and specimens of its coal.

QUEENSLAND.

ANGUS MACKAY, Esq., *Commissioner*.

Model of the gold product of the colony, specimens of ores of copper, iron, and gold; a large collection of native woods, fibers, and other products.

SOUTH AUSTRALIA.

S. DAVENPORT, Esq., *Commissioner*.

A full series of all the exhibits from the animal, mineral, and vegetable kingdoms.

TASMANIA.

H. P. WELCH, Esq., *Commissioner*.

Specimens of the iron and other ores; leather, woods, seeds, and grains; fibers, wools, &c.

VICTORIA.

Sir REDMOND BARRY, *Commissioner*.

The entire collection of useful economical minerals of the country exhibited by the mining department, specimens of stoneware and other products, extensive collections of grains, wools, fruits, fibers, and woods, samples of paper, gums, &c.

VENEZUELA.

Mr. LEON DE LA COVA, *Commissioner*.

The entire exhibit made by this country of minerals, ores, articles of materia medica, fruits, fibers, extracts; &c.

In general, it may be stated that from the countries mentioned in the foregoing the exhibits made by the commissioners in behalf of their respective governments, so far as relates to the animal, vegetable, and mineral kingdoms, and their applications, have been presented to the United States; in some cases without any exception whatever; in others

all except a few duplicates, which were presented to other foreign commissions or to institutions in the United States. Indeed, the only countries from which absolutely nothing was received were Denmark, Luxembourg, Bahamas, British Guiana, Cape of Good Hope, and Jamaica, the exhibit of these countries being either entirely private property or borrowed from the Colonial Museum in London, and necessarily returned.

MEMORANDA.

The proposed building is 300 by 300 feet in size, exclusive of projections. It is 22 feet in height above ground for side walls, 68 feet in height to base of lantern, and 105 feet high to top of lantern. The building to be started upon a solid concrete foundation, the outside walls to consist of best hard-burned bricks, laid in cement-mortar, with oiled and penciled fronts. The base-course, sill-courses, coping of low wall of interior colonnade, &c., to consist of cut stone. The main floor to consist of an approved concrete or its equivalent. Any floors above, in pavilions, &c., to be fire-proof, and to be approached by fire-proof stairs. The frame of roof to consist of trussed wrought-iron work of ample strength, to be supported by ornamental iron columns where it does not rest upon brick-work, and to be covered in with metal for the flat surfaces, and slate for the pavilions. The whole building to be thoroughly sewered, and to be supplied with water, fire-plugs of standard size of the District fire department, gas-pipes, and the usual modern accommodations in due proportions. The inside brick-work, &c., is to be plastered, and the clere-stories are to be glazed with extra-thick fluted glass. An improved steam-heating apparatus is to be provided.

Estimate of cost of erecting proposed fire-proof annex to the Smithsonian buildings for exhibition purposes.

Excavation	\$600
Concrete, brick foundations; concrete floor	29,000
Brick-work above ground	39,300
Cut-stone work	9,900
Iron-work	66,900
Roofing	10,900
Carpenters' work, lumber, and hardware	23,300
Drainage, water and gas-pipes, plumbers' fixtures	8,400
Painting	4,900
Plastering	5,100
Glazing	4,700
Heating	20,000
	223,000
Contingencies, &c., 10 per cent.	22,300
	245,300

List of the more important explorations and expeditions, the collections of which have constituted the principal sources of supply to the National Museum, with indication of the department of the government under which prosecuted:

[Where no department is mentioned it is to be understood that the collections were made more especially at the request and under the direction of the Smithsonian Institution, and to a greater or less degree at its expense.]

Prior to 1850.

1. Captain Wilkes, U. S. N. The coasts of South America, Western North America, Polynesia, &c. 1833-1842. United States Navy Department.
2. Rev. Dr. Gurley. West Africa. 1846-1857.
3. Rev. C. W. Denison. British Guiana. 1842-1857.

1850.

4. Dr. D. D. Owen. United States Geological Survey made in Iowa, Illinois, and Minnesota. 1850-1857. United States General Land Office.
5. Cpts. L. Sitgreaves and J. C. Woodruff, U. S. A. The survey of the Creek boundary. War Department.
6. Dr. J. Evans. United States Geological Survey of Oregon and Washington Territories. Land Office.
7. Dr. Charles T. Jackson. United States Geological Survey of Lake Superior. Land Office.
8. Messrs. J. W. Foster and J. D. Whitney. United States Geological Survey of Lake Superior. Land Office.
9. W. Stimpson. The New England coast.
10. Thaddeus Culbertson. Upper Missouri.

1851.

11. Col. J. D. Graham and Maj. W. H. Emory, U. S. A. United States and Mexican Boundary Survey. 1851-1855. Interior Department.
12. Capt. L. Sitgreaves, U. S. A. Zuni and Colorado Rivers. War Department.
13. Capt. Howard Stansbury, U. S. A. The Valley of the Great Salt Lake, Utah. War Department.

1852.

14. Lieut. J. M. Gilliss, U. S. N. United States Astronomical Expedition to Chili. 1849-1852. Navy Department.
15. Lieut. W. L. Herndon, U. S. N. The Amazon and its tributaries. Navy Department.
16. Capt. R. B. Marcy and Capt. George B. McClellan, U. S. A. The Red River. War Department.

1853.

17. Dr. E. K. Kane. North Greenland.
18. Cpts. C. Ringgold and J. Rodgers, U. S. N. Exploration of the China seas, Behring Straits, coast of California, &c. 1853-1856. Navy Department.
19. Gov. I. I. Stevens. The Pacific Railroad survey of the 47th parallel. 1853-1855. War Department.
20. Lieut. R. S. Williamson, U. S. A. The Pacific Railroad survey on the partial route in California. 1853-1855. War Department.
21. Captains Gunnison and Beckwith, U. S. A. The Pacific Railroad survey on the 38th, 39th, and 41st parallels. 1853-1855. War Department.
22. Captain Whipple, U. S. A. The Pacific Railroad survey on the 35th parallel. 1853-1855. War Department.
23. Lieut. J. G. Parke, U. S. A. The Pacific Railroad survey on the western end of the 32d parallel. 1853-1855. War Department.
24. Capt. J. Pope, U. S. A. The Pacific Railroad survey on the eastern end of the 32d parallel. 1853-1855. War Department.
25. Lieut. R. S. Williamson, U. S. A. The Pacific Railroad survey in California and Oregon. 1853-1855. War Department.
26. Commodore M. C. Perry, U. S. N. Japan. 1853-1855. State and Navy Departments.
27. Capt. J. Pope, U. S. A. Artesian-well borings in the Llano Estacado. 1853-1857. War Department.
28. Dr. George Suckley, U. S. A. Washington and Oregon Territories. 1853-1856. War Department.
29. Dr. J. G. Cooper. Washington Territory, California, and Nebraska. 1853-1856. War Department.
30. Dr. F. V. Hayden. Upper Missouri. 1853-1855.
31. Lieut. D. N. Couch, U. S. A. Northern Mexico.
32. Dr. L. Berlandier. Northern Mexico. Collections made 1826-1851 and purchased by Lieutenant Couch.
33. Capt. T. J. Page, U. S. N. Paraguay. Exploration of the Parana. 1853-1855. Navy Department.
34. R. D. Cutts. The California coast. United States Coast Survey.
35. Prof. S. F. Baird. Wisconsin, Illinois, and Ohio.

1854.

36. A. J. Vaughan. Upper Missouri. 1854-1855.
37. Dr. P. E. Hoy. Wisconsin and Missouri.
38. Robert Kennicott. Illinois, Minnesota, and Winnepeg. 1854-1857.
39. Capt. R. B. Marcy, U. S. A. Brazos River.
40. Lieut. W. P. Trowbridge, U. S. A. The Pacific coast. 1854-1855. United States Coast Survey.
41. Gustavus Wurdemann. Texas, Louisiana, and Florida. 1854-1858. United States Coast Survey.
42. Rev. A. C. Barry. Wisconsin.

1855.

43. Prof. S. F. Baird. Coast of New Jersey.
44. E. Samuels. California. 1855-1856. Boston Society of Natural History and the Smithsonian Institution.

1856.

45. Maj. G. H. Thomas, U. S. A. Vicinity of Fort Yuma.
46. Lieutenant Bryan, U. S. A. Wagon-road survey from Fort Riley to Bridger's Pass. 1856-1857. War Department.
47. Lieut. G. K. Warren, U. S. A. On the Upper Missouri and Yellowstone. War Department.

1857.

48. W. M. Magraw. South Pass wagon-road. 1857-1858. Interior Department.
49. Capt. T. J. Page, U. S. N. La Plata River and tributaries. Navy Department.
50. Donald Gunn. Red River of the North and Nelson River. Hudson Bay Territory.
51. John Xantus. Fort Riley, Kans., and Fort Tejon, Cal. 1857-1858.
52. Lieut. N. Michler, U. S. A. Exploration of a canal-route. The Isthmus of Darien. War Department.
53. Col. J. E. Johnston, U. S. A. Southern boundary of Kansas.
54. J. B. Leech. El Paso and Fort Yuma wagon-road route. Interior Department.
55. A. Campbell. Northwestern boundary survey, western end. 1857-1861. State Department.
56. Lieut. G. K. Warren, U. S. A. The Platte River Valley. War Department.

1858.

57. Capt. Thos. Blackiston, R. A. The Saskatchewan.
58. Lieut. J. C. Ives, U. S. A. Navigation of the Colorado River. War Department.
59. Dr. F. V. Hayden and Prof. F. B. Meek. Kansas.
60. Dr. F. V. Hayden. New Jersey.

1859.

61. Capt. J. H. Simpson, U. S. A. Kansas, Nebraska, and Utah. War Department.
62. F. W. Lander. South Pass wagon-road route. Interior Department.
63. Lieut. John Mullan, U. S. A. Wagon-road route from Walla Walla to Fort Benton. Interior Department.
64. Capt. W. F. Reynolds, U. S. A. Upper Missouri and Yellowstone. War Department.
65. Capt. J. N. McComb, U. S. A. San Juan and Upper Colorado. War Department.
66. John Xantus. Cape Saint Lucas, Lower California. United States Coast Survey.
67. John Feilner. Fort Crook, California.
68. Robert Kennicott. British North America into the Arctic Circle. 1859-1861.
69. J. W. Tolman. Illinois.
70. Dr. J. B. Bean. Central Florida.
71. Dr. Suckley, U. S. A. Kansas, Nebraska, and Utah.
72. William Cooper. Bahamas.
73. Dr. H. Bryant. Bahamas.
74. Dr. J. G. Cooper. South Florida.
75. Capt. H. G. Wright, U. S. A. Tortugas.
76. Capt. D. P. Woodbury, U. S. A. Tortugas.
77. Dr. Whitehurst. Tortugas.
78. Saint Charles College. Louisiana.
79. James McLeannan. Isthmus of Panama.
80. Theodore Gill. West Indies and Newfoundland.

1860.

81. Dr. J. G. Cooper. To Oregon via Fort Benton. War Department.
82. Capt. C. P. Stone, U. S. A. The Gulf of California.
83. Dr. C. S. Canfield. The coast of California.
84. B. R. Ross. Mackenzie River district. Fort Simpson, Hudson Bay territory. 1860-1861.
85. George Barnston. North shore of Lake Superior.
86. J. Mackenzie. Moose Factory, Hudson Bay. 1860-1863.
87. C. Drexler. In James's Bay, Hudson Bay.
88. Elliott Coues. The coast of Labrador.
89. Williams College Lyceum of Natural History. Greenland and Labrador.
90. Dr. W. Stimpson. The coast of North Carolina.
91. Theodore Gill. The coast of North Carolina.
92. Dr. W. W. Anderson. Cantonment Burgwyn, N. M., and on the Pecos.
93. J. H. Clark. The Texas boundary survey. Interior Department.
94. J. W. Swan. Puget Sound. 1860-1877.
95. Dr. J. B. Holder. Tortugas.
96. Charles Wright. Cuba. 1860-1863.
97. J. M. Woodworth. Minnesota.
98. Patrick Duffy. New Mexico.
99. W. A. Henry. Labrador Eclipse Expedition.
100. Lieut. J. D. Kurtz, U. S. A. On the Atlantic coast of the United States.
101. F. Germain. Chili.
102. P. S. Dodd. Sable Island, Nova Scotia.
103. J. R. Willis. Nova Scotia.
104. W. G. Winton. Nova Scotia.

1861.

105. John Xantus. Cape Saint Lucas and the Gulf of California. United States Coast Survey.
106. Robert Kennicott. Hudson Bay territory, Fort Resolution, Peel's River, and Fort Yukon.
107. Lawrence Clark, jr. Hudson Bay territory, Fort Rae, and Great Slave Lake.

1862.

108. John Xantus. Western Mexico, in the vicinity of Colima and Manzanillo. 1862-1863. State Department.

1863.

109. Henry Connolly. Hudson Bay territory, Rigollet, Labrador. 1863-1863.
110. Hon. C. R. Riote, United States minister. Costa Rica.
111. J. Carmiol. Costa Rica.
112. Dr. Charles Sartorius. Eastern Mexico.
113. Prof. F. Sumichrast. Orizaba, Mexico.
114. Capt. John M. Dow. West coast of Central America.
115. Hon. C. R. Buckalew, United States minister. Ecuador.
116. Dr. Elliott Coues, U. S. A. Arizona.
117. Dr. R. Hitz. Upper Missouri.
118. Capt. John Feilner, U. S. A. Upper Missouri.

1864.

119. Col. A. J. Grayson. Vicinity of Mazatlan, including the Tres Marias and the Revillagigedo Islands.
120. Dr. Arthur Schott. Yucatan, under the auspices of the government of the province.
121. Hon. D. K. Cartter. Bolivia.
122. W. T. March. Jamaica.
123. N. H. Bishop. Cuba.
124. Lieutenant Fitzgerald, British army. New Providence, Bahamas.

1865.

125. Governor Wm. McTavish. Vicinity of Fort Garry.
126. Robert Kennicott. Alaska and British Columbia.
127. Dr. H. Berendt. British Honduras and the interior of Guatemala.
128. Robert Swift. Saint Thomas and Porto Rico.
129. George Latimer. Porto Rico.
130. Rev. H. B. Tristram. Palestine.

1866.

131. C. P. Gaudet. Hudson Bay territory. Fort Good Hope.
 132. William L. Hardesty. Hudson Bay territory. Fort Simpson.
 133. Strachan Jones. Hudson Bay territory. Vicinity of Fort Rae.
 134. James Lockhart. Hudson Bay territory. Fort Resolution. Fort Yukon.
 135. John Reid. Hudson Bay territory. Big Island. Great Slave Lake.
 136. James Sibbiston. Hudson Bay territory. Fort Yukon.
 137. Donald Gunn. West of Lake Winnipeg.
 138. George A. Smith. Hudson Bay territory and Labrador.
 139. Robert Macfarlane. Hudson Bay territory, vicinity of Fort Anderson, Arctic coast. 1860-1864.
 140. William Bross. Hudson Bay territory. Fort Halkett.
 141. Thomas Fleet. Hudson Bay territory. La Pierre's House.
 142. C. L. Bulkley. Russian America. Western Union Telegraph Company.
 143. William H. Dall. Shores of Behring Straits. Western Union Telegraph Company.
 144. Ferdinand Bischoff. Kodiak, Sitka, and other portions of Alaska. Western Union Telegraph Company.
 145. H. M. Bannister. Vicinity of Saint Michael's, Norton Sound. Western Union Telegraph Company.
 146. Dr. J. T. Rothrock. British Columbia. Western Union Telegraph Company.
 147. Dr. C. A. Canfield. Monterey, Cal.
 148. Dr. Edward Palmer. Arizona.
 149. Dr. Wernick. Colorado.
 150. Dr. H. B. Butcher. Laredo, Rio Grande.
 151. A. E. Younglove. Hayti.
 152. Dr. Henry Bryant. Porto Rico and the Bahamas.
 153. Henry Hague. Guatemala.
 154. Dr. Earl Flint. Nicaragua. 1866-1877.
 155. Dr. A. Von Frantzius and J. C. Zeledon. Costa Rica.
 156. J. and T. Rhodes. Panama.
 157. Valdimar Knudsen. Sandwich Islands.
 158. William H. Hudson. Buenos Ayres. 1866-1868.

1867.

159. Hon. A. A. Burton. Colombia.
 160. Ferdinand Bischoff. Vicinity of Mazatlan.
 161. Bernard R. Ross. Hudson Bay territory. Moose Factory.
 162. Prof. F. V. Hayden. Geological Survey of Nebraska. United States General Land Office.
 163. Dr. Thomas T. Miner. Winnebago reservation.
 164. Clarence King. Along the line of the 40th parallel. War Department.
 165. Dr. M. Allen. Bermuda.
 166. Col. A. J. Grayson. Revillagigedo Islands.
 167. Dr. Van Patten. Guatemala.
 168. Mr. Hardemann. San Salvador.

1868,

169. Prof. James Orton. Ecuador.
 170. Mr. McDougal. Hudson Bay territory, Mackenzie River district.]
 171. George Davidson. Alaska. United States Coast Survey.
 172. Dr. F. V. Hayden. Black Hills, Laramie Plains, &c. General Land Office.
 173. J. H. Devereaux. Tennessee and Ohio. Ethnology.
 174. Dr. Edward Palmer. Indian Territory.

1869.

175. Capt. C. M. Scammon. Post of Oregon and Alaska. United States Revenue Bureau, Treasury Department.
 176. Dr. F. V. Hayden. Colorado and New Mexico. Interior Department.
 177. Lieut. F. M. Ring. In the vicinity of Fort Wrangel, Alaska. Ethnology.
 178. P. Figyelmezy. British Guiana. State Department.

1870.

179. Prof. S. F. Baird. In Marine Zoology, in Vineyard Sound. 1870-1875. United States Fish Commission.
 180. Dr. F. V. Hayden. Rocky Mountains. Interior Department.

1871.

181. Prof. J. W. Powell. Colorado. Interior Department.
 182. Dr. F. V. Hayden. Montana and headwaters of the Yellowstone. Interior Department.
 183. George A. Boardman. Florida and New Brunswick.
 184. Dr. H. C. Yarrow, U. S. A. Vicinity of Fort Macon, North Carolina.
 185. Capt. Charles Bryant. Pribilof Islands, Behring Sea.
 186. Strachan Jones. Hudson Bay territory, Lower Slave Lake region.

1872.

187. Prof. S. F. Baird. Marine Zoology in the Bay of Fundy. United States Fish Commission.
 188. Dr. A. S. Packard, jr. George's Banks, &c. United States Coast Survey and United States Fish Commission.
 189. Henry W. Elliott. St. Paul of the Pribilof or Fur Seal Islands of Behring Sea. Treasury Department.
 190. William H. Dall. Alaska and the Aleutian Islands. 1872-1874. United States Coast Survey. Treasury Department.
 191. Prof. F. V. Hayden. Basin of the Upper Yellowstone and various regions of the Rocky Mountains. Interior Department.
 192. Lieut. George M. Wheeler, U. S. A. Southern Utah and Eastern Nevada. War Department.
 193. Prof. J. W. Powell. Colorado River. 1872-1875. Interior Department.
 194. F. Sarg. Guatemala.
 195. Prof. William M. Gabb. San Domingo.
 196. G. Brown Goode. Bermuda.

1873.

197. Capt. C. F. Hall and Dr. Emil Bessels. In the Arctic Seas, on the Polaris. Navy Department.
 198. Henry W. Elliott. St. George's Island of the Pribilof group. Treasury Department.
 199. Commodore G. E. Belknap, United States steamer Tuscarora. North Pacific Ocean. Navy Department.
 200. Archibald Campbell and Dr. Elliott Coues. Along the Northwestern boundary survey in Dakotah. State Department.
 201. General David S. Stanley and J. A. Allen. Along the line of the Northern Pacific Railroad. War Department.
 202. Prof. F. V. Hayden. Colorado and New Mexico. Interior Department.
 203. Lieut. George M. Wheeler. The region west of the 100th meridian. War Department.
 204. Capt. Charles Bendire, U. S. A. Arizona.
 205. Livingston Stone. Upper Sacramento River. United States Fish Commission.
 206. James W. Milner. The Great Lakes and the Upper Mississippi. United States Fish Commission.
 207. Prof. S. F. Baird. Vicinity of Portland, Maine. United States Fish Commission.
 208. Vinal N. Edwards. Vicinity of Wood's Hole, Mass. United States Fish Commission.
 209. Samuel Powell. In Narragansett Bay.
 210. Prof. William M. Gabb. Costa Rica. Government of Costa Rica.
 211. Prof. F. Poey. Cuba.

1874.

212. Lieut. Geo. M. Wheeler. Nebraska, Utah, Colorado, New Mexico, and Arizona. War Department.
 213. Prof. F. V. Hayden. West of the 107th meridian, in Colorado. Interior Department.
 214. Prof. J. W. Powell. Utah. 1874-1877. Interior Department.
 215. Prof. S. F. Baird. South coast of Connecticut. United States Fish Commission.
 216. Capt. Nicholas Pike. The Mauritius. State Department.
 217. A. B. Steinberger. The Samoan Islands. State Department.
 218. Lucien M. Turner. Vicinity of Saint Michael's, Norton Sound. 1874-1877. United States Signal Service, War Department.
 219. Prof. H. E. Webster. The coast of Virginia.

1875.

220. Prof. S. F. Baird. Vineyard Sound and Buzzard's Bay. United States Fish Commission.
221. Alaska Commercial Company. The coast and islands of Alaska.
222. Paul Schumacher. Oregon and the main-land and islands adjacent to Santa Barbara. Ethnology. 1875-1876. Peabody Museum, Cambridge, and Indian Bureau, Interior Department.
223. Rev. Stephen Bowers. The South coast of California. Ethnology. 1875-1877. Indian Bureau, Interior Department.
224. J. G. Swan. British Columbia, Vancouver's Island, &c. Indian Bureau, Interior Department.
225. Stephen Powers. Nevada and California. Ethnology. Indian Bureau, Interior Department.
226. Dr. J. G. Kidder, U. S. N. Transit of Venus Expedition, Kerguelen's Land and other points. Navy Department.
227. Dr. Kirshner, U. S. N. South Pacific in the United States steamer Swatara. Navy Department.
228. Edwin Smith. Chatham Islands. United States Coast Survey and Navy Department.
229. Prof. F. V. Hayden. Colorado, North New Mexico, and Eastern Utah. Interior Department.
230. Lieut. Geo. M. Wheeler. Colorado and Arizona. War Department.
231. Dr. Edward Palmer. Arizona and California. Indian Bureau, Interior Department.

1876.

232. W. A. Mintzer. Arctic America, North of Hudson Strait. Navy Department.
233. Dr. W. W. Hays. San Luis Obispo. Ethnology.
234. Dr. J. F. Bransford. Nicaragua. 1876-1877. Ethnology. Navy Department and Peabody Museum, Cambridge.
235. J. G. Baker. Islands south of California. Treasury Department.
236. Prof. F. V. Hayden. Western Colorado and Eastern Utah. Interior Department.

1877.

237. Prof. F. V. Hayden. Wyoming, Idaho, and Northern Utah. Interior Department.
238. E. W. Nelson. North Sound, Alaska. United States Signal-Office and Smithsonian Institution.
239. Prof. D. S. Jordan. Fresh waters of Southern States.
240. Dr. J. F. Bransford, U. S. N. Nicaragua and Costa Rica. Medical Bureau, Navy Department.
241. Rev. Stephen Bowers. Islands and main-land adjacent to Santa Barbara, Cal. Maj. J. W. Powell, Interior Department and Smithsonian Institution.
242. Clark Mills. Indians in Florida. Peabody Museum, Cambridge, and Smithsonian Institution.
243. F. A. Ober. West India Islands. Dominica, Antigua, Barbadoes, &c.
244. S. F. Baird. Coast of Massachusetts off Salem, and of Eastern Nova Scotia. United States Fish Commission.
245. Livingston Stone. Clackamas River, Oregon. United States Fish Commission.
246. Capt. J. J. Fuller. Kerguelen Island.
247. Major A. S. Gaines and K. M. Cunningham. Shell Mounds, near Mobile, Ala.
248. G. B. Goode. Bermuda and surrounding waters. Wesleyan University, Middletown, Conn., and Smithsonian Institution.

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