
REPORT
OF THE
U. S. NATIONAL MUSEUM,
UNDER THE DIRECTION OF
THE SMITHSONIAN INSTITUTION,
FOR THE
YEAR ENDING JUNE 30, 1895.

REPORT OF THE U. S. NATIONAL MUSEUM FOR THE YEAR
ENDING JUNE 30, 1895.

S U B J E C T S .

- I. Report of the Assistant Secretary of the Smithsonian Institution,
in charge of the National Museum, with Appendices.
- II. Papers describing and illustrating collections in the U. S.
National Museum.

UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, December 1, 1895.

SIR: I have the honor to submit herewith a report upon the present condition of the U. S. National Museum, and upon the work accomplished in its various departments during the fiscal year ending June 30, 1895.

Very respectfully,

G. BROWN GOODE,
Assistant Secretary, in charge of U. S. National Museum.

MR. S. P. LANGLEY,
Secretary Smithsonian Institution.

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PART I.

REPORT

UPON THE

CONDITION AND PROGRESS OF THE U. S. NATIONAL MUSEUM
DURING THE YEAR ENDING JUNE 30, 1895.

BY

G. BROWN GOODE,

ASSISTANT SECRETARY OF THE SMITHSONIAN INSTITUTION, IN CHARGE
OF THE U. S. NATIONAL MUSEUM.

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I.—GENERAL CONSIDERATIONS.

By act of Congress passed in 1846 the Smithsonian Institution became the only lawful place of deposit for "all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States." These collections have served as a nucleus for the National Museum of the United States. For many years this Museum was supported entirely at the expense of the Smithson fund, and a considerable portion of the collections is the property of the Institution through gift or purchase.

A "museum" has been defined by Professor Huxley as "a consultative library of objects." Not only is the National Museum such a consultative library, but it is an agency for the instruction of the people of the whole country. It keeps in mind the needs of those whose lives are not occupied in the study of science, as well as of the teacher and the skilled investigator. Its benefits are extended without cost or reserve to hundreds of thousands of visitors from all parts of the United States who enter its halls every year, and through the distribution of the duplicate specimens in the Museum, made up into sets and accurately named, to public institutions in all parts of the country.

Among the most important features of the operations of the Museum during the year may be mentioned the reorganization of the exhibits in several of the departments, notably in the departments of mammals and prehistoric anthropology. Entire rearrangement of these collections has been effected, with a very gratifying result.

A large number of the curators have been necessarily engaged in the preparation of exhibits for the Atlanta Exposition. This work has of

course, interfered seriously with the realization of the plans previously laid out by them for the development of their respective departments. Several curators were absent from the Museum for a considerable portion of the year. Two were detailed by the Museum to cooperate with the United States Fish Commission in certain special investigations of aquatic life off the coast of Alaska, and others were absent in the field for several months.

A.—ORIGIN AND DEVELOPMENT OF THE MUSEUM.

The history of the origin and development of the Museum has been detailed in previous reports, and was made the special subject of a paper entitled "The Genesis of the National Museum."¹ For our present purpose it will suffice to repeat a few of the most essential facts as there stated.

The formation of a national museum in the city of Washington was first undertaken by a society organized in 1840, called "The National Institution," and afterwards "The National Institute," which was for four years exceedingly prosperous and active. The nucleus for a national museum was gathered by this society in the Patent Office building in Washington, and public opinion was educated to consider the establishment of such an institution worthy of the attention of the Government of the United States. In 1846, having failed in securing the public recognition at which it aimed, the society became inactive, and eventually, in 1861, passed out of existence. In the meantime the Smithsonian Institution had been organized, but from 1844 until 1858, when the so-called "National Academy of Curiosities" passed into the charge of the Smithsonian Institution, the term "National Museum" was not in use. From that time onward it was used, unofficially, to designate the collections in the Smithsonian building.

In January, 1847, the first Board of Regents of the Smithsonian Institution, after many weeks of consultation and deliberation over the plans for organization, unanimously voted the following resolution:

Resolved, That it is the intention of the act of Congress, and in accordance with the design of Mr. Smithson, as expressed in his will, that one of the principal modes of executing the act and the trust is the accumulation of collections of specimens and objects of natural history and of elegant art, and the gradual formation of a library of valuable works pertaining to all departments of human knowledge, to the end that a copious storehouse of materials of science, literature, and art may be provided, which shall excite and diffuse the love of learning among men, and shall assist the original investigations and efforts of those who may devote themselves to the pursuit of any branch of knowledge.²

After the "national cabinet" had been delivered to the Regents, annual appropriations were made by Congress for its maintenance. During the twenty-three years which followed, the collections were

¹"The Genesis of the National Museum," Report of the Smithsonian Institution (U. S. National Museum), 1891, pp. 273-330.

²Report of committee on organization, p. 20.

greatly increased and were made the basis of numerous important memoirs upon the natural history and ethnology of America. The public halls, with their arrangements for the exhibition of a portion of the collection, also received a due share of attention, and a certain amount of instruction and pleasure was afforded to visitors. The appropriations, however, were meager, the space limited, and the staff was so inadequate that little could be done except to keep the collections in good preservation.

The broad plan upon which the operations of the National Museum are now conducted was anticipated as early as 1853, when Professor Henry wrote:

There can be little doubt that in due time ample provision will be made for a library and museum at the capital of this Union worthy of a Government whose perpetuity depends upon the virtue and intelligence of the people.¹

The difficulties attending the formation of such a museum were appreciated by him, and in his report for 1849 he spoke with much emphasis of the difficulties attending the assuming by the Institution of the care of the national collections, and in the report of the Institution for 1870² he again carefully expressed his opinion as to the aims proper to such a museum.

There is [he wrote] scarcely any subject connected with science and education to which more attention is given at the present day than that of collections of objects of nature and art known under the general denomination of museums. This arises from their growing importance as aids to scientific investigation and instruction.

In the report for 1873³ allusion was made to the increase in the national collections, even then very great, "requiring the utmost exertions of the limited force connected with the National Museum for its proper treatment."

Although the appropriations for the Museum have of late years been more liberal, it is certain that, on account of the immense annual increase in the quantity of material received, quite as much caution as ever is still needed in the development of its plans for the future.

The Smithsonian Institution from its foundation fostered explorations, and its museum was enriched by the numerous ethnological and natural history objects brought home by the explorers. Many gifts were received from private sources, and valuable objects were deposited in its Museum for safe-keeping. The nucleus of its collections was a small but valuable cabinet of minerals formed by the founder, James Smithson, who was himself a chemist and mineralogist of high repute, and a Fellow of the Royal Society of London.

At the time of the establishment of the Institution several naval expeditions and surveys of the public domain were being organized by

¹ Report of the Smithsonian Institution, 1853, p. 245.

² Report of the Smithsonian Institution, 1870, p. 31.

³ Report of the Smithsonian Institution, 1873, p. 48.

the Government, and during their progress large collections of ethnological and natural history objects were made. Important foreign material was obtained by the Pacific Exploring Expedition, Perry's Expedition to Japan, and other naval expeditions, while the naturalists attached to the Pacific Railroad Survey, the Mexican Boundary Survey, and the surveys under the Army Engineer Corps, brought together great collections illustrating the natural resources and ethnology of North America.

A new source of growth, subsequent to 1871, was the exploration of the waters of North America by the United States Fish Commission. The great collections of all forms of aquatic life made by the Commission found their way gradually into the National Museum, to be placed beside the collections of other bureaus of the Government engaged in scientific work.

At the close of the Centennial Exhibition of 1876 the exhibits of the United States Government and those of numerous foreign governments and of private exhibitors came to the National Museum:

A new period now began. The storage rooms and exhibition halls of the Smithsonian building were already overflowing with the accumulations of thirty years, and the small number of persons employed in caring for them were overburdened and unable properly to perform the requisite work. The limits of the collections had become wider, and a new and broader classification was found to be necessary. The growth of the country in wealth and culture had led to the establishment of many local museums, and the educational influences flowing from these and from the Centennial Exhibition caused a demand for more efficient methods of museum administration. The exhibition of 1876 had been indeed an event of great educational importance to the people of the United States; and not the least of its good works was the lesson it taught as to the possibilities for good in public museums.

The objects which at the close of the Centennial Exhibition were given to the United States for its National Museum were of large intrinsic value, and were also very important from the fact that the necessity of caring for them led to the erection of a large building for the expansion of the Museum itself.

In the early years Professor Baird, then assistant secretary of the Institution, with two or three assistants, had been able to give all necessary attention to the care of the collections, and the Museum had never been formally divided into departments. When the reorganization was made in 1881, under the immediate care of the present Assistant Secretary, the diversity of the collections made it necessary to establish a number of departments, each of which was placed in charge of a curator.

There are now 28 organized departments and sections in the Museum, the larger number of which are in charge of specialists who receive no salary from the Museum. There are also 7 administrative offices.

SPECIAL EPOCHS IN THE HISTORY OF THE MUSEUM.

The history of the National Museum may be divided into three periods:

First, the period from the foundation of the Smithsonian Institution to 1857, during which time specimens were collected solely to serve as materials for research. No special effort was made to exhibit them to the public or to utilize them, except as a foundation for scientific description and theory.

Second, the period from 1857, when the institution assumed the custody of the "National Cabinet of Curiosities," to 1876. During this period the Museum became a place of deposit for scientific collections which had already been studied, these collections, so far as convenient, being exhibited to the public and, so far as practicable, made to serve an educational purpose.

Third, the present period (beginning in the year 1876), in which the Museum has undertaken more fully the additional task of gathering collections and exhibiting them on account of their value from an educational standpoint.

During the first period the main object of the Museum was scientific research; in the second, the establishment became a museum of record as well as of research; while in the third period has been added the idea of public education. The three ideas—record, research, and education—cooperative and mutually helpful as they are, are essential to the development of every great museum. The National Museum endeavors to promote them all.

It is *a museum of record*, in which are preserved the material foundations of an enormous amount of scientific knowledge—the types of numerous past investigations. This is especially the case with those materials that have served as a foundation for the reports upon the resources of the United States.

It is *a museum of research*, which aims to make its contents serve in the highest degree as a stimulus to inquiry and a foundation for scientific investigation. Research is necessary in order to identify and group the objects in the most philosophical and instructive relations, and its officers are therefore selected for their ability as investigators, as well as for their trustworthiness as custodians.

It is *an educational museum*, through its policy of illustrating by specimens every kind of natural object and every manifestation of human thought and activity, of displaying descriptive labels adapted to the popular mind, and of distributing its publications and its named series of duplicates.

In conclusion let us review what seems to have been definitely accomplished since the time of reorganization in 1881.

The definite steps of progress may be summarized as follows:

(1) An organization of the Museum staff has been effected, efficient

for present purposes and capable of expansion and extension as occasion may require, and many capable museum experts have been trained for work in other institutions.

(2) Through the agency of this staff the materials in the Museum, the accumulations of nearly half a century, have been examined, classified, and brought under control and arranged in such manner as to insure their safety and make them available for study.

(3) The collections have been increased nearly seventeen fold during the last fourteen years.

(4) A considerable beginning has been made toward the development of a well-labeled and effectually installed exhibition series, available for the instruction of the public.

(5) A thorough study of the organization and systems of classification in other museums throughout the world has been made, the results of which are beginning to appear in the work of the Museum staff and which will be made available for other institutions from time to time through the publications of the Museum.

(6) Many new methods of installation have been developed by experiment in the Museum, and the best and most available employed elsewhere have been adopted. Our new methods are being applied in many similar establishments at home and abroad.

(7) The art of taxidermy and the making of museum models has been advanced and dignified by the policy adopted in the treatment of the experts in the employ of the Museum.

(8) Science has been forwarded by the publication of some thousands of papers describing the materials in the Museum, while the work of specialists in the production of these papers has greatly enhanced the value of the national collections.

(9) Popular educational work of unquestioned value has been accomplished by participation in the great expositions in Philadelphia, Berlin, London, New Orleans, Cincinnati, Louisville, Madrid, and Chicago.

(10) Hundreds of thousands of named specimens have been distributed to other museums and to colleges and schools.

EXPECTATIONS OF FUTURE DEVELOPMENT.

That the United States must have a National Museum worthy of the dignity of the nation is self-evident.

Every country has a museum or group of museums in its capital city—centers of scientific and educational activity—the treasure-house of the people, filled with memorials of national triumphs in the fields of science, art, and industrial progress.¹

These are legitimate objects of national pride, for upon the character of its museum and libraries intelligent persons, visiting a country, very

¹ Most of the older nations have museums devoted to their military achievements and triumphs, but our country has no need or desire to enter into this field of work.

properly base their judgment as to the nature and degree of the civilization of the people.

Washington may without question be made the seat of one of the greatest museums in the world. It may perhaps be neither practicable nor desirable to gather together in this city extensive collections of ancient mediæval art, but a representative series of such objects will undoubtedly grow up which will tend to educate the public taste, promote the study of the elements of art and the history of civilization, and forward the arts of design. This having been accomplished, attention should be directed mainly toward the exhibition of the geology and natural history of America and its natural resources, to the preservation of memorials of its aboriginal inhabitants, and the encouragement of the arts and industries of our own people.

It is evident that the National Museum of the United States will of necessity have features peculiar to itself, developed in response to the peculiar needs of the people of this continent. It should be remembered that the national collections of every principal European nation are divided into several groups, each under separate administration, though often within the general control of some central authority. In France, for instance, most of the museums are under the Ministry of Public Instruction, and in England, to a less extent, under the Department of Science and Art.

In the great capitals of Europe the public collections are scattered through various parts of the same city, in museums with distinctive names and independent in their organizations. Much of the work which should properly be done by such museums is omitted, because no one of them has seen fit to undertake it; while, on the other hand, much labor is duplicated, which is perhaps equally unfortunate—collections of similar scope and purpose being maintained in different parts of the same city. One of the chief objections to such division of effort is that much of the value of large collections in any department is lost by failure to concentrate them where they may be studied and compared side by side. In Washington, the national collections are all, without exception, concentrated in one group of buildings. The Army Medical Museum now occupies a building side by side with those under the control of the Smithsonian Institution, and this proximity, in connection with the long-established policy of cooperation between the two organizations, renders them, for all practical purposes, united in interest.

Although the appropriations from the public treasury for the maintenance of the National Museum are small, compared with those in several European countries, the value of objects given by private individuals is proportionately large. The actual value of such contributions for ten years past has not, it is estimated, fallen short of \$20,000 a year, and in some years it has been greater.

Among important gifts may be mentioned the George Catlin Indian gallery, of inestimable value to the American historian and ethnologist; the collection of North American insects, given by Prof. C. V. Riley; the collection bequeathed in 1887 by the late Dr. Isaac Lea, of Philadelphia, containing, besides minerals and other objects, about 20,000 conchological specimens, and appraised by the State at \$10,000; the collections of mollusks, gems, and precious stones presented by the Rev. L. T. Chamberlain and Mrs. Frances Lea Chamberlain; the large and valuable collections of African mammals, birds, etc., made and presented by Dr. W. L. Abbott and Mr. William Astor Chanler; the Bendire and Ralph collections of American birds' eggs, given to the Smithsonian Institution; the Lacoe collection of fossil plants, and the collection of the American Institute of Mining Engineers, for the transfer of which from Philadelphia to Washington a special appropriation was made by Congress.

Some exceedingly valuable collections in this country and in Europe have been bequeathed to the Smithsonian Institution, which have not yet come into its possession. It is estimated that within the past fifteen years individuals to the number of more than 2,000 have made gifts to the Museum to the value of \$100 each or more.

The National Museum now contains nearly three and a half millions of objects.

The intrinsic value of such collections as these can not well be expressed in figures. There are single specimens worth hundreds, others worth thousands of dollars, and still others which are unique and priceless. Many series of specimens, which owe their value to their completeness and to the labor which has been expended on them, can not be replaced at any price. The collections at a forced sale would realize more than has been expended on them, and a fair appraisal of their value would amount to several millions of dollars.

One of the most striking features in the affairs of the Museum is the manner in which its collections are increasing. In 1895 the number of specimens is almost eighteen times as great as in 1882.

In the direct purchase of specimens but little money has been spent, less perhaps in fifty years than either France, England, Germany, or Austria expend in a single year on similar objects. The entire Museum is the outgrowth of Government expeditions and expositions, and of the gifts prompted by the generosity of the American people.

As might be supposed, a considerable proportion of the objects given are duplicates of material already on hand, and although these contributions can, with the utmost advantage, be used for distribution to museums and schools, they do not materially increase the value of the collections for study by specialists and for general educational purposes.

The need of a larger fund for the purchase of specimens is yearly becoming more manifest. Exceedingly important material is constantly

offered at prices very much below what it would cost to obtain it by collecting, and in many instances, when refused, it is eagerly taken by the museums and institutions of Europe.

The Museum in its present condition may be compared to a book from which pages here and there have been omitted, so that the narrative is disjointed and incomplete.

The museums of England are rich with the accumulations of centuries. The National Museum of the United States is young, and has enormous deficiencies in every department. In needs, more than any museum in Europe, the opportunity to increase its resources through purchase. The total amount expended for the purchase of specimens for the National Museum since 1889 has averaged less than \$6,000 a year.

For the purchase of specimens for the South Kensington Museum, from 1853 to 1887, \$1,586,634 was expended, or a yearly average of nearly \$47,000.

Toward her other museums England is equally liberal. Exact statistics are not at hand, but it is quite within bounds to assert that her average expenditures for the purchase of new objects for museums in London is not less than \$500,000 a year.

Our museum is the result of the activities of an enlightened Government. Through a thousand channels materials for the formation of a museum come into the possession of the Government, and out of such materials our museum has been built. A museum formed in this manner, however, suffers sooner or later from immense accumulations of objects of certain kinds and from the absence of others. This is true of the National Museum. At the outset no additions were unwelcome, and the expectation that all important deficiencies would be supplied, might properly be indulged in. As the years have passed, however, it has become more and more apparent that many of these deficiencies can be supplied only by purchase.

More striking present results might certainly have been attained by limiting the developments of the Museum to special fields. We have, however, had in view the future as well as the present, and no object has been refused a place in the Museum which is likely to be needed, even in the remote future, in the development of whatever grand museum plans the nation may ultimately be willing to promote.

B.—ORGANIZATION AND SCOPE OF THE MUSEUM.

The National Museum is under the charge of the Smithsonian Institution, and its operations are supervised by the Board of Regents of the Institution.

The Secretary of the Smithsonian Institution is by law the "keeper of the Smithsonian Museum," and the Assistant Secretary, by the usage of nearly fifty years, its executive head.

In the act of Congress passed in 1846, to establish the Smithsonian Institution, are contained the following provisions concerning the scope of the museum to be placed under its charge:

1. The act above referred to provides that "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," shall be delivered to the Regents of the Smithsonian Institution, and together with new specimens obtained by exchange, donation, or otherwise, shall be so arranged and classified as best to facilitate examination and study.

2. It provides that, in proportion as suitable arrangements can be made for their reception, these objects shall be delivered to such persons as may be authorized by the Board of Regents to receive them.

3. It provides that they shall be arranged in such order and so classified as best to facilitate their examination and study.

4. It provides that they shall thus be arranged in the building to be inclosed for the Institution.

5. It authorizes the Regents to obtain new specimens, by exchange of duplicate specimens and by gift, and directs also that they shall be appropriately classified and arranged.

The National Museum thus became the authorized place of deposit for all objects of art, archaeology, ethnology, natural history, mineralogy, geology, etc., belonging to the United States or collected by any agency whatsoever for the Government of the United States, when no longer needed for investigations in progress.

The collections in the Museum are intended to exhibit the natural and industrial resources, primarily of the United States and secondarily of other parts of the world, for purposes of comparison.

The activities of the Museum are exerted especially in three directions:

1. The permanent preservation of the collections already in its possession, which depends chiefly upon the vigilance of the curators and the skill of the preparators.

2. The increase of the collections, which are acquired—

(1) From the various Government surveys and expeditions, in accordance with law;

(2) By gift from individuals, from other institutions, and from foreign Governments;

(3) By exchange for its duplicate specimens or for publications;

(4) By the efforts of officers of the Museum, who make collections in connection with their regular duties, or are detailed for special service of this nature;

(5) By purchase, when appropriations are made by Congress for that purpose.

3. The utilization of the collections, which is effected by exhibiting them to the public, and by encouraging investigations on the part of the officers of the Museum and other suitable persons, and facilitating the publication of the results; also by the distribution to other museums and educational institutions of duplicate specimens, which have formed the basis of scientific investigation, these being identified and labeled by the best authorities.

The collections of the National Museum are made up to a very large extent of the following materials:

1. The natural history and anthropological collections accumulated since 1850 by the efforts of the officers and correspondents of the Smithsonian Institution.

2. Collections which have resulted from explorations carried on more or less directly under the auspices of the Smithsonian Institution, or resulting from explorations carried on by the Smithsonian Institution in connection with educational institutions or commercial establishments.

3. Collections which have been obtained through the courtesy of the Department of State and the cooperation of United States ministers and consuls.

4. The collection of the Wilkes Exploring Expedition, the Perry Expedition to Japan, and other naval expeditions.

5. Collections made by the scientific officers of Government surveys, such as the Pacific Railroad Survey, the Mexican Boundary Survey, and the surveys carried on by the Engineer Corps of the United States Army and by officers of the Signal Corps of the United States Army stationed in remote regions.

6. Collections obtained by the United States Geological Survey, the United States Fish Commission, and those resulting from the activities of the United States Department of Agriculture and other departments of the Government.

7. The remnant of the collections of the old "National Institute."

8. The collections made by the United States to illustrate the animal and mineral resources, the fisheries, and the ethnology of the native races of the country on the occasion of the Centennial Exhibition at Philadelphia in 1876; the fishery collections displayed by the United States at the International Fisheries Exhibition at Berlin in 1880 and at London in 1883, and the collections obtained from various local expositions, as, for instance, the New Orleans Cotton Centennial Exposition in 1884 and 1885, the Cincinnati Exposition in 1887, and the World's Columbian Exposition in 1893.

9. The collections given by the Governments of the several foreign nations, thirty in number, which participated in the exhibition at Philadelphia in 1876.

10. The industrial collections given by numerous manufacturing and commercial houses of Europe and America at the time of the Philadelphia Exhibition and subsequently.

11. The materials received from museums in Europe and America in exchange for duplicate specimens.

12. Collections received as gifts, deposits, or in exchange for individuals, numbering usually from 1,000 to 1,500 each year.

The publications of the Museum consist of—

1. The Annual Report.
2. The Proceedings of the National Museum.
3. The Bulletin of the National Museum.
4. The series of circulars.

Papers by members of the Museum staff based upon the collections have been printed in every scientific periodical in the United States and in many of those of Europe.

RELATIONS OF THE MUSEUM TO THE SMITHSONIAN INSTITUTION.

The Smithsonian Institution, although it bears the name of a foreigner, has for half a century been one of the most important agencies in the intellectual life of our people. It has been a rallying point for the workers in every department of scientific and educational work, and the chief agency for the free exchange of books, apparatus of research, and of scientific intelligence between this and other countries. Its publications, which include more than two hundred volumes, are to be found in all the important libraries in the world, and some of them, it is safe to say, on the work-table of every scientific investigator. Its great library constitutes an integral and very important part of the national collection at the Capitol, and its Museum is the richest in existence in many branches of the natural history and ethnology of the New World. Many wise and enlightened scholars have given their best years to its service, and some of the most eminent men of science to whom our country has given birth, have passed their entire lifetime in working for its success.

Through these books, through the reputation of the men who have worked for it and through it, and through the good accomplished by its system of international exchange, by means of which within the past forty-three years nearly one and a half million packages of books and other scientific and literary materials have been distributed to every region of the earth, it has acquired a reputation at least as far-reaching as that of any other institution of learning in the world.

It is therefore representative of what is deemed in other lands the chief glory of this nation, for whatever may be thought in other countries of American art and literature, or of American institutions generally, the science of America is everywhere accepted as sound, vigorous, and progressive.

In the scientific journals of Great Britain and other European countries the reader finds most appreciative reviews of the scientific publications of the Smithsonian, the Museum, the Bureau of Ethnology, the Geological Survey, the Department of Agriculture, and the Fish Commission, and they are constantly holding up the Government of the United States as an example of what governments should do for the support of their scientific institutions.

It is surely a legitimate source of pride to Americans that their work in science should be so thoroughly appreciated by other nations, and it is important that the reputation should be maintained. Nothing can be more in consonance with the spirit of our Government, nor more in accord with the injunction of Washington in his Farewell Address, admirably quoted by Sir Lyon Playfair in his address as president of the British Association for the Advancement of Science:

Promote, then, as an object of primary importance, institutions for the general diffusion of knowledge.

In proportion as the structure of a government gives force to public opinion, it should be enlightened.

No one has yet explained, except by conjecture, why James Smithson selected the United States as the seat of his foundation. He had no acquaintances in America, nor does he appear to have had any books relating to America except two. Rhee quotes from one of these (Travels through North America, by Isaac Weld, secretary of the Royal Society) a paragraph concerning Washington, then a small town of 5,000 inhabitants, in which it is predicted that "the Federal city, as soon as navigation is perfected, will increase most rapidly," and that, at a future day, if the affairs of the United States go on as prosperously as they have done, it will become the grand emporium of the West and rival in magnitude and splendor the cities of the Old World.

Inspired by a belief in the future greatness of the new nation, realizing that while the needs of England were well met by existing organizations, such as would not be likely to spring up for many years in a new, poor, and growing country, he founded in the new England an institution of learning, the civilizing power of which has been of incalculable value. Who can attempt to say what the condition of the United States would have been to-day without this bequest?

Well did President John Quincy Adams say:

Of all the foundations of establishments for pious or charitable uses which ever signalized the spirit of the age or the comprehensive beneficence of the founder, none can be named more deserving the approbation of mankind.

The most important service by far which the Smithsonian Institution has rendered to the nation has been that extended from year to year since 1846—intangible but none the less appreciable—by its constant cooperation with the Government, public institutions, and individuals in every enterprise, scientific or educational, which needed advice, support, or aid from its manifold resources.

There have been, however, material results of its activities, the extent of which can not fail to impress anyone who will look at them. The most important of these are the library and the Museum, which have grown up under its fostering care.

THE LIBRARY.

The library has been accumulated without aid from the Treasury of the United States. It has, in fact, been the result of an extensive system of exchanges, the publications of the Institution having been used to obtain similar publications from institutions of learning in all parts of the world.

The value of the books distributed since the Institution was opened must have been nearly \$1,000,000, or nearly twice the original bequest of Smithson.¹ Many of the publications in each of these series are now out of print.

¹This estimate is based upon the prices which are charged for the books by second-hand dealers, as shown in their sale catalogues.

In return for these, and by purchase, it has received the great collection of books which forms its library and which is one of the richest in the world in the publications of learned societies, and therefore of inestimable value, containing, as it does, the record of actual progress in all that pertains to the mental and physical development of the human family, and affording the means of tracing the history of every branch of positive science since the days of the revival of letters until the present time. This library was, in 1865, deposited at the Capitol, as a portion of the Congressional Library.

The Smithsonian Collection, which includes more than three hundred thousand volumes and parts of volumes, constituting perhaps one-fourth of the National Library, is to be installed in a special hall of its own upon the main floor of the new Library Building. The rapidity with which it is increasing is indicated by the fact that in the last two years 67,589 titles were added.¹

The Institution has probably done more toward building up a great library in Washington than would have been possible, had all its income been devoted strictly to library work, as was at one time seriously proposed.

The books are still deposited chiefly in the Capitol, but though their number has been so largely increased, year by year, now forming one of the most valuable collections of the kind in existence, they not only remain unbound, but in a far more crowded and inaccessible condition than they were before the transfer, a condition of affairs which it is hoped will soon be remedied.

The purchasing power of the publications of the Institution, when offered in exchange, is far greater than that of money, and its benefit is exerted chiefly in behalf of the National Library, and also to a considerable extent in behalf of the National Museum.

The amount expended during the past forty years from the private fund of the Institution in the publication of books for gratuitous distribution has been fully half as much as the original Smithson bequest.

These publications have had their influence for good in many ways; but, in addition to this, a library much more than equal in value to the outlay has, through their buying power, come into the possession of the nation.

In addition to all this, a large amount of material has been acquired for the Museum by direct expenditure from the private fund of the Smithsonian Institution. The value of the collections thus acquired is estimated to be more than equal to the whole amount of the Smithson bequest.

The early history of the Museum was much like that of the library. It was not until 1858 that it became the authorized depository of the

¹The working libraries of the National Museum and the Bureau of Ethnology are distinct from the general Smithsonian library and are separately administered. All of these are placed at the service of advanced students and specialists.

scientific collections of the Government, and it was not until after 1876 that it was officially reorganized as the National Museum of the United States.

But for the provident forethought of the Smithsonian Institution, the United States would probably still be without a reputable nucleus for a national museum.

The relations of the Museum to the system of popular lectures, for many years established in Washington, which replaces the old Smithsonian courses, once so influential, and the assistance which it affords each year to students of science, are referred to elsewhere in this report.

The Institution publishes many circulars giving information on scientific subjects, which are distributed gratuitously to those who write to make inquiries, and this system is being continually extended. In addition to this, a large correspondence is carried on with people in search of information on scientific topics. Probably not less than 7,500 letters a year go out to people who write seeking to know the name of some object or other scientific fact. Inquiries of this kind are always answered promptly and fully; and frequently, to intelligent inquirers, books are sent which will enable them to find out such names for themselves in future. This work has not only an educational value, but often a great economic importance as well, as, for instance, when some common mineral has been mistaken for one of value, some useless plant has been wrongly identified and supposed to be of service in medicine, or some harmless animal feared as noxious.

The publications of the Institution and its dependencies reach every State and almost every county in the United States. A careful study of the subject, recently made by the president of one of the scientific societies in Washington, seems to indicate that there are several States which are reached by no scientific publications whatever except those distributed gratuitously by the Government.

Speaking of the Smithsonian Institution proper, and not of the Museum or any other trust which it administers, it may be positively stated that in the execution of the trust of Smithson more has been given to the Government than has been received. The machinery of the Institution's action has been such that it has incidentally, in connection with its legitimate work for the increase and diffusion of knowledge, paid over to the Government the equivalent of much more than the whole original fund.

The present Secretary has pointed out that "although by the judicious administration of the Smithson fund nearly \$1,500,000, the fruits of its investment, have been applied during the past forty years to the advancement of science and education in America (in addition to the principal, \$911,000, larger now than ever before), it should be remembered that the unrestricted income of the Institution is less than

\$60,000 a year, a sum much smaller in its power to effect results than ever in previous years."

Can the United States fail to recognize its obligation to supplement liberally this private contribution for public good, especially if it be borne in mind that, as Secretary Langley has shown, the Institution has left in perpetual charge of the nation, in the Museum alone, property acquired out of its private fund which is now more than equal in value to the whole amount of the Smithsonian bequest?

Every museum has its special characteristics growing out of its form of organization, its location, scope, and financial and other resources. The character of the National Museum is fundamentally affected by its connection with the Smithsonian Institution, its dependence upon Congress for appropriations annually, and the necessity, under existing laws, of its caring for all collections belonging to the Government.

Of the connection of the Museum with the Smithsonian Institution, it should be said that it is in the highest degree advantageous. It should be borne in mind that it is essentially a Smithsonian museum, since, especially in its earlier history, the Institution expended large sums of money in aiding explorations, with the distinct purpose of increasing the collections in certain directions, while of late years it has deposited all the valuable gifts and bequests of specimens it has received. It has had in addition, for nearly half a century, the use of the larger portion of the Smithsonian building, and, what is of paramount importance, the guidance and influence of the officers of the Institution, and the very valuable assistance of its numerous correspondents.

C.—THE WORK OF THE MUSEUM IN PUBLIC EDUCATION.

The work of the Museum, if it only performed the functions of an institution for scientific investigation, would be of sufficient value to justify its maintenance and extension. The Museum, however, not only performs these functions, but also does a very great deal to render the resources of science available to the public at large.

The National Museum is a treasure-house filled with materials for the use of investigators, and it is also an agency for the instruction of the people of the whole country.

In a recent address before the American Historical Association, I attempted to explain the idea of our work as follows:

(1) That public institutions of learning are not intended for the few, but for the enlightenment and education of the masses.

(2) That the public has a right to full participation in the results of the work of the scientific establishments which they are helping to maintain.

(3) That one of the chief duties of the officers of these institutions is to provide means by which such results may be presented in an attractive as well as an intelligible form.

No scientific institution is more thoroughly committed to the work of the diffusion of knowledge than is the Smithsonian Institution, and no department of its activity has greater possibilities in this respect than the National Museum.

The benefits of the Museum are extended not only to the specialists in its laboratories and to the hundreds of thousands of visitors from all parts of the United States who pass its doors each year, but to local institutions and their visitors throughout the country, through the distribution of the duplicate specimens in the Museum, which are made up into sets, accurately named, and distributed to schools and museums.

In the next annual report it will be shown how many hundred thousands of objects have been thus distributed during the past twenty years. Every museum in the United States has profited in this way, and by its system of exchange the Museum has, while enriching itself, contributed largely to the stores of every important scientific museum in the world.

Not only are specimens thus sent out, but aid is rendered in other ways. Within the last year many local museums in the United States were supplied with working plans of cases in use in the Museum, and similar sets of plans have been supplied within the past few years to national museums in other countries.

Not only do the people of the country at large profit by the work of the Smithsonian, as made available to local institutions, but also to a very considerable extent directly and personally.

The curator of each department in the Museum is expected to be an authority in his own line of work, and the knowledge of the whole staff of experts is thus placed, without cost, at the service of every citizen.

It is much to be regretted that many specialists, intent chiefly upon the study of certain scientific problems in which they individually are absorbed, are disposed to neglect the claims of the educated public to the enjoyment and instruction which museums afford. They do not hesitate to say that scientific museums should be administered for the benefit solely of persons engaged in research. Such men would find no welcome among us.

The experience of Europe, with its magnificent public museums and the history of the several expositions in the United States, should be quite sufficient to satisfy anyone who has studied the matter, that the museum is an educational power even more influential than the public library.

The venerable director of the South Kensington Museum, the late Sir Philip Cunliffe Owen, speaking from an experience of thirty-five years, not only in his own establishment, but in the work of building up the score of affiliated museums in the various provincial towns of Great Britain, remarked to the writer:

We educate our working people in the public schools, give them a love for refined and beautiful objects, and stimulate in them a desire for information. They leave school, go into the pursuits of town life, and have no means provided for the

gratification of the tastes which they have been forced to acquire. It is as much the duty of the Government to provide them with museums and libraries for their higher education as it is to establish schools for their primary instruction.

In the same conversation Sir Philip insisted very strongly that a museum not actually engaged in educational work of some kind could not long survive, pointing to the great system of lectures and examinations connected with the Science and Art Department of the Council of Education, of which the South Kensington Museum was one of the chief agencies.

II.—SPECIAL TOPICS OF THE YEAR.

The changes already made in the form of the Annual Report, beginning with the volume for 1893, have been continued in this volume. It is believed that they have proved advantageous in many ways.

The most important innovation in Part 1 of this Report is the Appendix which relates to the statement concerning the Library of the National Museum. This consists of a complete list of all accessions to the library during the year 1894-95, but does not include books belonging to the Smithsonian library which have been withdrawn for the purposes of the National Museum.

The headings which follow indicate the topics which are thought to be of special importance in connection with both the scientific and administrative operations of the Museum during the year.

THE MUSEUM STAFF.

The number of organized departments and sections in the Museum is now 28. There are 7 administrative divisions.

Hon. Charles D. Walcott, Director of the United States Geological Survey, has been appointed honorary curator of all the paleontological collections, which are now embraced in the department of paleontology. The names of those in charge of the various sections of this department are mentioned in Appendix 1.

Mr. J. E. Watkins was appointed curator of the technological collections in February, 1895.

In May Dr. J. M. Flint, U. S. N., was detailed by the Secretary of the Navy to serve again as honorary curator of the section of materia medica in the National Museum, thus relieving Medical Inspector Daniel McMurtrie, U. S. N.

Mr. F. W. True and Dr. Leonhard Stejneger were detailed in the spring of 1895 to report to the Commissioner of Fish and Fisheries for the purpose of accompanying an expedition to Alaska and the adjacent islands, with a view to studying the seal rookeries. They were temporarily transferred to the roll of the Fish Commission for this work.

On July 1, 1894, Mr. R. E. Earll was appointed editor of the Proceedings and Bulletins of the Museum. Later in the year he was appointed special agent on behalf of the Museum for the Cotton States and International Exposition to be held at Atlanta.

Dr. Theodore Gill and Dr. R. E. C. Stearns are now recognized as Associates in zoology, Dr. C. A. White, in paleontology, and Dr. R. W. Shufeldt, in comparative anatomy.

In January Dr. G. P. Merrill was detailed for special duty in the office of the Supervising Architect of the Treasury.

Mr. F. H. Knowlton resigned on July 5, 1894, although he is still connected with the Museum in an honorary capacity as custodian of mesozoic plants.

During the year Dr. J. N. Rose, of the Department of Agriculture, was appointed honorary assistant curator of the department of botany in the Museum, and Mr. R. S. Matthews was appointed an aid in the department of mammals.

On October 1, 1894, Dr. Walter Hough was appointed assistant curator of the department of ethnology; Mr. Charles W. Richmond was appointed an assistant in the department of birds on July 1 of the same year, and on November 1 Miss M. J. Rathbun, connected with the department of marine invertebrates, was made an assistant curator.

Mr. Charles T. Simpson was designated assistant in charge of the department of mollusks on May 17, during the absence in Alaska of Dr. Dall, honorary curator.

ACCESSIONS TO THE COLLECTIONS.

The accession entries relating to material received during the year have occupied Nos. 28312 to 29534, inclusive, giving a total of 1,223 separate lots. This is an increase of 62 over the preceding year, and any increase is the more remarkable from the fact that with very few exceptions no effort whatever has been made to induce persons to deposit their collections in the National Museum. This undesirable policy has been made necessary by the entire lack of additional exhibition space. The material received during the year has for the most part been placed in storage. It amounts to 127,324 specimens of all kinds. The three departments receiving the largest increases were prehistoric anthropology, mollusks, and insects. An effort has been made to obtain from the curators figures representing the number of specimens received during the year, as well as the total number of specimens in their departments on June 30, 1895. The appended tables, A and B, show the results. It is shown that there are now 3,406,855 specimens of all kinds in the custody of the Museum.

The table indicating in parallel columns the totals in the different departments at the end of each year since 1882 has been withdrawn, as it was found that without numerous footnotes it was impossible to account for the discrepancies which appeared to exist from a comparison of the totals of one year with another in the light of the table giving the number of specimens received in each department during the year. This last number added to the total for the previous year seldom gave the actual total for the year following, on account of specimens withdrawn for distribution and otherwise disposed of. On the other hand, as in

the department of geology, the total for a given year was liable to exceed the total for the previous year by more than the number representing the specimens obtained during the year. This might be readily accounted for by the fact that one large specimen upon its arrival would not unfrequently be broken into a large number of smaller ones. Hence the necessity for numerous explanatory notes arose, and for this reason the arrangement of these tables, as here given, will be adopted in future reports of the Museum.

A.—Number of specimens received in 1894-95.

Department.	Specimens received in 1894-95.
Arts and industries:	
Materia medica	5
Foods	3
Textiles.....	2
Animal products	
Graphic arts	70
Forestry	23
Transportation and engineering	6
Naval architecture.....	
Historical collections.....	298
Musical instruments	81
Modern pottery, porcelain, bronzes, etc	14
Physical apparatus	
Domestic animals	41
Ethnology	2,642
American aboriginal pottery	75
Oriental antiquities and religious ceremonials	171
Prehistoric anthropology	50,006
Mammals (skins and alcoholic)	1,484
Birds.....	5,499
Birds' eggs and nests	2,023
Reptiles and batrachians	1,093
Fishes	6,000
Mollusks.....	14,132
Insects.....	13,000
Marine invertebrates	2,378
Helminthological collection	a 106
Comparative anatomy:	
Mammals	
Birds	
Reptiles and batrachians	250
Fishes	
Paleontology:	
Vertebrate fossils	
Invertebrate fossils—	
Paleozoic	
Mesozoic	6,642
Cenozoic	
Fossil plants	
Recent plants	16,897
Minerals	1,053
Geology	3,240
Total.....	127,324

B.—Number of specimens in the departments of the Museum on June 30, 1895.

Department.	Specimens.
Arts and industries:	
Materia medica	6,322
Foods	1,114
Textiles	3,308
Fisheries	10,080
Animal products	3,028
Graphic arts	1,774
Forestry	749
Transportation and engineering	1,799
Naval architecture	802
Historical collections	30,206
Musical instruments	1,300
Modern pottery, porcelain, bronzes, etc.	3,597
Paints and dyes	197
Physical apparatus	366
Oils and gums	} 1,112
Chemical products	
Domestic animals	203
Ethnology	425,642
American aboriginal pottery	33,368
Oriental antiquities and religious ceremonials ..	4,316
Prehistoric anthropology	203,520
Mammals (skins and alcohols)	14,432
Birds	78,824
Birds' eggs and nests	60,064
Reptiles and batrachians	35,308
Fishes	131,000
Mollusks	524,388
Insects	623,000
Marine invertebrates	522,378
Helminthological collection	a 106
Comparative anatomy:	
Osteology	} 15,078
Anatomy	
Paleontology:	
Vertebrate fossils	} 307,046
Invertebrate fossils—	
Paleozoic	
Mesozoic	
Fossil plants	
Recent plants	269,008
Minerals	26,484
Geology	66,846
Total	3,406,855

a Number of catalogue entries to June 30, 1895.

The following table shows the number of accession lots acquired by the Museum annually since 1881:

Year.	Accession numbers (inclusive).	Number of accessions during the year.
1881.....	9890-11000	1, 111
1882.....	11001-12500	1, 500
1883.....	12501-13900	1, 400
1884.....	13901-15550	1, 650
1885 (January to June).....	15551-16208	658
1886.....	16209-17704	1, 496
1887.....	17705-19350	1, 646
1888.....	19351-20831	1, 481
1889.....	20832-22178	1, 347
1890.....	22179-22340	1, 162
1891.....	22341-24527	1, 187
1892.....	24528-25884	1, 357
1893.....	25885-27150	1, 266
1894.....	27151-28311	1, 161
1895.....	28312-29534	1, 223

A list of the accessions during the year covered by this report is printed as Appendix II. The list proper, which is arranged alphabetically by names of contributors, is accompanied by indexes showing the localities from which the specimens were obtained and the departments in the Museum to which they have been assigned.

TRANSFER OF THE NATIONAL HERBARIUM.

In 1869 the National Herbarium was transferred from the Smithsonian Institution to the Department of Agriculture. The reasons for this transfer are given under the head of "Review of work in the scientific departments." Within the last year, however, a formal communication was received from the Assistant Secretary of Agriculture proposing that the Herbarium be again housed by the Smithsonian Institution. The reasons for the desired change are given in the letter of the Assistant Secretary of Agriculture, dated July 24, 1894, which is reprinted in the chapter referred to above. The proposition was agreed to by the Smithsonian Institution, and the actual transfer of the Herbarium took place in September of the same year.

CATALOGUE ENTRIES.

The following statement shows the number of entries made in the catalogues of the various departments during the year ending June 30, 1895:

Department.	Entries.
Materia medica.....	5
Forestry.....	2
Foods.....	1
Textiles.....	2
Musical instruments.....	74
Transportation and engineering.....	5
Modern pottery, porcelain, bronzes, etc.....	12
Graphic arts.....	61
Domestic animals.....	36
Ethnology.....	1,270
American aboriginal pottery.....	17
Oriental antiquities and religious ceremonials.....	174
Prehistoric anthropology.....	2,775
Mammals.....	8,274
Birds.....	5,499
Birds' eggs and nests.....	567
Reptiles and batrachians.....	1,093
Fishes.....	2,053
Mollusks.....	3,546
Insects.....	161
Marine invertebrates.....	1,803
Helminthological collection.....	106
Comparative anatomy:	
Mammals.....	
Birds.....	
Reptiles and batrachians.....	
Fishes.....	173
Paleontology:	
Vertebrate fossils.....	283
Invertebrate fossils—	
Paleozoic.....	933
Mesozoic.....	7
Cenozoic.....	110
Fossil plants.....	460
Recent plants.....	670
Minerals.....	293
Geology.....	388
Total.....	30,853

APPROPRIATIONS FOR 1895-96.

The amount appropriated for the maintenance of the Museum for the fiscal year ending June 30, 1896, is \$186,125. This is an increase of \$3,025 over the appropriation for the year covered by this report. The items are as follows:

Preservation of collections.....	\$143,225
Furniture and fixtures.....	12,500
Printing and binding.....	12,000
Heating and lighting.....	13,000
Postage.....	500
Rent of workshops.....	900
Repairs.....	1,000
Total.....	186,125

There was also an appropriation of \$800 for fire protection for the Smithsonian and Museum buildings and the Astro-Physical Observatory.

EXCHANGES OF SPECIMENS WITH INSTITUTIONS AND INDIVIDUALS
ABROAD.

The Museum has for many years maintained exchanges of specimens not only with domestic institutions but also, and chiefly, with foreign museums. This practice has enabled the Museum to dispose profitably of its duplicates, and at the same time to furnish museums and colleges in other countries with valuable American material for display or study. The Museum has exchange relations with almost every museum of importance in the world. Exchanges of specimens not infrequently lead to exchanges of publications also, and by this means the Museum library has received numerous accessions. Especially has this been the case since 1894, when a special effort was made to obtain from foreign museums publications which at that time were wanting on our shelves.

The exchanges of specimens with institutions at home are so indicated in the Accession List, which is printed as Appendix II. The exchanges with foreign museums and other institutions and individuals abroad are here briefly referred to.

FOREIGN EXCHANGES IN 1894-95.

Birds.—Birds' skins have been sent to Mr. A. Boucard, Oak Hill, Spring Vale, Isle of Wight, England, in continuation of exchanges.

From the La Plata Museum, La Plata, Argentina (Dr. Francisco P. Moreno, director), have been received birds' skins. Similar material has been transmitted in exchange.

Birds' skins have been forwarded to Mr. Victor Ritter von Tschusi zu Schmidhoffen, Hallein, Salzburg, Austria, in exchange for material already received.

Nineteen birds' skins have been sent to Rev. H. B. Tristram, The College, Durham, England, in continuation of exchanges.

Reptiles and batrachians.—Two specimens of *Menobranchus latastei* have been received from Dr. John H. Garnier, Lucknow, Ontario, Canada.

From the Museum Senckenbergianum, Frankfort-on-the-Main, Germany, have been received, through Dr. O. Boettger, two lizards from China. A specimen of *Anniella pulchra* and two specimens of *Terrapene ornata* have been forwarded in return.

Fishes.—A cast of a fish has been sent to Dr. Ehrenbaum, director, Biological Station, Heligoland. Marine invertebrates have been asked for in return.

From the Indian Museum, Calcutta, India (Surg. Capt. A. Alcock, superintendent), have been received specimens of deep-sea fishes from

the Bay of Bengal. Eighty-three species of deep-sea fishes from the Atlantic and Pacific oceans have been transmitted in exchange.

Forty species of deep-sea fishes have been sent to Dr. L. Lortet, director of the Museum of Natural History, Lyons, France, for which material has been promised in return.

Mollusks.—British invertebrates have been received from the Manchester Museum, Manchester, England, through Mr. William E. Hoyle, in return for material already forwarded.

Dr. H. von Ihering, director, Paulista Museum, San Paulo, Brazil, has transmitted specimens of Unionidæ from Central and South America. Specimens of Unionidæ from the United States have been sent in return for material received and for additional specimens promised.

Specimens of *Anodonta fragilis* have been sent to Mr. J. F. Whiteaves, of the Geological Survey of Canada.

Insects.—From Mr. Edgar J. Bradley, Happy Valley Waterworks, South Australia, have been received two specimens of Honey Ant (*Camponotus inflatus*) from Alice Springs, MacDonnell Ranges, Central Australia. Foraminifera have been sent in return.

From Felippo Silvestri, Museo Civico di Storia Naturale, Genoa, Italy, has been received a collection of European myriapods, representing twenty-six species. North American myriapods have been sent in return.

From G. van Roon, Rotterdam, Holland, have been received thirteen species of Coleoptera from India and fifty-one species of Coleoptera from Europe. Similar material has been sent in return.

Marine invertebrates.—From Edgar J. Bradley, Happy Valley Waterworks, South Australia, have been received Foraminifera from South Australia. An equivalent in similar material has been sent.

A specimen of *Pentacrinus decorus* has been transmitted to Dr. L. Lortet, director of the Museum of Natural History, Lyons, France.

In continuation of exchanges, a small set of Holothurians has been sent to the Natural History Department of the British Museum, London, England.

From the Canterbury Museum, Christchurch, New Zealand, through F. W. Hutton, curator, have been received twelve specimens of dried crabs.

Mr. Charles Chilton, Port Chalmers, New Zealand, has transmitted specimens of Amphipoda and Isopoda from New Zealand in continuation of exchanges. A small set of Holothurians has been sent to the Indian Museum, Calcutta, India.

A small set of Holothurians has been sent to the K. K. Naturhistorisches Hofmuseum, Vienna, Austria, Dr. Franz Ritter von Haer, intendant.

A small set of Holothurians has been sent to the Museum of Natural History, Paris, France, Dr. A. Milne-Edwards, director; also a specimen of *Lororhynchus grandis*.

A small set of Holothurians has been sent to the Zoological Museum, Copenhagen, Denmark (Dr. Christopher Lütken, director).

Helminthology.—Microscopic slides of parasitic worms have been sent to Prof. R. Blanchard, Paris, France, in exchange for material promised.

From Dr. A. Looss, Zoological Institute, Leipsic, Germany, have been received specimens of parasitic worms in exchange for material previously sent.

M. Stossich, Trieste, Austria, has transmitted parasitic worms, for which similar material has been returned.

From the University of Toronto, Toronto, Canada, through Prof. R. Ramsay Wright, have been received specimens of *Echinorhynchus capitatus*, for which material will be sent in return.

Parasitic worms have been sent to Dr. O. von Linstow, Göttingen, Germany.

Comparative anatomy.—Dr. H. Gadow, Cambridge, England, has transmitted a specimen each of Goatsucker (*Podargus*); Swift, *Cypselus apus*; Goatsucker (*Caprimulgus*), and Honey Creeper (*Certhiola*).

Paleontology.—A collection of characteristic North American fossil invertebrates and plants from the more important geologic terranes have been sent to the department of mines and agriculture, Sydney, New South Wales, in return for material already received.

The University of Caen, Caen, France, has transmitted, through Dr. A. Bigot, a fine plaster cast of *Pelagosaurus typus*. A collection of invertebrate fossils has been sent in return.

Diatomaceous earth has been received from Mr. R. Getschmann, Rixdorf, near Berlin, Germany, for which similar material has been returned.

Casts of vertebrate fossils have been received from the La Plata Museum, La Plata, Argentina (Dr. Francisco P. Moreno, director). Birds' skins have been sent in exchange.

From the Museum of Natural History, Paris, France (Dr. A. Milne-Edwards, director), have been received twenty-two casts of vertebrate fossils. A partial exchange has been sent.

Plants.—From the Museum of Natural History, Vienna, Austria (Dr. Aristides Brezina, director), have been received one hundred plants. An equivalent will be forwarded.

One thousand one hundred and thirty-six herbarium specimens of American plants have been sent to Lieut. Col. G. King, for the Royal Botanic Garden at Calcutta, India.

Prehistoric anthropology.—Two hundred archæological objects, also a collection of arrow and spear heads, have been sent to Mr. S. G. Hewlett, Eastbourne, Sussex, England, in return for material already received.

Archæological objects have been sent to Prof. H. H. Giglioli, director, Zoological Museum, Florence, Italy, in continuation of exchanges.

Stone implements and casts of prehistoric objects have been sent to Dr. Franz Ritter von Haner, K. K. Naturhistorisches Hofmuseum, Vienna, Austria.

From the La Plata Museum, La Plata, Argentina (Dr. Francisco P. Moreno, director), have been received ten pottery vessels. Material, in exchange, has been transmitted.

Ethnology.—Ethnological objects have been sent to Prof. H. H. Giglioli, for the Royal Zoological Museum, Florence, Italy, in continuation of exchanges.

Twenty-four ethnological objects from New Guinea have been received from Dr. A. C. Haddon, Inisfail Hills Road, Cambridge, England. Publications have been sent and other material will be forwarded in return.

Seven ethnological objects have been sent to Mr. Edward Lovett, Croydon, England, in continuation of exchanges.

A collection of objects obtained from the Indians of the western coast of North America has been sent, in exchange for material already received, to Rev. J. C. Calhoun Newton, Kwansei Gakuin, Kōbē, Japan.

From the Royal Museum of Northern Antiquities, Copenhagen, Denmark, through Dr. Sophus Müller, have been received ethnological objects from East Greenland. Similar material has been sent in continuation of exchanges.

Ethnological objects have been sent to Sapporo Museum, Sapporo, Japan, in exchange for Aino objects received in 1889.

From Prof. Edward Tregear, Wellington, New Zealand, have been received five photographs of Maori houses.

Oriental antiquities.—Casts of the Temple Stone, Siloam inscription, and facsimiles of eleven Assyrian and Babylonian seals have been forwarded to Rev. J. C. Calhoun Newton, Kwansei Gakuin, Kōbē, Japan, in return for material already received.

COOPERATION OF EXECUTIVE DEPARTMENTS OF THE GOVERNMENT:

The large annual increase in the national collections is due in no small degree to the aid which the Executive Departments of the Government have extended in various ways. Much valuable assistance has also been rendered by officials of the Departments who have found it practicable to perform certain work in the interest of the Museum without interfering with their official duties.

In the Department of State, Hon. W. W. Rockhill, who has made very liberal contributions to the collection in past years, is one of the warmest friends of the Museum. Mr. R. D. L. Mohun, of the Consular Bureau, has presented a large and valuable collection of ethnological objects from the Kongo region. Mr. Isaac Townsend Smith has been instrumental, in his capacity of consul-general of Siam, in forwarding to the Museum, in behalf of the King of Siam, through his Royal Highness Prince Devagongse Varaprakar, minister of foreign affairs, Bangkok, Siam, a Siamese edition of the sacred writing "Tripitaka"

of the southern Buddhists. Mr. R. M. Bartleman, chargé d'affaires of the United States at Caracas, Venezuela; Hon. C. H. Benedict, United States consul at Cape Town, Africa; Mr. N. C. Gram, United States consular agent at Dryefjord, Iceland, have also extended their friendly offices in increasing the collections.

The Museum is indebted to the Treasury Department for the prompt manner in which free entry has been granted for material obtained from many parts of the world. This courtesy has been extended over a long period of years.

Lieut. J. H. Scott and Mr. Sheldon Jackson, of the Revenue-Marine Service, have given their personal aid in adding to the collections.

Mr. Isaac Winston, of the United States Coast and Geodetic Survey, has also been a contributor.

In the War Department the same friendly spirit of cooperation has been manifested. The Quartermaster's Department has saved the Museum both time and money in connection with the transportation to Washington of heavy material from remote localities. Several Army officers have made contributions of interesting specimens to the Museum. Among these are Capt. P. H. Ray, Lieut. W. N. Hughes, Lieut. Wirt Robinson, Dr. Edgar A. Mearns, Dr. Timothy E. Wilcox, and Dr. C. E. Woodruff. In the same way the Museum is indebted to several officers of the Navy for addition to the collections—Rear-Admiral R. W. Meade, Lieut. Charles Emmerich, Lieut. C. H. Harlow, and Lieut. Herbert Winslow. In the latter part of May, 1895, Dr. James M. Flint was again assigned to duty in the Museum as honorary curator of the section of materia medica, and the renewal of his official connection with the Museum is a source of sincere gratification.

Under the Department of the Interior the principal accessions to the collections have been received through the Geological Survey. The material thence derived is alluded to in the List of Accessions (Appendix II). The following officers have extended personal assistance to the Museum during the year, either by collecting geological material or by cooperating with the geological work of the Museum: Mr. Whitman Cross, Dr. David T. Day, Mr. Frank Burns, Mr. J. S. Diller, Mr. G. H. Eldridge, Mr. S. F. Emmons, Mr. Arnold Hagne, Mr. W. P. Jenney, Mr. F. H. Knowlton, Prof. S. L. Penfield, Mr. W. Sardeson, Mr. J. E. Spurr, Mr. T. W. Stanton, Mr. W. H. Turner, and Mr. T. Wayland Vaughan.

The Director of the Survey, Mr. Charles D. Walcott, has assumed charge of the paleontological department of the Museum, an arrangement which can not fail to redound greatly to the advantage of the latter. Dr. William H. Dall, Prof. Lester F. Ward, and Prof. F. W. Clarke, officers of the Survey, continue to act as honorary curators in the Museum, and to their active and earnest cooperation is due to a large extent the progress which has been made in the geological work of the Museum.

Dr. Z. T. Daniel, of the Indian Office, has made several valuable gifts of ethnological material to the Museum during the year. Dr. William J. Elstun, of the Pension Office, has also been a contributor.

Several collections have been transferred to the Museum by the Fish Commission. From the material received from this source a large number of specimens have been distributed to educational institutions throughout the country, over fifty collections having been sent out during the year.

Prof. B. W. Evermann, Dr. Hugh M. Smith, Mr. Charles H. Townsend, and Mr. C. W. Kendall have been personally instrumental in obtaining interesting material for the collections.

A number of important accessions have been received from the Department of Agriculture. Dr. C. Hart Merriam, Mr. L. O. Howard, Dr. A. K. Fisher, Messrs. E. W. Nelson, C. L. Pollard, and Theo. Pergande have rendered conspicuous assistance to the Museum. Prof. C. V. Riley, Mr. F. V. Coville, and Dr. C. W. Stiles have continued to act in an honorary capacity. Many botanical collections are received direct by the Department of Agriculture. These are in due time incorporated with the National Herbarium according to law. The circumstances which led to the transfer of the National Herbarium from the Department of Agriculture to the National Museum building are referred to at length in another place.

The Bureau of Ethnology, a branch of the Smithsonian Institution, has transmitted large and valuable collections of ethnological objects from Indian tribes in different sections of the country.

COLLECTORS' OUTFITS.

During the year outfits have been furnished to collectors as follows: To Mr. A. W. Ridgway, Point Lookout, Md.; to Capt. James P. Hare, Avery, La.; to Dr. Edgar A. Mearns, San Diego, Cal.; to Mrs. Constance McElroy, Livingston, Guatemala; to Mr. F. W. True, U. S. National Museum, for collecting in Alaska; to Mr. Frank C. Dennis, Livingston, Guatemala; to Rev. D. W. Snyder, Luebo, Congo Free State; to Mr. F. W. Urich, honorary secretary of the Trinidad Field Naturalists' Club, Port-of-Spain, British West Indies; to Mr. O. Bangs, Mico, Brevard County, Fla.; to Mr. R. S. Matthews, U. S. National Museum, for collecting in West Virginia; to Prof. P. H. Rolfs, Florida Agricultural College, Lake City, Fla.; to Lieut. Wirt Robinson, steamship *Venezuela*, Brooklyn, N. Y., and to Mr. William Palmer, U. S. National Museum, for use during a collecting trip in Florida.

DEVELOPMENT AND ARRANGEMENT OF THE EXHIBITION SERIES.

The changes in the exhibition halls of the Museum have not been very extensive during the year. Most of the alterations were made with a view to exhibiting to better advantage the collections previously

installed, or for the purpose of making room for small, though in some cases important, collections or individual objects recently acquired.

The collection illustrating the religions of eastern Asia (Brahmanism, Buddhism, and Shintoism) was installed and labels prepared for many of the objects. The collection of Assyrian seals and other small casts is now installed in four Kensington cases, and a number of objects relating to the Greco-Roman religion have also been placed upon exhibition. The casts of reliefs from Constantinople have been hung on the walls of the east hall, next to the rotunda. The collections of oriental antiquities and religious ceremonials now occupy two alcoves in the east hall and two in the west hall of the Museum building.

That portion of the historical collection which is on exhibition is in good condition, but there is still considerable work to be done in the way of labeling the specimens. Several pieces of apparatus used by Professor Henry in connection with his researches in electro-magnetism, which have for many years been in the custody of the Smithsonian Institution, were placed upon exhibition in the Museum during this year, together with other pieces of apparatus deposited by Miss Mary A. Henry. A special case is devoted to this apparatus. A rearrangement of the specimens in the boat hall is contemplated. On account of the limited space available for exhibition purposes, the collections illustrating the various stages in the development of the sewing machine and the typewriter have been placed in storage.

The exhibition series of the department of paleontology in the southeast court has been rearranged, and the court again opened to the public. The former crowded condition of the room has been relieved, to some extent, by the removal of a portion of the slope-top cases. Thirty-two of these cases still remain, and in these is installed the collection of invertebrate fossils. The fossil plants and vertebrates are arranged in the wall cases. A few additional vertebrate fossils have been placed upon exhibition during the year, and a number of large casts secured to the walls or placed upon the tops of the wall cases. The collection of fossil insects occupies one flat-top case, and the large slabs of tracks have been placed upon screens in the corners of the hall.

The systematic collection of rocks has been entirely rearranged and the labels of the building-stone collection renewed. Over 200 photographs were mounted and placed upon exhibition in the department of geology. Owing to lack of space, the permanent increase in the exhibition series in this department has been small. Better specimens are, however, being constantly substituted for less desirable ones. The mineral collection is being supplied as rapidly as possible with individual and group labels. The cases have been numbered and an "arrangement label" has been prepared and put up, showing the scheme of arrangement of the collections. An educational series is in course of preparation.

The exhibition hall of the department of mammals has been entirely

rearranged and rendered more attractive. In carrying out the new arrangement the position of all of the movable cases was changed. The appearance of that portion of the collection installed in the wall cases is seriously diminished by the fact that the mounted specimens are so close together that the light is obstructed, and in many cases little more than the heads and shoulders of the specimens can be seen. The Audubon lithographic pictures of mammals, recently purchased by the Museum have been hung in the office of the curator, temporarily. The series of interlocked antlers has been transferred to the department of comparative anatomy to be incorporated in the osteological collection. Labels have been made for the porpoises arranged on top of the wall cases in the south hall. In the department of birds the exhibition series is in good condition. A limited number of badly mounted specimens have been remounted, and other specimens not suitable for exhibition have been replaced by better ones. Several months were spent in renovating the entire mounted collection, each specimen being subjected to a process of cleaning, which, it is believed, will result in a material improvement in the appearance of the collection. A few specimens have been added to the exhibition series in the department of comparative anatomy during the year, and the entire exhibit is in good condition. The exhibition space in this department has been increased to a limited extent by placing cases between the piers above the wall cases. In the department of fishes the condition of the exhibition series remains the same as last year. In the department of marine invertebrates five old-fashioned flat ebony cases have been replaced by mahogany cases, and the location of some of the other cases has been changed. The collection of tree snails from the Philippine Islands has been placed upon exhibition in the department of mollusks.

The exhibition series in the department of ethnology is embraced in two groups—the material actually on exhibition and the exhibition series returned from the World's Columbian Exposition. Owing to lack of room, the latter has been temporarily placed in storage. The work of setting up in the northwest court a special exhibit illustrating the ethnology of the Pueblos of New Mexico and Arizona has been carried on during the year. The change referred to last year in the arrangement of the exhibition hall of the department of prehistoric anthropology has been completed. All of the objects, contained in fifty-two cases, have been rearranged geographically by States and foreign countries. Twelve cases, containing objects made by or belonging to prehistoric man, have also been rearranged. In the wall cases on the north and west sides of the hall the objects from Mexico, the West Indies, and Central and South America have been installed. The Pacific Coast objects have been segregated and installed in a case by themselves, and the mummies are now exhibited in the wall case on the south side of the hall. Two additional shelves have been provided in

each alcove case, and about 900 specimens of mound pottery placed thereon. Large cases of pottery from Peru, Brazil, and the Arkansas mounds have been placed in the foyer of the hall. A case containing a group of Indian figures, and representing a quarry workshop, has also been installed. A large number of paintings, drawings, lithographs, and photographs of prehistoric objects have been hung on the walls of the hall; also a map showing the linguistic stocks of North America, and a chronological map showing the distribution of aboriginal mound districts in the United States. Many additional labels have been provided for the specimens in the cases.

LABELS.

During the year there were printed 1,870 forms of labels, including 171,544 copies. Of this number 242 forms, representing 82,568 labels, were printed at the Museum. There were also printed on the Museum press 57,466 envelopes, copies of blanks, etc., representing 28 forms, and at the Government Printing Office 558,100 copies, representing 29 forms.

LIBRARY.

The accessions to the library during the past year have exceeded those of any previous year since its organization. Dr. Cyrus Adler, librarian, states that there were received by gift, purchase, and exchange 1,035 volumes, 2,255 parts of volumes, and 3,311 pamphlets, making a total of 6,601. This is an increase of more than 2,200 over the receipts for the year ending June 30, 1894. A complete list of the accessions by gift and exchange is printed in Appendix III. There were retained for the use of the Museum from the accessions to the library of the Smithsonian Institution 133 books, 619 pamphlets, and 7,451 parts of periodicals. About 1,600 books were bound during the year, two-thirds of this number belonging to the Museum and the remainder to the Smithsonian deposit.

The number of books borrowed was 6,110. A large number of books in the custody of the sectional libraries, which would have been recalled earlier but for the overcrowded condition of the library, have now been gathered in. This makes the number of books returned exceed by about 3,000 the number of books lent during the year.

Extensive additions have been made to the series of publications of museums, of State agricultural colleges and experiment stations, scientific publications of the United States Government, and publications relating to early travel in North America. For the purpose of accommodating these publications, and to relieve to some extent the crowded condition of the library, a set of bookshelves has been constructed at the west end of the lecture hall.

The librarian states that the Museum is under obligations to the Library of Congress for the same hearty cooperation which has been manifested in the past.

The library has been freely consulted by members of the Museum staff, by officials connected with several of the other scientific bureaus of the Government, by members of the various scientific societies of Washington, and by other specialists not connected with the Museum.

A large amount of time has been devoted to a new classification of the books and pamphlets. This work was nearly completed at the close of the fiscal year, notwithstanding the large increase of work in matters of routine. The transfer of the catalogue to cards of the standard library form was commenced in the early part of the year. Up to the present time about 4,500 cards belonging to this catalogue have been filled out.

There are now 21 sectional libraries. These are designated as follows:

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| 1. Administration. | 12. Marine invertebrates. |
| 2. Birds. | 13. Materia medica. |
| 3. Botany. | 14. Mesozoic fossils. |
| 4. Comparative anatomy. | 15. Mineralogy. |
| 5. Ethnology. | 16. Mollusks. |
| 6. Fishes. | 17. Oriental antiquities and religious ceremonies. |
| 7. Geology. | 18. Paleobotany. |
| 8. Helminthology. | 19. Photography. |
| 9. Historical collections. | 20. Prehistoric anthropology. |
| 10. Insects. | 21. Reptiles. |
| 11. Mammals. | |

CONTRIBUTIONS TO SCIENTIFIC LITERATURE.

A list of the papers, by officers of the Museum and other specialists, based upon Museum material, and published during the year, will be found in Appendix IV. These papers, which are 278 in number, were written by 80 different authors, 40 of whom are connected with the Museum. The following table shows the subjects to which these papers relate:

Subject.	By Museum officers.	By other investigators.	Total.
Administration	1		1
American aboriginal pottery.....	1		1
Anthropology.....	2		2
Archæology.....	4		4
Biography	3		3
Biology	9		9
Birds	35	13	48
Botany.....	8	3	11
Chemistry.....	1		1
Comparative anatomy.....	9		9
Ethnology	9		9
Fishes.....	23	1	24
Forestry	2		2
Fossils.....	17		17
Geology.....	9	1	10
Graphic arts	1		1
Historical collections	1		1
Insects.....	11	25	36

Subject.	By Museum officers.	By other investigators.	Total.
Manuals	8	1	9
Marine invertebrates	5	8	13
Materia medica	1		1
Mineralogy	4	1	5
Mollusks	23		23
Oology	2		2
Oriental antiquities	1		1
Parasites	16		16
Religious ceremonial	1		1
Reptiles and batrachians	8	3	11
Taxidermy	1		1
Transportation and engineering	1		1
Miscellaneous	5		5
Total	222	56	278

PUBLICATIONS.

The bill relating to the printing, binding, and distribution of public documents approved January 12, 1895, authorizes the printing of 10,000 copies of the Smithsonian Report (of which Part II is the volume devoted to the operations of the National Museum), 1,000 of which shall be for the use of the Senate, 2,000 for the House of Representatives, 5,000 for distribution by the Smithsonian Institution, and 2,000 for the National Museum. The quota allotted to the Museum is quite insufficient to supply even the large public and scientific libraries throughout the world, not to mention the various departmental and bureau libraries of the Government, consular officers, collaborators, and contributors to the collections in the Museum, and the numerous applications from individuals and institutions not on the mailing lists. The Smithsonian Institution has, however, kindly placed at the disposal of the Museum a portion of its allotment, thus making possible a more satisfactory distribution than could otherwise have been effected.

Requisitions for printing Volume XVII of Proceedings and Bulletin 48 have been sent to the Printing Office.

The Museum Report for 1892, constituting Part II of the Report of the Smithsonian Institution, was published during the year. The separate papers in the appendix to the Report were issued in pamphlet form before the close of the last year. The volume for 1893 is now going through the press, and its receipt from the printer at an early date is expected. The separate papers (Nos. 976-1032) in Volume XVII of Proceedings have, with one exception, been distributed. The bound volume will soon be ready for distribution. Advance sheets of a paper by M. L. Linell, describing a new species of Golden Beetle from Costa Rica, and a note on two new species of beetles of the Tenebrionid genus *Echocerus*, by F. H. Chittenden, were published, in order to secure priority of description to the authors. The papers will be reprinted as Nos. 1040 and 1041 in Volume XVIII of the Proceedings. The titles of

all papers distributed in separate form during the year will be found in Appendix v. Manuscripts of 35 papers to be included in Volume XVIII have been forwarded to the Printing Office. These include 14 papers relating to fishes, 9 relating to birds, 4 relating to mollusks, and 8 papers on other subjects.

Bulletin No. 48, "Contribution toward a Monograph of the Insects of the Lepidopterous Family Noctuidæ of Boreal North America; A Revision of the Deltoid Moths," by John B. Smith, has been published. The following additional parts of Bulletin No. 39 are now in the folding room: Part H, "Directions for collecting minerals," by Wirt Tassin; Part I, "Directions for collecting rocks and for the preparation of thin sections," by George P. Merrill; Part J, "Directions for collecting specimens and information illustrating the aboriginal uses of plants," by Frederick V. Coville; Part K, "Directions for collecting and preparing fossils," by Charles Schuchert. An extra edition of Part A, "Directions for collecting birds," by Robert Ridgway, has been printed at the expense of the Museum allotment, to supply the extraordinary demand for this pamphlet. Considerable progress has been made with Bulletin 47, "The Fishes of North and Middle America," by David Starr Jordan and Barton W. Evermann, and the volume will doubtless be ready for distribution during the next fiscal year. The manuscript for the second volume of the work is now in preparation. The bulletin will be accompanied by an atlas of plates.

The second of the series of Special Bulletins in quarto form, entitled "Oceanic Ichthyology," relating to the deep-sea and pelagic fishes of the world, by G. Brown Goode and Tarleton H. Bean, the preparation of which was noticed in the Report for last year, has been set in type, and will shortly go to press. The preparation of the third of the series of Special Bulletins, being the second volume of "Life Histories of North American Birds," by Charles E. Bendire, has rapidly progressed, and the bulletin is already partially in type. This, as well as the preceding, will also be published in the Smithsonian Contributions to Knowledge.

Four circulars have been issued by the Museum during the year, Nos. 43 to 45, requesting the transmission of publications of scientific bodies and educational establishments to the Museum library and inviting the contribution of authors' separates and reprints, and No. 46, soliciting the cooperation of students and collectors in forwarding plants found in the District of Columbia, and notes concerning them, for incorporation in a proposed revised edition of Bulletin 22, by Lester F. Ward, entitled "A Guide to the Flora of Washington and Vicinity," which appeared in 1881.

MATERIAL LENT FOR INVESTIGATION.

As in previous years, a considerable quantity of material has been sent to specialists for examination and study. Some of the more important transactions of this character are here mentioned.

A number of specimens of small mammals were transmitted to Dr. Edgar A. Mearns, U. S. A., Fort Myer, Va. A portion of this material belonged to the Mexican Boundary collection, and much of it was obtained by Dr. Mearns himself. A specimen of Florida shrew was transmitted to Mr. Frank M. Chapman, of the American Museum of Natural History, New York City, and to Mr. G. S. Miller, jr., of the Division of Ornithology and Mammalogy of the Department of Agriculture several specimens of alcoholic bats were sent, to be used in the preparation of a paper on the genus *Vespertilio*. Mr. S. N. Rhoads, of the Academy of Natural Sciences of Philadelphia, made use of specimens of the genera *Synaptomys* and *Geomys* in connection with the preparation of papers on these genera.

Seven specimens of Palm Warblers were sent to Mr. Witmer Stone, of the Academy of Natural Sciences of Philadelphia, to aid in the identification of specimens in his possession; also specimens of shore birds, for illustration in a forthcoming work by Mr. D. G. Elliot. Five specimens of *Atlapetes pileatus* and two specimens of *Parus atricapillus occidentalis* were sent to Mr. William Brewster, Cambridge, Mass., the former for use in connection with the determination of specimens in his possession and the latter for comparison. Mr. Osbert Salvin, London, England, obtained the loan of several specimens of Procellaridae, to be used in connection with the preparation of the British Museum catalogue of that family. A specimen of *Harpophynchus cinereus* was transmitted to Mr. A. W. Anthony, San Diego, Cal., for comparison with a new species discovered by him.

Specimens of alcoholic birds were sent to Mr. Hubert Lyman Clark, Pittsburg, Pa.; skulls of reptiles to Prof. E. D. Cope, of Philadelphia; viscera of various animals to Dr. C. S. Huntington, Columbia College, New York City, and the type of *Aceratherium occidentale* to Prof. H. F. Osborn, of the American Museum of Natural History, New York City, for use in connection with his studies of the extinct species of the rhinoceros in North America.

The various orders represented in the large collection of insects received from the Japanese Commission to the World's Columbian Exposition were transmitted to specialists for study and report. The parasitic Hymenoptera were sent to Mr. William H. Ashmead, of the Department of Agriculture; the Orthoptera to Prof. Lawrence Bruner, Lincoln, Nebr.; the Odonata to Mr. P. P. Calvert, of the Academy of Natural Sciences of Philadelphia; and the Lepidoptera to Dr. W. J. Holland, of Allegheny, Pa. The East African Orthoptera, collected by Messrs. Abbott and Chanler, and a few West African species, were sent to Prof. Lawrence Bruner, and a series of Odonata, collected in Kashmir by Dr. Abbott, was sent to Mr. Calvert. The Museum collection of the Dipterous family Phoridae was submitted for identification to Mr. D. W. Coquillett, of the Department of Agriculture. To Dr. William G. Dietz, of Hazelton, Pa., a select series of the Coleopterous tribe Ceutorhynchini was transmitted for use in connection

with the preparation of a monograph. In addition to the specimens mentioned above as having been sent to Dr. W. J. Holland, a collection of Lepidoptera from the Tana River region, East Africa, and a small collection from islands off the east coast of Africa were transmitted for study and report. The sawflies in the Japanese collection were sent to Mr. C. L. Marlatt, of the Department of Agriculture, for the same purpose. To Prof. Jerome McNeill, Fayetteville, Ark., certain genera of the family Acridiidae were sent for use in monographic work. A number of Noctuids were forwarded to Prof. J. B. Smith, of New Brunswick, N. J., for identification; there were also transmitted to him some microscopic slides of certain parts of the mouth of the Diptera for special study.

Material was transmitted to Dr. G. Baur, of the University of Chicago, for use in connection with the preparation of his work on the Testudinata of North America, and to Mr. John Denburg, of the California Academy of Sciences, six specimens of lizards were sent for comparison with California species.

Specimens of fishes of the genera *Notorhynchus*, *Heterodontus*, *Calorhynchus*, *Chimara*, *Polyodon*, *Scapirrhynchus*, and *Bdellostoma* were sent to Dr. Bashford Dean, of Columbia College, New York City, for study. Four specimens of *Cottus Bairdi punctulatus* were lent to Dr. C. H. Gilbert, of the Leland Stanford Junior University; also one specimen of *Icterus eurypops*.

A large collection of Plumularidae was sent to Prof. C. C. Nutting, of the State University of Iowa, for study in connection with the preparation of a monograph of the Hydroids. A large collection of sponges from the North Atlantic was sent to Mr. Lawrence M. Lambe, of the Geological Survey of Canada, to be used in connection with a special study of the sponges from the coast of the Canadian Provinces. A collection of mounted Alaskan sponges was also forwarded to Professor Lambe for identification, and a set of duplicates was transmitted to him in exchange for his services in identifying a collection transmitted in the preceding fiscal year. The Museum collection of leaches was sent to Mr. J. Percy Mooie, of the University of Pennsylvania, for monographic work. To Mr. Alexander Agassiz, Cambridge, Mass., was transmitted a small collection of Solenogasteridae, to be studied by Mr. C. A. Kofoid in connection with the material of that group collected by the *Albatross* during the cruise to the Galapagos Islands in 1891. A small collection of fresh-water sponges was sent to Prof. Edward Potts, of Philadelphia, for identification. Seven lots of crayfishes were sent to Dr. Walter Faxon, of the Museum of Comparative Zoology, Cambridge, Mass.; also three specimens of crabs. Prof. A. E. Verrill, of the Peabody Museum, New Haven, obtained the loan of five specimens of starfishes from the Atlantic coast. Two specimens of crabs were sent to Mr. Samuel J. Holmes, of the University of California.

A package of small shells from Mingusville, Mont., was sent to

Dr. V. Sterki, of New Philadelphia, Ohio, for study. A collection of Miocene corals from America and Jamaica was sent to Prof. Henry S. Gane, of Johns Hopkins University, Baltimore, who had in view the preparation of a paper on this material. A number of fossils from the Maryland Eocene formation were transmitted to Prof. W. B. Clark, of Johns Hopkins University, who desired to use them in the preparation of illustrations. Four species of land shells from the Philippine Islands were sent to Mr. H. A. Pilsbry, of Philadelphia, for study.

Material relating to games and gambling has been sent to Mr. Stewart Culin, director of the Museum of Archaeology and Paleontology of the University of Pennsylvania. A paper by Mr. Culin, entitled "Mancala, the National Game of Africa," is printed in Part II of the Report for 1894. To Mr. William Dinwiddie, of the Bureau of Ethnology, were sent a number of specimens of rude implements, also a series of pottery and pottery tools, for use in connection with an address to be delivered before the Anthropological Society of Washington on the art of pottery-making among the Papago Indians. A series of prehistoric drills and specimens of drilled stone were lent to Mr. J. D. McGuire for study.

To Prof. John M. Clarke, of Albany, N. Y., fossils were transmitted for examination. Twenty-eight specimens, including twelve species of Echinoids, were lent to Prof. W. B. Clark, of Johns Hopkins University, for use in connection with the preparation of a monograph of the fossil Echinoids of America. To Prof. J. F. Whiteaves, of the geological survey of Canada, fifty-four specimens of fossils from Manitoba and the northwest were sent for study and identification. Professor Whiteaves is at work on a monograph of the fossils of this region.

A number of herbarium specimens were transmitted to Prof. N. L. Britton, of Columbia College, New York City. Specimens of the genus *Physalis* were sent to Prof. C. E. Bessey, Lincoln, Nebr., and twenty specimens of *Astragalus* to Mr. M. E. Jones, of Salt Lake City. Prof. J. M. Coulter, of Lake Forest University, Lake Forest, Ill., obtained the loan of specimens of the Amarantaceous genera *Guilleminia*, *Alternanthera*, *Gossypianthus*, *Celosia*, *Iresine*, *Gomphrena*, *Cladotris*, *Frælichia*, *Solanum*, and *Collinsia*. A number of specimens, including twelve miscellaneous Umbelliferae, were sent for study to the director of the Royal Botanic Gardens, Kew, England, and to Dr. B. L. Robinson, Gray Herbarium, Cambridge, Mass., a number of mounted specimens were lent for study in connection with the preparation of a paper on the "Synoptical Flora of North America." Specimens of the genus *Agave* were sent to Prof. William Trelease, director of the Missouri Botanical Garden, St. Louis, and specimens of the genus *Plantago* to Prof. Stanley Coulter, Purdue University, Lafayette, Ind.

A small collection of rocks from the Bear Paw Mountain region was lent for study to Mr. Walter H. Weed, of the U.S. Geological Survey.

A number of blue prints and photographs of standard museum cases have been sent out during the year to colleges and museums desiring to adopt the styles in use in the National Museum.

WORK OF STUDENTS AND INVESTIGATORS AT THE MUSEUM.

A number of persons have availed themselves of the privilege of examining Museum material in the offices and laboratories of the curators. These include students, specialists from various parts of the country who had come to Washington for the purpose of consulting the collections, and officers of several of the scientific bureaus of the Government.

Dr. Edgar A. Mearns, U. S. A., spent considerable time in the department of mammals studying the large collection from the Mexican boundary which he had been foremost in gathering in connection with his work on the survey. Many specimens were also sent to him at Fort Myer, Va., for examination and comparison. He has in view the publication of an extensive report on the geographical distribution and relationships of the various forms inhabiting the southern border of the United States. The officers of the Division of Ornithology and Mammalogy of the Department of Agriculture have had free access to the mammal collections.

Mr. J. M. Stowell, of the Leland Stanford Junior University, visited the Museum during the summer of 1894, for the purpose of studying the methods of taxidermy employed here.

The committee on classification and nomenclature of the American Ornithologists' Union held its sessions in the office of the curator of the department of birds, and made daily use of the study series, thereby deciding numerous questions of importance in connection with the Union's "Check List of North American Birds." Mr. Charles B. Cory, of Boston, Mass., consulted the collections in connection with the identification of species of *Elainea* from San Domingo. Mr. William Brewster brought to the Museum a number of specimens of North American and Mexican birds, whose correct determination necessitated a comparison with types and other specimens in the Museum. Dr. A. K. Fisher, of the Department of Agriculture, examined specimens on various occasions, mainly in connection with his work at the Department. Maj. Charles E. Bendire, honorary curator of the department of oology in the Museum, frequently consulted the collections of birds in connection with the identification of specimens, and also to aid him in fixing the geographical range of species included in the second volume of his "Life Histories of North American Birds." Mr. Henry C. Oberholser, of the Department of Agriculture, has almost daily consulted the study series in connection with special investigations which he is conducting, and also with a view to obtaining a more detailed knowledge of the North American species and subspecies of birds. Mr. R. P. Currie has made similar use of the collections. Mr. E. E. Armstrong did considerable volunteer work in the department of birds, at the same time improving the opportunity to study the collections.

Dr. G. Baur, of the University of Chicago, who was engaged for a time

in the study of the Testudinata, and Prof. E. D. Cope, of Philadelphia, were given facilities for study in the laboratory of the department of reptiles, in connection with the preparation of his forthcoming work on "The Snakes and Lizards of North America," which will be published as a bulletin of the Museum.

Prof. C. W. Johnson, of the Wagner Free Institute of Science, Philadelphia, visited the Museum several times to consult the collection of Stratyomyidæ, and Prof. Lawrence Bruner, of Lincoln, Nebr., consulted the collections of Lepidoptera and Hymenoptera for the purpose of identifying western species. Mr. Ellison A. Smith, professor of biology at the Virginia Agricultural and Mechanical College, Blacksburg, Va., consulted the collection in connection with the identification of exotic butterflies, and Prof. J. B. Smith, of New Brunswick, N. J., visited the Museum for the purpose of examining material in connection with his monographic work on the Noctuids. Mr. C. H. Roberts and Mr. Aug. Merkel, of New York City, and Capt. Henry John Elwes, president of the Entomological Society of London, also consulted the collections in the department of insects.

During the present year, as heretofore, Dr. Theodore Gill made use of the collections of fishes in connection with his studies of families and genera. Mr. Barton W. Evermann compared specimens in the collection with material obtained by field parties of the U. S. Fish Commission.

During the summer of 1894, Prof. C. C. Nutting, of the State University of Iowa, spent several weeks in the laboratory of the department of marine invertebrates studying the large collection of Hydroids, especially the West Indian forms. Dr. R. P. Bigelow spent a few days at the Museum in revising his report on the Stomatopoda. Prof. A. E. Verrill has continued his studies at New Haven of the Fish Commission material from the Atlantic coast north of Cape Hatteras, and especially of the echinoderms.

Dr. Albert Hassall, of the Bureau of Animal Industry, Department of Agriculture, has made use of the Museum collections in connection with his studies of scientific and economic helminthology.

In the department of mollusks, Prof. William B. Clark, of Johns Hopkins University, studied the Tertiary fauna of Maryland; Mr. Charles W. Johnson, of the Wagner Free Institute of Science, Philadelphia, studied the Tertiary fauna of North Carolina, and Mr. T. Wayland Vaughan, of the U. S. Geological Survey, spent some time in the study and examination of the Eocene corals.

During the year Mr. J. D. McGuire, of Ellicott City, Md., continued his studies of the art of stone working. Mr. Stewart Culin, of the University of Pennsylvania, spent considerable time in the department of ethnology in the study of games and gambling devices, with a view to comparing them with the series in the Museum of Archaeology and Paleontology at the university. Dr. Franz Boas prosecuted an extended

study of the ethnology of the Indians of the Northwest Coast, spending a great deal of time in arranging and labeling specimens. The results of this study and of his visit to the Northwest Coast in 1895 are embodied in a paper on the "Social Organization and the Secret Societies of the Kwakiutl Indians," published in this volume. Dr. W. J. Hoffman, of the Bureau of Ethnology, was also engaged for a considerable time in the prosecution of investigations in the department of ethnology. A paper by him on "The Graphic Arts of the Eskimo" appears in Part II of this volume.

Prof. J. M. Coulter, of Lake Forest University, spent about ten days in the herbarium during February and March in the study of Mexican Umbelliferae. Dr. B. L. Robinson was occupied about a week in the study of the Ranunculaceae and neighboring families. Prof. Edward L. Greene, of Berkeley, Cal., spent several days in making critical observations of Western species. Dr. Marcus E. Jones, of Salt Lake City, determined a large collection of plants, giving about four or five months to the work. Mr. John B. Leiberger, of Hope, Idaho, was in Washington for several weeks studying the plants of eastern Oregon; and Mr. P. A. Rydberg, of Lincoln, Nebr., spent two months in the completion of a report on a collection of plants which he obtained in the Black Hills in 1892.

VISITORS.

The following statement shows the number of visitors to the Museum and Smithsonian buildings for each month during the fiscal year ending June 30, 1895:

Month.	Museum building.	Smithsonian building.
1894.		
July.....	11,914	7,630
August.....	40,938	22,710
September.....	17,954	9,942
October.....	13,931	8,332
November.....	11,542	6,570
December.....	13,617	8,214
1895.		
January.....	11,951	5,819
February.....	12,588	6,448
March.....	17,769	8,312
April.....	19,944	7,032
May.....	18,837	9,023
June.....	10,759	5,626
Total.....	201,744	105,658
Approximate daily average on a basis of 313 days in the year.....	644	338

Number of visitors to the Museum and Smithsonian buildings since the opening of the former in 1881.

Year.	Museum building.	Smithsonian building	Total to both buildings.
1881	150,000	100,000	250,000
1882	167,455	152,744	320,199
1883	202,188	104,823	307,011
1884 (half year)	97,661	45,565	143,226
1884-85 <i>a</i>	205,026	105,993	311,019
1885-86	174,225	88,960	263,185
1886-87	216,562	98,552	315,114
1887-88	249,665	102,863	352,528
1888-89 <i>a</i>	374,843	149,618	524,461
1889-90	274,324	120,894	395,218
1890-91	286,426	111,669	398,095
1891-92	269,825	114,817	384,642
1892-93 <i>a</i>	319,930	174,188	494,118
1893-94	195,748	103,910	299,658
1894-95	201,744	105,658	307,402
Total	3,385,622	1,680,254	5,065,876

a Years of Presidential inaugurations.

MATERIAL RECEIVED FOR EXAMINATION AND REPORT.

It has always been the policy of the Museum to examine, free of charge, specimens transmitted to the Museum for determination, no matter by whom or from what locality. This privilege has been appreciated, as is shown by the large number of packages arriving daily with requests for identification. In this way the special knowledge of the curators is freely placed at the disposal of anyone who chooses to seek it. Since the Museum building was opened in 1881, not less than 6,000 persons have taken advantage of this privilege, and not a day passes without receiving similar requests. In the case of geological material, qualitative determinations only can be made, as the Museum has not facilities for making extended chemical analyses for the public. Its small and insufficiently equipped laboratory is barely sufficient for the analytical work which is absolutely necessary in connection with the current operations of the geological departments.

In addition to requests under this head, numerous requests for technical information, unaccompanied by specimens for determination, are constantly received, and these two classes of requests alone necessitate a large amount of correspondence.

During the year material from all parts of the United States, as well as from British America, West Indies, Mexico, Central America, South America, several countries in Europe, and from Asia and Oceanica, was transmitted to the Museum for examination and report. It is very seldom that any of this material is desired for the collections, and experience has proved that material of a character likely to be wanted, is usually transmitted with a request for its return. When any of these

sendings are retained, their addition to the permanent collections is recorded by means of a double number, as may be seen in Appendix VI. The first number is that which is given to the material on the "examination and report" record; the latter, the number on the permanent accession record. During the year 467 lots (Nos. 2769-3235, inclusive) have been received. Reports prepared by the curators or their assistants have been forwarded to the senders.

A detailed list, arranged alphabetically by names, is given in Appendix VI.

MEETINGS OF ASSOCIATIONS IN WASHINGTON DURING THE YEAR.

The American Historical Association held its tenth annual meeting in Washington on December 26-28, 1894. The lecture hall of the Museum was used for the morning sessions.¹

On January 3, 1895, the National Science Club held a meeting in the lecture hall.¹

The regular April meeting of the National Academy of Sciences was, as usual, held in the Museum building. The lecture hall was used for the public meetings and one of the offices for the business meetings. The titles of the papers entered to be read at this meeting are given in Appendix VII.

On February 25, 1888, a joint commission of the Anthropological, Biological, Chemical, Geographic, and Philosophical societies was formed, the Entomological and Geological societies being admitted a short time afterwards. The necessity for more complete cooperation among these societies had been manifest for some time, and many of the prominent members used their influence to bring about such a result. It was felt that one feature of the work, especially, could be carried on to greater advantage—that of providing for suitable courses of popular lectures. Accordingly, on January 25, 1895, the following constitution was drafted, and afterwards adopted by the several societies:

I. The joint commission shall be composed of the officers and administrative boards of the several component societies.

II. The commission shall have power (*a*) to provide for meetings of the societies; (*b*) to conduct courses of popular lectures; (*c*) to prepare a joint directory of the members of the societies; (*d*) to distribute to all members of the societies periodic advance notices of the meetings of the several societies; (*e*) to act in the interest of the component societies at the instance of any of them.

III. The expense thus incurred shall be borne by the several societies in the ratio of their membership.

The joint commission was organized on February 20 with Mr. Gardiner G. Hubbard as president and Dr. G. Brown Goode as vice-president.

Although the Saturday lectures at the Museum for the season of

¹ A list of the papers submitted is printed in Appendix VII.

1895, were more directly under the auspices of the Anthropological and Geological societies, future courses will doubtless embrace the work of other sections as well. The subjects of the lectures for this year will be found in Appendix VII.

The following table indicates the number and dates of Saturday lectures since 1882:

Year.	Date of first and last lecture.	No. of lectures.
1882.....	March 11, April 29	8
1883.....	January 13, March 31	12
1884.....	January 5, April 26.....	17
1885.....	February 7, May 2.....	12
1886.....	March 6, May 8.....	10
1887.....	March 12, May 7.....	12
1888.....	February 18, May 5.....	12
1889.....	March 9, May 11.....	10
1890.....	February 1, April 3.....	10
1891.....	.....
1892.....	.....
1893.....	March 25, May 13.....	8
1894.....	February 17, May 26.....	15
1895.....	February 23, April 27.....	10
Total.....	.....	135

COTTON STATES AND INTERNATIONAL EXPOSITION AT ATLANTA, GA.

By the act of Congress, approved August 8, 1894, provision was made for a Government exhibit at the Cotton States and International Exposition to be held at Atlanta from September 18 to December 31, 1895. The sum of \$150,000 was appropriated, with the addition of \$50,000 for the erection of a building. Dr. Charles W. Dabney, jr., was made chairman of the Government board of management. The sum of \$22,000 was allotted to the Smithsonian Institution and the National Museum, of which \$16,500 is available for the preparation of exhibits. At the close of the fiscal year this work was well under way, exhibits being in course of preparation in the following departments: Mammals, birds, marine invertebrates, comparative anatomy, reptiles, fishes, mollusks, insects, paleontology, minerals, geology, botany, ethnology, and pre-historic anthropology. The technological collections were also represented, as well as the sections of materia medica, oriental antiquities and religious ceremonials.

An extended account of the participation of the Smithsonian Institution in this Exposition, including a description of the exhibits to be prepared by the National Museum, will be published in the Report of the Institution for the fiscal year ending June 30, 1896. Not only the Museum, but all the other dependencies of the Institution, will prepare exhibits, viz, the Bureau of American Ethnology, the Bureau of International Exchanges, the National Zoological Park, and the Astro-

physical Observatory. The exhibit being prepared by the Bureau of Ethnology will include a number of life-size models of Papago and Seri Indians, together with a series of weapons, household utensils, and articles of personal adornment used by these tribes. A collection of similar articles used by the Cherokees will also be shown. The Bureau of International Exchanges will send one of the fifty sets of Government documents which are annually transmitted by the Bureau to institutions abroad, and will exhibit a map showing the geographical distribution of the correspondents of the Institution. The Zoological Park will be represented by a series of views of various objects of interest within its borders, and the Astrophysical Observatory will send a number of photographs of the special apparatus employed in connection with the investigations which are being conducted in that establishment. The Institution proper will exhibit, among other things, a complete set of its publications, comprising about two hundred volumes.

III.—REVIEW OF WORK IN THE SCIENTIFIC DEPARTMENTS.

The statements which appear under this heading are for the most part gathered from the annual reports of the curators. Commencing with the year 1893, these have been submitted in the form of answers to a series of questions. This form of report has, after much consideration, been adopted, for the present at any rate, as preferable to the former plan, the chief objection to which was that the information supplied in the reports did not always present a complete and homogeneous statement of the work accomplished. This made it difficult to comprehend at a glance how much work had been accomplished in any special direction, and often resulted in the introduction of a large amount of material into the volume which did not have a direct bearing on the work of the curator as custodian of a collection, and, therefore, although perfectly admissible in an extended essay, with the work of the department as its basis, was not, at times, altogether within the scope of an administrative document.

In reviewing the work of the scientific departments in the Museum during the year which ended on June 30, 1895, the fact must be remembered that considerable time and labor have been necessarily expended in the preparation of exhibits for the Atlanta Exposition, which opens on September 18. Exhibits for this occasion are being prepared by every department in the Museum, and a statement of what has been done in this direction by each department will be presented in the report for 1896, that being the fiscal year in which the Exposition is to be held. An account of these exhibits, it may be added, is now being prepared in the form of a pamphlet, to be distributed at Atlanta during the continuance of the Exposition.

Experience has proved that the regular work of the Museum always suffers to a very considerable extent during the years when expositions in which the Museum is directed to participate, are held. Nor can it be otherwise, since the features which it is especially desirable to emphasize in special exhibits of this kind are not, as a rule, such as would ordinarily be made conspicuous in the natural development of the Museum exhibition series. Again, it is noticeable that in exposition years the number of papers published by the curators, as the result of their studies of the collections under their care, is much smaller than in other years. This is readily accounted for by the fact that the

time which would otherwise be given to study is consumed in the special work of the exposition, and unfortunately the outcome of this work does not as a rule redound to the full benefit of the Museum after the exposition is over. This subject has been already dwelt upon in previous reports, and while the Museum is always ready to make every effort to provide a creditable display at expositions, it can not be said that, taking everything into consideration, the Museum is much the gainer. It is true that special appropriations are generally made to enable the Museum to participate, but these are so inadequate that not only is the result usually unsatisfactory to the Museum authorities, but also the specimens purchased are not always such as can be assimilated with the permanent Museum exhibits after their return to Washington.

Notwithstanding these obstacles, very excellent headway has been made in strictly Museum work in many of the departments, as will be seen in the following account of what has been accomplished.

DEPARTMENT OF MAMMALS.

By far the most important collection received during the year was that sent in by Dr. W. L. Abbott, who has collected during the year in Eastern Turkestan, on the border of the Pamir, and in Kashmir. He presented a collection of 107 specimens, including several fine specimens of Himalayan ibex, Polo's sheep, Asiatic gazelle, stag, etc., together with good series of marmots, pikas, mice, and other small forms. Mr. William Astor Chanler presented the type of Chanler's Reed Buck (*Cervicapra Chanleri*). From Mr. H. C. Moore were received 40 mammals from South Africa, including several antelopes. This collection will serve an excellent purpose in filling existing vacancies in the exhibition series. A collection of West African species, though mostly in the form of pelts, was received from Mr. J. H. Camp. It included two specimens of the very rare Golden Mole (*Chrysochloris leucorhina*).

The collection has received numerous additions from the National Zoological Park, in accordance with the general understanding that animals dying in confinement shall be turned over to the National Museum, the skins and skulls coming to this department and the skeletons being transferred to the department of comparative anatomy. Several interesting animals, obtained by the Fish Commission, were also added to the collection. From the Government exhibits of Costa Rica, Ceylon, Korea, and Johore at the World's Columbian Exposition, specimens of mammals were acquired at the close of the Exposition, although they were not recorded on the catalogue of the department until during the fiscal year covered by this report. The number of individuals contributing material to this department during the year was 56. The collections of Dr. Edgar A. Mearns, made during his connection with the Mexican Boundary Commission, included 708 specimens of mammals. This gift contained material of much scientific value, the specimens having been prepared and labeled with the greatest care.

The fact that his collections represented the results of continuous exploration along a line of several hundreds of miles, also adds considerably to their value.

The rearrangement of the exhibition series of mammals during the year occupied the attention of the curator, Mr. F. W. True, for several weeks. He thus describes the details incident to this work:

In the fall of 1894 a complete rearrangement of the cases in the exhibition hall was effected, agreeably with instructions from the Assistant Secretary. The position of all the movable cases was changed, with the object of making a better balanced arrangement and one more attractive, also to break up the continuous vista previously maintained in the center of the hall. It was found necessary thereafter to raise the large cast of a humpback whale, which was done. The series of interlocked antlers was transferred to the osteological hall. Several groups for which no place could be found were packed and stored. Large labels were made for the series of porpoise casts arranged on top of the wall cases. The Audubon lithographic pictures of mammals which were purchased and framed by the Museum some time ago, were hung in the office of the curator until a more suitable place could be found for them. The cetacean molds were all overhauled and a detailed list made of them for reference. The taxidermists mounted eight skins, but on account of being called upon for other work nothing was completed. A large amount of work was done upon the alcoholic study series in the way of cataloguing, arranging, rebottling, etc. The Mearns collection was gone over, a concordance of collector's and Museum numbers made, and other necessary work performed. All new accessions were catalogued and put in cases. A large number of skins from the taxidermists' vats were labeled and put in their proper places.

The work of the taxidermist is referred to more in detail elsewhere.

The present condition of the collections, so far as the preservation of the material contained in them is concerned, is better than at any previous time, as is shown in the following extract from Mr. True's report:

The exhibition series is in good condition, but the space and cases in which to exhibit it are entirely inadequate. This applies especially to the large mammals. The wall cases are so full that only the heads and necks of the deer, antelope, etc., can be seen. The floor cases are so much crowded that light is obstructed, and the attractiveness of the collection is much diminished. There are numerous antelopes, deer, seals, etc., in the taxidermists' vats, which, when mounted, can be exhibited only with much difficulty and under unfavorable conditions.

As regards the study series, more storage cases are needed for the large skins. The alcoholics will need a great deal more labor spent upon them.

As pointed out last year, the large skulls of horned mammals are in need of better installation. A plan was submitted for that purpose, but was not acted upon. The great series of small skulls, as stated last year, is in a very unsatisfactory condition as regards installation. Some 1,500 boxes were purchased for these skulls during the year, but it was not possible to get the skulls transferred into them.

The card catalogue of skins and alcoholics needs revision. This is an important matter, but can not be taken up and brought to a finish in the midst of constant interruption. An incomplete catalogue of this kind is of practically no value.

Besides the necessary administrative work accomplished in connection with the care of the incoming material and the installation of the specimens most suitable for exhibition, Mr. True has made special studies in certain directions. These have resulted in the preparation of a

paper on the occurrence of armadillos of the genus *Xenurus* in Central America. He has nearly completed a comprehensive paper on the "Antlers of the Deer Family." This will be published as one of the accompanying papers in the next Report. Work has also been continued on a monograph of the American moles, in connection with which the preparation of a series of osteological drawings was found necessary. Mr. True has published four papers during the year—two in "Science" and two in the "Proceedings of the National Museum." The titles are given in the Bibliography (Appendix IV). A new species was described in the paper on the "Rodents of the genus *Sminthus* in Kashmir," under the name of *Sminthus flavus*.

In May, 1895, Mr. True was temporarily attached to the staff of the U. S. Fish Commission, at the request of the Acting Commissioner, for the purpose of making a special study of the seal rookeries.

Owing to the limited appropriations made by Congress for the maintenance of the Museum, very little can be done in the way of explorations under the direct auspices of the Museum. Assistance was rendered to Dr. Mearns in his work connected with the survey of the Mexican Boundary, by supplying him with collecting material. An expedition to Lake Okeechobee, Florida, by Mr. Ridgway and Mr. William Palmer, resulted in obtaining a small number of mammals, chiefly forms not well represented in the collections. It is most fortunate for the Museum that the friendly and valuable assistance of Dr. W. L. Abbott, which has been so often manifested in his generous gifts, has been continued this year. As already stated, a very important accession has recently been received from him as the result of his explorations in Turkestan and Kashmir. The expedition of Mr. William Astor Chanler and Lieutenant von Höhnel in the Tana River region, East Africa, has yielded an important contribution to the Museum collection of mammals. Reference should also be made to the collections of Mr. J. D. Figgins in Maryland, and of Mr. J. H. Camp in the Congo region, West Africa. The thanks of the Museum are further due to Mr. Charles H. Townsend, naturalist of the Fish Commission, for his zeal in obtaining specimens for the Museum while engaged in collecting work under the auspices of the United States Fish Commission.

In accordance with established usage, the Museum has lent its material freely to scientific investigators for study. In this connection may be mentioned several transmissions of specimens from this department to Dr. J. A. Allen and Mr. F. M. Chapman, of the American Museum of Natural History, New York; Dr. Harrison Allen, of Philadelphia; Dr. Edgar A. Mearns, for use in his studies of the Mexican Boundary collection; Mr. S. N. Rhoads, of the Philadelphia Academy of Natural Sciences, and Mr. G. S. Miller, jr., of the Department of Agriculture. Opportunity to study the collection of mammals in the Museum building has also been extended to Dr. Mearns and to the members of the staff in the division of economic ornithology and mammalogy in the Department of Agriculture.

In addition to those already mentioned as having made direct contributions to the collections, the Museum in general, and this department in particular, has benefited greatly through the friendly cooperation of Maj. Timothy E. Wilcox, U. S. A., Fort Huachuca, Ariz., who has sent in many interesting specimens from time to time from the vicinity of his post; to Dr. Sheldon Jackson, of the Bureau of Education, who transmitted a skin of Spermophile, and to Prof. F. A. Ward, Rochester, N. Y., Prof. William Trelease, of the Missouri Botanical Garden, St. Louis, and Dr. P. L. Sclater, London, England. The curator states that many of the officers and employees of the Museum have interested themselves in obtaining specimens for the collection, no less than eighteen different persons having rendered such assistance during the year.

Regarding the plans which the curator has in mind for improving the collection of mammals, he writes:

What the Museum now needs more than anything else, in my opinion, is a better representation of exotic mammals. Of about 410 genera usually recognized, we possess representatives of only 240, leaving 170 genera entirely unrepresented. Furthermore, many of the genera now in the collection are represented only by a single imperfect skin, or a single skeleton. (Of skulls I have taken no notice.) On very many occasions, in order to become acquainted with the character of a genus or species, I have been compelled to extract the skull (often imperfect) from the single specimen in the collection.

The study of mammals has greatly increased of late, and the investigations are taking a wider range than ever before. In this work the need of specimens of foreign groups is strongly felt, as it is recognized that work upon American material alone is liable to lead to one-sided results. There is no full collection of foreign mammals in America, and at present our students must limit their researches, or go abroad to study. In my opinion, the national collection should endeavor to fill this need.

The number of specimens added to the collection during the year was 1,484. In the catalogue of skins, skulls, and alcoholics 1,872 entries were made, the last entry in June, 1894, having been 60,607, and in June, 1895, 62,479. Skeletons are considered as anatomical specimens, and are entered in the catalogue of the department of comparative anatomy. In the volume in which are entered the specimens belonging to the deposit of the Department of Agriculture 6,402 entries have been made, the last entry in June, 1894, having been 65,818, and in June, 1895, 72,220.

DEPARTMENT OF BIRDS.

The curator, Mr. Robert Ridgway, reports the number of accessions as somewhat in advance of those received in 1894, while the number of entries in the catalogue has been more than 1,100 in excess of that year. The scientific value of the accessions of this year is also reported as greater than of those received in 1894. The curator mentions the names of thirty establishments and individuals from whom important additions to the collections have been received. The list is headed with

the name of Mr. A. Boucard, Isle of Wight, England, who presented 1,666 specimens. These represent a large number of families. Dr. W. L. Abbott, whose name occurs in connection with accessions in several of the departments, contributed 258 specimens from Kashmir, Ladak, and Turkestan. Six accessions, including species obtained in Arizona, California, and Lower California, were transmitted by Dr. Edgar A. Mearns, U. S. A., and Mr. F. X. Holzner, in connection with their work on the Mexican Boundary Survey. In addition, Dr. Mearns also contributed 310 specimens, representing 106 species, from Fort Clark and Fort Hancock, Tex. The curator obtained 152 specimens from Florida, Maryland, and Illinois, and Mr. R. S. Matthews, of the National Museum, presented 159 specimens of birds from the United States, Mexico, and Central America. Mr. Charles W. Richmond, assistant curator of this department, presented 115 specimens from Virginia, Mexico, Borneo, and other localities. Mr. William Palmer, chief taxidermist of the Museum, presented 8 specimens of Hooded Warbler from Virginia, and also collected 36 specimens from Florida. In addition to collections received from individuals, mention should be made of the contribution of 21 specimens from Alaska by the U. S. Fish Commission, and of 41 specimens from South America, acquired from the La Plata Museum, La Plata, Argentina, in exchange.

A series of specimens has been selected with considerable care for a special exhibit of a popular character. This has been installed on the first floor of the south tower. In this series it is intended to include every species likely to be asked for by the casual visitor, or by anyone making an elementary study of ornithology. It is thought that it will be of especial interest to the pupils of the public schools. The exhibit consists of the following series: The more familiar European birds; the more familiar North American birds; remarkable birds of other parts of the world; a series illustrating and explaining the confusion of popular names, examples of protective coloring, protective mimicry, etc., "Giants and Pygmies," or the largest and smallest members of certain groups; a series of eggs, showing a gradual transition in size from the egg of the extinct *Epiornis* to that of the smallest humming bird; albinos and other abnormal color varieties and malformations, and a series of flightless birds, together with those of extraordinary powers of flight, for comparison. A catalogue will probably be printed, which, by means of reference numbers and letters, corresponding to the numbering on the shelves and cases, will enable the visitor to locate any specimen without difficulty. In addition, a label will be provided for each specimen. It is also proposed to place in the alcove a reading table and a case containing a few selected works by well-known writers on ornithology.

Valuable assistance in the preparation of this exhibit has been received from Mrs. Olive Thorne Miller, of Brooklyn, N. Y.

The following paragraphs from the curator's report will serve to show

what progress has been made in caring for the collections, and also the present condition of the exhibition and study series:

The collections have been thoroughly inspected at proper intervals, and fumigated with bisulphide of carbon to destroy any insects which might be present. No insects have been found, however, and, except in the exhibition cases, few of which are sufficiently tight to prevent the ingress of insects or to allow of effective fumigation, and in the old Salvin cases in the west basement, there is little danger to be apprehended in this direction.

Some changes have been made in the mounted collection, as follows: A limited number of badly mounted specimens have been remounted, and other specimens too dilapidated for exhibition have been replaced by better ones. The taxidermist has been engaged for several months past in renovating the entire mounted collection, subjecting each specimen to a process of cleaning, which, it is hoped, will result in a material improvement in this part of the collection.

A volunteer assistant, Mr. E. E. Armstrong, spent over two months in the department of birds, in this time lining with sheet cotton the trays (about 850 in number) contained in the 54 quarter-unit cases in the bird gallery, resulting in a great improvement to this part of the study series.

The condition of the exhibition series is very good, and improvements and renovations are being made as time permits. The condition of the study series is excellent, as far as that portion of the collection accommodated in the bird gallery is concerned. The large birds, stored in the west basement, are in course of rearrangement (and have been for several years), this having been proceeded with until the cases of the new model provided for the purpose became exhausted. The work has since been continued on sporadically to accommodate temporarily the increase in the collections.

The work of Mr. Henry Marshall, taxidermist, is referred to more in the chapter relating to the work of the Museum preparators.

The curator has completed an elaborate treatise on the Galapagoan avifauna, and the paper has been submitted for publication. It consists of some 650 pages of manuscript, accompanied by outline maps illustrating the range of all the species known to inhabit the archipelago, and two plates of outline figures illustrating generic and specific characters. The text includes observations on the origin of the Galapagoan avifauna and other matters. It will doubtless prove to be a work of great value, and is, in the words of the curator, "in some respects the most important work that the author has written."

The avifauna of the island satellites of Madagascar, from the Comoro group to the Mascarenes, has been somewhat similarly worked up, though in less detail. The paper embodying the results of this work is based primarily on Dr. Abbott's collections from Aldabra, Assumption, Gloriosa, and the Seychelle Islands, but is not quite finished. Progress has also been made on a comprehensive treatise on the birds of North and Middle America. This is a work of great magnitude and importance, and will constitute a valuable addition to the ornithological literature of the Museum.

The gallery in the Smithsonian building, used by the department of birds for office purposes, is in many ways unsuited to work requiring close application. There being no room in either building available for the use of the curator, he has found it necessary to do a large part of

his literary work at home. In view of the difficulties encountered, he is entitled to great credit for the work which he has been able to accomplish in addition to the routine duties of the department.

The explorations of Dr. W. L. Abbott in Kashmir, Ladak, and Turkestan, have, as already intimated, redounded in a large degree to the benefit of this department. The collecting work accomplished by Dr. Edgar A. Mearns and Mr. F. X. Holzner, of the Mexican Boundary Survey, by Mr. Ridgway in Maryland and Florida, and by Mr. William Palmer in Florida, has resulted in the acquisition of many interesting specimens.

Several ornithologists have used material belonging to the department in connection with their special studies. In some instances the material was transmitted to their homes, while in others it was studied in the gallery of the department. The curator gives the names of thirty persons through whose cooperation the collections have been enriched during the year.

It is gratifying to remark that the material in this department has served as a basis for 26 papers published during the year by the curator, Mr. C. W. Richmond, the assistant curator, and several collaborators of the Museum. These are all included in the Bibliography (Appendix IV).

The total number of specimens received during the year was 5,499.

The entries in the catalogue books aggregate 5,499, as follows:

Regular catalogues.....	}	133219-135700
		119801-150721
Department of Agriculture catalogue.....		135701-136130
Boucard collection catalogue.....		115101-146766

DEPARTMENT OF BIRDS' EGGS.

Maj. Charles Bendire, honorary curator, reports that 2,023 eggs and nests were added to the collection during the year. Their value is proportionately as great as that of the accessions in the previous year, although far less in number. Several new species and subspecies were included. Nearly all the accessions to this collection were given to the Museum, and the records contain the names of 30 donors who have thus rendered assistance. Only four specimens were acquired by purchase.

The most important contributions were made, as in several previous years, by Dr. William M. Ralph, of Utica, N. Y., whose generosity has elicited the warmest gratitude of the Museum authorities. His contributions this year consisted of 346 sets, including 1,224 eggs (representing 159 species), and 50 nests. This accession contains many rare and valuable specimens, besides adding nine species and subspecies to the collection. Among other contributors of valuable accessions were Dr. W. L. Abbott, of Philadelphia, Pa., who forwarded 38 specimens, representing 11 species; and Mr. Chase Littlejohn, Redwood City, Cal., who presented 20 specimens, representing three species. Collections

were also received from the U. S. Fish Commission and the Department of Agriculture.

This collection, including both the exhibition and study series, is in excellent condition, every accession being carefully catalogued, labeled, and disposed of as soon as it is received.

The curator has devoted most of his time, when not engaged in work on the accessions, to the preparation of the second volume of "Life Histories of North American Birds," which is now in the hands of the printer.

The last catalogue entry made in June, 1894, was 27088 and in June, 1895, 27655.

DEPARTMENT OF REPTILES AND BATRACHIANS.

The material added to the collections during recent years has been of special value from a scientific standpoint, and the past year has been no exception. The number of specimens received in 1895 shows a slight increase over the records of previous years. Nearly 1,100 specimens were added to the collection, the largest number heretofore received in any one year being 1,055. This was the total for the year ending June 30, 1892, when the material from the Death Valley Expedition was received. By far the most important collection was that sent in by Dr. Edgar A. Mearns, U. S. A., of the International Boundary Commission, which was found upon examination to contain a number of new species. Dr. A. K. Fisher, of the Department of Agriculture, made collections in the vicinity of the Mexican boundary, and material of considerable value was received from him during the year. A small but interesting collection of reptiles from the Jombenó Range, East Africa, was received from Mr. William Astor Chanler. Several valuable collections were transmitted by the U. S. Fish Commission, including material obtained by Messrs. Evermann and Hirsch from the Maunee Basin, and by Mr. C. H. Townsend from the Galapagos Islands. Dr. William L. Abbott presented material from Turkestan, and Prof. John Macoun, of Ottawa, sent a collection of Garter snakes from Canada. A specimen of *Amblyostoma annulatum*, of which only one example had previously been taken, was purchased from Messrs. H. H. and C. S. Brimley, of Raleigh, N. C. A few specimens of rare New Mexican snakes were also purchased.

In addition to those whose names have already been mentioned, reference should be made to the contributions of Prof. T. D. A. Cockerell, of Las Cruces, N. Mex., who transmitted a number of specimens of reptiles; Mr. Hubert Brown, of Tucson, Ariz., who sent in several specimens of lizards; Mr. Henry G. Hubbard, of Washington, D. C., who collected specimens of *Rana asopus* in Florida; Mr. H. Candlin, of Kerrville, Tex., who sent specimens of snakes from that region, and Dr. O. Boettger, Frankfort-on-the-Main, Germany, who transmitted in

exchange two specimens of Chinese lizards, desired for purposes of comparison.

During the fall of 1894 the curator made a trip to the Bad Lands of South Dakota, where he obtained a number of interesting specimens. Mr. William Palmer, of the National Museum, also made collections during his visit to Florida, in the spring of 1895.

Experiments have been made with formalin as a preservative, with a view to using it as a substitute for alcohol, but, while it has been found to possess advantages over the latter for use in the field, it is doubtful whether it will ever take the place of alcohol in the preservation of permanent museum collections.

During the year the entire collection was overhauled, and the alcohol renewed. The exotic species in the study series have been rearranged. Owing to lack of space, no attempt has been made to increase the exhibition series.

As mentioned elsewhere in this report, material has been lent to specialists for study on several occasions during the year, and to Prof. E. D. Cope, of Philadelphia, were given special facilities for study in the laboratory of the department.

Dr. Stejneger has commenced the preparation of reports upon the reptiles of the Mexican Boundary, and upon the collections made by Dr. Fisher in the Huachuca Mountains. He has also continued work on his proposed manual of Japanese Herpetology. Several papers based upon Museum material have been published by the curator during the year, two of them containing descriptions of new species. All of the papers are referred to in the Bibliography (Appendix IV).

The last entry in the catalogue for the fiscal year covered by this report was 22,482, the last entry for the preceding year having been 21,388, a total of 1,094 entries.

DEPARTMENT OF FISHES.

Dr. Tarleton H. Bean still remains honorary curator of this department, although since his change of residence to New York Mr. Barton A. Bean, assistant curator, has practically performed the duties of curator. In his report he states that, although the accessions of the year were not so numerous or important as in 1894, much valuable material has been received. The most important accessions were a collection of fishes made at Mazatlan by Dr. David S. Jordan and others, and presented by the Leland Stanford Junior University; a collection of fishes made at the Azores by Prof. William Trelease, director of the Missouri Botanical Garden, St. Louis; a series of deep-water fishes from the Indian Museum, Calcutta, collected by H. M. S. *Investigator* in the Bay of Bengal. The U. S. Fish Commission transferred to the Museum types of fourteen new species of fishes collected in Texas, Tennessee, Missouri, Iowa, and Lake Ontario; also collections of fishes from Texas, Tennessee, Kentucky, and the Columbia River

Basin. In all, upward of 6,000 specimens were added to the collection during the year.

Old and recent collections of Japanese and Chinese fishes, not installed with the general collections, as well as collections made by the *Albatross* and from other sources, in the West Indies and around the coasts of Florida, have been given a temporary place in the basement storage rooms. Duplicates from the deep sea collections have been provided with metal tags and numbered, the species being separated in jars systematically arranged. Several large collections have been catalogued, including some resulting from the dredgings of the *Albatross* in the Pacific Ocean, and received during the previous year. Perhaps the most important work has been the selection and arrangement of the deep-sea material with a view to the preparation of the duplicates into sets for distribution to educational establishments. By this process of elimination the study series is now in a much more satisfactory condition. This series has also been improved by the accession of new and well-preserved material, including a number of types of new and rare forms.

No special change has been effected in the exhibition series, which consists of five cases of casts of fishes, exhibited in the west hall of the Smithsonian building, and a large number of casts placed on the tops of cases containing corals, besides two cases of alcoholic specimens preserved in rectangular jars.

Mr. Bean has prepared a list of the European fishes in the collections, and a list of the types of fishes preserved in the collections is now receiving his attention. Dr. Theodore Gill has examined a number of European fishes. Work upon the deep-sea fishes has been continued by the Assistant Secretary and Dr. Bean, in connection with the preparation of Special Bulletin No. 2, "Oceanic Ichthyology." The assistant curator and Mr. B. W. Evermann, of the U. S. Fish Commission, have in preparation a bibliographical list of the fishes recorded from the fresh waters of North America north of the United States.

Accessions of fishes resulted from the work of field parties of the Department of Agriculture in the Death Valley and in Mexico, the United States and Mexican Boundary Survey in California, and the explorations of Messrs. Seovell and Woolman in Mexico in 1891. In addition, collections were made in Lake Ontario and the St. Lawrence River during July and August, 1894; also in Lake Champlain and in various streams of northeastern New York, by Messrs. Evermann, B. A. Bean, and others, under the auspices of the U. S. Fish Commission. These will be added to the Museum collections after examination.

Material from this department has been lent to several specialists to aid them in their researches, and four collaborators of the Museum have studied the collections in the building.

Twelve papers, based wholly or in part on the collections, have been published during the year. The authors were Dr. G. Brown Goode,

Dr. T. H. Bean, Mr. Barton A. Bean, Mr. Charles H. Beeson, Mr. Carl H. Eigenmann, and Dr. Theodore Gill. Two new families, 11 new genera, and 9 new species were described in these papers.

Upward of 6,000 specimens were received during the year. The last catalogue entry in June, 1894, was 45451, and in June, 1895, 47504.

DEPARTMENT OF MOLLUSKS (INCLUDING CENOZOIC FOSSILS).

The year 1894-95 has undoubtedly been one of the foremost in the accomplishment of work in this department. During the absence of the curator, Dr. William H. Dall, in Alaska, Mr. Charles T. Simpson, assistant, assumed charge of the work. Dr. R. E. C. Stearns, who has labored so faithfully for many years in this department, still serves in an honorary capacity as associate curator, although he has left Washington to reside in Los Angeles, California.

The number of accessions received during the year was 111, the same as in 1894. They are, for the most part, smaller in extent, although some of them are reported by Dr. Dall as being quite valuable. The most important contributions, as in many previous years, were made by Rev. Dr. L. T. Chamberlain, to whom the warmest thanks of the Museum are due for so many valuable additions to the collections. Among his gifts to the Museum this year was a specimen of *Pleurotomaria beyrichi*, Hilg., from Japan. Series of land, fresh-water, and marine shells from the Philippine Islands were secured from Hamline University, through Prof. H. L. Osborn, in return for naming the large collection belonging to the university. In a similar way series of Anodontas and Unios from Canada and British America were obtained from the Geological Survey of Canada, through Prof. J. F. Whiteaves. This material is extremely valuable in furnishing evidence of geographical distribution, on account of the accurate record of the localities from which it was derived. Dr. H. von Ihering also transmitted Unionidæ and other fresh-water shells from Central and South America, in return for aid in naming his material. Mr. W. W. Herman presented several species of Japanese marine shells, in return for similar services. Mr. W. B. K. Johnson contributed land and fresh-water shells from the Isle of Pines, Cuba. The Young Naturalists' Society, of Seattle, Wash., gave a series of *Terebratulina transversa* and other shells from Puget Sound. The California Academy of Sciences, through Dr. J. G. Cooper, gave a collection of Lower Californian land shells, in return for identifications made for the Academy. An extensive lot of land shells and other material was collected and transmitted by Dr. Edgar A. Mearns, U. S. A., in connection with his work on the Mexican Boundary Survey. From the Museum of Natural History in Paris, France, has been received, in exchange, a set of brachiopods obtained by the *Travailleur* at great depths in the eastern Atlantic Ocean. The numerous accessions received from Miss Ida M. Shepard and Mr. T. S. Oldroyd, in connection with their investigations of the fauna of San Pedro Bay, California, are

very valuable to the collection. The first installments of the mass of material which was collected by the U. S. Fish Commission and placed many years ago in the hands of Prof. A. E. Verrill, of Yale College, for study and identification, have been received. This fact is recorded with much pleasure and the acknowledgments of the Museum are due to Professor Verrill for the long and difficult task which the study of this material has imposed upon him.

The curator thus reports on the work accomplished during the year in connection with the preservation and installation of the collections:

During the year ending June 30, 1895, about 14,132 specimens, representing about 3,000 species, have been entered upon our record book for the study collection. Most of these, together with a large amount previously entered, have been regularly incorporated in the study series, the general index has been further added to and corrected, and lists of the species and genera for ready reference have been written and placed in each tray of the working collection. The entire general collection of Naiads has been carefully examined and compared with the Lea collection and literature and accurately named. They have been arranged in a natural system, in groups. At the present time Mr. Simpson is making out cards showing their distribution.

A considerable part of the fine general marine collection presented by the Rev. Dr. L. T. Chamberlain has been administered upon, a part of this being added to the general collection and the remainder being placed among the duplicates.

An extensive collection of alcoholic and dry material which was collected by the U. S. Fish Commission off the coast of New England has recently been received from Prof. A. E. Verrill, who has held the same for study and naming. The alcoholics have been carefully examined and the alcohol made of preservative strength. The dry specimens are now being labeled by Miss Beard preparatory to being incorporated in the study and duplicate series. During the year the shells of the family Maetridæ have been carefully named and arranged by Dr. Dall in connection with his study of the group. The tree snails of the Philippine Islands have been brought together, arranged essentially according to Pilsbry's "Manual of Conchology," and placed on exhibition.

The present condition of the exhibition and study series, both of recent and Tertiary mollusks, is indicated by the curator in the following words:

The general marine collection occupies the drawers of the cases running along the middle of the main hall; the collection from the west coast of North and South America and the general collection of land and fresh-water shells are in the southeastern gallery; the Jeffreys collection and the collections from the West Indies and east coast of North America are in the curator's offices in the north tower; the Lea collection of Naiads is exhibited in the table cases in the eastern half of the main hall; the tree snails from the Philippine Islands are exhibited in two table cases in the western half of the main hall; the duplicates are stored in the basement; the alcoholic collection occupies the basement room, part of the northeastern gallery, and two rooms in the north tower; the collection of Tertiary fossils is in the northeastern gallery.

Dr. Dall has partially completed his studies of the genus *Cerion*, naming three new subgenera, founded on internal lamellæ, and has finished his study and arrangement of the family Maetridæ, and the classification of the Pelecypoda. The results have been published in the Proceedings of the National Museum and elsewhere. He has also continued his work on the Floridian Tertiary fauna.

Mr. Charles T. Simpson has completed his investigations of the land snails of the West Indies, and has carried on through the year his studies of the Naiads of the Lea and general collections, resulting in a paper soon to appear in the Proceedings of the National Museum on the classification and geographical distribution of these forms.

The collection has been enriched during the year by the results of the explorations of Prof. Alexander Agassiz on the yacht *Wild Duck*, among the Bahamas. The Museum was presented with a series in return for the services of Dr. Dall in working up the collections.

Explorations of the mollusk fauna of San Pedro Bay, California, have been carried on systematically by a group of conchologists, especially Miss Ida Shepard and Mr. T. S. Oldroyd, for some years. The doubtful forms have been worked out at the Museum, and a series of them, including many varieties, has been donated by the collectors. Explorations by the California Academy of Sciences in the Lower California Peninsula have resulted in collecting some fine and rare land shells, of which a series has been donated to the Museum by the academy.

Assistance has been extended to several conchologists by the loan of material from the collections for study in connection with special investigations. To three specialists have been accorded facilities for studying the collections of this department in the curator's laboratory. A list of these transactions will be found in another part of the Report.

The curator has determined a large amount of material, including 1,701 species forwarded for examination and report by seventy students and institutions. He has also carried on an extensive correspondence in the way of supplying technical information in reply to special inquiries from conchological students in all parts of the world.

The curator has published sixteen papers during the year, almost all of which have a direct bearing on the work of this department. Dr. R. E. C. Stearns published two papers in the "Nautilus." Five papers based on material belonging to the department were published by Mr. Simpson—four in the "Nautilus" and one in the Proceedings of the National Museum.

In connection with the entry in the catalogue of material belonging to this department, several volumes are used for convenience, and the total number of entries in these books indicates the entire number made during the year.

Catalogue entries for the fiscal year ending June 30, 1895.

Volume.	First entry.	Last entry.	Increase.
XXIII.....	107070	107329	260
XXIV.....	115766	116125	360
XXVII.....	128276	130100	1,825
XXVIII.....	130101	130942	842
Total.....			3,287

DEPARTMENT OF INSECTS.

The report of the honorary curator, Prof. C. V. Riley, shows an increase in the number of accessions, there being 173 in 1895 against 163 in the preceding year. The most important gifts in 1895 were as follows: A collection of Odonata from Chinese Turkestan, presented by Dr. William L. Abbott, whose generosity to the Museum has been so frequently manifested in his gifts to this and other departments both in this and in previous years; a collection of Lepidoptera from Guiana, presented by the British Guiana Commission to the World's Columbian Exposition; a large collection of Lepidoptera from Jombéné Range, East Africa, presented by Mr. William Astor Chanler and Lieutenant von Höhnel; a collection of Japanese insects representing 1,500 species of all orders from the Imperial University, Tokyo, Japan; types of 35 species of Noctuids from Prof. J. B. Smith, New Brunswick, N. J. Other valuable collections were acquired by exchange.

The biologic material of Coleoptera, including a large collection of European larvæ, obtained in past years by exchange with Schiödte and Meynert in Copenhagen, as well as by Professor Riley's own collectings and breedings, has been arranged in systematic order in two cabinets. A large part of the year was devoted to the study and proper arrangement of the exotic Coleoptera. This work was undertaken primarily to facilitate report upon the Japanese collection and the material obtained in East Africa by Dr. W. L. Abbott, Mr. William Astor Chanler, and Lieutenant von Höhnel.

The urgent demand for space in other directions rendered it necessary to temporarily withdraw from exhibition the series illustrating systematic entomology. The study series are reported to be in good condition. A large amount of material, especially in the orders Hymenoptera and Coleoptera, remains unidentified, owing to pressure of work in other orders.

During the year the curator commenced a comprehensive study of the Termites of the world. The assistant, Mr. M. L. Linell, began a study of the Coleopterous fauna of the Galapagos Islands and its relation to the continent.

In ten instances material from this department was placed in the hands of specialists for study and identification. Eight entomologists have taken advantage of facilities offered to study material in the curator's offices.

The curator, his collaborators, and other specialists in entomology have published during the year 31 papers based upon the Museum collections. These are mentioned by titles under the names of the authors, in the Bibliography (Appendix IV). Twelve new genera and 329 new species are described in these papers. This remarkably large number was due to the descriptions by Mr. W. H. Ashmead of new genera and species from St. Vincent, forwarded by the West India

committee for identification. Under this arrangement with Mr. Ashmead one set of types has been deposited in the U. S. National Museum.

The number of specimens received during the year is about 3,000. This does not include the Japanese collection of about 10,000 specimens, which was received during the previous year, but not taken up on the accession records until the year 1894-95. The last entry in the catalogue in June, 1894, was 1423, and in June, 1895, 1584.

DEPARTMENT OF MARINE INVERTEBRATES.

An important feature of work in this department has been the distribution of duplicate collections of marine invertebrates. Forty-two sets have been disposed of in response to applications from educational establishments. Reference to these and all other distributions made during the year will be found in Appendix x. In only four of the other departments of the Museum—minerals, geology, fishes, and prehistoric anthropology—has any systematic work in separating the duplicates for this purpose been possible. From this department, in addition, twenty-one special collections were also sent out for Museum purposes and for study. The work of preparing these collections has devolved upon the assistant curators, Mr. James E. Benedict and Miss Mary J. Rathbun. The honorary curator, Mr. Richard Rathbun, has been able to devote only a very limited amount of time to Museum matters, being almost exclusively engaged in the work of the Fish Commission, to which he is officially attached.

There was an increase of eleven accessions over the number received in the preceding year, and the scientific value of the accessions for this year far exceeded that of those acquired in the preceding year. The total number of specimens added to the collections in 1895 was 2,378. The United States Fish Commission was the principal contributor, and from it were received four collections, comprising a large and valuable series of Holothurians and Foraminifera, resulting from the cruise of the *Albatross* to the Galapagos Islands in 1891, types of *Calamocrinus diomedea* Agassiz, and Brachyura and Anomura from the North Pacific Ocean, the latter group containing a fine series of *Lithodida*. A collection of crustaceans and worms from the Azores was contributed by Prof. William Trelease, director of the Missouri Botanical Garden, St. Louis, as a part of the result of his expedition. Dr. Edgar A. Mearns, U. S. A., transmitted an interesting series of invertebrates from near San Diego, Cal. This, and numerous other collections received from Dr. Mearns, was the result of an arrangement made between the War Department and the Smithsonian Institution in connection with the work of determining the boundary line between the United States and Mexico. Mr. Warren W. Herman contributed crustaceans, echinoderms, and hydractinians from Japan. Mr. Harlan I. Smith, of Saginaw, Mich., sent crayfishes, sponges, and bryozoans

from rivers in Michigan. He also transmitted some Oniscida. Important accessions were secured in exchange from the Indian Museum, Calcutta; Manchester Museum, Manchester, England; University of California, Berkeley, Cal.; State University of Iowa; Leland Stanford Junior University; Glen Island Museum, Glen Island, New York; Canterbury Museum, Christchurch, New Zealand; Museum of Comparative Zoology, Cambridge, Mass., and from several individuals.

The room at the west end of the Smithsonian building, known as the "Chapel," is at present used as the exhibition hall for objects belonging to this department. The space being so limited, it is necessary to use great care in selecting from the mass of material the most suitable specimens for exhibition. The result is as pleasing as is possible under the circumstances, and much has been done during the year to maintain and increase the interest of visitors. The work accomplished in the preservation and installation of the collections, including not only the limited number of objects which are on exhibition, but also the much larger portions of the collections which form the reserve and study series, will be best understood from the following paragraphs taken from the annual report submitted by Mr. Benedict:

The exhibition series does not differ essentially from its condition a year ago. Five old-fashioned flat ebony cases in the west hall have been replaced by mahogany ones. The systematic series has been removed from the center to the north end of the hall, and two of the table cases from near the center to the alcove. Labels for the collection of mounted commercial sponges have been prepared for the printer.

The basement room formerly used by the department of reptiles was early in the year assigned to this department, and with the aid of the additional storage thus afforded it was proposed to make a more systematic arrangement of the alcoholics stored in the basement. But later this room was transferred to another department, and the contents were moved to a small and dark tower room leading from the gallery used as a workroom.

The collection of annelids has been rearranged in a drawer stack in the gallery. The collections stored in homeopathic vials in the gallery have been gone over, and alcohol and new stoppers added where necessary. The large collection of Alaskan sponges recently returned by Mr. Lambe has been entered in the catalogue and duplicates selected. In the winter it became necessary to overhaul thirty of the duplicate sets put up a year before, as many of the tin cases were rusted. These were renewed or the specimens transferred to jars.

By far the most important work in the way of adding to the study series was the return of vast collections of material received from the United States Fish Commission between the years 1871 and 1887, and stored at the Peabody Museum, New Haven, Conn., in charge of Prof. A. E. Verrill, pending a report upon the same. In order that the return of the specimens might be facilitated, Mr. Benedict spent about three months of the past year in New Haven, assisting in sorting and packing under the direction of Professor Verrill, the first set of duplicates being set aside for Professor Verrill, and the remaining duplicates and the reserve set being returned to the National Museum. Much of the unidentified material has been treated as if named, a division being made and one set returned to the National Museum. The unnamed sponges were catalogued before their return, and occupy nearly 100 numbers in the catalogue book. Miss K. J. Bush has been employed throughout the year in dividing the Mollusca into three sets, the third set being for Mr. Sanderson I. Smith. After the arrival of the material in Washington, an

invoice is made and the mollusks are turned over to the department of mollusks. During the year 1894-95, 68 cases of invertebrates have been shipped, containing about 7,500 lots of specimens. A beginning has been made in card-cataloguing the specimens received from this source.

In connection with the preparation of an exhibit for the Atlanta Exposition, it is proposed to make a series of mountings of dried specimens, especially deep-sea corals, echinoderms, etc. These will later form a part of the permanent exhibit of the department.

Notwithstanding the necessarily great expenditure of time in the routine work, Mr. Benedict has continued his studies of Anomura, especially of the large forms of the family Lithodidae, resulting in a paper, describing many new genera and species, which has recently been published in the Proceedings of the National Museum. He has also devoted such time as he could spare to the study of the Paguridae.

Miss Rathbun completed her study of the genus *Callinectes*, and a report upon the same is now in press, as is also a paper containing descriptions of new species of fresh-water crabs. Work on the general subject of American brachyurans has been continued. Miss Rathbun spent about two weeks at the Museum of Comparative Zoology, making comparisons of specimens, and in examining Prof. A. Edwards's types of West Indian crabs.

Besides the large collections obtained from the dredgings of the U. S. Fish Commission steamer *Albatross* off the west coast of Mexico, Central and South America, and off the Galapagos Islands under the charge of Mr. Alexander Agassiz, and from other explorations made by the *Albatross*, several other explorations in this previous years have resulted in the acquisition of valuable material such, for instance, as the deep-sea dredgings in the Indian Ocean by Her Majesty's Indian marine survey steamer *Investigator*, which brought to the Museum a valuable collection of crustaceans and corals; the natural history work of the Mexican Boundary Commission, through the efforts of Dr. Edgar A. Mearns, U. S. A., and the dredgings made by Mr. William E. Hoyle, chiefly in the Firth of Clyde, which were deposited in the Manchester Museum, whence an interesting collection was transmitted to the National Museum in exchange. The Museum was the recipient of important collections obtained through explorations under the auspices of the Leland Stanford Junior University and the University of California, along the coast of California. The collecting expedition of Mr. L. M. McCormick, curator of the Glen Island Museum, Glen Island, New York, in the vicinity of Aden, Arabia, also yielded some very interesting material, a part of which was secured in exchange.

Assistance has been extended to several specialists by the loan of material belonging to this department. The Museum is under many obligations to Mr. Lawrence M. Lambe, of the Geological Survey of Canada, for his generous aid in the study and determination of a large collection of sponges from the North Atlantic Ocean, and of a smaller collection of mounted Alaskan sponges. Prof. Edward Potts,

Philadelphia, Pa., and Dr. Walter Faxon, of the Museum of Comparative Zoology, Cambridge, Mass., have also identified collections, for which courtesies the Museum extends its most grateful acknowledgments. The facilities of the laboratory of this department have, as usual, been placed at the disposal of specialists desiring to avail themselves of the privilege.

The titles of eleven papers by Mr. Benedict, Miss Rathbun, Dr. Walter Faxon, Mr. Lawrence M. Lambe, and others, based wholly or in part on Museum material, were published during the year. Five of these appeared in the Proceedings of the National Museum. They are all mentioned by title in the Bibliography (Appendix IV). Thirteen new genera, 69 new species, and one new subspecies are described in these papers. Their names will be found in the supplements to the Bibliography (Appendix IV).

The number of entries made in the catalogues of the department during the year was 1,803. These were assigned to the several books, as follows:

	Last entry in 1894.	Last entry in 1895.	Increase.
Crustaceans	18411	18811	400
Worms	4970	4971	1
Bryozoans and Ascidians	2887	2888	1
Echinoderms and Coelenterates	17908	18149	241
Sponges and Protozoans	6326	7486	1,160
Total			1,803

HELMINTHOLOGICAL COLLECTION.

For several years material suitable for such a collection has been slowly accumulating, but no attempt has been made until recently to provide for its systematic preservation and classification. In this work the Museum now enjoys the cooperation of Dr. C. W. Stiles, of the Bureau of Animal Industry in the Department of Agriculture, who received a formal appointment on March 17, 1894. It is a source of much gratification that Dr. Stiles has found it possible to assume the duties of custodian of this collection, and the Museum recognizes with pleasure the addition of another friendly bond between the scientific staff of the Department of Agriculture and that of the Museum.

Under date of January 9, 1894, Dr. Stiles wrote as follows regarding the formation of a section of helminthology:

In order to collect and preserve the types of American species of parasites, and in order to obtain a collection of the typical specimens of parasites of this and other countries, I think it would be extremely desirable if the U. S. National Museum would establish a department of medical zoology or helminthology. As I know that you would favor such a step, I would respectfully submit the following proposition, in case the Museum does not see its way clear or does not think it possible to appoint a full curator to take charge of this subject:

I will tender my services as curator without pay, or as honorary curator of helminthology or of medical zoology, and will agree to deposit my private collection

in the Museum, under such terms as we shall agree upon, as a nucleus of the collection, in case you can give me a room in which the specimens may be kept, and the necessary apparatus (bottles, etc.) to take care of material which may be sent in.

On January 13 I addressed the following reply to Dr. Stiles:

I need not say that I shall be very glad indeed to have you attached to the Museum staff in an honorary capacity. I do not think we wish to establish a section of medical zoology, but a section of helminthology, in connection with one of the zoological curatorships, would be very desirable.

This letter was followed, on March 17, by a formal letter of appointment from the Secretary of the Smithsonian Institution.

By an arrangement already completed, the collection will be enriched by the transfer of the collections made by the Bureau of Animal Industry and by Dr. Stiles personally. The collections of Dr. Hassall and Dr. Leidy will also be temporarily turned over to the Museum. By exchanges with museums in Berlin and Vienna, as well as with various specialists, much important material will, it is expected, be obtained. An invitation has already been extended to all workers in helminthology to deposit types or typical specimens in the Museum. Several colleges have been supplied with parasitic material for study, from the reserve series, and it is hoped that by pursuing a generous policy in this direction the Museum will ultimately be the recipient of much desirable material.

The greater part of the collection at present consists of material which has been obtained by Dr. Salmon, chief of the Bureau of Animal Industry, Department of Agriculture, Dr. Stiles, and Dr. Albert Hassall, who is also on the official staff of the Bureau. Dr. Salmon has deposited a number of types of species which have been described in the publications of that Bureau. Dr. Hassall has presented several cotypes of species described by Cobbold. Through Dr. Stiles's offices a collection of types of species described by Dr. Leidy and belonging to the University of Pennsylvania has been secured as a loan. In addition, Professor Stossich, of Trieste, Austria, has transmitted a number of parasites, and Dr. A. Looss, of Leipzig, Germany, has forwarded, in exchange, a collection of parasites from Egypt. Dr. H. B. Ward, of Lincoln, Nebr., has added a number of cotypes to the collection, and from Prof. R. Ramsay Wright, Toronto, Canada, and Mr. Robert Mills, Chuluota, Fla., very acceptable material has been received. Prof. A. Dugès, of Guanajuato, Mexico, transmitted some specimens for determination.

No attempt has yet been made to form an exhibition series. The material obtained by Dr. Stiles is retained in the Bureau of Animal Industry until it has been studied, after which it is formally deposited, according to law, in the National Museum.

The Bureau of Animal Industry has partly for its object the investigation of diseases of animals. The members of its staff are therefore constantly placed in a peculiarly favorable position for obtaining

parasitic material. The Bureau has published a large number of valuable papers based on its investigations, and new studies in scientific and economic helminthology are being constantly commenced. Thus, Dr. Stiles, who has just completed his "Revision of the Adult Leporine Cestodes," is now engaged in a study of the cestodes of birds.

The titles of papers published during the year by Dr. Stiles and Dr. Hassall, based upon material in the collections, are given in the Bibliography (Appendix IV).

At the end of June, 1895, 106 entries had been made in the catalogue.

DEPARTMENT OF COMPARATIVE ANATOMY.

The curator of this department, Mr. F. A. Lucas, reports that about 250 specimens have been added to the collection during the year. The accession of greatest value is the skeleton of the type of *Cervicapra Chanleri*. This was collected by Mr. William Astor Chanler in the Tana River region, East Africa, and was presented by him to the National Museum. Some desirable birds in alcohol have been received from Dr. Edgar A. Mearns, resulting from his participation in the work of the Mexican Boundary Commission.

Under the direction of Mr. Lucas the work of cleaning skulls of mammals and skeletons and sterna of birds has been continued. During the year 850 skulls have been thus treated for the department of mammals alone. These are entered in the catalogue of the mammal department, and therefore the total number of entries in the catalogue of this department is correspondingly diminished.

Mr. Lucas has continued his studies on the anatomy of the swifts and the tyrant fly catchers, on the taxonomic values of the tendinal perforations of the tarsus in birds, and on the modifications and taxonomic value of the tongues of birds. He has also commenced a study of the osteology of *Zeuglodon cetoides* and of the cranial characters of the finches and tanagers.

Specimens of birds in alcohol have been lent to Mr. Hubert Lyman Clark and to Mr. W. P. Pyecraft in connection with their studies of the embryology and pterylography of birds, and other material belonging to the department has been transmitted for investigation and comparison to Prof. E. D. Cope, Dr. C. S. Huntington, and Prof. H. F. Osborn.

Several papers by the author, based on Museum material, have been published in the Proceedings of the National Museum, the "Ibis," the "Auk," and in "Natural Science."

The chief drawback to satisfactory progress in this department, as in many of the other departments, is lack of space. Mr. Lucas has, however, several plans for future work laid out, and these are best given in his own words:

Little can be done for the improvement of the study series, owing to lack of room, but there are many specimens, especially among the birds, which need to be transferred to proper boxes and labeled, and this will be done as fast as opportunity offers, while such specimens as can be cleaned will be added to the study series.

The collection of fish skeletons is in bad shape owing to cramped quarters; but little or nothing can be done with it, although it is hoped that a little room may be made available by placing material now in the study series on exhibition in the cases recently placed above the wall case.

Much can be done to improve the exhibition series by providing more descriptive labels, and there are some gaps in the series of skeletons, especially among the fishes and reptiles, that it is hoped may be filled. There are various series of specimens which may be either introduced or added to, among them that commenced during the year showing the modifications of the dermis and epidermis. A very important series which it is hoped may be commenced soon is that showing the morphology of the bones of the mammalian ear and hyoid. Another important piece of work which has merely been begun is the representation of extinct forms in the series of skeletons. It is desirable that this should be done in order that the relations of existing animals may be properly understood, and it is proposed to introduce in their proper places typical fossils or casts of fossils, supplemented by figures of the entire skeleton, these to be accompanied by suitable explanatory labels giving the anatomical characters, affinities, and geological range of the various orders or other groups. It is also desirable to extend the tooth series, the series of domesticated animals, and above all the synoptic series of invertebrates.

In this connection the curator would call attention to the fact that the care of the fossil vertebrates takes much of his time, and that the time of the one preparator and one skilled laborer allotted to the department of comparative anatomy is very largely occupied with work for the departments of mammals and paleontology.

The first and last entries in the various catalogues of the department are shown in the following table:

	Last entry June 30, 1894.	Last entry June 30, 1895.	Increase.
Mammals.....	49381	49419	38
Birds.....	19287	19393	106
Reptiles and batrachians.....	29362	29382	20
Fishes.....	26176	26185	9
Total.....			173

DEPARTMENT OF PALEONTOLOGY.

It has for many years been felt desirable to centralize all the paleontological collections under one general administration, but not until the present fiscal year has it been found possible to effect the necessary arrangements. Hon. C. D. Walcott, Director of the U. S. Geological Survey, has accepted the honorary charge of all the paleontological collections, with Mr. Charles Schuchert as assistant curator. The several divisions of the department which have heretofore existed still remain, with one exception, under the charge of the same officers who have hitherto controlled them. The principal object gained by the change is that all paleontological material, as soon as it arrives at the Museum, is assigned to the main department, thus securing a better system of record than formerly, and thence it is assigned to the special division or divisions of the department to which it belongs. It will now also be possible to bring the work incident to the installation of all the paleontological material under one uniform system, and at the same time to

relieve several of the custodians of the necessity of attending to the details of this work.

The personnel of this department now includes Hon. C. D. Walcott as honorary curator, with Mr. Charles Schuchert as assistant curator. The vertebrate fossils are still under the charge of Prof. O. C. Marsh, although the actual work on these collections has been performed by Mr. F. A. Lucas. The invertebrate fossils are divided among Mr. Schuchert, Mr. T. W. Stanton, and Dr. W. H. Dall, while the fossil plants remain under the general supervision of Prof. Lester F. Ward, with Mr. F. H. Knowlton and Mr. David White as custodians of the Mesozoic and Paleozoic collections, respectively.

Dr. Charles A. White, who for many years has personally had the entire charge of the Mesozoic collection of invertebrate fossils, is now largely relieved of this work by Mr. Stanton. Dr. White has been designated "Associate in Paleontology." The Museum owes a large debt of gratitude to him for his efficient work on the Mesozoic collection of invertebrate fossils, and it is a source of congratulation that the advantages of his advice and honorary connection with the Museum are to be continued.

The increase in and the scientific value of the paleontological collections received during the year are regarded as very gratifying, especially in the case of the vertebrate fossils. This collection, under the curatorship of Prof. O. C. Marsh, of Yale College, has been increased by the addition of about 65 specimens. Among the more important of these is a large collection of bones of *Zenaglon* gathered in Mississippi and Alabama by Mr. Charles Schuchert. Thirty vertebrae of *Zenaglon* were also obtained, in exchange, from the Agricultural and Mechanical College, Agricultural College, Miss. In addition, Mr. Schuchert collected a large number of specimens of Middle Devonian corals from Moreland, Ky. A skull of bison from the Kansas gravels was presented by Dr. A. G. Chase, and a skull of *Porthenus molossus* by Mr. E. E. Howell. Casts of a number of fossils have been obtained by exchanges with the Museum of Natural History in Paris, the La Plata Museum, and with Mr. Henry A. Ward, of Rochester, N. Y. A cast of a skeleton of *Pelargosaurus typus* was acquired by an exchange with the University of Caen, France, and an excellent specimen of *Ichthyosaurus* from Lyme Regis, England, was received in exchange from the Wagner Free Institute, Philadelphia, Pa.

A small series of fossils has been placed on exhibition, and a number of large casts placed on the walls or on the tops of the wall cases. From the collection of bones of *Zenaglon* a restoration, more than 50 feet in length, has been made for exhibition at the Atlanta Exposition. This will be added to the exhibition series after its return to Washington. The many casts of vertebrates in foreign museums received during the year are of great value for comparative and decorative purposes. Although the exhibit of this section of the paleontological department is but small, it has already attracted much attention, and

the casts and fossil bones of large vertebrates are a constant source of wonder and interest to visitors. A loan of the type of *Aceratherium occidentale* was made to Prof. H. F. Osborn for use in his studies of the extinct species of rhinoceros in North America. A large number of specimens received previously have been catalogued only during this year. These, together with the entry of material received in 1894-95, make a total of 283 entries in the catalogue, the last number taken up in June, 1894, being 1635, and in June, 1895, 1918.

One of the most important accessions to the department of paleontology, from the standpoint of scientific value, is the collection of Tertiary insects from Colorado and Wyoming, received from the U. S. Geological Survey. The greater part of it has already been described and illustrated by Prof. Samuel H. Scudder in Monograph XXI of the Survey.

The magnificent collection of fossil plants, including also some fossil fishes, presented by Mr. R. D. Lacey, of Pittston, Pa., has been referred to in previous reports. The removal of the collection to Washington was placed in the hands of Mr. David White, who has pushed the work rapidly forward with untiring and intelligent perseverance. The sixth installment has been received during the year. This consisted of two boxes of fishes from New Jersey, three boxes of Cretaceous and Tertiary plants, and 43 boxes of Paleozoic plants.

It is expected that additional material will be received during the coming year, and in the Report for 1895-96 a more extended reference will be made to the character and contents of this exceedingly valuable collection.

Much has been accomplished toward housing and arranging the material. During the year 104 boxes have been unpacked, and with the specimens received in former years this collection fills the 600 drawers purchased for the collection, to which the two south tower rooms are devoted. The arrangement and installation of the material has been performed by Mr. David White.

A large collection of Middle Cambrian fossils from British Columbia, fossil plants from Rhode Island and Massachusetts, and fossil fishes, plants, and insects from the Triassic in Massachusetts, have been received from the U. S. Geological Survey. Mr. R. A. Blair, Sedalia, Mo., has presented 60 specimens of Lower Carboniferous fossils, including several specimens of a well-preserved graptolite (*Dictyonema*). Their occurrence extends the known range of these coelenterates into the base of the Lower Carboniferous. This is a matter of considerable scientific importance, as graptolites had not hitherto been known to occur above the Middle Devonian.

The exhibit of the paleontological material is contained, so far as at present prepared, in the southeast court, which has been again opened to the public. A new and more appropriate entrance to the court was cut through the south wall, and the eastern one closed. The former

crowded condition of the court was relieved by removing the plants and vertebrates from the slope-top cases to the wall cases, allowing eight slope-top cases to be discarded. Thirty-two of these cases remain for the exhibition of invertebrate fossils. The plants and vertebrates are being arranged in the wall cases, with the four corners of the room occupied by large slabs of tracks, standing on screens. All the fossil insects in the department have been assembled and appropriately mounted with figures on tiles. This collection is now on exhibition in a flat-top case.

Considerable time has been expended in caring for the paleozoic collections of the Geological Survey, 20 boxes having been unpacked and the specimens washed and provisionally assorted.

Work on the paleozoic plants will be pushed to completion by Mr. David White, on his return to Washington. The exhibits of the mesozoic and cenozoic plants are nearing completion, and the manuscript for the labels is nearly ready for the printer. Three additional cases are required by Professor Ward, which, with the 7 already assigned, will permit of 5 being devoted to the Lacoe collection of paleozoic plants and the other 5 to mesozoic and cenozoic plants. If sufficient cases can be provided, it will no doubt be possible to install an exhibit of vertebrate fossils, under the supervision of Mr. Lucas, which will prove very attractive and instructive.

The invertebrate fossils exhibited and stored in the 32 slope-top cases will require much labor in connection with the selecting, mounting, and working up of nearly 400 boxes now in storage. Much of this material in storage is the property of the Geological Survey, but is all at the disposal of the Museum as soon as an opportunity occurs to work it up.

The study series practically remains in the same condition as formerly. This collection also requires much work to remove the duplicate material and to clean and enter upon the Museum registers all material desirable for the permanent collections.

Mr. Schuchert has continued his studies of fossil Brachiopoda, and it is hoped that a paper resulting from this work, to be entitled "Synopsis of North and South American Fossil Brachiopoda, including Bibliography and Synonymy" will soon be ready for publication. The special studies of Dr. Dall are referred to under the head of the department of mollusks.

Material in the custody of this department has been lent for study to Prof. John M. Clarke, Albany, N. Y.; to Prof. William B. Clark, Johns Hopkins University, and to Prof. J. F. Whiteaves, of the Geological Survey of Canada. Fossils have been sent to Mr. E. O. Ulrich, of Newport, Ky., and to Prof. John M. Clarke for identification, and the Museum is under obligations to these gentlemen for their courtesy in this connection.

Although there is a great quantity of most interesting material for study and description on hand in all of the various collections of this

department, there has been afforded very little opportunity for the preparation of papers for publication during the year, on account of the large amount of preliminary work necessary in the way of arrangement and classification. Mr. Knowlton has, however, published five papers relating to paleobotany, and in them one new genus and seven new species are described.

The number of specimens received during the year, so far as they can be counted, is upward of 6,642, not including the Lacoë collection of 44 boxes, and the collection of bones of *Zenglodon*.

The last entries in the several catalogues of the department for the fiscal years 1893-94 and 1894-95 are as follows:

	1893-94.	1894-95.	Number of entries.
Paleozoic fossils	24665	25598	933
Mesozoic fossils.....	23009	23016	7
Cenozoic fossils.....	1159	1269	110
Fossil plants.....	3767	4227	469
Total.....			1,510

DEPARTMENT OF PLANTS (NATIONAL HERBARIUM).

The most important matter affecting this department was the formal transfer of the Herbarium from the Department of Agriculture to the National Museum building. This was the result of correspondence between the Assistant Secretary of Agriculture and the Acting Secretary of the Smithsonian Institution. Copies of the letters are here presented. The history of the growth of the Herbarium will interest many, and a brief statement relative to the same is here given.

At the time when definite lines of policy were adopted in order to secure the expenditure of the income of the Smithsonian Institution in such a manner as most effectually to carry out the intention of the founder in his purpose of promoting the "increase and diffusion of knowledge among men," it was determined to make no appropriation of the funds to further or support any object which could be equally well accomplished by some other agency. In pursuance of this policy an arrangement was effected with the Commissioner of Agriculture to transfer the National Herbarium of the Institution to the care of the Department of Agriculture. The Herbarium then contained 15,000 to 20,000 specimens from all parts of the world, properly classified and labeled. These specimens were the result of various expeditions of the Government and of special explorations carried on under the auspices of the Institution. The collection had from the first been under the care of Dr. Gray and Dr. Torrey, who served without compensation. Upon their retirement the desirability of employing a competent botanist became obvious. On account of lack of money, however, it was not possible to make the position a salaried one, and therefore it became

necessary to seek some other means of providing for the care of the collection. The Department of Agriculture was, as already stated, asked to assume this responsibility. It consented, with the understanding that the appointment of the botanist to be placed in charge should be approved by the Secretary of the Smithsonian Institution, that the collections should be accessible to the public for practical or educational purposes, and also accessible to the Institution for scientific investigation. It was further agreed that full credit be given to the Institution in the publications of the Department for the deposit of the original specimens as well as for such additions as the Institution might make from time to time.

The following agreement was formally signed by the Commissioner of Agriculture and the Secretary of the Smithsonian Institution:

First. All the botanical specimens in the possession of the Smithsonian Institution, about 20,000, and all that may hereafter be collected by it, shall be transferred to the Agricultural Department on the following terms:

1. That a competent botanist, approved by the Institution, shall be appointed to have charge of the collection.

2. That the collection shall, at all times, be accessible to the public for educational purposes and to the Institution for scientific investigation, or for supplying any information in regard to plants that correspondents may ask for.

3. That due credit be given to the Institution in the report of the Agricultural Department for the original deposit and for such additions as may be made to it, from time to time, by the Institution.

Second. That the Agricultural Department shall transfer to the Smithsonian Institution any specimens it may now have, or may hereafter obtain, that are not necessary to illustrate agricultural economy, such as those of ethnology and of various branches of natural history, similar credit to be given in this case as required in the former.

The transfer was made in 1869, and the conditions were fulfilled. Dr. Parry was appointed botanist, and at once commenced a systematic arrangement of the Herbarium. He found the number of species to be about 15,000, included in 25,000 specimens. The most valuable portions of the Herbarium thus transmitted by the Smithsonian Institution to the Department of Agriculture were:

1. The plants collected by the exploring expedition under Admiral Wilkes (1838-1842). The botanists of this expedition were Mr. William Rich, Dr. Charles Pickering, and Mr. W. I. D. Brackenridge.

2. The collection of plants made by Mr. Charles Wright during the North Pacific Exploring Expedition, under Commanders Ringgold and Rodgers (1853-1856).

3. The plants collected by the naturalists who accompanied several surveying parties which made explorations for the route of a Pacific railroad.

4. Collections made during the survey for the Mexican boundary by Dr. C. C. Parry, Dr. J. M. Bigelow, Mr. C. Wright, Prof. George Thurber, and Mr. Arthur Schott.

5. Numerous contributions to the North American portion of the

Herbarium, also plants from British America, Japan, Manchuria, China, Sandwich Islands, Mexico, Jamaica, Cuba, Venezuela, Brazil, and Paraguay; also from Hungary, Illyria, and other parts of Europe. Collections were also received from the Imperial Academy of Science at St. Petersburg and from the Imperial Botanic Garden.

During the twenty-six years following the transfer, up to the year 1894, many large and valuable accessions have been added, a large proportion of which was received by the Department of Agriculture. The Herbarium now contains not less than 275,000 specimens.

The fact that the Herbarium was not housed in a fireproof building has been the occasion of criticism, and during the session of the Botanical Congress in Madison, Wis.,¹ this subject was discussed and the following resolutions drafted:

Whereas the National Herbarium, with all its wealth of specimens of inestimable value, is at present deposited in a building which from its construction and use is peculiarly liable to destruction by fire; and

Whereas such destruction would be an irreparable loss to the science of botany; therefore, be it

Resolved, That we, the members of the Madison Botanical Congress, hereby appeal to the Senators and Representatives of the National Congress to make early provision for a suitable fireproof building for the preservation of this scientific treasure, and we would respectfully request the Secretary of Agriculture to urge upon Congress the desirability of prompt action in this matter.

Actuated, no doubt, in part by the sense of responsibility involved, the Assistant Secretary of Agriculture in a letter, having the approval of the Secretary of Agriculture, dated July 24, 1894, and addressed to the Secretary of the Smithsonian Institution, after recognizing the Institution as the lawful custodian of the scientific collections of the Government, requested the transfer of the Herbarium to the immediate custody of the Institution. To this the Institution assented, in a letter dated July 28, 1894, signed by the Acting Secretary. A third letter, addressed by the Secretary of Agriculture to the Secretary of the Smithsonian Institution, dated August 16, 1894, directed the transfer of the Herbarium. The actual removal of the collection was effected in September, 1894.

Mr. Frederick V. Coville, botanist of the Department of Agriculture, has succeeded Dr. George Vasey as honorary curator of the department of botany, and in this capacity is in charge of the National Herbarium. Dr. J. N. Rose, of the Department of Agriculture, has been appointed assistant curator.

The correspondence above referred to is here presented:

FROM THE ASSISTANT SECRETARY OF AGRICULTURE.

JULY 24, 1894.

SIR: The Smithsonian Institution, as we understand it, is designated by law the custodian of all of the scientific collections of the Government. This Department has already transferred many collections, parts of collections, and specimens to the care of your Institution, and will, it is hoped, continue to do so from time to time.

¹ August 23, 1893

The collection of plants known as the National Herbarium has been left in the immediate charge of this Department, the expense of its care, maintenance, and extension being annually provided for in our appropriations.

This collection is, we are informed, a very valuable one, especially since it contains a great number of "type specimens" from the Fremont, Wilkes, and other expeditions, and deserves to be housed and cared for in the most reliable and efficient manner. It is at present located in the offices of the division of botany in the main building of the Department of Agriculture. As is well known, this building is not fireproof, and is considered to be unsafe for other reasons.

I write, therefore, with the approval of the Honorable Secretary, to ask the Smithsonian Institution to provide a place for this collection. Being desirous of relief from further responsibility for the safety of this collection, which is connected only in part with the work under our charge, we feel that we have a right to make this request of your Institution.

Since the botanist of the Department of Agriculture is also curator of the Herbarium, and since an assistant curator and several clerks and laborers are provided to work on it, this Department would expect to continue, through these legally appointed officers, to do all necessary work upon the herbarium, and must, for this purpose, have full access to it.

In addition to the space required for the Herbarium proper, several rooms will be required for the accommodation of these workers and some storage space for duplicate specimens. The details of these matters will be explained by the botanist. This Department would expect to have the privilege of removing to its building from time to time any portion of the Herbarium that may be required for study in connection with its work. The working collection of fungi in the division of vegetable pathology and the collections of the division of forestry, having been made independently of the Herbarium and its appropriations, are not considered a part of it and are not offered for transfer at this time. The grass collection of the Herbarium will also be needed at this Department for the present.

If desired, the cases and like furniture can be transferred with the collection.

Respectfully yours,

CHAS. W. DABNEY, Jr.,
Assistant Secretary.

THE SECRETARY, SMITHSONIAN INSTITUTION,
Washington, D.C.

FROM THE ACTING SECRETARY OF THE SMITHSONIAN INSTITUTION.

JULY 28, 1891.

SIR: I am in receipt of your letter of July 24, asking the Smithsonian Institution to relieve the Department of Agriculture from the responsibility for the safety of the collections of plants known as the National Herbarium, by providing a place for it in a fireproof building.

I appreciate fully the value of the National Herbarium, and although all the buildings under the charge of the Institution are already overcrowded, I find that it is possible, by still further condensing, to assign to the collections of plants which you offer to transfer, together with those already here, a space on one of the balconies in the new Museum building with the adjoining laboratory rooms, which, though inadequate for its proper reception will, in a certain way, meet the necessities of the case, and which has at least the recommendation of being free from the danger of fire.

If the cases and other furniture referred to in your letter can be transferred to the Museum, I see no reason why the plants may not be received at any time that may suit the convenience of the Department.

I understand it to be your purpose that the botanist of the Department of Agriculture shall retain the position of honorary curator of the botanical collections in

the National Museum, which he now holds by courtesy of the Department of Agriculture and by commission from the Secretary of the Smithsonian Institution. This is very acceptable, as is also your proposition that certain other employees of the Department of Agriculture shall continue to work upon the herbarium under his direction. While the Institution is prepared to provide a safe place for the herbarium and preserve it from deterioration, it can not at present assume any expense for maintaining and enlarging it. I speak of this for the purpose of emphasizing the fact that if the herbarium is to fulfill its function of continued usefulness to the Department of Agriculture, it will be necessary that the Department shall contribute to its maintenance as in the past. In order to render this possible, the work-rooms already referred to will be available to accommodate the persons engaged in this work under the direction of the botanist.

Every facility will be afforded to the Department for the use not only of the Herbarium to be transferred, but of all the other botanical material and collections in the Museum, together with the extensive botanical library belonging to the Institution. Portions of the collection of plants may be withdrawn for study upon the request of the botanist of the Department of Agriculture, so far as is consistent with their safe-keeping and proper use.

I note what you say in regard to the collections in the divisions of vegetable pathology and forestry, and have no comment to offer. The situation is, however, different in regard to the grasses, for, since they constitute part of the herbarium proper, and a considerable portion of them have been deposited with the Department of Agriculture by the Smithsonian, it seems to me that this fact should be recognized, and that the custody of the grasses should be transferred to the Institution with the rest of the herbarium, although, in accordance with the terms of the agreement just stated, it is proper that as much of this collection should be retained at the Department as is needed for the work in progress. I would suggest, however, that a full series of the grasses be sent to our fireproof building as soon as practicable, so that in case of fire a portion of this valuable collection may be saved.

If, when you are ready to make the transfer, you will, as you suggest, request Mr. Coville to confer with me, I will do all in my power to have the new space arranged so as to provide in the best way for the interests of the work.

Yours very respectfully,

G. BROWN GOODE, *Acting Secretary.*

HON. CHARLES W. DABNEY, JR.,

Assistant Secretary of Agriculture, Washington City.

FROM THE SECRETARY OF AGRICULTURE.

AUGUST 16, 1894.

SIR: I have the honor to inform you that, in compliance with the arrangements made through correspondence with the Honorable Assistant Secretary of Agriculture, I have this day directed the botanist and curator of this Department to proceed to remove the National Herbarium, its furniture, and persons engaged in working thereon, or so much thereof as you may be able to accommodate, to the space which you have kindly provided for it in the National Museum.

Respectfully yours,

J. STERLING MORTON, *Secretary.*

THE SECRETARY OF THE SMITHSONIAN INSTITUTION.

In his report for the year ending June 30, 1895, the curator, speaking of the more important accessions of the year, mentions 6 which were received through the Smithsonian Institution and 45 which came direct to the Department of Agriculture and are now deposited in the herbarium. References to these and all other accessions to the Herbarium will be found in the Accession List (Appendix II). The total

number of specimens received and added to the Herbarium during the year was 16,897. For the last half of the year the curator has included only those specimens which were actually placed in the collection. Previously all specimens received had been counted.

The space now occupied by the Herbarium is the east balcony of the Museum building, with a floor area of 12 by 62 feet, four tower rooms, each 12 by 10 feet, and two anterooms, each 8 by 10 feet. Mr. Charles Louis Pollard, of the Department of Agriculture, assists the curator and assistant curator in the administration of the collection.

A complete revision of the Herbarium has been found necessary since the transfer to the Museum building was made. New labels have been added, and the determinations of species have been carefully examined with a view to the correction of any errors. This revision has already extended to the Rubiaceae, and it is expected that it will be completed during the coming fiscal year.

The transfer to the main Herbarium of the collection hitherto stored on the south balcony of the Museum building has also been commenced. The dicotyledonous trees and shrubs, genera represented in a fossil state, and the plants collected personally by Prof. Lester F. Ward, who is in charge of the collection of fossil plants, will, however, be retained for use in the department of paleontology.

A series illustrating the flora of the District of Columbia will be placed in a separate case, where it will be generally accessible to students.

Dr. Rose has undertaken the work of selecting and marking all the type and cotype specimens in the Herbarium. The sheets to which these specimens are attached are taken out, marked with a red label, placed in a red folded cover, and then returned to their proper place in the collection. During the year 46,565 specimens have been mounted. A large part of this number consisted of specimens received in previous years, but not before mounted on account of lack of facilities for the work.

A revision of Prof. Lester F. Ward's "Guide to the Flora of Washington and Vicinity" has been commenced by Professor Ward and Mr. Pollard. Other Washington botanists will assist in special groups. Monographic work for the "Systematic Botany of North America" has been commenced by the curator, Dr. Rose, and Mr. Pollard. Dr. Rose has completed and published a report on the Mexican collections gathered by Mr. Edward Palmer in 1890 and 1891. He has also continued the identification of parts of the collections obtained by Mr. C. G. Pringle and Mr. E. W. Nelson in Mexico. Mr. Coville, in cooperation with Mr. John B. Leiberger, has identified a large collection of plants made by the latter in 1894 on the plains of eastern Oregon.

The field agents of the Department of Agriculture have contributed a large amount of material from Utah, Arizona, Nevada, Oregon, and Alaska.

Several collections or parts of collections have been sent to specialists for study. These are mentioned under the head of "Material lent for investigation." The curator names six botanists who have had access to the herbarium during the year, to aid them in special investigations. He also gives the names of 23 persons who have cooperated with the department, especially by lending specimens for critical investigation or by themselves assisting in the identification of species.

In the Bibliography (Appendix IV) will be found the titles of all papers published during the year by the curator, the assistant curator, Mr. Pollard, and two other collaborators, Mr. John M. Coulter and Mr. L. H. Dewey. In the supplements to the Bibliography are included the names of the new genera, subgenera, species, and subspecies described in those papers.

Among the propositions which the curator submits in his report for the better administration of the herbarium, is a plan for affording increased case room and the transfer of the remainder of the herbarium to the Museum building. This is evidently desirable, and everything possible will be done to meet Mr. Coville's wishes in this respect. He also recommends the employment of an assistant in cryptogamic botany, to properly classify and arrange the Pteridophyta, Bryophyta, and Thallophyta.

The last catalogue entry in June, 1894, was 2761, and in June, 1895, 3431.

DEPARTMENT OF MINERALS.

This department continues under the care of Prof. F. W. Clarke, chief chemist of the U. S. Geological Survey.

The accessions to the collection of minerals have not been as numerous as during the previous year. The actual number of specimens received was 1,053, embracing 140 accession numbers. The most important of these were contributed by Rev. L. T. Chamberlain and included, among others, the following specimens: Twenty specimens of minerals, including garnet, beryl, quartz, agate, thomsonite, chlorastrolite, and sodalite from various localities, a carved ornament of quartz from Japan, 2 specimens of quartz with inclusions from the same locality, a specimen of turquoise in gangue from New Mexico, a carbuncle of garnet, 6 Amazon-stone balls, 5 chrome iron balls, 3 cut and polished specimens of quartz, an opal from Queretaro, Mexico, a gold nugget from California, and 2 specimens of tourmaline from Mount Mica, Paris, Me. These were presented to the Smithsonian Institution and deposited in the National Museum. There were also received from Dr. Chamberlain, from the bequest of Mrs. Frances Lea Chamberlain, 12 Tassi paste reproductions of antiques.

From the U. S. Geological Survey have been received 8 accessions of more than usual value. Three important lots of minerals were acquired by exchange. The names of all the contributors to the collection are mentioned in the Accession List.

Considerable progress has been made in supplying the exhibition series with labels. The cases have been numbered and labels attached. These indicate the plan of arrangement and the location of the material. Experiments have been made with a view to determining the best method of mounting crystals and preserving specimens which are liable to decomposition. A special set of specimens, designated the "educational series," is being prepared for exhibition. The collections of gems and meteorites are increasing very satisfactorily. Two collections of minerals have been made by Mr. Wirt Tassin, assistant curator, aggregating more than 200 specimens. These have been suitably distributed among the exhibition and study series. The field parties of the United States Geological Survey brought in much interesting material.

Four papers by the curator were published during the year—one as a bulletin of the Geological Survey, two in the *American Journal of Science*, and one in the *Journal of the American Chemical Society*. These are mentioned in the Bibliography (Appendix IV).

It is the hope of the curator to establish a series of specimens illustrating typical famous American localities, and also a series illustrating the type and original material in the collection, accompanied by references to the publications in which the material was described. The preparation of a guidebook to the collection has been commenced by Mr. Tassin.

The last catalogue entry in June, 1894, was 83320, and in June, 1895, 83613.

DEPARTMENT OF GEOLOGY.

There is pressing need of more exhibition space for the geological collections, and owing to the crowded condition of the halls very little can be added to the exhibition series. The present aim of the curator, Mr. George P. Merrill, is therefore in the direction of eradicating the poorer specimens and substituting better ones in their places. For this reason probably not more than 200 specimens have been actually added to the exhibition series during the year. Mr. Merrill repeats his recommendation that a balcony be placed around the interior of the southwest court, of sufficient capacity to hold some of the lighter and least bulky of the collections. This would allow room on the floor for the expansion of the other collections in this department. Unfortunately, Congress has not taken favorable action on the request for permission to erect galleries, and until this point has been secured, nothing can be done to relieve the pressure either in this or the many other departments which are similarly hampered.

The time of the curator and his assistant has been largely occupied in bettering the condition of the exhibition series, as already intimated, and in bringing the records of the department down to date. A card catalogue for the collections is being prepared, and manuscript for

nearly 1,000 new labels has been written. The systematic collection of rocks has been entirely rearranged, and the labels of the building stone collection renewed. A large quantity of duplicate material has been sorted out to be used in making up the next sets of specimens for distribution. The curator has, in addition to the large amount of routine work accomplished, found time to bring to completion his investigation relating to the mineral nature and cause of fibrous structure of the various minerals commercially grouped under the name "Asbestos." He is also engaged in a series of investigations relative to the phenomena attending rock decomposition. A brief paper on this subject, as illustrated in the region about Washington, has been published during the year in the Bulletin of the Geological Society of America. The title of this and five other papers by the curator, and of one by Mr. C. Whitman Cross on "The Laccolithic Mountain Groups of Colorado, Utah and Arizona", in which are described some rocks in the Museum collection, will be found in the Bibliography (Appendix IV).

The accessions of the year numbered 79, and in addition 122 lots of specimens were received for examination and report. The most important of the former are: A systematic series of Stassfurt salts, presented by the German Kali Works (Nassau street, New York City); a series of specimens of photographs of borax salts, mines, and works, presented by the Pacific Borax Company (San Francisco, Cal.); a series of granites, marbles, alabaster, etc., from Egypt, collected for the Museum by Mr. F. W. Crosby; a large quantity of Uintahite, from Clear Creek, Utah, received from Mr. B. W. Rice, Tucker, Utah; a block of meerschaum from Eski Shehr, Asia Minor; a series of soapstone, asbestos, apatite, and fresh and decomposed rocks illustrating weathering, collected by the curator in Nelson and Albemarle counties, Va.; onyx from Lake Oroomah, Persia, presented by Rev. S. G. Wilson, Tabriz, Persia; a series of remarkable spherulites from the Silver Cliff region, Colorado, presented by Mr. C. Whitman Cross; a series of silver ores from Custer County, Colo., transmitted by the U. S. Geological Survey, and a large nodule of gum copal, weighing 8½ pounds, from the Upper Congo region in Africa, obtained by Mr. J. H. Camp, Lima, Ohio, who collected for the Museum while engaged as a missionary in the service of the American Baptist Missionary Union.

The present condition of the collection is indicated by the following figures:

Exhibition series.....	22, 435
Study series.....	28, 411
Microscopic slides.....	4, 000
Duplicates of all kinds.....	12, 000
Total.....	66, 846

The last catalogue entry in June, 1894, was 62393 and in June, 1895, 62731. It should be remarked in this connection that an entry in the catalogue does not by any means necessarily indicate the addition of

only one specimen, since a specimen may be broken up into a hundred or more pieces, each of which would in a strict count be properly regarded as a separate specimen.

DEPARTMENT OF ETHNOLOGY.

The curator, Prof. Otis T. Mason, reports that the accessions of this year compare very favorably with those of previous years. Many additions have resulted from gifts received from foreign exhibitors at the World's Columbian Exposition. Among the most important accessions may be mentioned a rare collection of 662 specimens, illustrating the divinatory games of various peoples, from the University of Pennsylvania; a very valuable series of specimens from eastern Turkestan, collected and presented by Dr. William L. Abbott, through whose generosity several of the departments in the Museum have been enriched both in this and in previous years; a large collection from west Africa, presented by Mr. J. H. Camp and illustrating the arts and industries of several native tribes; an extremely valuable lot of ethnological objects from the region of Mount Kilima-Njaro, collected and presented by Mr. William Astor Chanler; a collection from east Greenland, gathered by Captain Holm and transmitted in the name of the Museum of Royal Antiquities in Copenhagen, and a collection of nearly 700 articles illustrative of the native life and arts of the Congo Free States, secured by purchase from Mr. Dorsey Mohun. The Bureau of Ethnology has contributed a most important series of objects collected by Mr. W J McGee among the Papagos and Seri Indians in southwestern Arizona and northwestern Mexico.

The already overcrowded condition of the exhibition space assigned to this department has rendered it necessary to place in storage most of the recently acquired material, and, to partially accommodate it, the lower rooms of the west balcony have been provided with shelving. Here it is proposed to store unit boxes, swinging screens, and mounted pictures. In the north storage room will be kept the reserve and study series illustrating the ethnology of Asiatic and North African tribes. The third story of the north tower is devoted to Eskimo material. A card catalogue of the entire exhibit is being prepared.

Regarding the exhibition series, the curator remarks:

The exhibition series in the department of ethnology at the close of the fiscal year was to be found in two groups—the material actually on exhibition for public inspection and the exhibition series returned from the Chicago Exposition, which had been filed away for future use. A great many of these were also designated to be sent to Atlanta. The series actually displayed is exhibited under two motives—the first that of technology, the second that of ethnology. Wherever the material is sufficiently abundant, and from a great number of localities, the whole of mankind are considered to be of one species, and all objects belonging to a certain class are assembled and arranged for the purpose of showing their historical elaboration and their geographic distribution. This is called the technographic series. However, where there is a large mass of material of great variety from many peoples and not exclusively collected from any one, the specimens are displayed at present in

ethnographic groups and arranged around the hall. There are sections devoted to Negroid Africa, Caucasian peoples in Africa and Asia, the peoples of eastern Asia, including Siam, Burma, Japan, Korea, Thibet, and the Ural-alta group.

This arrangement enables the curator to place before the public, at least in its proper national and geographic connection, desultory material from all parts of the world. As regards the American collection, a great change has been proposed—to set apart the northwest range for the continent of America, a special exhibit to be made of the Pueblo region in the northwest court. This plan has only been partly carried out.

The curator has made a special study during the year of primitive methods of travel and transportation, and a paper by him on this subject is printed in the Report for 1894.

Material in the Museum has been lent for study to Mr. Stewart Culin, director of the Museum of Archaeology and Paleontology, University of Pennsylvania; to Dr. W. J. Hoffman in connection with his studies of the pictographic work of the Eskimo, and to Mr. J. D. McGuire in connection with his investigations of stoneworking among savage peoples. The use of the drill has been thoroughly studied by Mr. McGuire, and the results are embodied in a very interesting paper published in the Report for last year. Dr. Boas has prosecuted an extended study of the Indians of the Northwest Coast, and a valuable paper by him upon this subject is included in this volume.

The curator has published seven papers during the year, including a study of "North American Bows, Arrows, and Quivers" (printed in the Report of the Smithsonian Institution for 1893). Mr. Walter Hough, assistant curator, prepared a catalogue of the ethnological exhibit displayed by the National Museum at the Columbian Historical Exposition in Madrid, and also a descriptive report upon the ancient Central and South American pottery exhibited in Madrid on that occasion.

Alluding to the special plans which he has in view, the curator makes the following statement:

The curator commenced at the end of the fiscal year to make a classified catalogue of every ethnological specimen in the collection, with regard to its function, material, and its location, for the purpose of indicating geographically the poverty of the department, especially with reference to American material. For instance, all the stocks of the American race, from Point Barrow to Cape Horn, are arranged alphabetically and in the order of their location. It is proposed to have a separate sheet or column connected with these stocks as they occur, devoted to each of the great typical industries, activities, or apparatus, and to indicate upon these sheets or in these columns whether or not each stock has in use this method or apparatus. As soon as this chart is made out, it can be easily ascertained whether any tribe possesses this or that art, and if the materials and tools connected with the art are not in the National Museum, it will indicate an intelligent line along which collections ought to be made.

The curator hopes to devote a great deal of attention to this special research during the next year and to utilize the resources of the establishment, with the consent and assistance of the Director, for the purpose of perfecting the series for America.

There have been 1,270 entries made during the year in volumes 35 and 37 of the catalogue of the department. In volume 35 the entries run from 168855 to 169330, and in volume 37 from 174426 to 175221.

The number of specimens received was 2,642.

DEPARTMENT OF PREHISTORIC ANTHROPOLOGY.

In his annual report the curator, Dr. Thomas Wilson, remarks that the operations of this year have exceeded those of all previous years in the number and extent of the accessions as well as in their scientific value. The most important addition, although not a permanent gift, was the extensive collection of Dr. Roland Steiner, of Grovetown, Ga. It consists of 32,478 specimens from the Etowah mounds and from Burke and Columbia counties, Ga. The value of this collection consists chiefly in the opportunity which it affords for a study of the industries of the aborigines as manifested in their dwellings, burial places, implements, and utensils. The Nicaraguan Government contributed a valuable collection of pottery and stone objects from the exhibit of that Republic at the Madrid Exposition. Mr. John C. Meyer, of Round Top, Fayette County, Tex., presented a large series of rude chipped implements and other objects, including three chipped implements of jasper. Eleven large pottery vases from Argentina were received from the La Plata Museum, through the courtesy of Dr. F. P. Moreno. In addition, the curator makes special mention of several other accessions, all of which are included in the Accession List (Appendix II).

Several important changes having become desirable in the arrangement of the entire collection, the curator has devoted himself assiduously to this work, and the operations incident to the arrangement are indicated in his own words:

In order to effect this task, it was necessary to rearrange, geographically, all the objects in 52 cases, according to the various States of the United States and of foreign countries; also to rearrange the objects made by or belonging to prehistoric man, contained in 12 cases. The latter have been arranged in two synoptical series—chronological and geographical—one representing Europe, Asia, and Africa, and the other North America. The objects from Mexico, the West Indies, Central America, and South America were installed in wall cases on the north and west sides of the hall. All of the Pacific Coast objects were segregated and installed in cases by themselves, and the mummies were placed in the long wall cases on the south side of the hall. Two new shelves have been made for each alcove case and 900 specimens of mound pottery placed thereon. The very large specimens were placed above the alcove cases, fronting the aisles, thus giving them a decorative, as well as utilitarian, effect. The prehistoric pottery has been transferred from the Museum building, and the large glass cases of pottery from Peru, Brazil, and from the Arkansas mounds have been installed in the foyer of the hall. A large case containing a group of Indian figures, representing a quarry workshop (?) from Piney Branch, District of Columbia, has also been set up. A number of paintings, drawings, lithographs, and photographs of prehistoric objects have been placed on the walls above the cases. These included a large painting representing the ruins of Spruce Tree House, Mancos Canyon, Colorado, Major Powell's map of the linguistic stocks of North America, and a chronological map adapted to show the distribution of aboriginal mound districts in the United States. Two hundred and forty drawers were constructed and placed in eight sloping-top table cases with frosted glass doors. This work was completed March 19, and since that time the drawers have been utilized for the storage of some 3,500 objects belonging to the collection.

The exhibition series is now so installed that every object can be plainly seen. Labels have been attached to many of the specimens.

The curator has commenced a study of prehistoric pipes and smoking apparatus, and of aboriginal musical instruments. He has also continued special investigations of paleolithic implements, rude notched axes, prehistoric copper, jade and cache implements, and prehistoric Etruscan objects. A paper by the curator on the history of the sign of the Swastika has been completed and is printed in the Report for 1894. Various other objects connected with the existence of prehistoric man in North America have also engaged special attention.

On two occasions specimens from this department were lent for use in illustrating lectures. The pupils of several schools in the city have visited the exhibition hall and received instruction from the curator as to the scope and aims of the exhibit.

Eight papers by the curator, relating chiefly to matters pertaining to his department, have been published during the year. The following remarks, bearing upon the special plans which the curator has in view for the future development of the department, are quoted from his annual report:

The collections in this department have now increased to 203,520 objects. The benefit to science of such a collection is by enabling the archæologist and anthropologist to write a history of prehistoric man. In ethnological collections and objects relating to primitive peoples of modern times, the study of the people's habits and customs, and the writing of their history, can be done by the historian personally visiting the tribes and obtaining his information at first hand. But in collections relating to prehistoric peoples this can not be done, and we are driven to a study of the implements, objects, monuments, etc., left by them. The student, historian, archæologist, and anthropologist compare these objects (1) with each other, in localities where they have been associated together; (2) with implements from other localities; (3) he compares one locality with another, and (4) all of them together with each other—that is, he first establishes, as well as he is able, a unit of civilization or culture within a given tribe, group, or family; then, by extending his observations, he establishes other units of culture or civilization in other tribes, groups, or families, and these units he respectively compares together, first in a general way, and second, in the details of the implements and objects which go to make them up.

I propose to make from the specimens in my department such a segregation by localities; a division, if possible, by time; also an establishment of units of civilization, and thus make the comparison mentioned, or, rather, afford material for students either now or hereafter to make this comparison of civilizations. This will require the services of a draftsman. As no person can by mere words describe the form of an object, and as the differences of form are, or may be, but slight, and yet mean much, there is greater necessity for graphic delineation than there would otherwise be. The objects have all been made by hand; there never was any special pattern for the workman to follow; each man, to a large extent, made every kind of object, so the differences become more important and the necessity for drawing greater than it would be under other circumstances. It would not be true to say there were no type specimens of the objects made by the aboriginal man, because if he made each one by hazard, as there are a hundred times more implements than styles, some of them must pattern after the others, and thus some implements have come to be considered types. But this, I think, is entirely arbitrary, and is the decision of the modern student rather than the action or intention of the aboriginal workman. In the endeavor to discover his intention, it is necessary to make drawings enough of the implements to show these types and the differences in their details.

During the year 660 specimens were distributed, principally in exchange. Many persons who come into possession of stone implements and are anxious to learn something of their significance send them to the Museum for examination. In 1895 there were received for this purpose 38 lots, aggregating 552 specimens. Reports are invariably transmitted to the senders as soon as the specimens have been examined, and in most instances the latter are returned.

The last catalogue entry in June, 1894, was 169540, and in June, 1895, 172315.

DEPARTMENT OF ARTS AND INDUSTRIES.

At the time when the department of ethnology was established in the National Museum, there were large accumulations of ethnological objects from various sources which could not be regarded as purely ethnic material, not being specially connected with or illustrative of special tribes of men, but which rather formed parts of series of arts scattered over the entire earth. Such arts might be regarded as folk inventions and as illustrating a part of the great scheme of human invention. It was necessary to find a place for these objects, and several special groups, among which they might be properly distributed, were established. These formed what has since been known as the "Department of Arts and Industries." Thus the sections of foods, textiles, fisheries, naval architecture, travel and transportation, the medicines of all peoples, music, and several others, came into existence. In them the objects are arranged under different classes of types, according to their structure, and in each class the objects are further arranged according to a system of historic development and elaboration. The Museum records now show that 14 sections have been organized, although some of these are still without custodians. These are: (1) Naval architecture; (2) transportation; (3) textiles; (4) foods and chemicals; (5) fisheries; (6) animal products; (7) graphic arts; (8) historical collections, coins, and medals; (9) physical apparatus; (10) musical instruments; (11) porcelains and bronzes; (12) materia medica; (13) forestry; (14) oriental antiquities and religious ceremonial objects.

Technological collections.—The first four sections in the enumeration above have been placed in charge of Mr. J. Elfreth Watkins, who, on February 1, 1895, was designated "Curator of the technological collections." To these, other sections will be added as occasion and opportunity may arise. The development of these collections will be slow, inasmuch as objects which were used by man in the foundation of many of the arts are very difficult to obtain. Again, the bulkiness of many objects which would be most desirable, would render them, even if obtainable, too cumbersome for installation, nor could space be assigned for the installation of such relics, owing to the already crowded condition of the Museum halls. In cases where large objects can be represented by models, the curator suggests the construction of small models, varying from one-fifth to one-tenth natural size where it is desired to

show the details of machinery, and from one-twentieth to one-fiftieth where only form and general proportions need to be considered, as in the case of buildings, ships, etc. Scale drawings, photographs, or other representations of objects illustrating the earlier steps in the epoch-making arts, would be desirable. From them small models can be made. These, accompanied by labels containing sketches in outline, explaining graphically such details as are precluded by the limitations of a small model, may be made the means of illustrating the history of the beginnings of the more important American industrial arts. Such a scheme might at first be thought to duplicate to a certain extent the work of the Patent Office in that direction. It will be remembered, however, that the records of that office contain only such documents and models as have been presented for examination and adjudication by persons mainly interested in drawing up claims. This would not interfere with a presentation of the most important epoch-making inventions, such as Henry's electromagnetic sound telegraph.

The curator will endeavor to extend the series illustrating the beginnings of the steamboat. By the addition of a few models to the present collection, the Museum would have a very satisfactory exhibit. He also has in view the preparation of a case containing models illustrating presses and machinery relating to the early steps in the art of printing and paper making.

During the present fiscal year few objects of special importance were received. Among the most interesting were several pieces of apparatus used by Prof. Joseph Henry in his investigations of electromagnetism, which led to the invention of the magnetic telegraph. These had for many years been preserved in the Smithsonian building, but have now been placed on exhibition with other pieces of apparatus used by Professor Henry and deposited in the Museum by his daughters. A special case is devoted to perpetuating the history of the important discoveries in electricity which he made. A model of his first electromagnetic sound telegraph apparatus, made by John Schultzbach, of Washington, under Mr. Watkins's supervision, has been added to the collection, and other models, prepared for exhibition at the Atlanta Exposition, will be installed in the Museum at its close. The curator has not yet had an opportunity to rearrange the collection of models of vessels. Capt. J. W. Collins, who was formerly in charge of this collection, has, since his resignation, been employed by the Museum to prepare a full descriptive catalogue which will serve as a history of naval architecture as illustrated by the models and other objects in the Museum. This work was commenced on April 1. With a view to maturing plans for a systematic rearrangement, a model of the exhibition hall devoted to naval architecture has been made, and also rough models of all the boats suspended from the roof. The work of rearrangement will be advanced as soon as the necessary supports are in place. Many of the boats were taken down, cleaned, and measured

preparatory to their being described by Captain Collins in the catalogue already alluded to. On account of the limited space available for purposes of exhibition, the collections showing the various stages of development in the sewing machine and the typewriting machine, have been placed in storage.

Mr. Watkins has devoted considerable study to the evolution of the various methods of transportation, and, referring to this subject in his annual report, he says:

During such time as was not consumed by other duties during April, May, and June, 1895, I continued the investigations (which I have been engaged in for several years) of the circumstances which led to the final improvement in the wheel and the other mechanical devices which have rendered the attainment of high speeds possible in the art of transportation on land and water, which have proven such an important factor in modern civilization. The results of these investigations are embodied in the models prepared for the Atlanta Exposition, the drawings for which, together with the superintendence of their construction and the preparation of labels, have consumed much time. Each of the labels for the models illustrating land conveyance contains, in addition to a brief printed description, a small sketch which gives more information at a glance than could be conveyed to the average museum visitor by many printed words. It is my belief that this same idea, extended and modified by the duplication of these sketches by some photomechanical process, may be made extremely useful, not only in connection with museum specimens on exhibition, but for permanent record in catalogues and elsewhere. A series of these illustrated labels, properly arranged, can with a few additions be made to form an illustrated handbook of the collection.

It is proper to make special mention of the assistance rendered by Dr. Francis B. Stevens, of Hoboken, N. J., whose aid in preparing the drawings for the machinery of the models illustrating the early history of the steamboat has been invaluable.

In this connection Mr. Watkins adds:

Dr. Stevens, a distinguished engineer, now in the eighty-third year of his age, has acquired by observation and practice a fund of information concerning early mechanical history in America of the greatest importance. To have been able to act as the medium for preserving this history through the collections in the U. S. National Museum, I regard as a great privilege.

The help extended by Mr. George C. Maynard in obtaining for the Museum relics and other objects desirable for the collections is also very highly appreciated. Mr. Maynard is associated with several societies which were organized for the purpose of preserving the history of electrical and mechanical inventions in general.

In the general catalogue only six entries have been made during the year, the last number being 191200. The objects pertaining to naval architecture are entered in a separate catalogue book, which is now, as above indicated, being prepared by Captain Collins. Other books are kept for the entry of accessions to the collections of textiles, foods, and chemicals.

The graphic arts collection.—The absence of the curator in Europe during the last half of the fiscal year (January to June) has curtailed the operations of the department, and the following remarks have reference

therefore to what was accomplished during the first six months of the year (July 1 to December 31, 1894).

The principal contributors of specimens were Mr. N. S. Amstutz, Cleveland, Ohio; Mr. J. M. Falconer, Brooklyn, N. Y.; Mr. J. W. Osborne, Washington, D. C.; the United States Geological Survey, and Mr. W. W. Wallingford, Washington, D. C. The entry of the accessions took up 61 catalogue numbers (5501-5561). The most interesting of these are 44 specimens illustrating the transmission of photographs by means of electricity. They were contributed by Mr. N. S. Amstutz, the inventor of the process. A photomechanical color-print was purchased from the United States Aluminum Printing Plate Company, New York, and a book containing chromolithographs was obtained in exchange. The duplicates, which are not included in the above total, have been separated. A catalogue of the specimens on exhibition has been prepared, and also a card catalogue of the whole collection. This is arranged by technical divisions, preliminary to a more systematic arrangement later on.

Materia medica.—This collection is again under the charge of Dr. James M. Flint, U. S. N., who resumed his connection with the Museum May 24, 1895. For several years the collection has been practically complete, and little remains to be done except to replace specimens from time to time with fresh material and to substitute new labels for old. Only five specimens were received during the year. These were recorded under catalogue numbers 142309 to 142313, which is the last entry of the year.

The historical collections.—There is a continually increasing interest shown in objects relating to the history of the United States during the colonial and Revolutionary periods. If sufficient exhibition space were available, the material already on hand would permit a very interesting and fairly complete exhibit in these directions, but unfortunately it is impossible under the circumstances to provide room for more than a limited number of objects, consisting chiefly of personal relics of illustrious statesmen and soldiers.

The most interesting addition to the collections during the year consists of a number of utensils and objects of wearing apparel used in New England during colonial times. They illustrate in a very satisfactory manner the customs and costumes of the seventeenth and eighteenth centuries. The donor is Mr. John B. Copp, Old Mystic, Conn. Among other accessions are: A sword belt presented to Admiral S. D. Trenchard by the Government of Great Britain for his services in rescuing the officers and crew of the British bark *Adieu* off Cape Ann, Massachusetts, in August, 1856; an old Spanish sword of the kind used by the Conquistadores in Santo Domingo; a sword from Puerto Rico bearing the date 1796; early Spanish spurs from Argentina and San Domingo; a collection of early Spanish-Mexican copper and silver coins; a cabinet containing 102 plaster casts of historic medals and

cameos, presented by Rev. Dr. L. T. Chamberlain; a waistcoat supposed to have belonged to Gen. George Washington, deposited by Mrs. J. A. Rodgers, South Bethlehem, Pa.; a canteen carried through the Revolutionary war by John Paulding, one of the captors of Major André, deposited by Gen. R. W. Meade; a collection of South Carolina colonial paper money, and another of silver, nickel, and copper coins of Mexico, Danish West Indies, Great Britain, and Switzerland, received from Mr. A. W. Carey, Adrian, Mich.; a sword and epaulets worn by Capt. Seth Britt Thornton, U. S. A., at Contreras during the last attack on the City of Mexico; decorations and papers of the late Joseph Smolinski, commander of the Imperial Ottoman Order of the Medjidish, Chevalier of the Polish Military Cross, etc., deposited by his son Joseph Smolinski, of Washington, D. C., and a model of the Behaim globe, the original of which was made at Nuremburg in 1487.

In all, 298 specimens were added to the collection during the year.

Collection of musical instruments.—For reasons explained in previous reports, no attempt has yet been made to permanently install this collection, which is now one of the largest in the world. A considerable number of instruments were obtained from several foreign exhibits at the World's Columbian Exposition, and these have been catalogued and either installed in the long wall cases on the east and west sides of the north hall or have been placed in storage.

No accessions of special value have been received during the year. Mention may be made, however, of 2 instruments from Ceylon and 5 from Johore, Malay Peninsula, purchased from the Field Columbian Museum; a native lyre from Congo, Africa, received from Mr. J. H. Camp; a Japanese vertical flute, a transverse flute, and a double whistle from Mr. Simon A. Stern, of Philadelphia, Pa.; a vertical flute from New Hebrides, a horn from Friesland, Holland, a virginal made in 1602 and a Broadwood piano, from Mrs. J. Crosby Brown; a wooden bell, or logo, from Mr. H. J. Moors, of Apia, Samoa; a flageolet and an oboe from Tibet, presented by Dr. W. L. Abbott; a guirro (a sort of whistle), from Puerto Rico, and a tiple (a small guitar), from the same locality, presented by Mrs. Charles B. Smith, of Washington, D. C.

The collections of oriental antiquities and religious ceremonial objects.—These collections are the outgrowth of the establishment of a section of the department of arts and industries in 1888, under the honorary curatorship of Dr. Paul Haupt, of the Johns Hopkins University, for the accumulation and preservation of objects illustrating oriental antiquities and ceremonials connected with religious worship of all kinds. Dr. Cyrus Adler, librarian of the Smithsonian Institution, is in charge of these collections, and under his immediate care they have been arranged. They now occupy four alcoves in the east and west halls, near the rotunda. The north alcove in the east hall contains the Egyptian collections, arranged in eight cases. The Assyro-Babylonian collections are in the south alcove in the same hall, also arranged in eight cases.

In the north alcove of the west hall are the Jewish, Mohammedan, and Græco-Roman religious collections, while in the south alcove, opposite, are arranged the religious objects relating to Brahmanism, Buddhism, and Shintoism.

The principal additions during the year were a Siamese edition of the sacred writings of the Southern Buddhists, presented by the King of Siam; the liturgy of the Bene Israel of Bombay in the Maratha language, presented by Rev. Henry Cohen, Galveston, Tex., and a Japanese temple drum, deposited by Dr. G. Brown Goode. The Museum is also indebted to Mr. R. Dorsey Mohn, United States consul at Zanzibar, for copies of the Koran, a Koran stand, and prayer mats, and to Rev. Henry Cchen for four volumes of Jewish liturgy.

Casts of the Temple stone, Siloam inscription, and twelve Assyrian seals were sent to Rev. C. C. Newton, Tokyo, Japan, in exchange for Buddhistic and Shinto objects.

Much progress has been made in the installation of the objects now on exhibition. This matter is referred to more in detail in the chapter entitled "The development and arrangement of the exhibition series." All of the collections not on exhibition have been rearranged and put in storage cases. The molds and casts have been placed in the basement of the Smithsonian building, where they are safe and easily accessible.

Dr. Adler has commenced a study of Jewish ceremonial institutions. He has also continued his study of ancient oriental seals, and in this work has had the opportunity of examining a large collection of seals belonging to Dr. Frederick Stearns, of Detroit, Mich. Casts were made of 82 of these specimens. He has also completed a paper on the "Cotton Grotto near Jerusalem and ancient Methods of Quarrying." This is based partly on objects which he has presented to the Museum.

It is Dr. Adler's desire to gather a collection of Hittite casts and a series of amulets.

During the year 171 specimens were received. The entries in the catalogue were contained between numbers 154816 and 154990.

IV.—REVIEW OF WORK IN THE ADMINISTRATIVE DEPARTMENTS.

FINANCE, PROPERTY, SUPPLIES, AND ACCOUNTS.

Mr. W. V. Cox, chief clerk, presents, in his annual report, a detailed statement showing the amount of the appropriations for the fiscal year ending June 30, 1895, and the disbursements thereunder; also the disposition of the unexpended balances remaining on hand from the appropriations of previous years. These statements are printed in Appendix VIII.

The work pertaining to the accounts connected with the disbursement of the funds allotted to the National Museum, for an exhibit at the Cotton States and International Exposition at Atlanta, has entailed considerable extra work upon the force of this office during the present year. This work, however, as well as the preparation of orders for materials and labor, has been performed without any additional help.

In the early part of the fiscal year steps were taken with a view to bringing suit against persons who declined to enter into contracts which had been awarded them for furnishing supplies, etc. The opinion of the Attorney-General was sought, and although the Smithsonian Institution has not up to this time been recognized as being entitled to this privilege, the action taken resulted in suits being brought against the defaulters by the Department of Justice.

A board was appointed August 13, 1894, to examine and report upon the safety of the alcohol and alcoholic specimens stored in the basement of the Smithsonian building. Additional safeguards were recommended, and these have been provided.

A new telephone service, with metallic circuits and long-distance instruments, was installed during the year, and although the service is much improved, the annual rental charged is less than that formerly paid.

The chief clerk states that the rules adopted last year for the government of the watch force have been adhered to, and that as a result the force has been brought to a higher state of efficiency.

The committee appointed to consider the subject of an improved system of locks for the Museum cases, submitted its report at the close of the preceding fiscal year, and during the present year preliminary steps have been taken with a view to carrying out the recommendations made.

The quarters occupied for storage having been found too small for the purpose, a new building was leased on the 15th of June of the present year, and the transfer made a short time thereafter.

In February, 1895, an order was issued defining more particularly the duties of the engineer.

The chief clerk makes a statement in his report regarding the records of his office, from which the following is taken:

The originals of all requisitions for purchases, etc., are bound into volumes of convenient size, for ready reference. A record is kept of all bills and vouchers for expenditures on account of appropriations, and every such bill or voucher has a reference to the number of the requisition authorizing the expenditure. Applications for leaves of absence are filed in this office, and a record is kept of those granted, also of all matters pertaining to the personnel of the Museum, except applications for employment, which, after receiving proper action, are filed in the office of the Secretary. Applications for the use of the lecture hall and the stereopticon are also duly recorded. The files of the office contain letters on all subjects pertaining to administrative and financial matters. Letters and documents of all kinds are given a distinctive number, and the letters are carefully indexed under the name of the writer and the subject, the card system being used. When two or more letters relate to one subject, they are given the same number and are filed together. It is intended eventually to enter upon the card catalogue all letters contained in the press-copy books, as well as those received and filed. One series of press-copy books contains letters relating to general Museum business, another contains letters pertaining to the personnel of the Museum, and in still another series are copied letters addressed to the Secretary, transmitting vouchers for payment. There is in this office, also, a record of all legislative matters relating to the Museum, and complete sets of books of estimates, digests of laws, etc.

DIVISION OF CORRESPONDENCE AND REPORTS.

This branch of the administrative work remains under the charge of Mr. R. I. Geare. The force is practically the same as last year, although the occasions upon which it has been necessary to call upon this office for assistance in matters outside of its own work have been much more numerous than in any previous year. There has been an increase of over 1,000 in the number of letters and other official papers prepared for signature, compared with the preceding year.

A special feature of the correspondence has been in the direction of obtaining accessions to the library of the National Museum. Special circular letters were prepared and invitations extended to the State universities, agricultural colleges, and experiment stations, as well as to a number of foreign institutions and scientific societies, to exchange publications with the Museum or to complete partial sets already in the library. The result of the correspondence has been very gratifying.

Circulars have been prepared for transmission to specialists receiving the Museum publications requesting them to send their own writings in exchange, and at the same time inquiring whether our sendings are regularly received, whether they are properly directed, and whether the continuance of their transmission is desired. This information will be of value in revising the mailing lists. It has been thought inadvisable to distribute the circular until it shall be determined beyond doubt what number of individuals and institutions can with certainty be retained upon the lists. This can not be definitely settled until it shall be seen whether Congress is willing to remove the restriction imposed in the printing act of January 12, 1895, limiting the edition of the Proceedings and Bulletin to 1,000 copies, or one-third of the customary number.

Among the numerous records kept in this division, those of greatest importance in connection with the work of the office are as follows:

Two card catalogues showing the course of letters received at the Museum—one, of letters coming to the Museum direct or by reference from some other department or bureau of the Government; the other, of letters referred to the Museum by the Smithsonian Institution. For the more important letters received from the Institution, a separate register is kept by numbers.

In connection with the press-copying of official papers there are ten separate classes of books in constant use, besides several groups of books containing the correspondence relating to expositions, congresses, and other public functions in which the Museum has participated. In addition to the index which each book contains, a general index in the form of a card catalogue is kept. On each card or group of cards is summarized the entire correspondence with each individual or institution. This catalogue, which is estimated to contain at least 35,000 cards, is one of the most valuable records of the office. On it the names of correspondents, as well as of persons whose names occur in the correspondence, are arranged alphabetically. A supplementary catalogue of the names and addresses of foreign correspondents, arranged geographically, is also preserved.

A separate record is kept of the acknowledgments of material acquired by the Museum, of reports upon objects sent to the Museum for identification, and of the transmission of material to institutions and to individuals for purposes of study; and, in addition, a record of the transmission of material to specialists for determination, as well as of exchanges with museums in foreign countries and with individuals. The results of cooperation with the Museum in special directions, on the part of the Executive Departments and bureaus of the Government, are also recorded.

The accession catalogue contains the name and address of each contributor, together with a detailed statement of the nature of the material received, and other useful information, such as the date of entry, the number assigned, etc. The record of material sent to the

Museum for examination and report is similar in scope. These records are published each year in the Annual Report. During the present year a separate record has been kept of material received for exhibition at the Cotton States and International Exposition in Atlanta.

The correspondence with educational institutions regarding the distribution of collections forms the subject of a special catalogue. The cards in this catalogue are arranged alphabetically by States and sub-alphabetically by cities and towns. A short abstract is given of the contents of each communication received from applicants for collections, and also of each letter sent out from the Museum. All applications for specimens are also entered in chronological order upon a separate register.

The records relating to the distribution of Museum publications are quite voluminous. The mailing lists are classified as follows: (1) the list of domestic and foreign libraries which receive the Museum Reports, Proceedings, and Bulletins (embracing about 2,300 names); (2) the list of foreign correspondents receiving the Museum Report (embracing about 2,000 names), and (3) the lists of individuals and institutions receiving publications upon one or more special subjects (embracing in all about 3,000 names). Card catalogues corresponding to these lists are preserved. Upon the catalogues corresponding to the first two is recorded, in convenient form, information regarding the relations of the Museum with the libraries and institutions listed. The lists referred to under the third heading consist of the names of the recipients of the Reports, Proceedings volumes, and Bulletins, and of separate papers from the Proceedings and Reports; also of the names of specialists receiving papers upon one or more of a variety of subjects. Each list has its corresponding card catalogue. A separate record is kept showing to which lists each publication of the Museum has been distributed. In the case of publications sent in compliance with individual requests, the orders are copied in press-copy books kept for that purpose.

Typewritten lists of the papers published in the Proceedings, arranged (1) by serial number, (2) alphabetically under the name of the author, and (3) according to subject-matter, have been prepared, and are of great importance in responding to the requests of applicants for papers on various subjects. A separate list has also been prepared referring under (1) name of author, (2) subject, and (3) locality to all zoological, paleontological, botanical, geological, and anthropological papers published by the Smithsonian Institution and its various branches. This is found very useful in connection with the Museum correspondence.

All letters relating to Museum matters, with the exception of those bearing upon the finances and personnel of the Museum, are filed in this office. A series of special files, arranged separately, is also kept (1) for letters received from the various departments and bureaus of

the Government, (2) for letters received from officials of the Museum, (3) for reports of the scientific and administrative officers of the Museum, (4) for cross-references to letters from institutions and establishments, (5) for letters relating to explorations in the results of which the Museum expects to participate.

By means of card catalogues are also recorded references to all letters containing unaccepted offers to present, deposit, exchange, or sell specimens to the Museum. This record has been found very useful in supplying information to curators who may at any future time be desirous of obtaining material which for some reason could not be accepted at the time it was offered.

Distribution of publications.—The transmissions of publications to applicants making special request by letter have surpassed in number those of any preceding year, and it is safe to say that the regular and special sendings have aggregated upward of 35,000 publications, including volumes and separate papers.

Much attention has been given to the revision of the mailing lists. Record of the date of publication of each volume and pamphlet issued has been maintained, and is of frequent service for reference, as is also the catalogue record of lists of specialists to whom publications have been mailed.

By direction of the Secretary of the Institution, a copy of each publication, as soon as issued, is mailed to publishing houses representing the Institution as agents in London, Paris, Berlin, Leipsic, and Milan.

The innovations mentioned in the report for the preceding fiscal year, especially regarding the distribution of publications direct from this office, have proved satisfactory. The regular distributions to the persons on the permanent lists are still made from the document room. The special sendings forwarded from this office are recorded on slips printed for the purpose, with the name of the person or institution supplied, the address, the serial number of the publication, and the date of mailing. When the sending comprises both Smithsonian and Museum publications, the package is transmitted from the Smithsonian building, and a slip is filled out similarly to the above, with the addition of the name of the person upon whose recommendation the sending is made. These slips are press-copied in books reserved exclusively for this purpose, and constitute a permanent record.

More than 4,000 labels have been written in connection with the distribution of the Smithsonian allotment of the Museum Reports for 1891 and 1892 to institutions in the United States and abroad.

The Museum Report for 1892, Bulletin 48, and Circulars 43, 44, 45, and 46 were issued during the year. Proceedings papers Nos. 981-1031 were distributed in pamphlet form, and also advance sheets of Nos. 1040 and 1041.

REGISTRATION AND DISTRIBUTION.

The data concerning these branches of the administrative work are taken from the report of the registrar, Mr. S. C. Brown.

There were received during the year 30,311 packages of all kinds, including material for addition to the collections, publications, and supplies. These figures, as compared with those for the preceding year, show a decrease of about 19,000. This decrease is readily accounted for, however, when it is remembered that during the fiscal year 1893-94 the material returned from the World's Columbian Exposition was received and entered. There were 2,791 packages sent out, of which 694 contained specimens transmitted to educational establishments as gifts, or sent to individuals or institutions in exchange, or for study. A few specimens returned to owners are also included in this number. The entries made on the incoming transportation record numbered 2,664, and on the outgoing transportation record, 719.

The number of accessions or lots of material received was 1,223, an increase of 62 over the record for the preceding year. There were 467 "temporary" accessions, consisting of material received for identification. An increase of over 12,000 is noted in the number of specimens distributed, the total for the year having been 39,236.

The storage record shows that 354 packages were placed in storage, while 113 packages were withdrawn by the curators to whose departments the material belonged. The storage rooms having become very much crowded, it was found necessary to make arrangements for additional space, and in June, 1895, new quarters were secured, containing more than double the floor space and three times the cubic capacity of the quarters previously occupied.

Of the collections transmitted to educational establishments during the year, a large proportion consisted of marine invertebrates, although many specimens of rocks and ores, and casts of prehistoric implements have been sent out, as well as a limited number of minerals and fishes. Lists of the specimens contained in the collections which have been prepared for distribution since 1890 are printed in Appendix IX.

A detailed statement, arranged geographically, showing to what individuals and institutions specimens have been sent during the year, either in exchange, as gifts, or for study, is given in Appendix X. The number of lots of specimens sent out is here recorded:

United States:

Alabama	2
Arkansas	1
California	11
Colorado	2
Connecticut	4
District of Columbia	14
Georgia	3
Illinois	9
Indiana	3

United States:

Iowa	17
Kansas	3
Kentucky	4
Maryland	5
Massachusetts	18
Michigan	3
Minnesota	1
Mississippi	1
Missouri	3

United States:		Foreign countries:	
Montana	1	Australia	4
Nebraska	5	Austria	5
New Jersey	4	Canada	1
New York	24	Denmark	1
North Dakota	3	England	13
Ohio	9	France	9
Oregon	1	Germany	7
Pennsylvania	26	Holland	1
Rhode Island	1	India	7
South Carolina	2	Japan	1
South Dakota	1	Mexico	1
Tennessee	2	Russia	1
Virginia	2	Syria	1
Washington	1		
Wisconsin	6	Total	253

The following table shows the number of specimens distributed by the various departments during the year covered by this report, either as gifts or in exchange:

Ethnology	75	Insects	4,846
Prehistoric anthropology (original objects)	1,269	Marine invertebrates	20,405
Prehistoric anthropology (casts)	1,178	Recent plants	1,382
Mammals	423	Minerals	1,016
Birds	1,437	Rocks and ores	2,567
Reptiles and batrachians	75	Helminthological specimens	242
Fishes	853	Comparative anatomy	65
Fossils	2,214	Musical instruments	15
Mollusks	1,174	Total	39,236

The thanks of the National Museum are due to Messrs. George Christall & Co., agents of the Trinidad Line of Steamers, for courtesies extended in offering to transport collecting outfits and specimens to and from Trinidad free of charge.

BUILDINGS AND LABOR: POLICE AND PUBLIC COMFORT.

The superintendent of buildings, Mr. Henry Horan, mentions in his annual report the more important features of the work accomplished during the year by the force under his charge. An abstract of this portion of his report is given in Appendix XI. Mr. Horan has also submitted a statement showing the number of cases, fixtures, etc., made, altered, or repaired, the amount of fuel, gas, and ice consumed, a list of articles lost and found in the Museum halls, lists of the tools in use in the various shops, and a table showing the number of feet of telephone and other electric wire installed.

WORK OF THE MUSEUM PREPARATORS.

TAXIDERMISTS.

Mr. William Palmer, chief taxidermist, reports that the following mammals were mounted during the year, but owing to pressure of other work were not entirely finished: A Texas hare, a marsh hare, an Angora

goat, a Japanese goat, two guinea pigs, and a few other small mammals. A limited number of mounted specimens, including the head of a water buffalo, a pangolin, a flying squirrel, and a mole rat, were repaired and put on new stands.

All mammals dying from the effects of confinement at the National Zoological Park are now received by the taxidermist and by him turned over to the osteological preparator or to the department of birds, reptiles, or mammals, as the case may be. The total number of mammals received in the flesh during the year was 84, nearly one-half having come from the Zoological Park, as will be seen from the following table:

Mammals received in the flesh.

	From the National Zoological Park.	From other sources.
Primates.....	7	.....
Carnivora.....	10	5
Ungulata.....	9	.....
Chiroptera.....	.....	10
Rodentia.....	8	30
Insectivora.....	.....	3
Marsupialia.....	1	1
Total.....	35	49

A number of skins were received, most of them dry, but some fresh or salted; also a few mounted specimens to be dismounted.

Number of skins received.

Carnivora.....	8
Ungulata.....	12
Rodentia.....	11
Marsupialia.....	2
Total.....	33

Forty-six skins, mostly of large mammals, were received and prepared for the Department of Agriculture. Two hundred and fifteen dry skins were prepared for the study series of the Museum, as shown in the following table:

Primates.....	18	Chiroptera.....	11
Carnivora.....	72	Edentata.....	1
Ungulata.....	33	Marsupialia.....	10
Rodentia.....	67	Total.....	215
Insectivora.....	3		

The number of skins remaining on hand June 30, 1895, was 369, as shown below:

Primates.....	29	Insectivora.....	1
Carnivora.....	203	Sirenia.....	1
Rodentia.....	35	Marsupialia.....	16
Ungulata.....	78	Total.....	369
Chiroptera.....	3		
Edentata.....	3		

Mr. William Palmer spent a portion of the months of February and March in making collections in the Kissimmee River region of Florida.

A model of the Tower of Babel was prepared by Mr. Joseph Palmer for exhibition at the Atlanta Exposition in connection with the exhibit of the department of oriental antiquities under the direction of Dr. Cyrus Adler. He was also occupied in assisting in the preparation of lay figures and of exhibits of reptiles and birds.

Casts were made of a collection of 318 Assyrian seals, transmitted by Dr. Frederick Stearns, of Detroit, Mich. A large number of casts of cetaceans were cleaned and repaired, and the contents of the rooms in the basement of the Smithsonian building in which the molds are stored, were thoroughly overhauled. All of the tanks and pickled skins were removed from the shed near the Fish Commission building to one of the sheds south of the Smithsonian building. The location of the quarters rented for storage purposes and for workrooms was changed near the close of the year.

Mr. J. M. Stowell, of the Leland Stanford Junior University, and Mr. McElroy, of Washington, spent several weeks in the shops of the taxidermists, studying the methods of work.

Mr. Henry Marshall, taxidermist of the department of birds, cleaned and renovated about 1,000 specimens in the exhibition series during the year. He also skinned 225 alcoholic birds and dismantled about 150 specimens. Forty-two fresh specimens were skinned and about 50 specimens were mounted for the exhibition series.

OSTEOLOGIST.

The osteological work has consisted mainly in the preparation of material for the study series. Although a number of specimens have been prepared for exhibition, it has been impossible, owing to pressure of other work, to mount more than a small portion of them. The work of preparing a restoration of a skeleton of *Zenaglon* for the Cotton States and International Exposition at Atlanta interfered greatly with the regular work of the osteologist. Three months of the time of Mr. J. W. Scollick were spent in developing portions of the skeleton on which the restoration was based.

Eight hundred and eighty-one skulls were cleaned for the department of mammals, and a considerable amount of time was spent in preparing specimens for the use of Professor Cope in connection with the preparation of a work on the reptilia of North America.

The number of specimens received, cleaned, and mounted for the department of comparative anatomy is shown in the following table:

	Mammals.	Birds.	Reptiles.	Fishes.	Total.
Received as fresh specimens:					
Entire skeletons.....	10	38	6		54
Cleaned:					
Entire skeletons.....	8	36	12	2	58
Incomplete skeletons.....		*274			274
Skulls.....	3	13	3	5	24
Mounted:					
Entire skeletons.....	1	2	5	1	9
Skulls.....	3		1		4
Total.....	25	363	27	8	423

*Sterna.

PHOTOGRAPHER.

Mr. T. W. Smillie, photographer, reports that 759 negatives were made during the year, also 227 platinum prints, 1,231 silver prints, 25 cyanotype prints, 10 bromide enlargements, and 6 lantern slides. Twenty-nine prints were mounted. A large portion of this work was done for the departments of ethnology, prehistoric anthropology, botany, mammals, geology, and marine invertebrates. The care of the photographic collection and other work of a miscellaneous character, including the testing of a number of different kinds of ink, in order to determine the most suitable for the use of the Museum, occupied considerable time.

COLORIST.

Mr. A. Zeno Shindler continued the work of cleaning and restoring some of the pictures contained in the Catlin collection of Indian paintings. About one hundred of these have received attention up to the present time. He also continued his work on the series of paintings representing the races of man. Some miscellaneous work was accomplished, including the painting of lay figures for the department of ethnology, and the retouching of a series of photographs of Pembroke College, England.

APPENDIX I.

THE SCIENTIFIC AND ADMINISTRATIVE STAFF.

(Corrected to August 1, 1896.)

KEEPER, EX OFFICIO,

S. P. Langley, Secretary of the Smithsonian Institution.

EXECUTIVE OFFICERS.

G. Brown Goode, Assistant Secretary of the Smithsonian Institution, in charge of the U. S. National Museum.

Frederick W. True, Executive Curator.

W. V. Cox, Chief Clerk.

SCIENTIFIC STAFF.

ARTS AND INDUSTRIES: G. Brown Goode, Curator.

Historical Collections: A. Howard Clark,¹ Custodian.

Religious Ceremonial Objects: Cyrus Adler,¹ Custodian.

Technological Collections: J. E. Watkins, Curator.

Graphic Arts: S. R. Koehler, Curator.

Materia Medica: J. M. Flint,¹ United States Navy, Curator.

Forestry: B. E. Fernow,¹ Curator.

Electrical Collections: George C. Maynard,¹ Custodian.

Physical Apparatus: W. C. Winlock,¹ Curator.

ETHNOLOGY: O. T. Mason, Curator; Walter Hough, Assistant Curator.

Aboriginal Pottery: William H. Holmes,¹ Curator.

Pueblo Collections: F. H. Cushing,¹ Custodian.

ORIENTAL ANTIQUITIES: Paul Haupt,¹ Curator; Cyrus Adler,¹ Assistant Curator.

PREHISTORIC ANTHROPOLOGY: Thomas Wilson, Curator.

MAMMALS: Frederick W. True, Curator.

BIRDS: Robert Ridgway, Curator; C. W. Richmond, Assistant Curator.

BIRDS EGGS: Charles Bendire,¹ Major, U. S. A. (retired), Curator.

REPTILES AND BATRACHIANS: Leonhard Stejneger, Curator.

FISHES: Tarleton H. Bean,¹ Curator; Barton A. Bean, Assistant Curator.

MOLLUSKS: William H. Dall,¹ Curator; C. T. Simpson, Aid; W. B. Marshall, Aid.

INSECTS: L. O. Howard,¹ Curator; W. H. Ashmead,¹ Custodian of the Collection of Hymenoptera; D. W. Coquillett,¹ Custodian of the Collection of Diptera; O. F. Cook,¹ Custodian of the Collection of Myriapoda; E. A. Schwarz,¹ Custodian of the Collection of Coleopterous Larvæ; M. L. Linell, Aid.

MARINE INVERTEBRATES: Richard Rathbun,¹ Curator; J. E. Benedict and Miss M. J. Rathbun, Assistant Curators.

Helminthological Collections: C. W. Stiles,¹ Custodian.

COMPARATIVE ANATOMY: Frederic A. Lucas, Curator; Frank Baker,¹ Associate Curator.

¹ Honorary, and serving without salary.

PLANTS (NATIONAL HERBARIUM): F. V. Coville,¹ Curator; J. N. Rose, Assistant Curator; C. L. Pollard, Assistant Curator; O. F. Cook, Assistant Curator; Miss Carrie Harrison, Aid.

PALEONTOLOGY: C. D. Walcott,¹ Curator; Charles Schuchert, Assistant Curator.

Vertebrate Fossils: O. C. Marsh,¹ Curator; F. A. Lucas, Assistant Curator.

Invertebrate Fossils:

Paleozoic: Charles Schuchert, Custodian.

Mesozoic: T. W. Stanton,¹ Custodian.

Cenozoic: W. H. Dall,¹ Associate Curator.

Fossil Plants: Lester F. Ward,¹ Associate Curator; F. H. Knowlton,¹ Custodian of Mesozoic Plants; David White,¹ Custodian of Paleozoic Plants.

MINERALS: F. W. Clarke,¹ Curator; Wirt Tassin, Assistant Curator.

GEOLOGY: George P. Merrill, Curator; W. H. Newhall, Aid.

LIBRARY: Cyrus Adler,¹ Librarian; Newton P. Scudder, Assistant Librarian.

ASSOCIATES.

Theodore Gill,¹ Associate in Zoology.

R. E. C. Stearns,¹ Associate in Zoology.

R. W. Shufeldt,¹ Associate in Comparative Anatomy.

C. A. White,¹ Associate in Paleontology.

C. Hart Merriam,¹ Associate in Zoology.

ADMINISTRATIVE STAFF.

CHIEF CLERK: W. V. Cox.

CHIEFS OF DIVISION:

Correspondence and Reports: R. I. Geare.

Registration and Storage: S. C. Brown.

Editor of Proceedings and Bulletins: Marcus Benjamin

Disbursing Clerk: W. W. Karr.

Property Clerk: J. S. Goldsmith.

Photographer: T. W. Smillie.

Superintendent of Buildings: Henry Horan.

PREPARATORS.

Joseph Palmer, Chief Modeler.

William Palmer, Chief Taxidermist.

A. Z. Shindler, Colorist.

J. W. Scollick, Osteologist.

Henry Marshall, Taxidermist.

N. R. Wood, Taxidermist.

A. H. Forney, Taxidermist.

¹ Honorary, and serving without salary.

APPENDIX II.

LIST OF ACCESSIONS DURING THE YEAR ENDING JUNE 30, 1895.

[All accessions marked with an "A" indicate material obtained for the Atlanta Exposition.]

- ABBE, Prof. CLEVELAND. (See under William D. Fry.)
- ABBOTT, Dr. WILLIAM L. (Philadelphia, Pa.): A large and valuable collection of natural history specimens and other objects obtained in Turkestan, Kashmir, and adjacent sections of Asia, consisting of 97 mammal skins, 102 skulls, and 11 alcoholic specimens, skin of a Cyprinoid fish, 288 birds' skins representing 120 species, birds' eggs, insects, reptiles, 2 musical instruments, ethnological objects, and a human skull obtained from a Mussulman cemetery. 29359.
- ABEL, J. C. (Lancaster, Pa.): Eleven rude implements, 11 arrow and spear heads, and a polished hatchet (28881); 3 unfinished stone hatchets, stone chisel, 13 pebbles of quartzite and graywacke slightly worked on the edges, 20 quartz crystals from the Conestoga Hills, also photographs of a double-grooved ax and a rude stone implement (28976); 41 arrow and spear heads and 10 fragments of pottery from the same locality (29015).
- ABRAHAM, F., & SON (Boston, Mass.): Meerschaum from Eski Shehr, Asia Minor. Purchase. 28641.
- ACADEMY OF NATURAL SCIENCES (Philadelphia, Pa.), through Witmer Stone: Eight birds' skins, representing 8 species, from Mexico. Deposit. 28941. (Returned.)
- ADAM, LOUIS (Paris, France): Seventy-seven photographs of his collection of prehistoric implements and objects from Central America. 28517.
- ADAMS, W. W. (Union Springs, N. Y.): A thin and finely chipped leaf-shaped implement of flint. 28315.
- AGRICULTURAL AND MECHANICAL COLLEGE (Agricultural College, Miss.), through Prof. S. C. Creelman. Thirty vertebrae of Zeuglodon. Exchange. 29305.
- AGRICULTURE, DEPARTMENT OF, Hon. J. Sterling Morton, Secretary.
Collection of birds' eggs, consisting of 92 specimens, representing 27 species, from the United States and Mexico, also 14 birds' nests, including several species new to the Museum collection (28317); collection of fishes obtained by Messrs. Nelson and Goldman in Vera Cruz, Mexico, consisting of *Pimelodus ptenensis*, *Symbranchus marmoratus*, *Agonostoma monticola*, *Pacilia mexicana*, *Gobiomorus dormitator*, *Chonophorus mexicanus*, *Sicyopterus* sp., *Heros* sp., *Heros maculipinnis*, and *Pseudorhaphororus bimaculatus* (28452); types and other specimens of fishes collected by the Death Valley Expedition (28932¹); through Dr. C. Hart Merriam, 3 specimens of *Gila robusta* and 3 specimens of *Agosia chrysoaster* collected by Dr. A. K. Fisher near Huachuca, Ariz., and in the Chiricahua Mountains (28933); through Dr. D. E. Salmon, types and cotypes of parasites, consisting of type specimens of *Moniezia alba* (Perroneito, 1879) R. Bl., 1891; *Moniezia trigonophora*, Stiles & Hassall, 1893; *Moniezia oblongiceps*, Stiles & Hassall, 1893;

¹ Worked up by Prof. C. H. Gilbert.

AGRICULTURE, DEPARTMENT OF—cont'd.
and *Moniezia planissima*, Stiles & Hassall, 1893; cotype of *Monostomum trigonocephalum*, Rud., 1809; types of *Balbiana Rileyi*, Stiles, 1893; *Balbiana falciculata*, Stiles, 1893; *Sarcozystis falciculata*, Stiles, 1893; *Strongylus rubidus*, Hassall & Stiles, 1892; also cotype of *Distomum truncatum* (Rudolphi, 1819) (29021); 2 Isopods (*Porcellio*) collected by G. B. King at Lawrence, Mass. (29069); 6 specimens of Umbelliferae collected by Joseph Howell in Oregon (28974).

Material deposited in the National Herbarium: Type specimen of *Eriogynia uniflora*, collected by F. D. Kelsey in Montana (29003); 120 plants, from Oregon, collected by Thomas Howell (29004); 65 plants collected by Rev. A. C. Waghorne in Newfoundland (29013); 176 plants collected by B. F. Bush in the Indian Territory (29027); 191 plants collected by A. H. Curtiss in Florida (29028); 2 specimens of Colorado plants collected by T. C. Porter, Easton, Pa. (29045); 23 lichens from Labrador, collected by Rev. A. C. Waghorne, Newfoundland (29046); 59 plants collected by Frank S. Collins, Malden, Mass. (29055); 102 specimens collected in Minnesota by Joseph E. Tilden (29056); 2 specimens collected in Oregon and California by Thomas Howell, Arthur, Ore. (29068); 37 specimens from Newfoundland, collected by Rev. A. C. Waghorne (29088); 2 plants from G. C. Nealley, San Diego, Tex. (29089); 11 specimens collected by E. W. Nelson in Mexico (29090); 18 plants from Central America, collected by John Donnell Smith, Baltimore, Md. (28904); 104 plants collected in southern California by S. B. Parish, San Bernardino (28973); plants from Oaxaca, Mexico, collected by E. W. Nelson (28986); 5 plants from Central America, sent by John Donnell Smith, Baltimore, Md. (28987); 101 herbarium specimens, collected by B. L. Robinson in the State of Washington (29115); part of a type specimen of *Tetradymia canescens*

AGRICULTURE, DEPARTMENT OF—cont'd.
from the De Candolle Herbarium, Geneva (29126); specimen of *Collinsia repens*, collected in Texas by John M. Coulter, Lake Forest, Ill. (29127); 3 specimens of *Commelina* and *Tradescantia* from the herbarium of Mrs. Alice Stevens, Washington, D. C. (29128); seeds and scales of white-barked birch, collected by J. B. Leiberger on the shore of Lake Pend d'Oreille, Kootenai County, Idaho (29135); water-lily from C. S. Sargent, collected in Mazatlan, Mexico (29140); 2 specimens of *Potentilla*, collected in Idaho by J. B. Leiberger (29139); 31 herbarium specimens, collected in Maryland by C. E. Waters (29138); orchid cultivated in a greenhouse, sent by A. B. Eaton (29146); specimen of *Crocidium multicaule* from Washington, sent by F. D. Kelsey (29153); 39 herbarium specimens from C. B. Slattnck, collected in Texas (29154); roots of *Tradescantia virginiana* from John W. Short, Liberty, Ind. (29170); 131 herbarium specimens from Cornell University, Ithaca, N. Y. (29171); 32 specimens of California oaks from the California Academy of Sciences, San Francisco (29172); 800 herbarium specimens from the Herbarium of the Berlin Botanical Gardens, Berlin, Germany (29173); second fascicle of *Phycoltheca Boreali-Americana*, sent by Frank S. Collins, Malden, Mass. (29198); 182 herbarium specimens, sent by James Macoun, Ottawa, Canada (29218); herbarium specimen sent by Mr. F. V. Coville (29222); 227 herbarium specimens sent by the University of Idaho (29223); herbarium specimen from Cornell University, Ithaca, N. Y. (29224); 151 herbarium specimens from F. Buchenau, Bremen, Germany (29225); 4 herbarium specimens sent by W. S. Brunner, Ramsey Canyon, Ariz. (29226); seeds of *Cedrela fissilis* from the herbarium of Columbia College, New York, collected by Thomas Morong (29230); herbarium specimen of *Viola*, sent by F. A. Waugh, Stillwater, Okla. (29231); herbarium specimen from A. Fredholm, District of Columbia

AGRICULTURE, DEPARTMENT OF—cont'd.
 (29238); 10 herbarium specimens sent by S. M. Tracy, Starkville, Miss. (29239); 99 herbarium specimens from E. O. Wooten, (29240); 19 herbarium specimens, sent by Dr. N. L. Britton, Columbia College, New York, collected in the eastern part of the United States (29252); 165 herbarium specimens from the University of Idaho, Moscow, Idaho (29253); herbarium specimen sent by Wellesley College, Wellesley, Mass. (29262); 105 herbarium specimens of Labrador plants, sent by Rev. A. C. Waghorne, Newfoundland (29282); herbarium specimens of Colorado plants, sent by R. W. Alderson, Witch Creek, Cal. (29283); 5 plants from Texas, sent by H. Wurzlow, Industry, Tex. (29286); 2 ferns collected in Baltimore County, Md., by C. E. Waters (29287); specimen of *Linaria canadensis* sent by Miss Marie B. Robertson, Blackshear, Ga. (29300); about 500 Mexican plants collected by E. W. Nelson (29309); 6 herbarium specimens sent by Miss Lyra Mills, Eldorado Canyon, Lincoln County, Nebr. (29348); 85 herbarium specimens from E. L. Greene, Berkeley, Cal. (29349); 99 herbarium specimens sent by E. O. Wooten (29350); herbarium specimen from S. S. Boyce, Rolling Fork, Miss. (29351); specimen of *Cyperus spectabilis*, sent by Dr. Timothy E. Wilcox, U. S. Army, Fort Huachuca, Ariz. (29352); 26 herbarium specimens from S. M. Tracy, Starkville, Miss. (29366); 39 herbarium specimens from W. M. Canby, collected in Florida (29388); type specimen of a plant sent by A. Davidson, (29389); 557 herbarium specimens from A. H. Curtiss, Jacksonville, Fla. (29394); 131 herbarium specimens from W. W. Eggleston, Rutland, Vt. (29401); 2 plants from L. H. Plumb, Springfield, Mass. (29410); 2 herbarium specimens from Mrs. Helen B. Webster, Washington, D. C. (29422); 16 herbarium specimens from John K. Ely, Chewelah, Wash. (29429); specimen of *Elaeagnus longipes* from George

AGRICULTURE, DEPARTMENT OF—cont'd.
 F. Payne, Atlanta, Ga. (29452); 2 herbarium specimens of *Lathyrus ornatus*, Nutt. (29469); 18 herbarium specimens from H. Wurzlow, Industry, Tex. (29470); 5 herbarium specimens from Andrew Bradford, Fayetteville, N. C. (29471); herbarium specimen of *Psathyrotes pilifera*, Gray, from J. W. Carpenter, St. George, Utah (29498); 2 herbarium specimens from J. M. Holzinger, Minneapolis, Minn. (29499); herbarium specimens of *Tradescantia virginiana villosa*, Watson, from F. Reppert, Muscatine, Iowa (29500); 6 herbarium specimens from J. M. Holzinger (29518).

ALCOCK, SURG. CAPT. A. (See under Indian Museum.)

ALDERSON, R. W. (See under Agriculture, Department of.)

ALEXANDER, Prof. W. D. (Honolulu, Hawaiian Islands): Six photographs of scenery in Necker Island, Sandwich group. 28689.

ALLEN, Dr. J. A. (See under American Museum of Natural History.)

ALLEN, J. W. (Warrenton, N. C.): Ashetos. 29259.

AMATEIS, L. (Washington, D. C.): Thirty-six casts of Assyrian seals. Purchase. 28434.

AMERICAN MUSEUM OF NATURAL HISTORY (New York City), through Dr. J. A. Allen: Fifty-seven birds' skins, representing 22 species from Mexico and Guatemala (28892); type specimen of *Pitylus humeralis* from Bogota (28927). Deposit. (Returned.)

AMSTUTZ, N. S. (Cleveland, Ohio): Collection of specimens showing the first results and the present condition of the Amstutz process of transmitting photographs by telegraph, etc. (28757); an original engraving executed upon an artograph (28928); specimens illustrating results from the Amstutz experiments in telegraphic engraving from photographic prints and sketches (28990).

ANTHONY, A. W. (San Diego, Cal.): Reptiles from Lower California (exchange) (28386); 5 specimens of *Pennatulæ* (gift) (28614); lizards from San Clemente

ANTHONY, A. W.—continued.

Island, Cal. (exchange) (28713); 2 specimens of Fulmars, types of *Fulmarus g. columba* (deposit) (29418); through Major Charles Bendire, U. S. A., set of Californian land shells, *Helix Kelletti*, Forbes (gift) (29466); 6 specimens of sea birds (gift) (29484).

ANTHROPOLOGY, SCHOOL OF (Paris, France): Nine modern porcelain spindle whorls. 28128.

ANTIOCH COLLEGE CHAPTER, AGASSIZ ASSOCIATION (Yellow Springs, Ohio): Two species of Unionidae. 29160.

APPLETON, J. W. M. (Salt Sulphur Springs, W. Va.): Specimen of *Pyrh-arctica Isabella*. 29485.

ARGETSINGER, GEORGE H. (Hardeeville, Fla.): Cow-fish, *Ostracion quadricorne*. 28955.

ARLINGTON MILLS (Boston, Mass.), through Franklin W. Hobbs, assistant treasurer: Picture entitled "Columbus Sighting America," woven in silk by the Arlington Mills, in commemoration of the four hundredth anniversary of the discovery of America by Columbus, and as a souvenir of the World's Columbian Exposition. 29344.

ARMS, Mrs. J. R. (Richford, Vt.): Flax hackle, 150 years old. 29398.

ARMSTRONG, FRANK B. (Alta Mira, Tamulipas, Mexico): Eighteen birds' skins, representing 10 species (29026); 12 birds' skins, representing 9 species (29103); 23 birds' skins, representing 7 species (29125). Purchase.

ARNOLD, E. (Battle Creek, Mich.): Four eggs (1 set) of Holboell's Grebe, 5 eggs (1 set) of Prairie Sharp-tailed Grouse, 5 eggs (1 set) of Western Savanna Sparrow with nest, and 4 eggs (1 set) of Leconte's Sparrow, with nest, from Manitoba, Canada. 29263.

ATKINSON, E. C. (Philadelphia, Pa.): Asbestos, gummite, and allanite. Purchase. 29301.

ATTWATER, H. P. (San Antonio, Tex.): Six eggs (1 set) of Bullock's Oriole, 8 eggs (2 sets) of Orchard Oriole, 4 eggs (1 set) of Western Lark Sparrow, 4 eggs (1 set) and 3 eggs (1 set) of Scissor-tailed Flycatcher (28455); 2 eggs (1 set) of Mourning Dove, *Zenaidura macroura*,

ATTWATER, H. P.—continued.

from San Antonio (29091); 6 specimens of Blue-eared Jay, *Aphelocoma cyanotis*, from Texas (29455).

AYLETT, P. H. (Ayletts, Va.), through William Palmer: Specimen of Bachmann's Warbler, *Helminthophila Bachmani*, from Virginia. 28569.

BABBITT, J. C. (Dighton, Mass.): Photograph of Dighton Rock and one of a large boulder near Dighton. 29167.

BACH, E. (Aberdeen, S. Dak.): Specimens of Box-elder bug, *Leptocoris tritritatus*, Say. 28855.

BAKER, Dr. Fred. (San Diego, Cal.): Nine shells (29208); 3 specimens of *Lithophagus plumula*, from False Bay, Cal. (29319).

BANGS, O. (Boston, Mass.): Six species of crabs and shrimps from Micco, Fla. 29119.

BARBOUR, E. H. (University of Nebraska, Lincoln, Nebr.): Volcanic dust composed of finely comminuted pumice from Chase County. 29318.

BARCLAY, A. O. (Reagan, Tex.): Wolfram. 29377.

BARLOW, C. (Santa Clara, Cal.): Two eggs (1 set) with nest of Anna's Hummingbird, *Calypte Anna* (28666); nest and 2 eggs of Anna's Hummingbird, *Calypte Anna*, from San Jose, Cal. (29117).

BARTLEMAN, R. S. (U. S. legation, Caracas, Venezuela): Six photographs of natives and scenery (29132); pair of native Venezuelan shoes or "Alpargatas" (29403).

BATES, A. C. (New York City): Five specimens of tourmaline from near Rock Landing, Middlesex County, Conn. Purchase. 29504. "A."

BAUR, Dr. GEORGE (University of Chicago, Chicago, Ill.): Three alcoholic specimens of *Certhidia Saltrini*. 28878.

BEAL, K. F. (Washington, D. C.): Specimens of Isopoda. 29190.

BEALE, Mrs. WILLIAM REDFORD. (See under Mrs. James Redd.)

BECK, R. H. (Berryessa, Cal.): Five eggs (1 set) with nest of Dotted Cañon Wren, *Catherpes mexicanus punctulatus*, from Santa Clara County (new to the Museum collection) (gift) (28360); 18 specimens of Bryant's Sparrow, *Ammodramus sandwichensis Bryanti*, and 1 specimen of

- BECK, R. H.—continued.
Black-chinned Sparrow, *Spizella atrigularis* (gift) (28375); nest and 4 eggs of Rufous-crowned Sparrow, *Peucaea ruficeps* (new to the Museum collection) (purchase) (28411); through Major Bendire, 7 birds' skins, representing 4 species (gift) (28616).
- BECKWITH, Prof. M. L. (Newark, Del.): Collection of insects, representing 47 species. 28707.
- BEECHER, Dr. CHARLES E. (Yale College, New Haven, Conn.): Ten models, illustrating the embryonic stages of *Cistella*. 29368.
- BEIRNE, Mrs. B. T. (Lewisburg, W. Va.): Sun-dial supposed to have been the property of Thomas Jefferson. Deposit. 29009.
- BELL, JAMES (Gainesville, Fla.), through Robert Ridgway: Bullfrog. 28679.
- BELL, J. J. (Brooksville, Fla.), through Dr. Stringer: Twenty-four spear-heads found *en cache* in Brooksville. (Presented by Mr. Bell to the Smithsonian Institution and deposited in the National Museum.) 28879.
- BELL, Lieut. Col. JAMES M., U. S. Army (Fort Sam Houston, Tex.): Collection of mounted heads and antlers of moose, elk, and deer; also ethnological objects. Deposit. 28804.
- BELL, Dr. ROBERT (Geological Survey of Canada, Ottawa, Canada): Retinite from Cedar Lake, Canada. 28744.
- BEMENT, J. M. (Newry, Pa.): Oriskany sandstone brachiopods, 1 specimen of *Spirifer arrectus*, and 4 specimens of *Atrypa reticularis*. 28420.
- BENEDICT, Hon. C. H. (U. S. Consul, Cape Town, Africa): Specimen of peridotite rock, garnets, pyrite, and associated minerals of the diamond reef, and a report on, and photographs of, the Jagersfontaine mine; and a glass model of the "Excelsior." 28937. (See under H. C. Moore.)
- BENEDICT, J. E. (U. S. National Museum): Two White-footed Mice, *Sitomys leucopus*. 29007. (See under W. C. Kendall; Miss Nannie E. Rousseau.)
- BENEDICT, J. E., jr. (Woodside, Md.): Box Tortoise. 29391.
- BENDIRE, Maj. CHARLES, U. S. Army. (See under A. W. Anthony, R. H. Beck, B. J. Bretherton, D. B. Burrows, J. L. Davison, W. B. Judson, R. H. Lawrence, L. P. Scheerer, and R. S. Williams.)
- BENJAMIN, W. E. (New York City): Atlas, containing engravings illustrating biblical antiquities. Purchase. 29448. "A."
- BENNIGER, G. F. (Fort Collins, Colo.): Wood Rat, *Neotoma fuscipes*. 28608.
- BERELSFORD, W. H. (U. S. National Museum): Red Bat, *Atalapha borealis*. 28407.
- BERLIN BOTANICAL GARDENS (Berlin, Germany). (See under Agriculture, Department of.)
- BERRY, E. W. (Passaic, N. J.): Watermites, Hydrachnidae, and specimens of fresh-water Entomostraca. 28378.
- BIEDERMAN, C. R. (Bonito, N. Mex.): Alunite (28460); stone knife found about 12 miles south of Gila River in Pinal County, Ariz. (29169).
- BIGOT, Dr. A. (See under Caen, University of.)
- BIRD, S. M. (Galveston, Tex.): Twenty-four Mexican and other copper coins of the seventeenth, eighteenth, and nineteenth centuries. Deposit. 28805.
- BISHOP, Mr. (Washington, D. C.): Lop-eared rabbit in the flesh. 28592.
- BISHOP, GILES (New London, Conn.): Photograph of a family of Cumberland Gulf Eskimo. 29450.
- BLAIR, R. A. (Sedalia, Mo.), through Hon. C. D. Walcott, Director, U. S. Geological Survey: Thirty-nine fossils consisting of *Hyolithes lanceolatus*, *Lingula gorbyi*, *Lingula sedaliensis*, *Blairocrinus arrosus*, Blair, *cf. trijugis*, *Dictyonema*, *Orbiculoidea*, and undetermined crinoids (28382); 9 specimens of *Dictyonema*, specimen of *Septopora*, specimen of *Fenestella* (?), and 8 undetermined specimens, all from the Choteau formation (28520); 2 specimens of *Conularia Sampsoni* (28602).
- BOAS, Dr. FRANZ (care of Bureau of Ethnology, Washington, D. C.): Collection of objects representing the winter religious ceremonies of the Fort Rupert Indians of British Columbia, and a box of photographic negatives (29057); a

- BOAS, DR. FRANZ—continued.
set of charts of Baffin Land, drawn by the Eskimo for the use of Dr. Boas in his explorations (29060).
- BOEHMER, G. H. (Gaithersburg, Md.): Sphinx Moth from Maryland. 29476.
- BOETTGER, DR. O. (See under Museum Senckenbergianum.)
- BOGAN, S. W. (Washington, D. C.): Small collection of butterflies from Sparrows Point, Md. 28467.
- BOMBERGER, REV. J. H. (Columbiana, Ohio): Twenty-five beetles. 28471.
- BONELLI, DANIEL (Riville, Nev.): Specimens of lead, vanadate, and garnet in mica schist and tourmaline in quartz. 29372.
- BOOTH, JOHN (Coalville, Utah): Minerals. (29111, 29235.)
- BOUCARD, A. (Isle of Wight, England): Seven hundred and forty-nine birds' skins, representing 406 species from all parts of the world (28963); 917 specimens, representing 347 species of Finches, Tanagers, and Weaver birds from various localities (29313).
- BOUDINOT, MRS. E. C. (Washington, D. C.): Daguerreotype of Enos Ridge, Cherokee, and a photograph of Col. E. C. Boudinot, Cherokee. 28690.
- BOURNE, H. H. (North Enid, Okla.): Glacialite. 29356.
- BOWMAN, D. A. (Bakersville, N. C.): Minerals. 28906.
- BOWROX, W. H. (South Pittsburg, Tenn.): Twenty-five specimens of *Stricklandinia* n. sp. and 2 specimens of *Whitfieldella cylindrica* (?). 28827.
- BOYCE, S. S. (See under Agriculture, Department of.)
- BOYD, DR. S. B. (Knoxville, Tenn.): Prairie Horned Lark, *Otocoris alpestris praticola*. 29052.
- BOYLE, C. B. (See under Mrs. E. H. Du Hamel.)
- BRADFORD, ANDREW. (See under Agriculture, Department of.)
- BRADLEY, E. J. (Happy Valley Waterworks, South Australia): Foraminifera from South Australia (28885); 2 specimens of Honey Ant, *Camponotus inflatus*, from Alice Springs, MacDonnell Ranges, Central Australia (29248). Exchange.
- BRANSON, GEORGE (Bellmore, Ind.): Boat-shaped implement. Exchange. 28457.
- BRAVERMAN, M. (Visalia, Cal.): Specimen of chrysoprase from Tulare County, Cal. 29329.
- BRENEMAN, A. M. (Washingtonboro, Pa.): Four arrow-heads of quartzite, flint, jasper, and quartz-crystal, a perforator, long cylindrical shell beads, a glass bead of European make, and a fragment of a painted clay pipe. 28313.
- BREXINGER, G. F. (Santa Cruz, Cal.): Type specimen of a supposed new Chickadee, *Parus rufescens Brexingeri* (gift) (29142); 30 specimens of *Parus rufescens neglectus* (purchase) (29297).
- BRETHERTON, B. J. (McCoy, Oreg.): Two eggs (1 set) each of Glaucous-winged Gull, *Larus glaucescens*; Arctic Tern, *Sterna paradisica*; Red-faced Cormorant, *Phalacrocorax urile*, and nest of the Alentian Song Sparrow, *Melospiza cinerea*, from Alaska (gift) (28332); through Major Bendire, 12 birds' skins, representing 7 species, from Olympia Mountains, Oregon (gift) (28578); 10 birds' skins from Alaska and Oregon (gift) (28712); 4 specimens of Townsend's Sparrow, *Passerella iliaca unalascensis* (exchange) (29414); 3 birds' skins from the coast of Oregon (exchange) (29296); Surf Bird, *Aphriza virgata* (exchange) (29436); skin and skull of Field Mouse, *Peromyscus robustus* (gift) (29453).
- BREWSTER, WILLIAM (Cambridge, Mass.): Eleven sparrows, representing 3 species, from Mexico, Arizona, and Texas (deposit) (28968); 171 birds' skins from northern Mexico (deposit) (28900). Returned.
- BREZINA, DR. ARISTIDES. (See under Vienna, Austria, Museum of Natural History.)
- BRIMLEY, H. H. & C. S. (Raleigh, N. C.): Five reptiles and batrachians from Arkansas and Texas (purchase) (28409); skin of *Lepus palustris* from North Carolina (purchase) (28579); Banded Watersnake and Banded Skunk from Hot Springs, Ark. (purchase) (28630); 6 Spotted Lizards, 2 Spotted Lizards from Texas, 2 brown snakes, and a nebulous toad (purchase) (28704); 2 wood

- BRIMLEY, H. H. & C. S.—continued.
rats, a Pouched Gopher, and specimen of Fremont's Squirrel, from New Mexico (gift) (28796); salamanders (gift) (28886); reptiles from North Carolina and Arkansas (purchase) (28887); skin and skull of a Mink, *Putorius rison* (purchase) (29022); 4 specimens of Xantus's lizards from California (purchase) (29134); 8 reptiles from Texas (purchase) (29336).
- BRISBIN, EDWARD (Boise City, Idaho): Antimony ore from a Mexican mine. 28675.
- BRITISH MUSEUM (London, England), through Dr. Albert Günther: Three specimens of *Atya occidentalis*. 28918.
- BRITTON, DR. N. L. (Columbia College, New York City): Sixteen plants. Exchange. 28868. (See under Agriculture, Department of.)
- BROKAW, L. W. (St. Joseph, Ill.): Five eggs (1 set) of California Pigmy Owl, *Glaucidium gnoma californicum*. 28683.
- BROTHERS, DR. L. J. (Washington, D. C.): Blondinette Pigeon. 29110.
- BROWN, B. S. (Eagle Pass, Tex.): Three species of land shells. 28673.
- BROWN, C. F. (Hot Springs, Ark.): Modified quartz crystal (29293); 3 specimens of quartz (29417).
- BROWN, J. A. (Bridgeport, Cal.): Travertine from California. 29016.
- BROWN, MRS. J. CROSBY (New York City): Gore, from New Hebrides Island, obtained by Rev. Mr. Plat, and a horn from Holland (29112); square piano made by Broadbent, London, and a Ranat-t'hoom (29115). Exchange.
- BROWN, PROF. S. B. (West Virginia University, Morgantown, W. Va.): Fossils of the late Tertiary age (28750); fossil plants (28758).
- BRUCE, DAVID (New Brunswick, N. J.), through Prof. J. B. Smith: One hundred and seventy-five specimens, representing 110 species of Noctuidæ. 28834.
- BRÜLL, DR. GUSTAV (Cincinnati, Ohio): Polished stone hatchet from the ruins of Mitla, Mexico. 29324.
- BRUNNER, W. S. (See under Agriculture, Department of.)
- BRYANT, HENRY G. (Philadelphia, Pa.): Skeleton of a Polar Bear, lacking the feet, obtained from the most northern Eskimos during Mr. Bryant's connection with the Peary Auxiliary Expedition; Pek or skin tent, with frames for the same; commitek or sledge; kaiak or skin canoe, with harpoon lance, also obtained in the same manner (28712); skin of an Arctic Hare, and 4 birds' skins, representing 4 species from Arctic America (29320).
- BUCHENAU, F. (See under Agriculture, Department of.)
- BUCK, REV. D. S. (Lepanto, Ark.): Fragments of charred human bones obtained from a mound near Lepanto. 29382.
- BULLOCK, L. L. (New York City): Specimen catalogue of impressions from aluminium plates. 28691.
- BURNS, FRANK (U. S. Geological Survey): Sea-urchin (exchange) (28331); Mole Shrew, *Blarinabrevicauda* (gift) (28961); 3 vertebrae of Zeuglodon from near Columbus, Ark. (gift) (28970); land and fresh-water shells from Mississippi (gift) (28988).
- BURROWS, D. B. (Lacon, Ill.): Barred Owl and Red-shouldered Hawk from Texas (29457); through Major Bendire, skin of Cassin's Sparrow, *Peucaea Cassini* (28421).
- BUSH, B. F. (See under Agriculture, Department of.)
- CAEN, UNIVERSITY OF (Caen, France), through Dr. A. Bigot: Plaster cast of *Pelagosaurus typus*. 29337.
- CESAR, GERHARD (Franklin Furnace, N. J.): Slickensides. 29508.
- CALDWELL, F. S. (Selkirk-on-Hudson, N. Y.): Molding sand. 28820.
- CALIFORNIA ACADEMY OF SCIENCES (San Francisco, Cal.), through Dr. J. G. Cooper: Land shells from Lower California. 29340. (See under Agriculture, Department of.)
- CALIFORNIA STATE MINING BUREAU (San Francisco, Cal.), through Henry S. Durdan. Crystalline rocks (gift) (28620); specimen of *Coralliochama Orentii*, and a specimen of *Tamiosoma gregaria*, a collection of ores and rocks from California, also minerals from the same locality (exchange) (28803).

- CALIFORNIA, UNIVERSITY OF (Berkeley, Cal.), through Samuel J. Holmes: Twenty-six species of crustaceans from the coast of California (28746); Hermit Crabs, *Eupagurus*, from Monterey, Cal. (28966). Exchange.
- CAMERON, DON C. (no address): Stone relic resembling a grooved maul, found near Hyattsville, Md. 28625.
- CAMERON, ROBERT. (See under G. F. King.)
- CAMP, J. H. (Lima, Ohio): Collection from Africa consisting of ethnological objects and ancient pottery, shells, three birds' skins, geological material, specimen of *Polypterus bichir*, and a Spotted Catfish, *Synodontis schal*, mammal pelts, botanical specimens and fibers, reptiles, and 3 crocodile eggs, shrimp, rude stone implements, insects, comprising 268 specimens, representing 31 species, 2 musical instruments, woods, and specimen of gum (28914); shells, mammal skin and bones, also portion of a hippopotamus skull belonging to a skeleton previously transmitted, rocks and sand, ethnological objects, plants and seeds from the same locality (29304).
- CAMP, W. B. (Sacketts Harbor, N. Y.): Plaster cast of 2 carved stone pipes. 28910.
- CANADA, GEOLOGICAL SURVEY OF (Ottawa, Canada), through Lawrence M. Lambe: Specimen of *Desmaccella penata*, Lambe, and specimen of *Esperella serratohamata*, Carter, from Vancouver Island. Exchange. 29405.
- CANBY, W. M. (See under Agriculture, Department of.)
- CANDLIN, H. (Kerrville, Tex.): Six snakes. 28780.
- CANTERBURY MUSEUM (Christchurch, New Zealand), through F. W. Hutton, curator: twelve specimens, representing 5 species of dried crabs from New Zealand. Exchange. 28759.
- CAREY, A. W. (Adrian, Mich.), through Hon. D. N. Morgan: South Carolina paper money, \$8, December 23, 1776, 14 silver, nickel, and copper coins of Mexico, Danish West Indies, Great Britain, Switzerland, France, Germany, and the United States. 29373.
- CARPENTER, J. W. (See under Agriculture, Department of.)
- CARPENTER, M. M., and R. I. WATTERSON (King's Mountain, N. C.): Specimen of cassiterite. 28875.
- CARSON, C. J. R. (Los Angeles, Cal.): Mexican Indian armor and Spanish shield. Purchase. 29421. "A."
- CASSEL, CAPT. W. H. (See under Druid Hill Park.)
- CAVE, J. T. (Leon, Va.): Rhinoceros beetle, *Dynastes tityus*. 28916.
- CAYTON, P. L. (Alleghany Station, Va.): Cayton's Cither, invented and made by Mr. Cayton. Purchase. 29267.
- CENTRAL HIGH SCHOOL (Duluth, Minn.), through A. J. Woolman: Iron ores from Mesabi Range, St. Louis County, Minn. 28763.
- CHAMBERLAIN, Rev. L. T. (Philadelphia, Pa., also New York City): Shells, principally obtained in Africa, to be added to the Lea collection (28356); 20 specimens of minerals, consisting of garnet, beryl, quartz, agate, thomsonite, chlorastrolite, and sodalite, from various localities, to be added to the Lea collection (presented to the Smithsonian Institution and deposited in the National Museum) (28411); 20 specimens, consisting of a carved ornament of quartz from Japan, 2 specimens of quartz with inclusions from the same locality, specimen of turquoise in gangue from New Mexico, carbuncle of garnet, carved ornament of serpentine, 6 Amazon stone balls, 1 mocha stone, 5 chrome iron balls, and other material from various localities, to be added to the Lea collection (presented to the Smithsonian Institution and deposited in the National Museum) (28417); specimen of muscovite, specimen of quartz from Pennsylvania, 3 cut and polished specimens of quartz, wernerite, and quartz with inclusion, to be added to the Lea collection (presented to the Smithsonian Institution and deposited in the National Museum) (28486); specimens of Unionidæ and other shells from Central Africa and Borneo for addition to the Lea collection (28913); series of Unios from Pearl River, Jackson, Miss., to be added to the Lea collection (28981); specimen of *Pleuroto-*

- CHAMBERLAIN, Rev. L. T.—continued.
maria Beyrichii from Japan (29006); opal from Queretaro, Mexico, to be added to the Lea collection (presented to the Smithsonian Institution and deposited in the National Museum) (29102); 27 species of shells, to be added to the Lea collection (presented to the Smithsonian Institution and deposited in the National Museum) (29123); specimen of spinel (cut) from Ceylon, sunstone (cut) from Norway, gold nugget from California, specimen of crocidolite from South Africa, 2 specimens of asteria (cut) from Ceylon, specimen of essonite engraved, specimen of smoky quartz engraved, garnet necklace from Bohemia, 12 Tassi paste reproductions of antiques from the bequest of Mrs. Frances Lea Chamberlain, through Dr. Chamberlain, (29158); 2 specimens of tourmaline (cut), from Mount Mica, Paris, Me.; specimen of amethyst from Upper Providence, Delaware County, Pa.; specimen of amethyst from Minas Geraes, Brazil; opal on argillaceous limonite, from Baracoo River, Australia, and a specimen of labradorite from Labrador, to be added to the Lea collection (presented to the Smithsonian Institution and deposited in the National Museum) (29159); cabinet collection of 102 plaster casts of medals, cameos and gems (29202); 33 mollusks, (representing 20 species) from the East Indies (presented to the Smithsonian Institution and deposited in the National Museum) (29345).
- CHAMBERS, B. L. (U. S. N. M.): Norway Rat, *Mus decumanus*. 29464.
- CHANCE, Dr. G. B. (through Hon. C. D. Walcott, Director U. S. Geological Survey): Crystallized gold from Santian District, White Bull Ledge, Cascade Range, Linn County, Oreg. 28657.
- CHANLER, WILLIAM ASTOR (Zanzibar, Africa): Fourteen Wa Kamba ethnological objects and a honey bucket from East Africa (28747); mounted specimen of Chanler's Antelope, *Cervicapra Chanleri* (29210); collection of Lepidoptera from Jombéné Range, East Africa (29378); skeleton of Gazelle, type of *Cervicapra Chanleri* (29482).
- CHAPMAN, J. H., and Dr. R. W. SHUFFLEDT (Takoma, D. C.): Skin of a half-grown male Sewellel, *Haplodon rufus*, obtained from Mishawaka, Oreg. 28368.
- CHASE, Dr. A. G. (Millwood, Kans.): Cranium of *Bison americanus*, found 25 feet below the surface of the ground. 28749.
- CHILBERG, J. E. (See under Young Naturalists' Society, Seattle, Wash.)
- CHILTON, CHARLES (District High School, Port Chalmers, New Zealand): Specimens of New Zealand Amphipoda and Isopoda. Exchange. 29149.
- CHITTENDEN, F. H. (Department of Agriculture): Tineid Moth, *Lacerna breviretella*, Clem. (28949); specimen of *Podisus cynicus*, Say, from Lewiston, Idaho (28999).
- CLAPP, G. H. (Pittsburg, Pa.): Two specimens of a rare variety of *Unio luteolus*, Lam., from Ontario, Canada. 28517.
- CLARK, CHARLES U. (Brooklyn, N. Y.): Seventy specimens of North American Coleoptera. 28767.
- CLARKE, BRENT (Washington, D. C.): Rude chipped implement from Rock Creek, D. C., 3 small leaf-shaped points from Hyattsville, Md., and 6 arrowheads from Adams County, Pa. Exchange. 28669.
- CLARKE, Prof. F. W. (U. S. Geological Survey): Crystal of tripelite from Stoneham, Me. Purchase. 29080.
- CLARKE, Mrs. L. J. (Parsons, Pa.), through E. H. Hawley: Coal plants. 28664.
- CLARKE, Prof. JOHN M. (Albany, N. Y.), through Interior Department, U. S. Geological Survey: Type specimens of *Acanthodes pristis* and *Palwoniscus devonius*. 28829.
- CLEVELAND, CINCINNATI, CHICAGO AND ST. LOUIS RAILROAD COMPANY (Cincinnati, Ohio), through Schuyler Hazard, assistant engineer: Collection of railroad rails, spikes, and chairs laid on the Mud River and Lake Erie Railroad previous to 1840. 29492.
- COBOLINI, LOUIS (Rockport, Tex.). Shells, specimen of dried *Ostracion*, pharyngeal bone of *Pogonias*, and scale of *Megalops*, 4 starfishes and a crab, seeds (29136); snout of sawfish, scales of a Tarpon and a dried Mathe also

- COBOLINI, LOUIS—continued.
 photograph of 5 Tarpons and ear bones of a Redfish, crabs and coral, seeds from the coast of Texas, 7 species of marine shells from the coast of Texas, and an egg case of *Fulgur* (29444).
- COCKERELL, Prof. T. D. A. (Agricultural College, Las Cruces, N. Mex.): Horned Toad, *Phrynosoma modestum* (28622); reptiles and batrachians (28975); snakes (28978); salamanders and young Kangaroo Rat, *Perodipus ordii* (29053).
- COHEN, Rev. HENRY (Galveston, Tex.): Four volumes of the Liturgy of the Bene Israel of Bombay in the Morathi language (Presented to the Smithsonian Institution and deposited in the National Museum.) 28698.
- COLLINS, FRANK S. (See under Agriculture, Department of.)
- COLONIZATION SOCIETY (Washington, D. C.), through J. O. Wilson, secretary: Collection of clothing, illustrating the industrial products of the tribes of Liberia, Mozambique, and adjacent country. Deposit. 28346.
- COLUMBIA COLLEGE (New York City). (See under Agriculture, Department of.)
- CONANT, B. H. (Wenham, Mass.): Six photographs of ancient half-mile stones in Wenham, and photographs of portraits of Hugh Peters, Capt. James Mugford, and John Rhodes Russell. 28570.
- CONGER, Miss K. E. (Chico, Cal.): Bulbs. 29288.
- CONVERS, E. B. (New York City): Copy of a medal to be awarded for "Bravery in saving life at sea," founded by a citizen of the United States at Tyne-mouth, England. 28822.
- COOKE, Miss J. M. (San Diego, Cal.): Marine shells from San Diego and additional specimens collected by Capt. George D. Porter in Lower California, representing 46 species and varieties. 29328.
- COPP, J. BRENTON (Old Mystic, Conn.): Collection of colonial household utensils and wearing apparel. 28810.¹
- COOPER, Dr. J. G. (See under California Academy of Sciences.)
- CORNELL UNIVERSITY (Ithaca, N. Y.). (See under Agriculture, Department of.)
- CORNMAN, C. T. (Carlisle, Pa.) White Silky Bantam hen, in the flesh (29072); Black Silky Bantam, in the flesh (29314).
- COSSMANN, M. (Paris, France): Specimens of *Gladius Bayleyi*, Desh., and *Cassia cancellata*, Lam., from the middle Eocene formation of France. 29040.
- COSTA RICA, NATIONAL MUSEUM OF (San José, Costa Rica), through Señor J. Fid. Tristán: Minerals from the vicinity of Monte Redondo and La Mina, Rio Torres, limestone containing *Pecten*, sp. 28474.
- COULTER, J. M. (See under Agriculture, Department of.)
- COUNTESS, Miss CALLIE (Cottendale, Ala.): Mole. 28682
- COVERT, A. B. (Ann Arbor, Mich.): Two birds' skins, consisting of Wheatear, *Saxicola oenanthe*, and King Rail, *Rallus elegans*, from Michigan, the former new to the avifauna of the State. 29659.
- COVILLE, FREDERICK V. (See under Agriculture, Department of.)
- COX, Master EMERY (Brightwood, D. C.): Mole, *Scalops aquaticus*. 28703.
- COX, Master EMERY and Miss HAZEL (Brightwood, D. C.): Pine mouse, *Arvicola pinetorum*, in the flesh (29246); mole, *Scalops aquaticus* (29525).
- COX, Miss HAZEL (Brightwood, D. C.): Mole, *Scalops aquaticus*. 28732.
- COX, PHILIP (Upper Mangerville, New Brunswick): Three specimens of White Fish, *Coregonus labradoricus* and *Coregonus quadrilateralis*. 28395.
- COX, W. V. (chief clerk, U. S. National Museum): Larger Digger Wasp, *Sphex speciosus* and Dog Day Harvestfly, *Cicada tibicen*. 28396. (See under Rev. G. T. Wilmar.)
- CRANCH, Mrs. CHARLOTTE D. (Urbana, Ohio): Collection of engravings obtained by the late John Cranch in Italy. 29209.

¹ Presented to the Smithsonian Institution and deposited in the National Museum. Accessions 28273 and 27084, received from Mr. Copp in previous years and referred to in the accession lists in the Museum Reports, were also presented to the Smithsonian Institution.

- CRANDALL, C. S. (See under J. N. Rose.)
- CRAWFORD, J. E. (Coletown, Tex.): Piece of a plank containing a bullet embedded a century ago. 28451.
- CREELMAN, Prof. S. C. (See under Agricultural and Mechanical College.)
- CREVECEUR, F. F. (Onaga, Kans.): Twenty-nine species of Lepidoptera (28162); 35 specimens of Lepidoptera (28537); 66 species representing miscellaneous insects (28612); 50 species of miscellaneous insects (28768).
- CROSBY, F. W. (Washington, D. C.), through Prof. W. O. Crosby: Building stones and marbles from Egypt. Purchase. 28500.
- CROSBY, Prof. W. O. (Massachusetts Institute of Technology, Boston, Mass.): Travertine from Tivoli and leucite basalt from Tavolato, Italy. Exchange. 28818. (See under F. W. Crosby.)
- CROSS, WHITMAN. (See under Interior Department, U. S. Geological Survey, and C. A. Martine.)
- CROUSE, C. M. (Syracuse, N. Y.): Polished stone hatchet with wooden handle. Deposit. 29458.
- CROWFOOT, JOSIAH (San Miguel, Cal.): Two sea-urchins and two large fossil oyster shells, *Ostrea titan*, from San Miguel. 29434.
- CROWLEY, W. B. (Washington, D. C.): Water lizard or Triton. 28733.
- CRUMP, L. B. (Winston, Va.): Ten arrow-heads. 28516.
- CULIN, STEWART (University of Pennsylvania, Philadelphia, Pa.): Three casts of Egyptian and Etruscan dice (28526); modern games and toys (28979). Exchange.
- CUNNINGHAM, B. L. (Fort Klamath, Oreg.): Two specimens of *Ranatra quadridentata*, Stål. 2-969.
- CURRIER, Rev. C. W. (Necker, Md.): Forty-three arrow-heads, large chipped implement, and a stone pendant from Baltimore County; 58 arrow-heads from Prince George County. 29165.
- CURTISS, A. H. (See under Agriculture, Department of.)
- DALL, W. H. (U. S. Geological Survey): Six species of *Marginella* and *Conus* from Africa (28328); 6 specimens of
- DALL, W. H.—continued.
Helix hortensis from House Island, near Magnolia, Mass. (28188).
- DALRYMPLE, Dr. E. S. (Branchville, N. J.): Plaster cast of a grooved stone slab, the original of which was found on the bank of the Delaware River, Sussex County, N. J. 28919.
- DANIEL, Dr. Z. T. (Pine Ridge Agency, S. Dak.): Skin-scrapers blade of chert or flint (23525); moecasin from the battlefield of Wounded Knee and 2 worked flakes of flint from White Clay Creek (28702); 6 worked flakes of jasper and chalcedony from White Clay Creek (28897); 5 flint scrapers from the same locality (29116); 50 rudely worked flakes and 2 arrow-heads (29307); specimen of *Sphinx albescens*, Tepper (29392).
- DANNHAUSER, MAX (Brooklyn, N. Y.): Highflyer Pigeon, in the flesh (28425); Red Holland Pigeon (28895).
- DAVENPORT, G. E. (Medford, Mass.): Five type specimens of Mexican ferns. 29130.
- DAVEY, M. A. (Galveston, Tex.): Five species of crabs. 29419.
- DAVIDSON, Dr. A. (See under Agriculture, Department of, and J. N. Rose.)
- DAVIS, A. P. (See under John A. Vogleson.)
- DAVIS, Prof. G. C. (Agricultural College, Mich.): Four specimens of *Tassus*, representing 2 species (new to the Museum collection). 28403.
- DAVIS, N. L. (Albion, N. Y.): Specimens of Harlan's Hawk, *Buteo Harlani*, and a specimen of Plumbeous Chickadee, *Parus carolinensis agilis*, from Texas. 28815.
- DAVIS, S. M. (Washington, D. C.): Flint perforator from Washington County, Pa. 28513.
- DAVISON, J. L. (Lockport, N. Y.), through Major Bendire, U. S. Army: Capped quartz crystals. 28532.
- DAY, Dr. DAVID T. (U. S. Geological Survey): Eight specimens of rocks and ores from various localities. 28993.
- DEAN, S. B. (Arlington, Mass.): Twelve pieces of heating and illuminating apparatus. Purchase. 28991.
- DE CANDOLLE HERBARIUM (Geneva, Switzerland). (See under Agriculture, Department of.)

- DELANEV, J. M. (South Livonia, N. Y.): Twenty specimens of *Trombidium* sp. 29175.
- DEMMING, H. C. (Harrisburg, Pa.): Specimen of molybdenite (28468); specimen of gummite and 2 specimens of serpentine from Spruce Pine, Mitchell County, N. C. (28504.)
- DENNISON, C. E. (Smiths Island, Wash.), through G. W. Dennison: Tooth of a mammoth. 29396.
- DENNISON, G. W. (Smiths Island, Wash.): Small collection of birds' eggs, consisting of 12 specimens representing 5 species from Puget Sound (28971); 5 birds' skins, representing 5 species from Smiths Island (29227); large tooth of a mammoth found 62 feet below the surface of the ground (29395); 2 birds' skins from Washington, consisting of a Rusty Song Sparrow, *Melospiza fasciata guttata*, and a Western Savanna Sparrow, *Ammodramus sandwichensis alaudinus* (29399); 3 eggs of *Cerorhinca monocerata* (29426). (See under C. E. Dennison.)
- DEYROLLE, EMILE (Paris, France): Model of the end of a finger (purchase) (29442); 2 series of embryological models, illustrating the development of the trout and the starfish (purchase) (29443) "A"; 7 anatomical models (purchase) (28824).
- DIETRICH, H. M. (Anna, Ill.): Lithographic limestone. 28697.
- DIGGS, C. W. (U. S. National Museum): Regal Walnut Moth, *Citheronia regalis* (28342); Mourning-cloak Butterfly (29499).
- DILLER, Dr. J. S. (U. S. Geological Survey): Specimen of wavellite from Montgomery County, Ark. 29187. (See under Prof. F. C. Phillips.)
- DODGE, BYRON E. (Richfield, Mich.): Perforated heart-shaped stone (28554); flint drill or perforator (28835). Deposit.
- DONAGHUE, C. W. (Trenton, N. J.): Fire-clay pins. 29311.
- DORSEY, Dr. H. W. (New Market, Md.): Single-comb Brown Leghorn fowl, in the flesh. 29059.
- DROPPERS, GARRETT (Keioijuku University, Tokio, Japan): Crustaceans from Japan. Purchase. 28653.
- DRUID HILL PARK (Baltimore, Md.), through Capt. W. H. Cassell, superintendent: Young camel, in the flesh. 28465.
- DRUMMOND, Dr. I. W. (New York City): "Rosin" opal from Cuba. 28891.
- DUDEX, H. (New Albany, Ind.): Fifty American beetles (28397); 30 specimens of Coleoptera (28454).
- DUGÈS, Prof. ALFRED (Guanajuato, Mexico): Four leeches and 7 specimens of *Spharoma*, also 3 named species of Arachnida (28357); specimens of *Thelyphonus giganteus* and *Myrmecocystus melliger*, snout of a Sawfish, *Pristis pectinatus*, incomplete skeleton of Mexican Kangaroo Rat, *Dipodomys ornatus*, alcoholic specimen of Grebe, *Podilymbus podiceps*, crustaceans, starfishes, and a gorgonian (28845); 26 species of Mexican Hymenoptera and Orthoptera (28883); large fragment of the inner bark of a sapotaceous tree (29365).
- DU HAMEL, Mrs. E. H. (Washington, D. C.), through C. B. Boyle: Model of the schooner *Flying Fish*. Deposit. 28835.
- DUNNING, S. N. (Hartford, Conn.): Series of Coleoptera, Hymenoptera, and Hemiptera, from Washington and Vermont. 28536.
- DURDEN, HENRY S. (See under California State Mining Bureau.)
- EARLL, R. EDWARD (U. S. N. M.): Three House Mice, *Mus musculus*. 28958.
- EASTWOOD, Miss ALICE (California Academy of Sciences, San Francisco, Cal.): Specimen of *Felva Kelloggii* from California. 28972.
- EATON, A. B. (See under Agriculture, Department of.)
- EDWARDS, A. C. (Spokane, Wash.): Facsimile of an old-fashioned pocket knife. Deposit. 28323.
- EGGLESTON, W. W. (See under Agriculture, Department of.)
- EGLESTON, Prof. T. (School of Mines, New York City): Labels for mineral collections. 29186.
- ELROD, Prof. M. J. (Wesleyan University, Bloomington, Ill.): Eight specimens of Unionidae from the northwestern part of the United States (28863); 23 plants from the western section of the United States (29038). (See under Illinois Wesleyan University.)

- ELSTON, Dr. W. J. (Medical Division, Pension Office, Washington, D. C.): Two skins with skulls of Cottontail Rabbit (*Lepus sylvaticus*) and Pocket Gopher (*Geomys tuza floridanus*). 29446.
- ELY, J. K. (See under Agriculture, Department of.)
- ELY, T. N. (See under Pennsylvania Railroad Company.)
- EMMERICH, Lieut. C. F. (U. S. Navy): Two Satsuma plaques. Deposit. 28711.
- EMMONS, S. F. (See under Interior Department, U. S. Geological Survey.)
- ENGLE, H. M. (Roanoke, Va.): Specimen of tscheffkinite from Bedford County, Va., and a specimen of samarskite from North Carolina. 29292.
- ENGLISH, GEORGE L., & CO. (New York City): Twenty-three specimens of minerals, consisting of magnetite, calcite and pyrite, smithsonite, chondrodite, atacamite, leadhillite, fluorite, galena, molybdenite, clinocllore, and others, from various localities (purchase) (28464); opal from near Moscow, Idaho (purchase) (29184) "A"; graphite from near Harney City, S. Dak.; melanotekite from Pajsberg, Sweden; sphalerite from Rodna, Transylvania; langbanite from Langbanhyttan, Sweden; lavenite from Langesund-fiord, Norway; cosalite from Nordmark, Sweden; cobaltite from Enngrugooma, Sweden, and bindheimite from Endellion, Cornwall (purchase) (29185); 2 specimens of labradorite, 2 specimens of covellite, specimen of pyrite, 4 specimens of topaz, and 2 specimens of clinocllore (purchase) (29502) "A".
- EVANS, H. W. W. (See under G. M. Moliner.)
- EVERMANN, Prof. B. W. (U. S. Fish Commission): Two species of Unionida from Idaho. 28773.
- EWING, J. L. (Washington, D. C.): United States letters patent for improvement in street-lighting apparatus, 1874; English letters patent for improvement in horseshoes, 1879; English letters patent for vulcanizable waterproof gum, 1873, showing method of issuing patents. 28414.
- EWING, R. M. (Franklin, Tenn.): Plant. 29522.
- FAIRBANKS, H. W. (Berkeley, Cal.): Twelve specimens of *Aucella piochii*, Gabb, and 15 specimens of *Aucella crassicolis*, Keyserling, from San Luis Obispo County, Cal. 28865.
- FARNHAM, A. B. (Bennings, D. C.): Two arrow-heads and 12 worked flakes from Prince George County, Md., and the District of Columbia. 29173.
- FARRINGTON, O. C. (See under Field Columbian Museum.)
- FELAYA, His Excellency J. SANTOS. (See under Nicaragua, Government of.)
- FELLOWS, G. S. (New York City): Onyx marble from Brazil. 28717.
- FICK, G. A. (Baltimore, Md.), through E. S. Schmid: Spangled Swallow Pigeon (28688); White Barred Blue-winged Pigeon, in the flesh (29330).
- FICKE, C. A. (Davenport, Iowa): Five casts of terra cotta molds, the originals of which were found in Mexico. 28772.
- FIELD COLUMBIAN MUSEUM (Chicago, Ill.), through O. C. Farrington: Geological material. Exchange. 28781.
- FIGGINS, J. D. (Kensington, Md.): Field Mouse, *Peromyscus leucopus*, and Red Squirrel, *Sciurus hudsonicus* (28387); Red Squirrel, *Sciurus hudsonicus* (28496); a collection of mammal skins and skulls from Maryland (28643); collection of mammal skins and skulls from Maryland (28718); Red Squirrel, *Sciurus hudsonicus* (28957); 30 skins and 17 skulls of mammals from near Kensington (29143); specimens of Flying Squirrel, *Sciuropterus volucella* (29272).
- FISCHER ART COMPANY (New York City): Chromo-collograph. Purchase. 28739.
- FISH COMMISSION, U. S., Col. Marshall McDonald, Commissioner of Fish and Fisheries: Collection of crustaceans, principally Anomurans, obtained from the Pacific coast investigations of the Albatross (28626); types of 11 new species of fresh-water fishes, obtained by field parties of the Commission (28636); collection of fishes made in Texas during November and December of 1891 by a field party in the course of investigations relative to the establishment of a hatching station (28945); collection of fishes made in Tennessee and Kentucky by Prof. P. H. Kirsch during August of 1891 (28977); plants

FISH COMMISSION, U. S.—continued.

- from Attu Island, Alaska, collected during the summer of 1894 by Lieutenant Jacobs, U. S. Navy; 39 birds' eggs, representing 5 species, from Agattu Island, Alaska, slate knife, flake, 3 grooved sinkers, and 3 water-worn pebbles from a kitchen midden on the east end of Agattu Island, obtained by Mr. C. H. Townsend, of the steamer *Albatross*, alcoholic specimen of eider duck from the same locality, and ear bone of an adult whale from St. Paul Island, skin of a large bull fur seal from St. Paul Island, Alaska, skin of an albino pup fur seal, and skull of a young whale, collected during the cruise of the *Albatross* in 1894 (29074); collection of foraminifera obtained from the dredgings of the *Albatross*, also 2 lots of erinoids (29281); crustaceans collected principally during the investigations of the *Albatross* on the western coast of North America and in the North Pacific Ocean (29385); holothurians obtained by the *Albatross* expedition in 1891 off the western coast of Central America, Mexico, and the Guatemala region (29412).
- FISHER, DR. A. K. (Department of Agriculture): Fresh-water and land shells from Chiricahua Mountains, Arizona. 28501. (See under Agriculture, Department of, and Gustav Kohn.)
- FISHER, W. H. (Baltimore, Md.): Silver perch, *Sciæna chrysura*, from Gunpowder River, Maryland. 28601.
- FLOOD BROTHERS (Malden, Mass.): One hundred and thirty specimens of North American Coleoptera (28499); 125 species of North American and exotic Coleoptera (28627).
- FOOTE, DR. A. E. (Philadelphia, Pa.): Specimen of sphærocobaltite from Boleo, near Santa Rosalia, Lower California (exchange) (28442); 14 glass models of crystals (purchase) (29289) "A".
- FORBES, H. O. (Liverpool, England): Three leg bones of an extinct species of goose (*Cnemionis calcitrans*), from South Island, New Zealand. 29437.
- FORD, JOHN (Philadelphia, Pa.): Six specimens of *Maetra*, variety *Ravenelii*, Conrad, from the coast of New Jersey. 29433.
- FORD, T. C. (Frederick, S. Dak.): Four skins of Richardson's Spermophile, *Spermophilus richardsoni*. 29483.
- FOSTER, J. H. (Marshall, Va.): Two small Lamprey eels, *Petromyzon marinus*. 29221.
- FOWLER, FRED. H. (Fort Bowie, Ariz.): Nest and 4 eggs of Hepatic Tanager, *Piranga hepatica*, from southern Arizona (28345); 12 eggs (4 sets) of Scorched Horned Lark, *Otocoris alpestris adusta* (28539).
- FRAZER, MRS. A. E. (Dakota City, Nebr.): Drilled ceremonial object (pick-shaped) from near Napoleon, Ohio. Purchase. 29494.
- FREDHOLM, A. (Washington, D. C.): Herbarium specimen. 28965. (See under Agriculture, Department of.)
- FREY, J. H. (Cincinnati, Ohio): Photograph of Mr. J. E. Hinds. 28938.
- FRIERSON, L. S. (Friersons Mills, La.): Fresh-water shells from Louisiana. 28489.
- FRY, WILLIAM E. (Rondubusch, South Africa), through Prof. Cleveland Abbe: Collection of photographs descriptive of the scenery in the vicinity of the Zambesi River and the neighborhood of Victoria Falls. 28604. (Presented to the Smithsonian Institution, and deposited in the National Museum.)
- FURMAN, C. M., JR. (Clemson College, S. C.): Stone tube. Purchase. 28809.
- FUSS, J. F. (Atlanta, Ga.): Larva of Coeliopod Moth (*Isa inornata*), G. & R. 28655.
- GADOW, DR. H. (Cambridge, England): Goatsucker, *Podargus*; Swift, *Cypselus apus*; Goatsucker, *Caprimulgus*; Honey Creeper, *Certhiola*. Exchange. 29078.
- GADDESS, T. S. (Baltimore, Md.): Yellow Tumbler Pigeon. 28953.
- GANNAWAY, C. B. (Fort Smith, Ark.): Ceremonial object plowed up near Waldron. Purchase. 29408.
- GARDNER, A. L. (Vermillion, N. Y.): Silky Japanese fowl (28656); White-crested white Polish Cockrel; Silver-penciled Hamburg Cockrel, and Silver-penciled Hamburg Pullet, in the flesh (28801).
- GARDNER, J. (Savannah, Ga.): Song Sparrow, *Melospiza fasciata*, in the flesh, with abnormal plumage. 28967.

- GARNIER, Dr. J. H. (Lucknow, Ontario, Canada.): Two specimens of *Menobranchus latastei*. Exchange. 29033.
- GARVEY, D. D. (Duluth, Minn.): Clay concretions. 28482.
- GEORGIA GEOLOGICAL SURVEY (Atlanta, Ga.), through W. S. Yeates, State geologist: Meteoric iron, weighing 189 grams. 29081.
- GERMAN KALI WORKS (New York City): Collection of mineral salts from Stassfurt, Germany. 28354.
- GERRARD, EDWARD, jr. (Camden Town, London, England): Four birds' skins, representing 3 species, from Borneo and Colombia. Purchase. 28762.
- GETSCHMANN, R. (Rixdorf, near Berlin, Germany): Diatomaceous earth. Exchange. 29177.
- GILBERT, C. H. (See under Agriculture, Department of, and Leland Stanford Junior University.)
- GILBERT, Prof. G. K. (See under Interior Department, U. S. Geological Survey.)
- GILCHRIST, F. C. (Fort Qu-Appelle, Assiniboine, Canada): Specimens of *Acipenser*, *Moxostoma*, *Catostomus*, *Coregonus*, *Stizostedion*, and *Platygobio gracilis*, from the lakes of the Northwest Territory. 29191.
- GILL, C. G. (Tulane University, New Orleans, La.): Larva of wood-boring beetle (*Ernobius* sp.). 28684.
- GILL, Dr. THEO. (See under J. Douglas Ogilby.)
- GLEN ISLAND MUSEUM (Glen Island, N. Y.), through L. M. McCornick: Mollusks from the Red Sea, ethnological objects from Africa, marine invertebrates from the Gulf of Aden (29131); ethnological objects from the western coast of Africa (28638). Exchange.
- GOLDEN, R. A. (Washington, D. C.): Skin of Dusky Shark, *Carcharhinus obscurus*, from the Potomac River at Glymont, Md. 28429.
- GOLDMAN, Mr. (See under Agriculture, Department of.)
- GOODE, Dr. G. BROWN (Assistant Secretary Smithsonian Institution, in charge of U. S. National Museum): Japanese temple drum and drumsticks, Japanese helmet (deposit) (28423); etching, portrait of Mrs. Harrison Gray Otis, by S. A. Schoff after Steuart (gift) (28692).
- GORE, Prof. J. HOWARD (Columbian University, Washington, D. C.): Eight photographs of Congo negroes. 28590.
- GOULD, C. N. (Arkansas City, Kans.): Four specimens of *Archaeocidaris spines*, 4 specimens of *Productus semireticulatus*, specimen of *Productus* sp., 6 specimens of *Seminula subtilita* and *Seminula* sp. (29232); specimen of *Pleurotomaria* (29402); 10 species of Permo-Carboniferous fossils from Kansas and Indian Territory (29481).
- GRAHAM, H. D. (Ashland, Ohio): Thirty specimens of Devonian drift corals. Exchange. 29070.
- GRAM, N. C. (U. S. consular agent, Dyrefjord, Iceland): Two bedboards of Icelandic manufacture. 28543.
- GRANT, ALLEN (Tarrytown, N. Y.): Bearded Polish Bantam, Polish Bantam hen, 3 Silver Seabright Bantams (29050); Silver Seabright Bantam hen (29416).
- GRAVES, F. P. (Doe Run, Mo.): Lead silicates (furnace product). 28161.
- GRAVES, R. H. (Mount Wilson, Md.): Chinese manuscript book with colored plates illustrating the Miao Tsz, or Aborigines. 29397.
- GREGOR, ISALAH (Cuyahoga Falls, Ohio): Seven fragments of pottery from a mound on St. Johns River, near Jacksonville. 28312.
- GREEN, B. F. (Superintendent of Construction, National Library Building, Washington, D. C.): Modeling clay from Ravenswood, Long Island. 28351.
- GREENE, E. L. (See under Agriculture, Department of.)
- GREENWOOD, G. G. B. (Minerva, Ohio): Sixteen rude chipped implements from Carroll and Stark counties (28819); 12 chipped stone implements from Carroll County, and a concretion from Tuscarawas County (29108). Exchange.
- GREGER, D. F. K. (Fulton, Mo.): Devonian and Carboniferous fossils (exchange) (28365); Choteau shale containing fossils (gift) (28920).
- GRIBBLE, ROBERT (Roland, Tex.): Tooth of Shark (*Lamna cuspidata*). (28362); fossil bones and sharks' teeth (28433).
- GRIFFIN, C. M. (Shelter Island, N. Y.): Light Brahma hen. 29199.

- GROVER, W. E. (Galveston, Tex.): Three birds' skins, representing 2 species. 28672.
- GUNDLACH, DR. JUAN (Habana, Cuba): Cuban Macaw, *Ara tricolor*; Crow, *Corvus minutus*; 2 Herons (*Butorides brunescens* and *Florida carulea*), (melanistic). 28813.
- GUNNING, MRS. MARY (Boston, Mass.): Two volumes of mounted Algae from the Pacific and Atlantic coasts of the United States. 28581. (Presented to the Smithsonian Institution and deposited in the National Museum.)
- GÜNTHER, DR. ALBERT. (See under British Museum, London, England.)
- GUTHRIE, O. (Felts Mills, N. Y.): Bowlder from the glacial drift (28347); bowlders from ground moraine (28889).
- GWYN, DR. C. L. (Galveston, Tex.): Shells (28837); Miocene fossils from the artesian well in Galveston (29044); 6 species of marine shells from the beach at Galveston, and Miocene fossils from levels in artesian well (29085); 3 crabs, representing 3 species (29355).
- HADDON, DR. A. C. (Inisfail, Hills Road, Cambridge, England): Twenty-four ethnological objects from New Guinea. Exchange. 29310.
- HAGUE, ARNOLD. (See under Interior Department, U. S. Geological Survey).
- HALTON, W. H. (Monntaingrove, Mo.): Two photographs of stone implements and pottery. 28515.
- HAMLIN, HOMER (San Diego, Cal.): Ammonite, *Pachydiscus sciensis*, Meek, from Point Loma (exchange) (28509); Tertiary and other fossils from the vicinity of San Diego (gift) (29049); 5 arrow-heads from Pine Island, Minnesota, 7 arrow-heads and a small stone chisel from San Diego (gift) (29325).
- HAMLIN UNIVERSITY (St. Paul), through Prof. H. L. Osborn: Two species of Unionida from Minnesota (29308); collection of land and fresh-water shells, and a few marine shells from the Philippine Islands (29130).
- HANSKE, E. A. (Bellevue, Iowa): Swift Lizard, *Cnemidophorus sexlineatus*, from the shore of the Mississippi River. 28909.
- HARFORD, HORACE (Petaluma, Cal.): Two abnormally colored eggs of Crow, *Corvus americanus*. 29387.
- HARLOW, LIEUT. C. II., U. S. Navy (Newport, R. I.): Model of a grass boat or "Balsa," made by the Amara Indians. Deposit. 28339.
- HARRISON, JUDGE BENJAMIN (Jacksonville, Fla.): Four crabs, *Panopeus Harrisii*, from St. Johns River. 28381.
- HARRISON, G. G. (Brandon, Va.): Thirty-seven arrow-heads from Jamestown Island; 35 arrow-heads and 2 spear-heads from Brandon. 28874.
- HARRISON, MARK E. (Greenfield, Mo.): Scrapers, rude notched axes, and leaf-shaped implements of flint; paint stones and other articles of hematite from Dade and Cedar counties. Deposit. 28176. (Returned.)
- HARSHBARGER, W. A. (Topeka, Kans.): Aberrant specimen of *Papilio Turnus* (29174); 30 specimens of North American Coleoptera (29303).
- HARTLEY, W. P. (Mount Jackson, Pa.): Pupa of Hawk Moth, *Protoparce carolina*. 29043.
- HARVARD UNIVERSITY (Gray Herbarium, Cambridge, Mass.): Three hundred and thirty-six herbarium specimens. Exchange. 28867.
- HASKELL, MISS B. A. (Philadelphia, Pa.): Nymph of a water bug (*Pedinocris* sp.) 29243.
- HAWLEY, E. H. (See under Mrs. L. J. Clarke.)
- HAY, W. P. (Central High School, Washington, D. C.): Crustaceans from New Zealand (exchange) (28330); 3 specimens of stalagmite from Shiloh Cave, Bedford, Ind. (gift) (29058); 7 frogs from Virginia (gift) (29533).
- HAY, F. S., U. S. Army (Fort Huachuca, Ariz): Septarian nodule from near Fort Wingate, N. Mex. 28472.
- HAYWOOD, WESTERVELT (Rutherford, N. J.): Six game Bantams. 29051.
- HAZARD, SCHUYLER. (See under Cleveland, Cincinnati, Chicago and St. Louis Railroad Company.)
- HEATHCOTE, W. H. (Preston, Lancashire, England): Oak model of the first canoe found in the dock excavations at Preston. 28929. (Presented to the Smithsonian Institution and deposited in the National Museum.)

- HEDLEY, CHARLES (Australian Museum, Sydney, New South Wales): Specimens of *Magasella Cumingii*, Dav., from Australia. 28847.
- HEILPRIN, WILLIAM (Washington, D. C.): Isopod crustaceans from the Potomac Flats. 28364.
- HEMPHILL, HENRY (San Diego, Cal.): Mexican mollusks from bottom of a Mexican vessel in San Diego Harbor; also marine shells. 28995.
- HENRY, J. H. (Easton, Md.), through B. E. McHale: Young turkey, showing abnormal growth. 28565.
- HENSHAW, H. W. (See under Smithsonian Institution, Bureau of Ethnology.)
- HERMAN, W. W. (Boston, Mass.): Eight species of Japanese shells (28327); marine shells from Japan (29073); shells, 3 specimens of echini, and a hydractinian from the same locality (29097); crustaceans and echinoderms (29141).
- HERRERA, Prof. A. L. (See under Mexico, National Museum of).
- HERRICK, C. J. (Granville, Ohio): Plaster cast of an inscribed stone, the original of which was found in Newark, Ohio. 28852.
- HETZEL, Miss S. R. (Clifton Station, Va.): Terrapin. 29432.
- HIDDEN, W. E. (Hiddenite, N. C.): Specimen of rowlandite from Blanco County, Tex. 28440.
- HILL, E. J. (Englewood, Ill.): Two herbarium specimens of *Tradescantia*. 29191.
- HILL, Prof. R. T. (U. S. Geological Survey): Land shells from Panama and Costa Rica (29107); pelts of mammals from Panama (29133).
- HILL, Dr. W. H. (Mooreville, Ala.), through O. M. Humble: Stone taken from the bladder of a hog. 28799.
- HILLEBRAND, Dr. W. F. (U. S. Geological Survey): malakon from North Carolina; 3 specimens of uraninite from Joachimsthal, Bohemia; uraninite from Prebram, Bohemia; specimens from Hales Quarry, Glastonbury, and from Branchville, Conn.; geological specimens from Moss and Arendal, Norway. 29219. (See under W. G. Waring.)
- HILLMAN, F. G. (New Bedford, Mass.): Two natural formations of clay ironstone from Gay Head, Martha's Vineyard, Mass. 28890.
- HILLS, EDWARD, SON & Co. (New York City): Gum copal from New Zealand, Malay Peninsula, and Africa. Purchase. 28511.
- HIX, T. W. (Santee, Ga.): Asbestos from near Cleveland, Ga. 29265.
- HOADLEY, G. W. (Phoenix, Ariz.): Black material resembling stone coal, found in mounds near Phoenix. 28615.
- HOBBS, F. W. (See under Arlington Mills.)
- HOLCOMB, E. G. (Helena, N. Y.): Two spear-heads, 3 polished hatchets, 3 gouges, and a polishing tool. Exchange. 28989.
- HOLMES, S. J. (University of California, Berkeley, Cal.): Two specimens of *Pinnica* from Mendocino County. Exchange. 28676. (See under California, University of.)
- HOLZINGER, J. M. (See under Agriculture, Department of.)
- HOOPES, JOSIAH (West Chester, Pa.): Western Grasshopper Sparrow, *Ammodramus savannarum perpallidus*, from North Dakota. 29488.
- HOPKINS, H. A. (Grand Rapids, Mich.): Commission of Hannibal M. Allen as captain of artillery, dated May 6, 1812, signed by James Madison, President of the United States. Deposit. 28415. (Returned.)
- HORNOR, C. G. (Baxter Springs, Kans.): Six arrow-heads from Cherokee County, Kans. 29317.
- HOUGH, Dr. WALTER (U. S. National Museum): Fossil plants from Morgantown, W. Va. 28663.
- HOW, C. H. (Addison, W. Va.): Rhinoceros Beetle, *Dynastes tityus*. 28463.
- HOWARD, Prof. L. O. (Department of Agriculture): Land shells from Brownsville, Tex. 29201. (See under George B. King.)
- HOWELL, E. E. (Washington, D. C.): Cranium of *Porthicus molossus* (exchange) (28363); male specimen of Hercules Beetle, *Dynastes hercules*, from the West Indies (exchange) (28632); 3 specimens of *Nauina* from the East Indies (exchange) (28793); 3 specimens of Cañon Diablo iron, polished slice of Cañon Diablo iron, wax opal from the State of Washington, jasper opal from the same locality, and specimen of

HOWELL, E. E.—continued.

precious opal from Australia (purchase) (28825) "A"; meteorite from Kisen, Japan, and a meteorite from Cañon Diablo, Arizona (purchase) (28925) "A"; meteoric iron weighing 573 grams, from El Capitan, N. Mex. (gift) (29079).

HOWELL, JOSEPH. (See under Agriculture, Department of.)

HOWELL, THOMAS. (See under Agriculture, Department of.)

HOYLE, WILLIAM E. (See under Manchester Museum, Manchester, England.)

HUBBARD, HENRY (Department of Agriculture): Specimen of *Rana esopus*, from Crescent City, Fla. 29363.

HUGHES, Lient. W. N., U. S. Army (Columbia, Tenn.): Trenton limestone containing Brachiopoda, *Orthis testudinaria* and *Orthis subaquata*. 28705.

HUNDLEY, O. M. (See under Dr. H. W. Hill.)

HUNT, Miss L. L. (San Carlos, Ariz.): Wood-boring larva of *Prionus californicus*. 28694.

HUNTINGTON, W. (Washington, D. C.), through Washington Nailor: Stone pestle marked with incised lines, obtained from a cliff ruin on the Colorado River at the head of Grand Cañon. Deposit. 29521.

HURTER, JULIUS (St. Louis, Mo.): Three lizards and a snake. Exchange. 28791.

HUTTON, F. W. (See under Canterbury Museum, Christchurch, New Zealand.)

IDAHO, UNIVERSITY OF. (See under Agriculture, Department of.)

ILLINOIS WESLEYAN UNIVERSITY (Bloomington, Ill.), through Prof. M. J. Elrod: Specimen of Swainson's Hawk, *Buteo Swainsoni*. 29076.

IM THURN, E. F. (Government Agency, Northwest District, British Guiana: Collection of plants. 28670.

INDIAN MUSEUM (Calcutta, India), through Surg. Capt. A. Alcock, M. B., superintendent: Small collection of deep-water fishes from the Bay of Bengal, consisting of *Congrouwana squaliceps* and *nasica*, *Physiculus argyro-*

INDIAN MUSEUM—continued.

pastus, *Thyrstites bengalensis*, *Neobythites stcatiticus*, *Halicutwa fumosa*, *Aphoristia trifasciata* and *Solca umbratilis*, also crustaceans and corals. Exchange. 29030.

INTERCONTINENTAL RAILWAY COMMISSION (Washington, D. C.), through Lient. W. W. Macomb, United States Army: Butterflies, 3 spiders, and a humming-bird obtained by Dr. W. C. Shannon, U. S. Army, in Costa Rica. 28391.

INTERIOR DEPARTMENT, Hon. Hoke Smith, Secretary (U. S. Geological Survey, Hon. Charles D. Walcott, Director): Large collection of Ordovician fossils from Wisconsin and southern Minnesota, obtained by F. W. Sardeson in 1890 and 1891 (28319); 5 slabs of Upper Cambrian sandstone containing trails of *Climactichnites Youngi*, from New Lisbon, Wis. (28320); 15 thin slides of *Stromatopora* from the Niagara terrane at Littleton, N. H. (28418); geologic Atlas of the United States, folios 1 to 8 (28748); 5 boxes containing Middle Cambrian trilobites from Mount Stephen, British Columbia, collected by W. D. Wilcox (28854); specimens of ore from Silver Cliff and Rosita (Hardscrabble) mining districts, Wet Mountain Valley, Custer County, Colo., collected by Messrs. S. F. Emmons and Whitman Cross, also illustrative specimens of fluor spar deposits from Rosiclare, southern Illinois (28866);¹ 2 specimens of barite with calcite from near Presley's, Colorado, 4 barite crystals from Apishapa Bluffs, Colorado, and 2 selenite crystals, collected by Prof. G. K. Gilbert (28877); 48 specimens of pyrophyllite, collected by H. W. Turner (28907); (through the Director and Prof. Samuel H. Scudder, Cambridge, Mass.) 74 species of fossil insects from the Older Tertiary strata of Colorado and Wyoming (28921);² 3 specimens of cinnabar from Mercur Mine, Mercur, Tooele County, Utah,

¹Paper published by Mr. Emmons on the subject in Trans. Am. Inst. of Mining Engineers.

²Fifty-three of these species are types and have been figured in Monograph XXI, U. S. G. S. The collection contains 239 specimens.

INTERIOR DEPARTMENT—continued.

- collected by J. E. Spurr (28936); collection of igneous and sedimentary rocks representing the geology of the Eureka district, Nevada, collected by Arnold Hague (29041); 2 specimens of staurolite crystals altering to white mica on chlorite schist, from near Liberty Grove, Cecil County, Md. (29120); 35 carboniferous plants from Rhode Island and 92 from Massachusetts (29183); 2 specimens of *Raphidiopsis diversipenna*, Scudder (type) from Crauston, R. I. (29258); 2,366 duplicate specimens of Middle Cambrian medusæ (29284); 28 specimens of Triassic fishes, 6 specimens of Triassic plants, and 1 specimen of Triassic insect larvæ from Massachusetts (29285); specimen of cinnabar, 2 specimens of scorodite from Mercur Mine, Mercur, Tooele County, Utah, obtained by J. E. Spurr (29291); rocks from Lower California, cerussite from Terrible Mine, Colorado, collected by S. F. Emmons, fluorite and galena from Rosiclare, Ill., obtained by S. F. Emmons, slab cut from a large spherulite from Silver Cliff, Colo., obtained by Whitman Cross (29323); 9 specimens of vesuvianite, 14 specimens of cryolite, 8 specimens of ptilolite, and 16 specimens of niter from Colorado and Wyoming, collected by Whitman Cross (29331); specimen of polybasite from "Yankee Girl" mine, Colorado, specimen of cerussite from Daisy Mine, Gunnison County, Colo., collected by S. F. Emmons (29332); 10 specimens of galena from "Minnie Moore" mine, Bellevue, Idaho, collected by J. M. Kennear, through Whitman Cross (29333); fossil fish from the Fox Hill formation, 4 miles east of Longmont Boulder, Colorado (29335). (See under Prof. John M. Clarke.)
- IOWA, State University of (Iowa City, Iowa), through Prof. C. C. Nutting: Crabs from the West Indian region. Exchange. 28618.
- IRELAND, GEORGE. (See under Milton Bradley Company.)
- JACKSON, SHELDON (U. S. R. M. cutter *Bear*, Alaska Division): Skin of Spermophile, *Spermophilus empetra*, from Cape Lisburne, Alaska. 28665.
- JACOBS, Lieutenant, U. S. Navy. (See under Fish Commission, U. S.)
- JAMES, I. E. (Pittston, Pa.), through David White: Slab containing fish plates. 29302.
- JENNEY, Dr. W. P. (U. S. Geological Survey): Pitchstone from Brownsville, Lawrence County, S. Dak. (28544); fossil plants from the Lower Cretaceous of South Dakota (28861).
- JENNINGS, F. (Washington, D. C.): Pitcher of Sheffield pottery with initials J. G., the last piece remaining of a table set presented to Joseph Gale, the founder of the Sheffield Infirmary. Deposit. 29406.
- JENNINGS, Miss M. H. (Grand Rapids, Mich.): Larval cases of Caddis worms. 28605.
- JOHANNES, J. M. (Smithsonian Institution): Grooved ax, spear-head of quartzite, and an arrow-head of white quartz (28314); snake skin (28671).
- JOHNSON, A. A. (See under Wyoming, University of.)
- JOHNSON, Prof. CHARLES W. (See under Wagner Free Institute.)
- JOHNSON, E. J. (Torin, Sonora, Mexico): Tortoise Beetle, *Physonota unipunctata*, collected by John Sanders. 28649.
- JOHNSON, J. L. (Duffield, Va.): Two hundred and twenty-eight archaeological objects. Exchange. 29105.
- JOHNSON, Prof. O. B. (Seattle, Wash.): Marine and fresh-water shells from Puget Sound (28492); shells (28572).
- JOHNSON, W. B. K. (Allentown, Pa.): Sea-urchin, marine shells, land shells, and beans from the Isle of Pines, Cuba (28985); land shells from the same locality (29100).
- JONES, Mrs. FRED. (Evanston, Wyo.), through T. W. Stanton: Fossil fish (*Diplomystus dentatus*, Cope), from the Eocene formation (Green River shales). Fossil Station, Wyoming. 28436.
- JORDAN, Dr. D. S. (See under Leland Stanford Junior University.)
- JOUTEL, LOUIS (New York City): One hundred and seven species of Coleoptera. 28708.
- JUDD, E. T. (Cando, N. Dak.): Twelve eggs (one set) of Shoveller, *Spatula clypeata*. 28326.

- JUDD, S. D. (Department of Agriculture): Three species of amphipods from Newport, R. I. 29463.
- JUDSON, W. B. (Pasadena, Cal.): Nest and 4 eggs of Hutton's Vireo, *Vireo Huttoni* (exchange) (28412); skin of Hutton's Vireo, *Vireo Huttoni* (gift) (28418); 3 eggs and nest of *Phainopepla*, also 5 eggs (one set) of Wren Tit and nest of White-throated Swift (gift) (28594); 10 eggs (fivs sets) and 5 nests of *Phainopepla*, *Phainopepla nitens* from southern California (gift) (28802); Spotted Owl, *Syrnium occidentale* (gift) (28917); through Major Bendire, Hermann's Song Sparrow, *Melospiza fasciata Hermannii*, from California (gift) (28939); 3 eggs (one set) of California Pelican from Coronado Islands, Lower California (gift) (29400).
- KALBFUS, Mrs. MARY K. (See under Miss Margaret E. King.)
- KAYSER, WILLIAM (Wapakoneta, Ohio): Fifty species of North American insects (28410); 39 species of insects of various orders (28453); 43 species of North American insects of various orders (28639).
- KEAM, THOMAS (Keams Canyon, Ariz.): Tooth of a fossil Ray (*Ptychodus decurrens?*). 28377.
- KELSEY, F. D. (See under Agriculture, Department of, and J. N. Rose.)
- KENDALL, W. C. (U. S. Fish Commission), through J. E. Benedict: Eleven birds' skins, representing 8 species from Port Royal, S. C. 28400.
- KENNEAR, J. M. (See under Interior Department, U. S. Geological Survey.)
- KERR, MARK B. (San Francisco, Cal.): Geological specimens from Ecuador, and fossils from the same locality. 29047.
- KING, GEORGE B. (Lawrence, Mass.), through L. O. Howard: Specimens of Oniscidæ and slides of the same. Exchange. 29294. (See under Agriculture, Department of.)
- KING, GEORGE F. (New York City), through Robert Cameron: Specimen of titanite. 29445.
- KING, Miss MARGARET E. (Pensacola, Fla.), through Mrs. Mary King Kalbfus: Officer's sash and epaulettes worn by the late Col. William King, Fourth
- KING, Miss MARGARET E.—continued.
Infantry, U. S. Army, provisional civil and military governor of West Florida under appointment from General Jackson. 29327.
- KIRSCH, LOUIS. (See under Williamsburg Scientific Society.)
- KIRSCH, P. H. (See under Fish Commission, U. S.)
- KLINK, C. F. (Horton, Kans.): Specimen of *Elymus virginicus submuticus*. 28561.
- KLOTZ, OTTO J. (Ottawa, Ontario, Canada): Specimen of leucite from Queen Charlotte Island. 29161.
- KNIGHT, W. C. (University of Wyoming, Laramie, Wyo.): Five specimens of Entomostraca from Platte River. 28646.
- KNOWLES, W. A. (U. S. National Museum): Cooper's Hawk, *Accipiter Cooperi*, in the flesh. 29374.
- KNOWLTON, F. H. (U. S. Geological Survey): Twenty herbarium specimens. 29172.
- KNOWLTON, W. J. (Boston, Mass.): Steatite bottle from China, specimen of chrysoprase from Tulare County, Cal., specimen of zircon (cut) weighing 20 $\frac{3}{10}$ carats from Ceylon, and a specimen of garnet (pear-shaped carbuncle). Purchase. 29181. "A."
- KNY, RICHARD, & Co. (New York City): Series of specimens showing development of European trout (purchase) (28450); chitinous parts of beetle, development of frog and salamander (purchase) (28634); series of specimens illustrating the development of water-beetle (purchase) (29203) "A"; 11 models showing the development of the water-beetle, and 22 models showing the development of *Gastrula* (purchase) (29234) "A."
- KOHN, GUSTAVE (New Orleans, La.), through Dr. A. K. Fisher: Young American Goldfinch, *Spinus tristis*. 28430.
- KORN, S. (Unionhouse, Cal.): Two specimens of Mourning-cloak Butterfly, *Ganessa antiopa*. 28731.
- KUEHLING, J. H. (Washington, D. C.): King Snake from Mount Vernon, Va. 29380.
- KUNZ, GEORGE F. (New York City): Specimen of chrysocolla, from near

- KUNZ, GEORGE F.—continued.
Phoenix, Ariz. (29121); 5 specimens of agate, artificially colored, from Oberstein, Bavaria (29156).
- LA PLATA MUSEUM (La Plata, Argentina), through Dr. Francisco P. Moreno, director: Casts of vertebrate fossils, including skull of *Toxodon*, skull of *Trigodon*, skull and jaw of *Nesodon*, jaw of *Nesodon*, skull and jaw of *Propalaphophorus*, skull of *Dacypotherium*, femur, tibia, and fibula of *Brontornis*, skull of *Honopidium*, palatal region and deformed skull of *Astrapotherium*; also 10 pottery vessels and 41 birds' skins from South America. Exchange. 29409.
- LACOE, R. D. (Pittston, Pa.): Forty-three boxes containing Paleozoic plants (29255); 3 boxes of Cretaceous and Tertiary plants (29256); 2 boxes containing Triassic fishes from New Jersey, constituting the fifth installment of the "Lacoe Collection" (29257).
- LAMB, T. F. (Portland, Me.): Three hundred and fifty-one specimens of garnets from Phippsburg, Me. Purchase. 28552.
- LAMBE, L. M. (See under Canada, Geological Survey of.)
- LANE, H. B. (Las Cruces, N. Mex.): Thirteen reptiles from Mesilla Valley. Purchase. 29316.
- LANGDALE, J. W. (Washington, D. C.): Adalcite from Tyrol, heulandite from Faröe Islands, calcite on galena from England, and stilbite from Washington City. Exchange. 28503.
- LANGLEY, Hon. S. P. (See under Smithsonian Institution.)
- LARKIN, Mrs. J. R. (Natumuck, R. I.): Portions of the backbone of a large shark. 28359.
- LASSON, J. E. (Marquette, Mich.): Specimens of *Hammaris acillarlis* and *Cicada cunicularis*. 28439.
- LAWRENCE, R. H. (Los Angeles, Cal.), through Major Bendire, U. S. Army: Six humming birds, representing 6 species, from Los Angeles and Mount Wilson. 28553.
- LAY, WILLIAM (Honeoye Falls, N. Y.): Fossil nut (*Trigonocarpus?*) taken from the inside of a lump of bituminous coal, from near Reynoldsville, Pa. 29193.
- L'ÉCOLE POLYTECHNIQUE (Paris, France): Bronze medal commemorating the centennial of L'École Polytechnique. Deposit. 28779. (Presented to the Smithsonian and deposited in the National Museum.)
- LEHMAN, W. V. (Tremont, Pa.): Carboniferous plants, representing about 70 species (exchange) (28817); 18 arrow-heads and 4 fossil plants, shells, and 2 fossil insects (gift) (28882); 5 fossil plants and 2 fossil insects from the Carboniferous formation, also 3 spear-heads and 1 arrow-head from the Middle Fork, Clinton County, Ind. (gift) (29036).
- LEIBERG, J. B. (See under Agriculture, Department of.)
- LELAND STANFORD JUNIOR UNIVERSITY (Palo Alto, Cal.), through Prof. C. H. Gilbert: Crustaceans from California (exchange) (28797); fossil oysters from the vicinity of Tomales Bay (gift) (29260); collection of fishes, made at Mazatlan in 1895 by Dr. D. S. Jordan (gift) (29353).
- LEMKE, Miss ELIZABETH (Berlin, Germany): Fossils, minerals, and other geological material. 29188.
- LEMON, E. J. (Dallas, Tex.): Shale with banding, due to weathering. 28840.
- LEMON, Dr. J. H. (New Albany, Ind.): Eight species of Lower Carboniferous fossils. 29523.
- LENGSFIELD, J. I. (Greenville, Miss.): Stone spear-head found in an Indian mound near Greenville. 29010. (Presented to the Smithsonian Institution, and deposited in the National Museum.)
- LEUTZE, T. W. (Washington Navy-Yard): Necklace, made of the teeth of a whale, obtained from the Fiji Islands, also 2 photographs of Fijians. Purchase. 28823.
- LINCOLN, Dr. J. M. (New York City): Conch shell from the bed of the Ozama River, Santo Domingo. 28417.
- LINDGREN, W. (U. S. Geological Survey): Altaite and free gold in quartz, from Providence mine, Nevada County, Cal. 29530.
- LINELL, M. L. (U. S. National Museum): Snake (*Lampropeltis dolia*), from Virginia. 29254.

- LITTLEJOHN, CHASE (Redwood City, Cal.): Four eggs (1 set) of Alentian Song Sparrow, 4 eggs (1 set) of Sandwich Sparrow, 12 eggs (9 sets) of Ancient Murrelet, from the Sanak Group of Islands, Alaska (gift) (28576); 3 eggs (1 set) of Peale's Falcon, *Falco peregrinus Pealei* (deposit) (28577); 4 eggs (4 sets) of Fork-tailed Petrel, *Oceanodroma furcata*, from Sanak Islands (gift) (28645); Peale's Falcon, *Falco peregrinus Pealei* (deposit) (28715); 27 specimens of Alentian Song Sparrow (28891) (returned).
- LIVEZEY, T. E. (Coolidge, Ky.): Two specimens of *Goodyera pubescens* (Rattlesnake plantain). 28551.
- LONDON, TOWN CLERK OF: Bronze medal commemorative of the visit of the Duke and Duchess of York to the city of London on the occasion of their marriage July 6, 1893. 28782. (Presented to the Smithsonian from the town clerk of London, England, and deposited in the National Museum.)
- LONG, S., & SON (Hancock, Pa.): Crude ocher. 29259.
- LONG ISLAND ARCHEOLOGICAL CLUB (Brooklyn, N. Y.): Photographs of drift pebbles from the collection of Francis M. Doughty, Brooklyn. 28573.
- LÖNNBERG, DR. EINAR (Upsala, Sweden): Lemming (*Myodes schisticolor*) (28959); 12 skins and skulls of the Norwegian Lemming, *Myodes lemmus* (29245).
- LOOSS, DR. A. (Zoological Institute, Leipzig, Germany): Specimens of *Distomum heterophyes*, *Distomum hepaticum* var. *egyptiaca*, *Distomum isoporium* (cotype), *Gastrothylax gregarius*, *Gastrodiscus aegyptiacus*, *Amphistomum conicum*, *Anchylostomum duodenale*, and *Ascaris spiculi-gera*. Exchange. 29242.
- LORIN, T. R. (Bisbee, Ariz.): Azurite from Morenci, copper from Clifton, and azurite with malachite from Bisbee. Purchase. 29180.
- LOUCKS, W. R. (Peoria, Ill.): Fifty-two eggs (12 sets) of Bronzed Grackle, *Quiscalus quiscula aeneus*. 28848.
- LUCAS, J. P. (Baltimore, Md.): Photograph of a fossil crab found on Gaugatha Beach, Accomack County, Va. 29424.
- LUGENBIEL, H. G. (U. S. National Museum): Bat, *Atalapha borealis*. 28470.
- LUSCOMBE, C. R. (U. S. National Museum): Cottontail Rabbit, *Lepus sylvaticus*. 28588.
- LUSK, J. A. (Guntersville, Ala.): Two fragments of pottery and 2 shells (Union) found on the banks of the Tennessee River near Guntersville. 28667.
- MCBRIDE, W. S. (Marshalltown, Iowa): Two concretions from Mandan, N. Dak. 28858.
- MCCANDLESS, J. M. (Atlanta, Ga.): Three specimens of Devonian (?) phosphate rock containing specimens of *Cyclora minuta*, *Cyclora depressa*, *Crytolites inornatus*, and *Ctenodonta obliqua*. 28522.
- MCCORMICK & TERRY (Columbus, Ohio): Specimen of "Terry Section Liner." 29011. (Presented to the Smithsonian Institution, and deposited in the National Museum.)
- MCCORMICK, L. M. (See under Glen Island Museum.)
- MCDONALD, M. A. (Shade Gap, Pa.): Eight old bullet-shaped silver Siamese coins. Purchase. 28435.
- MCELROY, MRS. C. (Washington, D. C.): Four skins and skulls of Squirrel, *Sciurus* sp., 31 birds' skins, representing 30 species from Guatemala, and 2 specimens of *Ampullaria* from the same locality. 29511.
- MCELROY, K. P. (Department of Agriculture): Young Spider Monkey. 29299.
- MCGEE, W. J. (See under Smithsonian Institution, Bureau of Ethnology.)
- MCGREGOR, R. C. (Palo Alto, Cal.): Two eggs (1 set) of Western Red-tailed Hawk, *Buteo borealis calurus*, from California, 2 eggs (1 set) of Swainson's Hawk, *Buteo Swainsoni*, from Colorado. 29425.
- MCHALE, B. E. (Easton, Md.): Shrimp. 28564. (See under John H. Henry.)
- MCILHENNY, E. A. (Avery, La.): Eight eggs (1 set) of Louisiana Clapper Rail. 25 eggs (3 sets) of Purple Gallinule, 20 eggs (5 sets) of Brown Pelican, 4 eggs (2 sets) of Harlan's Hawk (28593) (the first and last species new to the Museum collection); Bob White from Averys Island (28637); 8 specimens of Bob White (*Colinus*) (29063).

- MCLAIN, ROBERT BAIRD (Ithaca, N. Y.): One hundred and ninety-one birds' eggs, representing 49 species, also 3 nests. Exchange. 28996.
- MCPHERSON, W. D. (South Framingham, Mass.): Infusorial earth, crude and prepared. Exchange. 29384.
- MCTAGGERT, J. L. (Newtown, Ky.): Mole Cricket, *Gryllotalpa borealis*, Burm. 28693.
- MCWILLIAM, H. B. (West Charlton, N. Y.): Sixteen leaf-shaped implements of hornstone, found *en cache* in Saratoga County (28706); 62 leaf-shaped implements (part of a cache), specimens of *Planorbis complanatus*, Say, *Planorbis bicarinatus*, Say, *Planorbis exactus*, Say (?), *Planorbis parvus*, Say (?), *Physa aucillaria*, Say (?), *Valvata tricarinata*, Say, *Linnaea disidiosa*, and *Pisidium compressum*, Prime (?), from an extinct lake (28884) (Exchange).
- MACOMB, Lieut. W. W., U. S. Army. (See under Intercontinental Railway Commission.)
- MACOUN, JAMES. (See under Agriculture. Department of.)
- MACOUN, Prof. JOHN (Geological Survey of Canada, Ottawa, Canada), through Dr. C. Hart Merriam; snakes and a lizard, from British North America. 29313.
- MAGRUDER, Mrs. E. A. (Tennallytown, D. C.): Two large majolica vases, collection of ancient Roman bronzes, glass and terra-cotta, bronze lamp and bronze stand for lamp. Deposit. 28776.
- MALLORY, Hon. S. R. (House of Representatives): Two specimens of *Culappa marmorata*, from Florida. 28775.
- MANCHESTER MUSEUM (Manchester, England), through William E. Hoyle: British invertebrates, representing 34 species, obtained principally from the Firth of Clyde; shells. Exchange. 28361.
- MANN, Miss M. E. (Washington, D. C.): Crawfish, from Mammoth Cave, Kentucky (28483); stalactite from the same locality (28613); 3 cave crickets, *Hadenacus subterraneus*, Send., and a crayfish from Echo Lake, Mammoth Cave (28633).
- MAPLE, Dr. J. C. (Trenton, N. J.): White Japanese Silky Pantam (28629); Silver-laced Seabright Bantam hen (28647); Black Japanese Silky Bantam, White Japanese Silky fowl, and White Polish Bantam (28677).
- MARSHALL, GEORGE (Laurel, Md.): Ermine, *Putorius erminea* (28311); 4 specimens of Brown Bat, *Adlongycteris fuscus* (28371, 28408, 28898, 29370); Green Snake from Laurel (29361); herbarium specimens of *Pogonia ophioglossoides*, Nutt (29487).
- MARTINE, C. A., through Whitman Cross, U. S. G. S.: Specimen of polybasite from Georgetown, Colo. 29331.
- MASON, Prof. O. T. (U. S. National Museum): Spider, *Misumma ratia*, Clark (28574); candle-dipping apparatus from Woodlawn, Va. (28606); part of a drilled ceremonial object from near Mount Vernon, Va. (28839). (See under F. H. Williams, and Woman's Anthropological Society.)
- MATHER, FRED. (See under New York State Fishery Commission.)
- MATHES, K. B. (St. Augustine, Fla.): Six birds' skins, representing 5 species. Purchase. 28857.
- MATTHEWS, R. S. (U. S. National Museum): Collection of birds' tongues (29497); 159 birds' skins, representing 96 species from the United States, Mexico, and Central America (29517).
- MATTHIESSON, A. H. (National City, Cal.): *Natica* sp., resembling *Natica cauvana*, *Turritella*, *Nassa californiana*, Conr., belonging probably to the Pliocene or Miocene period (gift) (28923); Tertiary fossils (exchange) (29273).
- MAYER, JOHN C. (Round Top, Tex.): Two arrow-heads (exchange) (28662); 3 small rude chipped implements (gift) (29001); rude implements, worked flakes, scrapers, broken spear-heads, chips, and other objects, consisting of 447 specimens (gift) (29390).
- MEADE, Rear Admiral R. W., U. S. Navy: Canteen carried by John Paulding, one of the captors of Major André, through the Revolutionary war. Deposit. 29381.
- MEARNS, Dr. E. A., U. S. Army (Mexican Boundary Commission, San Diego, Cal.): Collection of mammal skins and skulls, 330 birds' skins, representing 70

MEARNS, DR. E. A.—continued.

species, from Arizona and adjacent parts of California (28431); mammal skins, 73 birds' skins from Arizona and California (28443); mammal skins, marine shells, 27 birds' skins, representing 20 species, from Arizona and California (28446); sea-urchins, barnacles, and a sponge, collection of birds' eggs from southern Arizona and Lower California, consisting of 42 specimens and representing 11 species, botanical specimens, 358 birds' skins, representing 116 species, from California, Lower California, and San Clemente Island, grooved ax and grinding stone from Arizona, also 3 grinding stones from California, land, fresh-water, and marine shells from the vicinity of the Mexican boundary, mammal skins, bats, a pair of horns, human skull and piece of a horn, rocks (28510); mammal skins, 337 birds' skins, representing 97 species from California, Lower California (28540); cocoon of Tarantula-killer, *Pepsis formosa* (28546); alcoholic and dry mollusks from the Tia Juana termination of the Mexican boundary line on the Pacific Coast, alcoholic invertebrates from the Mexican boundary, alcoholic reptiles, seaweed, alcoholic fishes collected along the United States and Mexican boundary, between Fort Yuma and the Pacific Ocean, alcoholic mammals, alcoholic specimens of *Rasahus biguttatus*, Say, from San Clemente Island, alcoholic birds (28661); 172 birds' skins from southern California, Lower California, and San Clemente Island (29197); salamanders and frog from Fort Myer, pair of antlers of moose, *Alces machlis* (29321); earthenware pipe from Mountain Spring, San Diego County, Cal. (29515).

MEEK, Prof. S. E. (Fayetteville, Ark.): Fresh-water shells from Old River, Arkansas. 28687.

MELDRUM, Mrs. W. H. (Newark, N. J.): Cecropia silk moth with cocoon. 29379.

MERCER, H. C. (Doylestown, Pa.): Three scrapers of quartzite from Bucks County. 29376.

MERRIAM, Dr. C. Hart. (See under Agriculture, Department of, and Dr. John Macoun.)

MERRILL, GEORGE P. (U. S. National Museum: Contorted schist, trap dykes, and weathered rock from Cape Elizabeth, Me. (28459); fibrolite schist, pegmatite, and mica from North Gorton, and mica in gangue from Alexandria, N. H. (28598); geological material from Albemarle and Nelson Counties, Va. (28674); asbestos and associated rocks and minerals from Alberton, Md. (28761); crystalline limestone showing weathering, and pink marble from Marble Hill, Pickens County, Ga. (28942); granite, fresh and decomposed, from Stone Mountain, Ga. (28960); collection of syenite (pulaskite) and elaeolite syenite from near Little Rock, Ark. (28992); asbestos in limestone from the west and lower bridge, Baltimore and Ohio Railroad, on Patuxent River, west of Alberton, Md. (29509), collected by Mr. Merrill for the National Museum. (See under C. A. Sherman.)

MEXICO, NATIONAL MUSEUM OF (City of Mexico), through Prof. A. L. Herrera: Three species of alcoholic fishes from Vera Cruz, consisting of "Pereado Robo," *Joturus (pichardi?)*, "Illama," *Sicydium Plumieri* and "Cuerepo," *Menidia Humboldtiana*. 28548.

MILLER, R. T. (Fond du Lac, Minn.): Jaw of black bear and scales from the gill-covers of a fish. 28591.

MILLER, W. (Grand Rapids, Mich.): Foreign postage stamps. 29216.

MILLS, G. S. (Hogansburg, N. Y.): Natural formation, resembling worked stone. 29192.

MILLS, Miss LYRA. (See under Agriculture, Department of.)

MILLS, ROBERT A. (Chuluota, Fla.): Stone ax from Orange Mound, iron saddlebow from Saddle Mound, near St. Johns River, and natural formation resembling a worked stone implement (28445); tapeworms taken from a swamp rabbit (29061); adult tapeworms from a specimen of *Lepus palustris* (29084); tapeworms from rabbits and from a specimen of *Amia* (29212).

MILNE-EDWARDS, Dr. A. (See under Paris, France. Museum of Natural History.)

- MILNER, I. B. (Washington, D. C.): Collection of photographs of views taken principally in Australia and New Guinea. Deposit. 28318.
- MILTON BRADLEY COMPANY (Springfield, Mass.), through George Ireland, Assistant Treasurer: Game of Chuba (an adaptation of the African game of Mancala). 29137.
- MINIER, C. M. (Pomona, Cal.): Alcoholic specimen of Scorpion, *Hadrurus hirsutus*, Wood. 28778.
- MITCHELL, G. E. (Winter Haven, Fla.): Snake. 28888.
- MITCHELL, Hon. J. D. (Victoria, Tex.): Six specimens of Unios (28337); specimen of *Sphaerophthalma occidentalis*, L., and alcoholic specimens of *Macoma Mitchellii*, Dall, from Jackson County (28366); flint chips from a flint workshop near Goliad, Tex., (28422); 7 species of small land shells from the drift of Guadalupe River, Texas (28644); landshells and specimens of *Tenus notata* (28862); fresh-water shells (29306); specimen of *Albunea Gibbesii*, Stimpson (29447); 3 species of marine bivalve shells from Matagorda Bay, Texas. (29467).
- MOHUN, R. D. L. (Department of State): Large collection of ethnological objects from the Congo region, especially the Upper Congo. Deposit. 29024.
- MOLINER, G. M. (City of Mexico, Mexico), through H. W. W. Evans: Stone sculpture resembling a human figure. Deposit. 29367. (Returned.)
- MONKS, Miss S. P. (Los Angeles, Cal.): Specimens of *Solariella cidaris*, A. Adams, and *Calliostoma variegata*, Carpenter, from the Pleistocene formation of San Pedro, Cal. 28912.
- MONTANÉ, Dr., and Dr. CHARLES DE LA TORRE (Royal University, Havana, Cuba): Ten photographs of crania and antiquities of Cuba. 28485.
- MOONNAN, L. C. (Chapard, Ariz.): Specimen of Grant's Rhinoceros Beetle, *Dynastes Grantii*. 28798.
- MOONEY, JAMES. (See under Smithsonian Institution, Bureau of Ethnology.)
- MOORE, C. B. (Philadelphia, Pa.): Section of a red cedar log 18 feet long, found by W. K. Moorehead at the base of Metzger Mound, near Yellow Bnd, Ohio. 28589.
- MOORE, F. E. (Maryville, Tenn.): Specimen of *Habeuarina ciliari* from the top of Great Smoky Mountain, Tennessee. 29019.
- MOORE, H. C. (Cape Town, South Africa), through Hon. C. H. Benedict: Mammal skins and skulls collected in South and South Central Africa. 28908.
- MOOREHEAD, W. K. (See under C. B. Moore.)
- MOORS, H. J. (Apia, Samoa): Two Samoan canoes with paddles, and a large wooden bell, or logo. 29233.
- MORENO, Dr. FRANCISCO P. (See under La Plata Museum.)
- MORGAN, Hon. D. N. (See under A. W. Carey.)
- MORONG, THOMAS. (See under Agriculture, Department of.)
- MOSS, WILLIAM. (See under George Wild.)
- MOUNT, D. A. (Jamesburg, N. J.): Pair of white Plymouth Rock fowls, pair of white Wyandotte fowls, and a white Holland turkey, in the flesh (29118); white Plymouth Rock fowl (29261).
- MÜLLER, Dr. SOPHUS. (See under Royal Museum of Northern Antiquities, Copenhagen, Denmark.)
- MUND, A. H. (Fairbury, Ill.): Two specimens of *Gordius* sp. 29164.
- MUSEUM OF COMPARATIVE ZOOLOGY (Cambridge, Mass.): Twenty crabs, representing 7 species. Exchange. 28557.
- MUSEUM OF FINE ARTS (Boston, Mass.): Three photographs of cave marble. 28631.
- MUSEUM SENCKENBERGIANUM (Frankfurt on the Main, Germany), through Dr. O. Boettger: Two lizards from China. Exchange. 29124.
- NAILOR, WASHINGTON. (See under W. Huntington.)
- NANCE, Dr. W. V. (Maybeury, W. Va.): Bowl and cup-shaped object of steatite. Deposit. 28173.
- NEALLEY, G. C. (See under Agriculture, Department of.)
- NELSON, E. W. (See under Agriculture, Department of.)
- NEW HAMPSHIRE SCIENTIFIC SOCIETY (Amoskeag, N. H.): Five birds' nests. 28851.

- NEWLON, Dr. W. S. (Oswego, Kans.): Plates resembling those of *Chlamydothorium*. 28393.
- NEW YORK STATE FISHERY COMMISSION (Cold Spring Harbor, Long Island, N. Y.), through Fred. Mather, superintendent: Specimen of *Salmo fario* in the flesh. 28369.
- NICARAGUA, GOVERNMENT OF, through His Excellency J. Santos Felaya, President, and also through Consul-General A. D. Strans. Collection of antiquities exhibited by the Government of Nicaragua at the Columbian Exposition in Madrid. 29404.
- NICHOLS, Dr. J. B. (Soldiers' Home, Washington, D. C.): Collection of myriapods from New York, Kansas, and Washington, D. C. 28352.
- NICHOLS, Mrs. W. F. (Sidney, Col.): Giant Water bug, *Belostoma americanum*, from Yampa River. 28893.
- NIVEN, WILLIAM, COMPANY (New York city): Three specimens of onyx, specimen of grossularite, and specimen of xenotime from various localities. Purchase. 29503. "A."
- NIVENS, W. E. (New York City): Thin slab of rosolite from Mexico. 28745.
- NORRIS, A. J. (Marshall, Va.): Twenty-five birds' skins from the Peruvian Andes. Purchase. 29298.
- NORTON, J. C. (Kings Mountain, N. C.): Cassiterite. 28760.
- NUMISMATIC AND ANTIQUARIAN SOCIETY OF PHILADELPHIA (Philadelphia, Pa.): Fifteen specimens of continental and colonial paper money, consisting of a five Spanish dollar bill and a one Spanish dollar bill of United States, 1775; a fifty-five and a sixty-five dollar bill, 1779; thirty pence of New Jersey, 1776; three, six, and eighteen pence Pennsylvania, 1772 and 1775; six dollars of Maryland, 1767; one-third and two-thirds of a dollar, one dollar, and four dollars of Maryland, 1774; six shillings of Delaware, 1776, and a twelve-pound bill of Virginia colony. 28580.
- NUTTING, Prof. C. C. (See under Iowa, State University of.)
- OSBER, F. A. (Washington, D. C.): Spanish sword used by the Conquistadores in Santa Domingo, sword from Puerto Rico, dated 1796, from English invasion,
- OSBER, F. A.—continued.
spur from Argentina, early Spanish spur from Santa Domingo, and a collection of early Spanish-Mexican copper and silver coins, also small serpentine celt and two terra-cotta figurines from Santa Domingo, and a small serpentine celt from the Bahamas. 29176.
- Ogilby, J. Douglas (Australian Museum, Sydney, N. S. W.), through Dr. Theodore Gill: Specimens of *Apogon rosicaster*, *Aristens flurialilis*, and *Meuidiella oxygaster*. 28610.
- OLNEY, Mrs. M. P. (Spokane, Wash.): Ten species of land and fresh-water shells. 28686.
- OLDROYD, T. S. (Los Angeles, Cal.): Two specimens of *Cryptodon bisectus*, Conr., from the Miocene group of California, and specimens of *Conus californicus* and *Eulima micans* from San Pedro (28336); alcoholic specimens of *Lima*, *Lazarina*, *Lucapinella*, and *Volralina* from San Pedro Bay, brachiopod and specimen of *Acteon punctoculatus*, Cpr., with egg masses (28340); type specimen of *Lepidopleurus (Oldroydia) percassus*, Dall (28628); 2 species of marine shells from San Pedro (28788); specimen of *Clidiophora punctata* from the same locality, and a specimen of *Laqueus californicus* from Catalina Island, Cal. (28794); 4 species of marine shells from the beach drift at San Pedro (29012).
- OLDS, H. W. (Woodside, Md.): Three specimens of *Mus musculus*. 29008.
- ONONDAGA, COUNTY OF (New York): Bronze medal in commemoration of the one-hundredth anniversary of the county of Onondaga. (28575.) (Presented to the Smithsonian Institution, and deposited in the National Museum.)
- ORCUTT, C. R. (San Diego, Cal.): Three species of land shells from Mexico (gift) (28370); 100 amulets (purchase) (29039).
- ORTH, H. A. (Washington, D. C.): Ute headdress captured in a battle at Spanish Fork, Utah. 28764.
- OSBORN, Prof. H. L. (See under Hamline University.)
- OSBURN, Prof. WILLIAM (Nashville, Tenn.): Insects of all orders representing 100 species (28343); 49 species of

- OSBURN, Prof. WILLIAM—continued.
miscellaneous insects (28926); 17 specimens of Orthoptera (28950); 39 species of miscellaneous insects (29087).
- OSTERHOUT, G. E. (See under Rose, J. N.)
- OWEN, R. L. (Muscokee, Ind. T.): Glacialite, lump and pulverized, from Enid, Okla. 29217.
- OWENS, C. B. (Somerset, Ky.), through W. P. Pettus: Natural formation, quartz on bituminous shale. 28752.
- OWSLEY, ERNEST (Glasgow, Ky.): Crawfish and cave crickets, 8 specimens of Blind fish, *Typhlichthys subterraneus*, from Mitchell's Cave, Ky. (28449); Red Bat, *Atalapha borealis* (28506).
- PACKARD, C. S. (Welaka, Fla.): Caterpillars of Cochlipothod Moth (*Lagoa opercularis*). 28729.
- PALMER, EDWARD: Alcoholic lizards from Acapulco, Mexico. 29433.
- PALMER, JOSEPH (U. S. National Museum): White-footed Mouse, *Sitomys leucopus* (29182); 6 young Cottontail Rabbits, *Lepus sylvaticus* (29249).
- PALMER, WILLIAM (U. S. National Museum): Eight skins of Hooded Warbler, *Sylvania nigrata*, showing development of plumage (gift) (28358); Red Squirrel, *Sciurus hudsonicus* (gift) (28405); 8 specimens of *Hippoboscidae* from a horned owl (gift) (28724); Squirrel (*Sciurus hudsonicus*) (gift) (28956); Texas Jack Rabbit, *Lepus texianus* (gift) (28983); Cottontail Rabbit, *Lepus sylvaticus*, in the flesh (gift) (29250); Theraphosid spider from Lake Arbuckle, Polk County, Fla., 2 specimens of *Jordanella* and 3 specimens of *Zygonectes*, skeletons of *Sigmodon hispidus*, and *Speotyto cunicularia floridana*, Boat-tailed Grackle, *Quiscalus major*, Blue Egret, *Ardea herodias*, and Louisiana Heron, *Ardea tricolor ruficollis*, reptiles and batrachians from Florida (29268);¹ 10 eggs (5 sets) of Boat-tailed Grackle, *Quiscalus major*, from the Kissimmee River, Osceola County, Fla. (29322);¹ 36 birds' skins from Florida, representing 17 species (29360);¹ lizard from Marshall Hall, Md. (29449);¹ 6 bats (*Vesperugo carolinensis*) (29454).¹ (See under P. Henry Aylett.)
- PARIS, France. Museum of Natural History, through Dr. A. Milne-Edwards, director: Three crabs (*Callinectes*) and brachiopods, obtained from the results of the *Travailleur* Expedition (29131); 22 casts of vertebrate fossils, including *Avoptatherium*, *Palaeotherium*, *Lophiodon*, *Hipparion*, *Helladotherium*, *Liodon*, and *Actinodon* (29163). Exchange.
- PARK, Mrs. C. N. (North Topeka, Kans.): Calcareous concretions. 28334.
- PARMELEE, H. P. (Cripple Creek, Colo.): Fossil wood. 28980.
- PAUL, Mrs. G. R. (Norfolk Navy-Yard, Norfolk, Va.): Sword presented to Brig. Gen. G. R. Paul, of the Third Brigade, First Division, First Army Corps, June 20, 1863, by the non-commissioned officers, musicians, and privates of the Twenty-ninth Regiment New Jersey Volunteers. Deposit. 29151.
- PAYN, E. J. (Olympia, Wash.): Clay (28640); silver ore from Monte Cristo Mines (28931).
- PAYNE, G. F. (See under Agriculture, Department of.)
- PARISH, S. B. (See under Agriculture, Department of.)
- PENFIELD, Prof. S. L. (Sheffield Scientific School, New Haven, Conn.): Specimen of willemite from Sedalia Copper Mine, Salida, Colo. 28582.
- PENNSYLVANIA RAILROAD COMPANY (Philadelphia, Pa.): Bromide enlargement from a photograph of the "John Bull" train, and a framed legend to be attached to the photograph (gift) (28487); through T. N. Ely, chief of motive power, one of the original driving-wheels of the locomotive "John Bull," 1831 (deposit) (29510).
- PENNSYLVANIA, UNIVERSITY OF (Philadelphia, Pa.), through Dr. C. W. Stiles: Parasitic worms containing Leidy's types. Deposit. 28792.
- PERGANDE, T. (Department of Agriculture): Two Mexican land shells. 28726.
- PETTIT, W. A. (Stouts, Ohio): Fourteen stone implements from Adams County, Ohio. 28355.
- PETTUS, W. B. (See under C. B. Owens.)
- PHELPS, S. S. (Elmore, Ill.): Emperor Moth, *Eacles imperialis*. 28318.

¹ Collected for the National Museum.

- PHILLIPS, A. W. (Douglas, Wyo.): Oil sand from near Douglas. 29077.
- PHILLIPS, Prof. F. C. (Western University Laboratory, Allegheny, Pa.), through J. S. Diller, U. S. Geological Survey: Silver produced by reduction of the sulphide of hydrogen. 28944.
- PILSBRY, H. A. (Academy of Natural Sciences, Philadelphia, Pa.): Specimens of *Bythinella wuicostata*, Pilsbry, from Lake George, Florida. 28491.
- PIPER, ANNIE E. (Washington, D. C.): Jewel box shaped like a small trunk, presented by General Washington about 1777 to Mrs. Euphemia Wall. 28344.
- PLAT, Rev. M. (See under Mrs. J. Crosby Brown.)
- PLUMB, L. H. (See under Agriculture, Department of.)
- POLLARD, C. L. (Department of Agriculture): Four herbarium specimens collected in the eastern section of the United States (29191); 63 herbarium specimens from the same locality (29183).
- POLLARD, W. B. (Franklin Furnace, N. J.): Glacial boulder. 29505.
- PONDER, T. H. (Atlanta, Ga.): Specimen of Trapdoor Spider, *Mygale Hentzi*. 29526.
- PORTER, Capt. G. D. (See under Miss J. M. Cooke.)
- PORTER, T. C. (See under Agriculture, Department of.)
- POUTJATINE, M. le Prince PAUL (Novgorod, Russia), through Dr. Thomas Wilson: Twenty-five fragments of pottery from the Prince's estate at Novgorod, midway between St. Petersburg and Moscow, also three plaster casts representing 49 impressions of pottery from the same locality. 28477.
- POWELL, Maj. J. W. (See under Smithsonian Institution, Bureau of Ethnology.)
- PRICE, W. H., Jr. (Cleveland, Ohio.): Four photographic prints of a grooved ax. 28316.
- PRICE, WILLIAM (Stanford University, Cal.): Skin, nest, and 4 eggs of Olive Warbler, *Dendroica olivacea*, from southern Arizona (new to science and to the Museum collection). 28765.
- PRIDEMORE, A. L. (Jonesville, Va.): Beads and shells from a cave near Duffield, Scott County, Va. Deposit. 29274.
- PHILL, Dr. A. G. (Sodaville, Oreg.): Eight eggs (one set) of Sooty Grouse, *Dendragapus obscurus fuliginosus*, skin of Lutescent Warbler, *Helminthophila celata lutescens*, and specimen of Oregon Vesper Sparrow, *Pooecetes gramineus affinis*. 29138.
- PRINGLE, C. G. (Charlotte, Vt.): Ten specimens of Mexican Umbellifera, representing principally new species. 29213. (See under Rose, J. N.)
- RABBITT, SAMUEL (Washington, D. C.): Blue Magpie Pigeon in the flesh (29054); Blue Pigmy Pouter Pigeon in the flesh (29071).
- RADER, I. A. (Bushong, Kans.): A medal, in white metal, of the Town Hall, Birmingham, England, found in the old burying ground of the Kaw Indians on Neosho River. 29200.
- RAGAN, J. R. (Banyan, Fla.): Pottery vessel found buried on the bank of Indian River, Brevard County, Fla. 29229.
- RAIDER, GEORGE (Cumberland, Md.), through Howard Shriver: Specimen of *Edriocrinus sacculus*, Hall, from the Oriskany sandstone terraine of Cumberland. 28807.
- RAINE, WALTER (Toronto, Canada): Skin of Nelson's Sparrow, *Ammodramus c. Nelsoni*, also 2 birds' eggs. 28502.
- RALPH, Dr. WILLIAM L. (Utica, N. Y.): Twenty birds' skins, representing 16 species, from various sections of the United States (28660); collection of birds' eggs, consisting of 1,224 specimens, representing 154 species and 316 sets, among which the following are new to the Museum collection, viz, Ward's Heron, Sulphur-bellied Flycatcher, Hudsonian Chickadee, Bahaman Redwing, Cuban Martin, Bicknell's Thrush, Golden-cheeked Warbler, and Arizona Woodpecker, as well as many other rare species which have heretofore been but poorly represented in the Museum collection, also 50 nests (29468); Golden-cheeked Warbler, *Dendroica chrysoparia*, from Texas (29474). (Presented to the Smithsonian Institution, and deposited in the National Museum.)

- RAMBO, M. ELMER (Philadelphia, Pa.): Lead ore from near Phoenixville, Pa. 29190.
- RANDOLPH, P. B. (Seattle, Wash.): Thirteen species of land shells (gift) (28846); plaster cast of a carved stone image and a pencil sketch (3 views) of a sculptured stone (exchange) (29014); land and fresh-water shells from Puget Sound (gift) (29342).
- RANDOLPH, S. P. (Seattle, Wash.): Bowl of a clay pipe found on the beach at Jamestown, Va., of the earliest English pattern. 28842.
- RATHBUN, Miss M. J. (U. S. National Museum): Specimens of Amphipods and marine shells from Digby, Nova Scotia. 28556.
- RAUB, G. T. (Four Mile Run, Virginia): Cooper's Hawk, *Accipiter Cooperi*. 28398.
- RAY, Capt. P. H., U. S. Army (Shoshone Agency, Wyo.): Quartzite scraper, flint knife, and a rude chipped implement. 29099.
- REDD, Mrs. JAMES (Ridgway, Va.), through Mrs. William Redford Beale: Pipe supposed to have been smoked by the Indian chief Powhatan and John Smith, and handed down through nine generations of the descendants of Pocahontas to the present owner. Deposit. 28324. (Returned.)
- REPPERT, F. (Muscatine, Iowa): Specimen and roots of *Tradescantia virginiana villosa*. 29237. (See under Agriculture, Department of.)
- RICE, B. W. (Tucker, Utah): Uintaite, gilsonite, weighing 115 pounds, from Clear Creek, Utah. 28511.
- RICHARDS, W. C. (Bristol, Conn.): Beehive, snowshoe, swingle knife, and tape loom, also a pair of ox horns, and buttons made from the root of white birch tree (28831); large stone pick from Harwinton, Litchfield County, Conn. (29386.)
- RICHMOND, C. W. (U. S. National Museum): Specimen of *Sitta pusilla* (nestling) (28404); Red Squirrel, *Sciurus hudsonicus* (28406); about 100 birds' tongues (28466); Barn Swallow, *Chelidon erythrogaster*, from Kensington, Md. (28567); 3 birds' skins, representing 3 species, from Mexico and Cuba (28819); 100 birds' skins, representing 28 species.
- RICHMOND, C. W.—continued.
from the District of Columbia, Smiths Island, Virginia, and Nicaragua (29018); 12 Trogons, principally from Borneo (29456).
- RICKLEY, A. M. (Columbus, Ohio): Stone pipe with two bowls, from Rhea County, Tenn. Purchase. 29528.
- RICKSECKER, A. E. (Oberlin, Ohio): Three hundred and ninety herbarium specimens. Exchange. 28870.
- RIDENOUR, W. B. (Brooklyn, N. Y.): Tuber found in a potato. 29148.
- RIDGWAY, ROBERT (U. S. National Museum): Three bats, *Vesperugo* sp. (collected for the National Museum) (28376); 3 young crabs, (*Callinectes hastatus*) from Point Lookout, Md. (collected for the National Museum) (28379); 56 birds' skins, representing 22 species, from Point Lookout (collected by Mr. Ridgway for the National Museum) (28385); 3 birds' skins from southern Illinois (gift) (28389); small collection of fishes from Cornfield Harbor, Chesapeake Bay, consisting of *Batrachus tau*, *Siphostoma fuscum*, *Tylosurus marinus*, *Synodus fatens*, *Fundulus heteroclitus*, *Fundulus majalis*, *Cyprinodon variegatus*, and *Lepomis gibbosus* (collected for the National Museum) (29390); 3 eggs (1 set) of Caracara, *Polyborus cheriway*, and 3 eggs (1 set) of Ward's Heron, *Ardea Wardi*, from near Lake Kissimmee, Fla. (gift) (29195); 93 birds' skins, representing 25 species, principally from southern Florida (collected for the National Museum) (29251); specimen of Purple Martin, *Progne subis*, from Maryland (gift) (29475.) (See under Bell, James.)
- ROBERTS, Dr. C. H. (New York City): Types of 3 species of *Dinutes* (gift) (29157); sixty-six North American water beetles, representing 17 species; 227 specimens of Australian Buprestidae, representing 15 species (exchange) (29269).
- ROBERTS, Master ROYAL (New York City): Five specimens of *Eutimus imperialis* and *Eutimus splendidus*, from South America. 29270.
- ROBERTSON, G. W. (Washington, D. C.): An albino specimen of *Didelphys marsupialis*. 29104.

- ROBERTSON, Miss M. B. (See under Agriculture, Department of.)
- ROBINSON, B. L. (See under Agriculture Department of.)
- ROBINSON, J. H. (Washington, D. C.): Spider, *Ctenus punctulatus*, Hentz. 29524.
- ROBINSON, Lieut. WIRT, U. S. Army (War Department): Left astragalus of *Platygonus*, ankle bone of a peccary (28367); 7 fragments of pottery, skull of Raccoon, *Procyon lotor*, from Florida, and specimen of *Bulinus oblongus*, Muller, from Magdalena Valley, Colombia, South America (28388).
- ROBLEY, Gen. J. H. (Charing Cross, London, England): Photograph of General Robley and his collection of New Zealand tattooed heads. 29570.
- ROCKENSTYRE, C. E. (Albany, N. Y.): Black Cochin Bantam. 29315.
- ROCKHILL, Hon. W. W. (State Department): Indian feather costume, consisting of a headdress, necklace, armlets, and apron, from Ecuador (exchange) (28609); 3-pronged tapers used by priests for excoriation (gift) (29263).
- RODGERS, Mrs. J. A. (South Bethlehem, Pa.): Waistcoat said to have belonged to Gen. George Washington. Deposit. 29312.
- ROGERS, THOMAS (Manchester, England): A series of specimens of a British land shell, *Chausilia bidentata*, Boettger, var. *craccensis*, Taylor. 29346
- ROGERS, Miss VIRGIE (Luthers Store, Ala.): Specimen of *Cicada dorsata*, Say. 28596.
- ROLFS, P. H. (Lake City, Fla.): Specimens of *Elaps fulvius* and *Rhineura floridana*. 29220.
- ROOSEVELT, Hon. THEODORE (Civil Service Commission, Washington, D. C.): Pair of snowshoes of Norwegian type, made in Minneapolis, Minn., and a staff. 29106.
- ROSE, J. N. (Department of Agriculture): Herbarium specimen of *Brickellia* from Mexico, collected by C. G. Pringle (29486); 2 specimens of Colorado Umbellifera, collected by Mr. George E. Osterhout (29029); 3 herbarium specimens collected by Mr. Osterhout (29075); 27 herbarium specimens from Fort Collins, Canada, collected by C. ROSE, J. N.—continued.
S. Crandall (29147); herbarium specimen collected by Dr. A. Davidson, of Los Angeles, Cal. (29516); 2 herbarium specimens of *Cissus* from F. D. Kelsey, of Oberlin, Ohio (29527).
- ROTHROCK, Dr. THOMAS (Howard, Pa.): Supposed meteorite, found on the eastern border of the Alleghanies, magnetite, and other material (29113); stone chisel from Bald Eagle Valley (29214).
- ROUSSEAU, Miss N. E. (Washington, D. C.), through J. E. Benedict: Iron fat lamp. 28338.
- ROULEY, PAUL (Springfield, Mo.): Arrowhead found in an Indian mound in Lawrence County. 28533.
- ROWE, C. H. (Cliftondale, Mass.): One specimen each of *Patula striatella* from the eastern section of the United States and *Polygyra espiloca*, Ravenel, from the Southern States. 28568.
- ROYAL BOTANIC GARDENS (Kew, England), through Dr. W. T. Thiselton-Dyer: Birds' bones, 111 botanical specimens from Aldabra Island, shells, and a specimen of Fruit Bat, *Pteropus aldabrensis*. 29317. (The latter sent by Dr. Abbott through the Royal Botanic Gardens.)
- ROYAL MUSEUM OF NORTHERN ANTIQUITIES (Copenhagen, Denmark), through Dr. Sophus Müller: Ethnological objects from East Greenland. Exchange. 28353.
- RUBIN, C. A. (Washington, D. C.): Collection of insects. 28478.
- RUSSELL, FRANK (State University of Iowa, Iowa City, Iowa): Two specimens of *Asterias* from Puget Sound. 29326.
- RUSSELL, HEMAN R. (Manhattan, Ill.): Hammerstone. 28563.
- RUTTER, CLOUD (Long Pine, Nebr.): Skin of Merganser, *Merganser americanus*, from Wyoming. 28424.
- SAFFORD, Prof. J. M. (Nashville, Tenn.): Phosphates. 28735.
- SALLING, GUY (South Greenfield, Mo.): Thirty-six flint implements found on the surface of plowed fields in the Creek Valleys. Exchange. 29496.
- SALMON, Dr. D. E. (See under Agriculture, Department of.)

- SANDERS, JOHN. (See under E. J. Johnson.)
- SANSOM, JOSEPH (St. George's Road, Portland, England): Twenty eyecads. Purchase. 29501.
- SARDESON, F. W. (See under Interior Department, U. S. Geological Survey.)
- SARGENT, C. S. (See under Agriculture, Department of.)
- SCHERRER, L. P. (Morristown, N. J.), through Maj. Charles Bendire, U. S. Army: White-throated Warbler, *Helminthophila leucobrouchialis*. 28371.
- SCHULTER, WILHELM (Halle, Germany): Six Birds of Paradise and humming birds (purchase) (29023) "A"; Tarsier, *Tarsius spectrum*, Flying Lemur or Colugo, *Galeopithecus volans* (purchase) (29035) "A"; Hamster, *Cricetus frumentarius* (purchase) (29354).
- SCHMID, E. S. (Washington, D. C.): Specimen each of Toncan and Pheasant (28384); Boa constrictor in the flesh (28484); Silver Pheasant, *Euplocomis nycthemerus* (28493); 2 specimens of *Conurus pertinax* in the flesh (28721); specimen of *Amazona auropalliata* (28951); White Leghorn hen in the flesh (29244); skin and skull of *Lutra canadensis* (29248). (See under G. A. Fick.)
- SCHUCHERT, CHARLES (U. S. National Museum): Twenty specimens of Trenton fossils from near Burgin, Ky. (collected by Mr. Schuchert for the National Museum) (28529); 6 specimens of Waverly fossils from Warren, Pa. (gift) (28530); 50 specimens of Chemung fossils from Hatch Run, near Warren, Pa. (gift) (28531); 2,352 specimens of Devonian fossils from Moreland, Ky. (collected for the National Museum) (28538); window glass with spherulites from a glass factory at Kane, Pa. (gift) (28600); 13 boxes of Zengledon material from Choctaw County, Ala. (collected for the National Museum) (28859); 2 boxes of Eocene invertebrates from Choctaw County, Ala. (collected for the National Museum) (28860); numerous fish bones and shark's teeth, from Cocoa, Ala. (collected for the National Museum) (29086).
- SCHUTZ, Dr. J. R. (Washington, D. C.): Large fungus from Plymouth, Pa. 29489.
- SCIDMORE, Miss E. R. (Washington, D. C.): Harpoon head with serpentine (jade?) blade, from Alaska. 29000.
- SCOTT, A. W. (San Antonio, Tex.): Cocoons of *Thyridopteryx ephemaformis*. 28419.
- SCOTT, A. W. (Clay City, Ky.): Skull of fossil Elasmobranch from the eastern part of Powell County, Ky. Purchase. 28652.
- SCOTT, Lieut. J. H. (U. S. R. M. Cutter *Forward*, Mobile, Ala.): Click beetle, *Alaus myops*. 29513.
- SCOTT, Mrs. J. JACKSON (Eckington, D. C.): Sword and epaulets worn by Capt. Seth Brett Thornton, Second Dragoons, U. S. Army, when killed, August 18, 1847, during the Mexican war. Deposit. 28685.¹
- SCOVELL, J. T. (Terre Haute, Ind.). Types of 4 new species of fishes collected in Mexico by A. J. Woolman, consisting of *Notropis atacus*, n. sp., *Gambusia infans*, n. sp., *Ecarra Eigenmanni*, n. sp., and *Chirostoma Jordani*, n. sp. 28650.
- SCUDDER, L. T. (Linden, Md.): Two fresh specimens of *Peromyscus leucopus*. 28719.
- SCUDDER, N. P. (U. S. National Museum): Red Squirrel, *Sciurus hudsonicus*. 28786.
- SCUDDER, Prof. SAMUEL H. (See under Interior Department, U. S. Geological Survey.)
- SEMPERS, J. F. (Aiken, Md.): Six birds' skins, representing 6 species, and 6 mounted specimens, representing the same number of species, from Maryland. 28549.
- SHANK, R. M. (Bluff City, Tenn.): Caterpillar of Regal Walnut Moth, *Citheronia regulis*. 28481.
- SHANNON, Dr. W. C., U. S. Army. (See under Intercontinental Railway Commission.)
- SHATTUCK, C. B. (See under Agriculture, Department of.)
- SHAVER, H. (Augusta, Ga.): Eleven arrow-heads from Richmond County,

¹ Captain Thornton struck the first blow at Caracita in the war with Mexico, and fell at Contreras in the last attack upon the City of Mexico.

- SHAYER, H.—continued.
Ga., 8 arrow-heads from Columbia County, and 8 arrow-heads from Sweet Water, Edgefield County, S. C. Exchange. 28518.
- SHEPARD, Miss IDA M. (Long Beach, Cal.): Five species of marine shells (28511); specimens of *Macoma*, *Stylopsis*, and *Barlecia* from San Pedro, Cal. (28787); shells and brachiopods from the same locality (28911); shells (29311).
- SHERMAN, C. A. (Manville, Wyo.): Seventy-nine scrapers and quarry material (29002); through G. P. Merrill, opalized wood, fossils (29266); fossil mammal bones (29369).
- SHINDLER, A. Z. (U. S. National Museum): Grooved ax from Laurel, Md. 28512.
- SHORT, J. W. (See under Agriculture, Department of.)
- SHRIVER, HOWARD (Cumberland, Md.): Two specimens of *Pleurotomaria itys*, Hall; 3 specimens of *Nuculites* *cf.* *triqueter*, Conrad; 1 specimen of *Nucula Randalli*, Hall; 1 specimen of *Nucula* *cf.* *notica*, Hall, and 2 specimens of *Nucula* sp. undet. 28806. (See under George Raider.)
- SHUFELDT, Dr. R. W. and J. H. CHAPMAN (Takoma, D. C.): Skin of half-grown male Sewellel, *Haplodon rufus*, collected in 1894 at Mishawaka, Oreg. 28368.
- SIAM, KING OF (Bangkok), through His Royal Highness Prince Devawongse Varaprakar, Minister for Foreign Affairs, Bangkok, and Mr. Isaac Townsend Smith, Consul-General of Siam: Siamese edition of the "Tripitaka," the sacred writings of the Southern Buddhists. 29415.
- SICKLES, Miss EMMA (Chicago, Ill.): Workbag of "Lizzie Black Fox," wife of "Wounded Knee," a Sioux Indian. 29141.
- SILVESTRI, FELIPPO (Museo Civico di Storia Naturale, Genoa, Italy): Thirty-six species of European myriapods. Exchange. 29032.
- SIMONDS, ALLIE (Arkansas Industrial University, Fayetteville, Ark.): Three butterflies, viz: *Anax andria*, Scud., *Catopsilia eubele*, L., and *Nisoniades juvenalis*, Fab. 28730. (Returned.)
- SINGLEY, Prof. J. A. (Giddings, Tex.): Specimens of *Holospira* from El Paso County, Tex. 28905.
- SMILLIE, T. W. (U. S. National Museum): Twelve photographs of Hindoos taken by N. D. Poopal, Ahmednuggur, India. 28624.
- SMITH, Mrs. C. B. (Washington, D. C.): Guirro (rattle) from Puerto Rico, and a Tiple (treble guitar) from the same locality. Deposit. 29411.
- SMITH, F. M. (San Francisco, Cal.): Borax and photographs of works of the Pacific Coast Borax Company. 28426.
- SMITH, GEORGE D. (New York City): Kazoo. 28585.
- SMITH, HARLAN I. (Saginaw, Mich.): Twenty-eight crayfishes from the shore of the Saginaw River (28380); sponges and bryozoans from the Shiawassee River (28402); dried sponges and bryozoans growing on wood, from the mouth of the Shiawassee River (28558); isopods (28586); 2 glaciated pebbles from Beaver Creek, Saginaw County (28844); specimen of Murre, *Uria lomvia*, in the flesh, from Lake Ontario (28654).
- SMITH, ISAAC TOWNSEND. (See under Siam, King of.)
- SMITH, Prof. J. B. (New Brunswick, N. J.): Types of 35 species of American Noctuidæ (gift) (28535); type specimens of 13 species of Noctuidæ (exchange) (28833); currant branches infested with specimens of Flat-headed Borer, *Agilus sinuatus* (gift) (29196). (See under Bruce, David.)
- SMITH, JOHN DONNELL. (See under Agriculture, Department of.)
- SMITH, W. S. TANGIER (Stockton, Cal.): Bat and lizards. 28416.
- SMITHSONIAN INSTITUTION, Mr. S. P. Langley, Secretary.
- BELL, J. J., Brooksville, Hernando County, Fla. 28879.
- CHAMBERLAIN, Dr. L. T., The Chelsea, New York City. 28441, 28447, 28486, 29102, 29123, 29159, 29345.
- COHEN, Rev. HENRY, Galveston, Tex. 28698.
- FRY, Mr. WILLIAM E., Rondubusch, near Cape Town, South Africa. 28604.
- GUNNING, Mrs. MARY, Boston, Mass. 28581.
- HEATHCOTE, Mr. W. H., Preston, Lancashire, England. 28929.

SMITHSONIAN INSTITUTION—continued.

L'ÉCOLE POLYTECHNIQUE, Paris, France. 28779.

LENGSFIELD, J. L., Greenville, Miss. 29010.

LONDON, TOWN CLERK OF. 28782.

MCCORMICK and TERRY, Messrs., Columbus, Ohio. 29011.

ONONDAGA, COUNTY OF, New York. 28575.

RALPH, DR. WILLIAM L., Utica, N. Y. 28660, 29468, 29474.

VIGNAUD, HENRY (Paris, France): Model of the Behaim globe, the original of which was made at Nuremberg in 1487. 28811.¹

VOGLESON, J. A., Los Angeles, Cal. 28930.

WILCOX, DR. TIMOTHY E., U. S. Army, Fort Huachuca, Ariz. 29393.

WILLIAMSBURGH SCIENTIFIC SOCIETY, through Mr. Louis Kirsch, president. 29122.

WOLLAM, HAROLD, Rising Sun, Ohio. 28700.

Transmitted from the Bureau of Ethnology, Maj. J. W. Powell, Director:

Small doll obtained by C. C. Willoughby from the Abnaki Indians of Maine (28325); 2 Navajo rings in process of manufacture and a cup-and-ball game made from deer bones, collected by James Mooney (28527); taculli net made from willow bark, collected by W. J. McGee (28528); stone ornament, probably a pendant, worn by the Indians as a charm, found near an old camp at Witch Creek, Cal., by H. W. Henshaw (28603); 4 ethnographic objects obtained from the Kiowa, Cherokee, and Arapahoe Indians by James Mooney (28789); mescal drum, pair of leggings, headdress of a dog soldier, model of a cradle, obtained from the Kiowa Indians by James Mooney; head ornament of a Cherokee ball player, and head ornament of sacred crow feathers belonging to an Arapahoe Indian (28841); ethnological objects obtained from the Papago and Seri Indians of southern Arizona and

SMITHSONIAN INSTITUTION—continued.

northeastern Mexico (29025); 260 specimens of Algae (29236); bow and arrows, drum, maul, plow, and flutes from Arizona (29280).

Transmitted from the National Zoological Park, Dr. Frank Baker, Superintendent:

Fremont's Squirrel (*Sciurus Fremonti*) (28329); Weasel (*Putorius* sp.) (28350); Monkey (*Cercopithecus nuythithca*) (28401); Banded Rattlesnake (*Crotalus horridus*) (28413); 2 specimens of Virginia Deer (*Cariacus virginianus*) and a Muskrat (*Fiber zibethicus*) (28497); Squirrel (*Sciurus*, sp.) and Raccoon (*Procyon lotor*) (28542); Opossum and 2 Foxes (28583); Fish Hawk (*Pandion haliaetus*) and Red-shouldered Hawk (*Buteo lineatus*) (28680); Coypu (*Myopotamus coypu*) (28681); Snake (*Pituophis melanoleucus*) (28716); Muskrat (*Fiber zibethicus*) (28725); specimen of *Macropus rufus* (28736); Parrot (*Amazona auro-palliata*) in the flesh (28743); Marmoset (*Hapale jacchus*) (28871); Oekatoos (*Cacatua galerita*) (28872); 3 Nine-banded Armadillos (*Tatusia novemcincta*), Marmoset (*Hapale ahipus*), and a Coyote (*Canis latrans*) (28873); Beaver (*Castor canadensis*), Virginia Deer (*Cariacus virginianus*), and Bengal Monkey, *Macacus rhesus* (28808); specimen of *Heloderma suspectum* from Old Gila Bend, Arizona, and specimen of *Thalassochelys caonna* from Lynn Haven Bay, Virginia (28812); Green Monkey, *Cercopithecus sabaeus* and Agouti, *Dasyprocta aguti* (28943); Virginia Deer (*Cariacus virginianus*) (28962); skeleton of *Crotalus horridus* (28997); Gray Fox, *Urocyon virginianus*, Squirrel (*Sciurus aureigaster*) (28998); Gray Fox, *Urocyon virginianus* and Coati, *Nasua rufa* (29065); Rattlesnake (*Crotalus confluentus*) and Yellow Rattlesnake, *Crotalus horridus* (29066); Copperhead snake, *Ancistrodon contortrix*, Blue Heron, *Ardea herodias* and Elk (*Cervus canadensis*) in the flesh

¹This globe was acquired through the courtesy of Mr. Henry Vignaud, Paris, France, who, in behalf of the Smithsonian Institution, supervised its construction and attended to the purchase of the model.

- SMITHSONIAN INSTITUTION—continued.
 (29067); Parrot (*Amazona*, sp.) in the flesh (29150); Scarlet Ibis, *Guararubra* and a Rattlesnake (*Crotalus confluentus*) in the flesh (29151); Cinnamon Bear, *Ursus americanus*, Peccary (*Dicotyles tajacu*), and 2 Bisons (*Bison americanus*) (29152); 2 Antelopes (*Gazella dorcas*), male and female (29179); 2 Geese (*Anser cygnoides*) in the flesh (29205); Macaque, *Macacus cynomolgus* (29206); Curassow (*Crax*) (29264); Mole (*Scalops aquaticus*) (29271); Cassowary (*Casuarus galeatus*) in the flesh (29275); Rattlesnake (*Crotalus confluentus*) in the flesh (29276); Sandhill Crane, *Grus mexicana* in the flesh (29277); Spider Monkey, *Ateles*, sp. and Red Lynx, *Lynx rufus* (29278); Paca (*Coelogenys paca*) (29358); Curassow (*Crax*, sp.) (29362); Diana Monkey, *Cercopithecus diana* (29462); Black-crowned Night Heron, *Nycticorax nycticorax novius* in the flesh (29461); Bald Eagle, *Haliaeetus leucocephalus* in the flesh (29465).
- SMOLINSKI, JOSEPH (Washington, D. C.): Two Polish military decorations with accompanying certificates, also passports and miscellaneous papers of the late Joseph Smolinski, commander of the Imperial Ottoman Order of the Medjidieh, Chevalier of the Polish Military Cross, "Military Vertuti." 28714.
- SMYTH, Prof. E. A., jr. (Virginia Agricultural and Mechanical College, Blacksburg, Va.): Two species of East Indian butterflies, new to the Museum collection. 28777.
- SNIDER, G. L. (Smithsonian Institution): Specimen of *Scalops aquaticus*. 29478.
- SNYDER, Rev. D. W. (Luobo, West Africa): Pair of Goliath Beetles, *Goliathus giganteus*, Lamarek. 28800.
- SÖRENSEN, Rev. P. H. (Egedesminde, Greenland): Twenty bird skins (representing 15 species) from Greenland. 28432.
- SORNBORGER, J. D. (Cambridge, Mass.): Two eggs of Labrador Jay, *Perisoreus canadensis nigricapillus* and 3 eggs of Horned Lark, *Otocoris alpestris*. Deposit. 28915.
- SORRELS, C. M. (U. S. National Museum): Old nest of Ruby-throated Hummingbird, from Prince George County, Md. 28738.
- SOWERBY, G. B. (London, England): Three specimens of *Maetra*, from Kurachee, India. 28948.
- SPICER, Capt. JOHN (Groton, Conn.): Summer lamp of stone, with wick, and pyrites strike-a-light with tinder, obtained from the Eskimos of Cumberland Gulf. 28480.
- SPRAGUE, J. C. (New York City): Nest of House Wren, *Troglodytes adon* from Tarrytown, N. Y. 28751.
- SPURR, J. E. (See under Interior Department, U. S. Geological Survey.)
- STABLER, H. B. (Sandy Spring, Md.): Cooper's Hawk, *Accipiter Cooperi* in the flesh. 28816.
- STANTON, T. W. (U. S. Geological Survey): Gypsum pseudomorph after shell (*Lucina*) from near New Idria, Cal. (28783); 2 species of Unios from the Upper Missouri River (28832). (See under Mrs. Fred. Jones.)
- STARIN, J. H. (New York City): Twelve American Flamingoes, *Phaenicopterus ruber* from the Bahamas. Exchange. 28587.
- STEARNS, FREDERICK (Detroit, Mich.): Twenty-one lots of crustaceans and echinoderms from Japan, Hawaiian Islands, and Loo Choo Islands; also 3 specimens of *Acanthochites setiferus*, Nutt. from Hawaii. Exchange. 28734.
- STEFANESSETTI, G.: Cast of tooth of *Dinotherium gigantissimum*. 28438.
- STEINER, Dr. R. (Waynesboro, Ga.): Leaves of *Sarracenia variolaris* (gift) (28437); collection of aboriginal relics from the Etowah Mounds (deposit) (28826); 67 arrow-heads and other objects from Columbia County, Ga. (deposit) (29048); 63 arrow-heads and 2 worked flakes found *en caché* in North Augusta on the South Carolina side of the Savannah River, and a flint scraper from Columbia County, Ga. (deposit) (29338).
- STEJNEGER, Dr. LEONHARD (U. S. National Museum): Two Flying Squirrels, *Sciuropterus volucella*, from Laurel, Md. (gift) (28399); mammal skins and skulls from South Dakota (collected for

- STEJNEGER, DR. LEONHARD—continued.
the National Museum) (28507); skins and skulls from the same locality (collected for the National Museum) (28555); 2 birds' skins, representing 2 species, from South Dakota (collected for the National Museum) (28560); Sharpshinned Hawk, *Accipiter velox*, from South Dakota (collected for the National Museum) (28617); reptiles, and 3 bats (collected for the National Museum) (28658); 4 beetles, specimens of Myrmeleon, a grasshopper, and a spider from Bad Lands, South Dakota; also a leech, slug, specimen of *Pupa armifera*, from Bad Lands, Pine Ridge Agency, S. Dak. (collected for the National Museum) (28896).
- STEPHENS, F. (Witch Creek, Cal.): Specimen of *Eutania*, sp., from California. 29531.
- STEPHENS, JOHN (Franklin Furnace, N. J.): Slickensides. 29506.
- STERKI, DR. V. (New Philadelphia, Ohio.): Alcoholic specimen of *Margaritana deliscens* (28508); types of two new species of *Pisidium* from Ohio (28651); three species of Unionidae from Portage County, Ohio (28727); four species of Corbiculidae from the same locality (28853).
- STEIN, S. A. (Philadelphia, Pa.): Three double whistles and 2 flutes. 29101.
- STERNBERG, C. H. (Lawrence, Kans.). Slab containing numerous specimens of *Uintacrinus socialis* (purchase) (28856); slab of *Uintacrinus socialis* (gift) (28899).
- STEVENS, MRS. ALICE. (See under Agriculture, Department of.)
- STEVENS, WILLIAM (Fredericksburg, Va.): Four specimens of *Procyon lotor*. Purchase. 28498.
- STEVENSON, S. (La Barge, Wyo.): Plants. 28491.
- STILES, DR. C. W. (Department of Agriculture): Parasites consisting of type specimen of *Coccidium bigeminum*, Stiles, 1891; cotype of *Coccidium truncatum*, Railliet and Lucet, 1891; cotype of *Distomum albidum*, M. Braun, 1893; type of *Moniezia denticulata* (Rud., 1810) R. Bl., 1891, Balsam preparation; type of *Moniezia Benedeni* (Moniez, 1879), R. Bl., 1891, and type of *Dispharagus gastrostei*, Stiles 1891. 28753. (See under Pennsylvania, University of.)
- STOCKDALE, T. P. (Belle Vernon, Pa.): Three fragments of pottery, 3 arrow-heads, 2 tops of old buttons, piece of a bronze ornament, piece of a mammal bone, and fragment of a mammal tooth. 28607.
- STOFIEL, W. W. (Stofiel, Nev.): Five arrow-heads, 3 fragments of pottery and minerals. 29207.
- STONE, WITMER. (See under Academy of Natural Sciences.)
- STÖSSICH, M. (Trieste, Austria): Parasites comprising specimens of *Monostomum orbiculare*, Rud., *Apoblemma raforiride* (Rud.), *Distomum carnosum*, Rud., 1819, *Distomum depressum*, Stössich, 1883 (cotype), *Bothriocephalus labracis*, Diezing, *Calliobothrium coronatum* (Rud.), and *Calliobothrium verticillatum* (28751); *Apoblemma raforiride* (Rud., 1819), *Apoblemma ercisum* (Rud., 1819), *Distomum soccus*, Mohr, 1858, *Podocotyle fractum* (Rud., 1819), *Echinostomum croaticum*, Stössich, 1889, and *Echinorhynchus pristis*, Westr. (28755). Exchange.
- STRATTON, S. R. (New York City): Pileated Woodpecker, *Ceophlorus pileatus* in the flesh, from Strattonville, Pa. 28843.
- STRAUS, Hon A. D. (See under Nicaragua, Government of.)
- STRINGER, DR. S. (See under J. J. Bell.)
- STRONG, MRS. L. G. (Colchester, Conn.): Model of a tape loom in working order, with a description of the same. 28830.
- SUCKSDORF, W. S. (White Salmon, Wash.): One hundred and nineteen herbarium specimens. Purchase. 29519.
- SULLIVAN, G. N. (Washington, D. C.): Crow (*Corvus americanus*) in the flesh. 28991.
- SURBER, THAD. (White Sulphur Springs, W. Va.). Five eggs (1 set) of Ovenbird, 3 eggs (1 set) of Cardinal, 5 eggs (1 set) of Blue Jay, 5 eggs (1 set) of White-rumped Shrike, and 3 eggs (1 set) of Screech Owl from Vernon County, Mo., 4 eggs (1 set) of Field Sparrow, and 9 eggs (2 sets) of Green Heron from White Sulphur Springs; 6 arrow-heads from Greenbrier County, skeleton of Bald Eagle, and skeleton of a 4-legged chicken. 28722.
- SUSSEX, A. E. (Orange City, Fla.): Snake. 29440.

- SWEeley, WILLIAM (Williamsport, Pa.): Souvenir badge of the Twenty-ninth Annual Encampment of the Department of Pennsylvania, G. A. R., at Williamsport. 29247.
- SWEET, DR. WILLIAM (Shelbyville, Ill.): Six stone hatchets and 6 flint arrowheads from Ontario, Canada. Exchange. 29031.
- SWINGLE, W. T. (Eustis, Fla.). (See under H. J. Webber.)
- TANNER, J. J. (St. John, Utah): Graphite, ocher, and marl. 29095.
- TASSIN, WIRT (U. S. National Museum): Two hundred zeolites from Minas Basin, Nova Scotia, and vicinity (collected for the National Museum) (28458); specimen of epidote in calcite on granite from Washington, D. C. (gift) (28505); phosphate from Roseland, Nelson County, Va. (collected for the National Museum) (28961).
- TAYLOR, R. (Four Mile Run, Virginia): Seven specimens of Black Tern, *Hydrochelidon nigra surinameensis*, in the flesh. 28495.
- TAYLOR, T. O. (Manassas, Va.): Piece of slate containing tracery of a fern, found in a quarry near Manassas. 28954.
- TEUTE, FERD. (Rochester, N. Y.): Twenty-five species of Lepidoptera. 28709.
- THAYER, A. H. (Scarboro, N. Y.): Brewster's Warbler, *Helminthophila leucobronchialis*, from Belville, Md. Exchange. 29339.
- THE OLD BANGOR SLATE COMPANY (Bangor, Pa.): Ground slate and bricks made from the same material. 28599.
- THISELTON-DYER, DR. W. T. (See under Royal Botanic Gardens, Kew, England.)
- THOMAS, E. N. (Union City, Pa.): Luna Silk Moth, *Actias luna*. 29383.
- THOMPSON, R. J. (U. S. National Museum): Snake (*Cyclophis astirus*), Spider (*Dolomedes tenebrosus*, Hentz), and a small collection of mammals. 28581.
- THOMSON, ALBERT (Folsom, S. Dak.): A small collection of mammal skins and 2 birds' skins from South Dakota. 29215.
- TIFFANY & Co. (New York City): Three cut and polished prehnites from Hoxie's Quarry, New Jersey. 29290. Purchase. "A."
- TILDEN, JOSEPH E. (See under Agriculture, Department of.)
- TODD, E. R. (Smithsonian Institution): Specimen of *Peromyscus leucopus*. 29479.
- TORONTO, UNIVERSITY OF (Toronto, Canada), through Prof R. Ramsay Wright: Specimens of *Echinorhynchus capitatus*. Exchange. 29062.
- TORRE, DE LA, DR. CHARLES, and Dr. MONTANÉ (Royal University, Habana, Cuba): Ten photographs of crania and antiquities of Cuba. 29485.
- TORRE, DR. CARLOS DE LA (Royal University, Habana, Cuba): Quartz from Guanabacoa, Cuba. 28562.
- TOUMEY, Prof. J. W. (Tucson, Ariz.): Eleven cones. Exchange. 28869.
- TOWNSEND, CHARLES H. (U. S. Fish Commission): Four skulls of bears, collected near Sitka, Alaska (29109); septarian nodule from Alleghany River, near Tarentum, Pa. (29155); 21 birds' skins, representing 7 species, from Alaska (29178). (See under Fish Commission, U. S.)
- TOWNSEND, DR. J. A. (Newport, Oreg.): Plants. 29511.
- TRACY, S. M. (See under Agriculture, Department of.)
- TREGEAR, Prof. EDWARD (Wellington, New Zealand): Five photographs of Maori houses. Exchange. 29279.
- TRELEASE, Prof. WILLIAM (Fayal, Azores, and also Director Missouri Botanical Garden, St. Louis, Mo.): Crustaceans and echinoderms, alcoholic fishes, and Squid from Fayal, Azores (28479); reptiles, birds, shells, and alcoholic Squid, alcoholic crabs, isopods and sea urchins, fishes, and a bat from the Azores (28521); insects, barnacles, and a shrimp from the Azores (29093).
- TRENCHARD, EDWARD (New York City): Sword and belt presented to Admiral S. D. Trenchard by the Government of Great Britain for generous and effective service in rescuing the officers and crew of the British bark *Adieu*, disabled off Cape Ann, Massachusetts, in August, 1856. 29096.
- TRISTÁN, Señor J. FID. (See under Costa Rica, National Museum of.)

- TRUE, F. W. (U. S. National Museum): Skins, alcoholic specimens, and embryos of Meadow Mouse from Hancock County, Me. (collected for the National Museum) (28723); snake from Maine (collected for National Museum) (28728); 2 holothurians, hermit crab, and specimen of *Murauoides gunnellus* from Haven, Me. (collected for National Museum) (28741); Cottontail Rabbit, *Lepus sylvaticus* (gift) (28785); stone and bone implements, fragments of pottery, bones of animals, birds and fishes, shells, and other specimens from Haven, Kanes Point, and Naskeag, Me. (collected for National Museum) (29020); bones, teeth, and other specimens from shell heaps on Lower Torry Island, Brooklyn, Me., a pointed wooden implement from Chattos Island, Maine, and bones of an otter from a shell heap near Haven (collected for National Museum) (29375).
- TURNER, H. W. (U. S. Geological Survey): Gold ore from Fall River gold quartz mine, Butte County, Cal., also specimen of rock from same locality (28475); gold crystal from near Hornitas, Mariposa County (28876). (See under Interior Department, U. S. Geological Survey).
- TURNER, L. M. (Seattle, Wash.): Skin nest, and 2 eggs of Rusty Song Sparrow, *Melospiza fasciata guttata* (29427); 62 birds' skins, representing 15 species, from Washington (28952).
- TURNER, W. P. (Kobé, Japan): Piece of rare Japanese money used in the feudal times (28349); 2 photographs of Japanese armor (28922).
- UDDEN, Prof. J. A. (Rock Island, Ill.): Specimen of *Sphærodiscus* sp., from the Cretaceous of McPherson County, Kans. 29435.
- VAN EPPS, P. M. (Glenville, N. Y.): Three leaf-shaped implements, portion of a cache of 120, and ashes from place where they were found. 28523.
- VAN HISE, Prof. C. R. (Madison, Wis.): Eight specimens of ferruginous chert from Michigan. Exchange. 29211.
- VAN MATER, J. A., (Franklin Furnace, Sussex County, N. J.): Slickensides. 29507.
- VAN ROON, G. (Rotterdam, Holland): Thirteen specimens of Coleoptera from India, and 51 specimens of Coleoptera from Europe. Exchange. 29420.
- VARAPRAKAR, His Royal Highness Prince DEVAWONGSE. (See under Siam, King of.)
- VAUGHAN, T. WAYLAND (U. S. Geological Survey): Collection of young specimens of species of *Unio* and *Anodon*, principally obtained in Texas. 28940.
- VECCHI, Gen. A. DE (Baltimore, Md.): Complete uniform and sword of "Swiss Guard," also a halberd from Rome, Italy. Purchase. 28635.
- VELIE, Dr. J. W. (St. Joseph, Mich.): Shells and 2 specimens of calcareous incrustations. 28710.
- VERY, C. F. (New Albany, Ky.): Specimen of *Verbascum phlomisoides*. 29129.
- VIDRINE, E. E. (Ville Platte, La.): Root of a plant supposed to be an antidote for the bite of a snake. 29295.
- VIENNA, AUSTRIA. Museum of Natural History, through Dr. Aristides Brezina, director. One hundred plants. Exchange. 28850.
- VIGNAUD, HENRY (Paris, France): (See under Smithsonian Institution).
- VOGLESON, J. A. (Los Angeles, Cal.), through A. P. Davis: A block of wood cut from a tree which was marked as a bearing tree in a survey made in 1862. 28930. (Presented to the Smithsonian Institution, and deposited in the National Museum.)
- VOX IHERING, Dr. H. (Museu Paulista, San Paulo, Brazil): Marine fossils from the Pampean formation, La Plata, Argentina (gift) (29005); Unionidae, from South and Central America (exchange) (28595).
- VOORHIS, H. G. (Mount Vernon, Mo.): Four photographic views of an ancient Spanish fort in Lawrence County. 29480.
- WAGHORNE, Rev. A. C. (See under Agriculture, Department of.)
- WAGNER FREE INSTITUTE (Philadelphia, Pa.): Fossil Unionidae (28571); through Prof. Charles W. Johnson, specimen of *Ichthyosaurus* (29034). Exchange.
- WALCOTT, Hon. CHARLES D. (Director, U. S. Geological Survey): Seven fossil

- WALCOTT, Hon. CHARLES D.—continued. sponges comprising 1 specimen of *Dictyophytra* (?) *Walcotii*, Rauff, 1 specimen of *Cyathophycus reticulatus*, Walcott, and 5 specimens of *Teganium subspharicum* (Walcott). 28383.¹ (See under R. A. Blair, Dr. George H. Chance, and Interior Department, U. S. Geological Survey.)
- WALKER, BRYANT (Detroit, Mich.): Five species of Unionida. 28947.
- WALKER, CHARLES (Belton, Tex.): Specimen of Echinoid, *Epiaster Whitei*, Clarke, from the Washita formation of the Cretaceous system. 28394.
- WALLACE, W. D. (Concord, N. H.): Six specimens of *Xenoglossa pruinosa*. 28392.
- WALLINGSFORD, W. W. (U. S. National Museum): Ten wood engravings from "Once a Week" (28737); double-headed turtle from Maryland (29094).
- WANEN, H. M. (Luray, Va.): *Pteronarcys nobilis*, Hagen. 29361.
- WARD, Dr. H. B. (University of Nebraska, Lincoln, Nebr.): Parasites comprising cotype of *Distoma opacum*, Ward, 1894, from *Amia calva*, L., and the same from *Ictalurus punctatus* (Raf.), obtained from New Baltimore, on Lake St. Clair (28756); specimens of *Distomum felineum*, Rivolta, 1885 (29083). Exchange.
- WARD, Prof. LESTER F. (U. S. Geological Survey): Herbarium specimen of *Trachospermum difforme*, Gray, from North Carolina. 29512.
- WARD'S NATURAL SCIENCE ESTABLISHMENT (Rochester, N. Y.): Twenty-five birds' skins, representing 21 species, from Borneo (purchase) (28550); Hutia Rat, *Capromys breviceauda*, reported to be from Brazil (purchase) (28619); 7 hummingbirds, representing 6 species, from Colombia (gift) (28769); specimen of *Schistes albogularis*, specimen of *Trosciete ruficrissa* from Colombia (gift) (28770); Auzoux models illustrating the development of the fowl (purchase) (28790) "A"; 7 meteorites from various localities (purchase) (28935) "A"; series of 23 embryological models (purchase) (29042) "A"; casts of fossils consisting of a skull of *Ichthyosaurus platyodon*,
- WARD'S NATURAL SCIENCE ESTABLISHMENT—continued. skull of *Elephas gausa*, skeletons of *Plesiosaurus dolichoderius*, *Plesiosaurus macrocephalus*, *Ammonites peramplus*, and *Ammonites gigas* (purchase) (29114); skeletons of Jerboa, Flying Phalanger, Marabou Stork, and King Penguin (purchase) (29141) "A"; 8 casts of fossils and cast of Sowerby's Whale (exchange) (29495).
- WARING, W. G. (through Dr. W. F. Hillebrand, U. S. Geological Survey): Specimen of vanadinite with anglesite and wulfenite from Collin's Mine, Manmoth, Pinal County, Ariz. 29534.
- WATERS, C. E. (See under Agriculture, Department of.)
- WATTERSON, R. I., and CARPENTER, M. M. (Kings Mountain, N. C.): Specimen of cassiterite. 28875.
- WAUGH, F. A. (See under Agriculture, Department of.)
- WEBB, Miss CARRIE (Branchtown, Pa.): Specimen of *Trigonocarpus*, probably the fruit of *Cordaites*. 28597.
- WEBB, W. F. (Albion, N. Y.): One hundred and sixty-two birds' skins, representing 40 species, obtained principally from near Brownsville, Tex. (purchase) (28566); specimen of Plain Titmouse, *Parus inornatus* from California (gift) (28642); 12 birds' skins, representing 7 species, from eastern Mexico (purchase) (28771); 2 squirrels, *Sciurus tephrogaster* from Mexico (purchase) (28774); specimen of Coppery-tailed Trogon, *Trogon ambiguus* from Alta Mira, Mexico (gift) (28784); Oriole, *Icterus gularis* from Mexico (gift) (28864); 12 birds' skins, representing 3 species, from Mexico (purchase) (28880); 10 birds' skins, representing 7 species, from Mexico (purchase) (28981); 8 birds' skins, representing 6 species, from Mexico (purchase) (28982); small collection of Mexican mammals (purchase) (29357).
- WEBBER, H. J., and SWINGLE, W. T. (Eustis, Fla.): Specimens of *Cambarus* from a cave in Citrus County. 28427.
- WEBSTER, Mrs. H. B. (See under Agriculture, Department of.)

¹ These sponges have been illustrated by Dr. Rauff in "Paleontographica," Vol. XL.

- WEEDON, W. C. (U. S. National Museum): Hickory branch infested with Longicorn borer, *Chion cinetus*. 29189.
- WEIBEL, E. G. (Fort Huachuca, Ariz.): Skin and skull of skunk, *Conepatus mapunito*. 29241.
- WELLESLEY COLLEGE. (See under Agriculture, Department of.)
- WEST, G. B. (Washington, D. C.): Badge of the Society of the Sons of the American Revolution. Purchase. 29532.
- WETHERBY, A. G. (Magnetic City, N. C.): Shells from North Carolina and Rodrigues Island, East Africa (28490); 4 rude spear-heads of white quartz (29374).
- WHITE, Mrs. C. A. (care Dr. White, U. S. Geological Survey): Candle berries from North Dighton, Mass. 28519.
- WHITE, DAVID. (See under James, I. E.)
- WHITE, Mrs. U. B. (Elyria, Ohio): Three coins and ethnological objects from Burma. Purchase. 29407.
- WHITEAVES, J. F. (Dominion General Survey, Ottawa, Canada): Twenty-two specimens of rare and valuable Unionida obtained principally from Canada and the northern provinces. 28696.
- WHITEHEAD, CABELL (Washington, D. C.): Specimen of silyllite from Amherst County, Va. Exchange. 28456.
- WHITEHEAD, J. J. (Waverly, N. Y.): Tooth of Sperm Whale from Chemung River, New York. 28444.
- WIDMANN, O. (Old Orchard, Mo.): Seven eggs (1 set) of Bewick's Wren, *Thryothorus Bewickii*, 5 eggs each (2 sets) of Carolina Wren, *Thryothorus ludovicianus*, 5 eggs (1 set) of Yellowbilled Cuckoo, *Coccyzus americanus*, from Missonri. 28678.
- WILCOX, J. (East Chatham, N. Y.): Banded Plymouth Rock hen. 29204.
- WILCOX, DR. TIMOTHY E., U. S. Army (Fort Huachuca, Ariz.): Eighteen herbarium specimens. 29393. (Presented to the Smithsonian Institution and deposited in the National Museum.) (See under Agriculture, Department of.)
- WILCOX, W. D. (See under Interior Department, U. S. Geological Survey.)
- WILD, Mrs. E. A. (Cambridge, Mass.): Ores from Nevada. 28836.
- WILD, GEORGE (Ashton-under-Lyne, England), through William Moss: Carboniferous plants. 28159.
- WILLETT, HENRY (Montpelier Terrace, Brighton, England): Photographs of a teapot, representing two views, made of Egyptian black, or black basalt ware. 28931.
- WILLIAMS, F. H. (Greene, N. Y.): Bat. 28611.
- WILLIAMS, DR. F. H. (Bristol, Conn.), through Prof. Mason: Plaster cast of a pottery pipe, the original found 3 miles east of Marseilles, Ill., also cast of a fragment of pottery with Caribbean decoration, found in Georgia. 28924.
- WILLIAMS, R. S. (Columbia Falls, Mont.), through Major Bendire, U. S. Army: Seven birds' skins, representing 4 species, from Montana. 28373.
- WILLIAMSBURG SCIENTIFIC SOCIETY (Brooklyn, N. Y.), through Louis Kirsch, president: Skull of Marten, *Mustela americana*, from Montana, moss and shells from the West Indies. 29122. (Presented to the Smithsonian Institution and deposited in the National Museum.)
- WILLOUGHBY, C. C. (See under Smithsonian Institution, Bureau of Ethnology.)
- WILMAR, Rev. G. T. (Chatham, Va.), through W. V. Cox: Larvæ of Saddleback caterpillar, *Empretia stimulans*. 28469.
- WILSON, G. J. (Cumberland, Ontario, Canada): Species of *Mallotus*, probably *Mallotus villosus*, belonging to the Post-Tertiary age. 28838.
- WILSON, J. O. (See under Colonization Society.)
- WILSON, Rev. S. G. (Tabriz, Persia): Onyx marbles and tiles from Persia. 28766.
- WILSON, DR. THOMAS (U. S. National Museum): Large spear-head from Takoma, Md. (28321); steatite vessel from the Clifton Quarry, Virginia (28322); ancient Phœnician glass vase (28333); unfinished Alaskan wood carving (28618); stone pendant or sinker and 3 drilled ceremonial objects found near Chillicothe, Ohio (28668); grooved ax found near Marlboro, Md. (28695);

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WINSLOW, Lieut. HERBERT, U. S. Navy (Navy-Yard, Washington, D. C.): Eight ethnological objects from Samoa. Deposit. 29413.

WINSTON, ISAAC (U. S. Geological Survey): Concretion. 29166.

WOLLAM, HAROLD (Rising Sun, Ohio): Silver medal. 28700. (Deposited in the Smithsonian Institution and transferred to the National Museum.)

WOLTZ, GEORGE (U. S. National Museum): Night Heron, *Nycticorax nycticorax naevius*, in the flesh. 28545.

WOOD, N. R. (U. S. National Museum): Parrot, *Eclectus voratus* (28814); skin of a weasel, *Putorius penicula* (?) (29064).

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WOODRUFF, F. M. (Chicago Academy of Sciences, Chicago, Ill.): Pair of Smith's Longspur, *Calcarius pictus*. 29168.

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WOOLMAN, LOUIS (Philadelphia, Pa.): Three slides of fossil diatoms from Hammond's brickyard, Cold Spring, Long Island, N. Y. 28534.

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YATES, R. G. (Gallatin, Mo.): Stag Beetle, *Lucanus elephus*, L. 28621.

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Colonization Society, Washington, D. C. .	28436
Culin, Stewart.	28526, 28979
Daniel, Dr. Z. T.	28525, 28702
Dean, S. B.	28994
Glen Island Museum of Natural History .	28638
Goode, Dr. G. Brown	28423
Gore, Prof. J. Howard	28590
Gram, N. C.	28543
Graves, R. H.	29397
Haddon, A. C.	29310
Leutze, T. W.	28823
Magruder, Mrs. E. A.	28776
Mason, Prof. O. T.	28506
Milton Bradley Company	29137
Mohun, R. D. L.	29024
Montané, Dr.	28485
Müller, Dr. Sophus	28353
Orth, H. A.	28764
Richards, W. C.	28831, 29386
Robley, Gen. H. J.	29520
Rockhill, Hon. W. W.	28609, 29263
Roosevelt, Hon. Theodore.	29106
Rousseau, Miss N. E.	28338
Royal Museum of Northern Antiquities, Copenhagen	28353
Scidmore, Miss E. R.	29000
Sickels, Miss Emma	29144
Smillie, T. W.	28624
Smithsonian Institution (Bureau of Eth- nology)	28325
	28527, 28528, 28603, 28789, 28841, 29025, 29280
Spicer, Capt. John	28480
Strong, Mrs. L. G.	28830
Torre, de la, Dr. Carlos	28485
Tregear, Prof. Edward	29279
True, F. W.	29275
Turner, W. P.	28922
Vecchj, Gen. A. de.	28635
Wetherby, A. G.	29374

	Accession number.
White, Mrs. C. A.	28519
White, Mrs. U. B.	29407
Wilson, Thomas	28648
Winslow, Lieut. H., U. S. Navy	29413
Woman's Anthropological Society	29037
Woodruff, Dr. C. E., U. S. Army	28559

DEPARTMENT XVI.

ORIENTAL ANTIQUITIES.

Benjamin, W. E.	29448
Cohen, Rev. Henry	28698
Goode, Dr. G. Brown	28423
Siam, King of	29415
Smithsonian Institution	28698

DEPARTMENT XVII.

ARTS AND INDUSTRIES.

Abbott, Dr. W. L.	29359
Amstutz, N. S.	28757, 28928, 28990
Arlington Mills, Boston.	29344
Bird, S. M.	28805
Brown, Mrs. J. Crosby.	29112, 29145
Brothers, Dr. L. J.	29110
Bullock, L. L.	28691
Camp, J. H.	28914
Carey, A. W.	29373
Cayton, P. L.	29267
Chamberlain, Rev. L. T.	29202
Cleveland, Cincinnati, Chicago and St. Louis R. R. Co.	29492
Conant, B. H.	28570
Convers, E. B.	28822
Copp, J. B.	28810
Cornman, C. T.	29072, 29314
Cranch, Mrs. C. D.	29209
Crawford, J. E.	28451
Dannhauser, Max	28895
Dorsey, Dr. H. W.	29059
Du Hamel, Mrs. E. H.	29355
Emmerich, Lieut. C. F., U. S. Navy	28711
Ewin, J. L.	28414
Fick, G. A.	28688, 29330
Fischer Art Company	28739
Frey, J. H.	28938
Gadless, T. S.	28953
Gardner, A. L.	28801
Goode, Dr. G. Brown	28692
Grant, Allen	29050, 29416
Harlow, Lieut. C. H., U. S. Navy	28339
Heathcote, W. H.	28929
Hopkins, H. A.	28415
Interior Department (U. S. Geological Survey)	28748
Jennings, F.	29406
King, Miss M. E.	29327
L'École Polytechnique.	28779
Livezey, T. E.	28551
McCormick and Terry	29011
McDonald, M. A.	28435
Magruder, Mrs. E. A.	28776
Maple, Dr. J. C.	28629, 28647, 28677
Meade, Rear-Admiral R. W., U. S. Navy ..	29381

Accession number.		Accession number.	
Miller, W.	29216	Smolinski, J.	28714
Moore, H. J.	29233	Stern, S. A.	29101
Mount, D. A.	29118, 29261	Sweeley, W.	29247
Ober, F. A.	29176	The Numismatic and Antiquarian Society of Philadelphia.	28580
Paul, Mrs. G. R.	29451	Trenchard, Edward.	29096
Pennsylvania R. R. Co.	28467, 29510	Turner, W. P.	28349
Piper, A. E.	28344	Vidrine, E. E.	29295
Rabbitt, Samuel.	29054, 29071	Vogleson, J. A.	28930
Rader, I. A.	29200	Wallingsford, W. W.	28737
Rockenstyre, C. E.	29315	West, G. B.	29532
Rodgers, Mrs. J. A.	29312	White, Mrs. U. B.	29407
Schmid, E. S.	29244	Wilcox, J.	29204
Scott, Mrs. J. Jackson.	28685	Wilson, Rev. S. G.	28766
Smith, Mrs. C. B.	29411	Wilson, Thomas.	28333
Smith, G. D.	28585	Wollam, Harold.	28700
Smithsonian Institution.	28575	Young, J. A.	28946
	28700, 28779, 28782, 28929, 28930, 29011		

APPENDIX III.

LIST OF THE ACCESSIONS TO THE MUSEUM LIBRARY RECEIVED BY GIFT AND EXCHANGE DURING THE FISCAL YEAR ENDING JUNE 30, 1895, EXCLUSIVE OF PUBLICATIONS RETAINED FROM THE SMITHSONIAN LIBRARY.

I.—INSTITUTIONS.

AFRICA.

Cape Colony.

Cape Town.

SOUTH AFRICAN PHILOSOPHICAL SOCIETY.

Transactions, VI, pt. 2, 1892; VIII, pt. 1, 1890-92.

Egypt.

Cairo.

INSTITUT ÉGYPTIEN.

Bulletin, (5) v, pts. 1-3, 1894.

AMERICA.

NORTH AMERICA.

British America.

Chicoutimi.

Le Naturaliste, XXI, 1895; XXII, pts. 1-6, 1895.

Halifax.

DEPARTMENT OF MINES.

Report, 1894.

NOVA SCOTIAN INSTITUTE OF NATURAL SCIENCE.

Proceedings and transactions, (2) 1, pt. 3, 1893.

Montreal.

GEOLOGICAL SURVEY OF CANADA.

Descriptive catalogue of a collection of the economic minerals of Canada. London, 1885. 8vo, 172 pp.

List of publications, 1889.

Notes on a stratigraphical collection of rocks.

Reports of progress, 1863, 1872-1874, 1877-1878.

Palaeozoic fossils. E. Billings, II, pt. 1, 1874; III, pt. 1, 1884.

Montreal—Continued.

GEOLOGICAL SURVEY OF CANADA—Continued.

Contributions to the micropalaeontology of the Cambro-Silurian rocks of Canada, pts. 1-2. Arthur H. Foord. Ottawa, 1889. 8vo, 56 pp.

Fossil plants of the Erian, pt. 2. J. W. Dawson. Montreal, 1882. 8vo, 149 pp.

Catalogue of stratigraphical collection of Canadian rocks prepared for the World's Columbian Exposition. Walter F. Ferrier. Ottawa, 1893. 8vo

Catalogue of Canadian plants. John Macoun, pts. 4-6. Montreal, 1888-1892. 8vo.

List of Canadian Hepaticae. W. H. Pearson. Montreal, 1890. 8vo, 28 pp.

Descriptive sketch of physical geography and geology of Canada. R. C. Selwyn and J. W. Dawson. Montreal, 1884. 8vo, 55 pp.

Mesozoic fossils. J. T. Whiteaves. 1, pts. 1-3, 1876-1884.

NATURAL HISTORY SOCIETY.

Canadian record of science, v, pt. 8, 1893; VI, pts. 1-2, 1894.

ST. LAURENT COLLEGE.

Bulletin, No. 10, 1894.

Toronto.

BIOLOGICAL SOCIETY OF ONTARIO.

Biological review, 1, pts. 1-4, 1894.

Proceedings of the ornithological subsection, 1889-1891.

Toronto—Continued.

ONTARIO AGRICULTURAL COLLEGE.

Annual reports, III, VI-IX, XI, XIII-XIX.

Bulletins, 58-82, 84, 86-88, 90-98.

Report of council of Agricultural and Arts Association of Ontario, 1886.

Victoria.

NATURAL HISTORY SOCIETY OF BRITISH COLUMBIA.

Bulletin, 1893.

Winnipeg.

DEPARTMENT OF AGRICULTURE AND IMMIGRATION.

Bulletins, 44, 45, 49, 1894-95.

Mexico.*Mexico.*

INSTITUTO MÉDICO NACIONAL.

Anales, I, pts. 1-3, 1893.

Datos para la materia médica mexicana, No. 1, 1895.

El Estudio, I, pts. 1-30; II, pts. 1-26; III, pts. 1-25; IV, pts. 1-11, 1889-1891.

Tratado de terapéutica general y aplicada. Teodoro Nuñez. México, 1893. 8vo, 627 pp.

Memoria para una bibliografía científica de México. Lic. Manuel Olaguibel. México, 1889. 8vo, 99 pp.

Ensayo de geografía médica y climatología [and atlas]. Carlos Pacheco. México, 1889. 4to, 193 pp.

Datos para la zoología médica mexicana. Jesus Sanch z. México, 1893. 8vo, 189 pp.

Plante Novæ Hispaniæ. M. Sesse et J. M. Mocino. México, 1893. 4to, 175 pp.

MUSEO NACIONAL DE MÉXICO.

Anales. IV, pts. 11-12; V, pt. 3, 1891-1893.

United States.**Alabama.***Auburn.*

AGRICULTURAL AND MECHANICAL COLLEGE.

Addresses of Drs. M. T. Lupton and Eugene A. Smith. Montgomery, 1888. 8vo, 24 pp.

Agricultural scholarships. [n. d.] 4to, 1 p.

Chart of grounds, 1892.

Auburn—Continued.

AGRICULTURAL AND MECHANICAL COLLEGE—Continued.

Conditions of admission to young women. Auburn, 1892. 8vo, 1 p.

Problems of Southern civilization. W. P. Johnston. Auburn, 1891.

8vo, 19 pp.

An electrical engineering school of the South. A. F. McKissich.

[n. d.] 4to, 2 pp.

Reports, 1890-1894.

AGRICULTURAL EXPERIMENT STATION.

Annual reports II-VI, 1889-1894.

Bulletins (new series) 1-5, 8-39, 41-42, 45-46, 48-53, 55-58, 61-64, 1888-1895.

ALABAMA POLYTECHNIC INSTITUTE.

Catalogues, 1889-1894.

Circular. [n. d.] 4to, 2 pp.

School of Mechanic Arts of the Alabama Polytechnic Institute, 1888. Catalogue of alumni, 1860-1892.

Baccalaureate discourse by James B. Angell, 1868.

Montgomery.

GEOLOGICAL SURVEY OF ALABAMA.

Report, 1894.

Uniontown.

CANEBRAKE AGRICULTURAL EXPERIMENT STATION.

Annual reports 2-3, 1889-1891.

Bulletins 1-17, 1888-1893.

Arizona.*Tucson.*

ARIZONA AGRICULTURAL EXPERIMENT STATION.

Bulletins 1, 3-12, 1890-1894.

UNIVERSITY OF ARIZONA.

Annual register 2-3, 1892-1894.

Bulletins of the School of Mines 2-3, 1892-1893.

History and organization. Tucson, 1891. 8vo

Press Bulletin No. 1, 1894.

Arkansas.*Fayetteville.*

ARKANSAS AGRICULTURAL EXPERIMENT STATION.

Annual report, 3, 1890.

Bulletins 2, 5-9, 12-16, 19, 21-29, 1888-1894.

ARKANSAS GEOLOGICAL SURVEY.

Annual reports, 1887, 1888, II-IV; 1889, II; 1890, I-IV, Atlas; 1891, I-II; 1892, I-II.

California.

Berkeley.

COLLEGE OF AGRICULTURE—EXPERIMENT STATION.

Bulletins 105, 106, 107, 1894-1895.

Reports 1888-1894.

Reports of examinations of water supply, 1886-1889.

Reports of experiments on methods of fermentation, 1886-1887.

Reports of viticultural work, 1883-1889.

UNIVERSITY OF CALIFORNIA.

Annual announcements 1885-1894.

Annual reports 1872, 1875, 1877, 1879, 1881, 1882, 1884, 1889-1894.

Biennial reports 1872-1873, 1875-1880, 1882-1884, 1886, 1888, 1893. Supplements 1879, 1887.

Blue and gold handbook of the University. San Francisco, 1886. 8vo, 124 pp.

Bulletins 7-12, 14-28, 30-31, 33-34, 1875-1881

Bulletin Department of Geology, I, pts. 5-9, 1893-1894.

Bulletins Department of Mechanical Engineering, 1, 2, 1887.

Catalogue of books in the pedagogical section of the library. Berkeley, 1894. 8vo, 66 pp.

Circulars of the College of Letters and the College of Science, 1886, 1887, 1889.

Circular of Department of Mechanical Engineering. Berkeley, 1887. 8vo, 8 pp.

Class-room notes on uniplanar kinematics. Berkeley, 1893. 8vo. 6 pp.

Contributions, No. 3.

Correspondence in the matter of adjustment of the Congressional land grant to the State of California. Sacramento, 1888. 8vo, 15 pp.

Entrance examination papers, 1889-1890.

Formal recognition of the transfer of the Lick Observatory. Sacramento, 1888. 8vo, 24 pp.

Inauguration addresses, 1881, 1886, 1888, 1893.

Joint regulations of the faculty of letters, 1886.

Latin department. San Francisco, 1891. 8vo, 16 pp.

Berkeley—Continued.

UNIVERSITY OF CALIFORNIA—Cont'd.

Library bulletins 1, 3-7, 9-10, 12, 1892-1891.

Memorial of Prof. John Le Conte. Berkeley, 1892. 8vo, 4 pp.

Official designation of Lick Observatory. Sacramento, [n. d.]. 8vo, 7 pp.

Publications, I-III.

Register of the University, 1875, 1877-1883, 1887-1891.

University of California studies, I, pts. 1-2, 1893-94.

Guide to the literature of aesthetics. C. M. Gayley and F. N. Scott. Berkeley, 1892. 8vo, 4 pp.

Progress and condition of the University. Daniel C. Gilman. Berkeley, 1876. 8vo, 56 pp.

Report on physical training. George F. E. Harrison. Sacramento, 1888. 8vo, 17 pp.

The art of life. Edw. S. Holden, 1887. 8vo, 8 pp.

List of recorded earthquakes in California. Edw. S. Holden. Sacramento, 1887. 8vo, 78 pp.

Building stones of California. A. Wendell Jackson, 1888. 8vo, 14 pp.

Present and future of the University. John F. Swift. Sacramento, 1887. 8vo, 16 pp.

Sacramento.

CALIFORNIA STATE BOARD OF HORTICULTURE.

Bulletins 57, 62, 1891-1892.

CALIFORNIA STATE MINING BUREAU.

Catalogue of California fossils. J. G. Cooper, pts. 2-5. Sacramento, 1894. 8vo, 65 pp.

Twelfth report of State mineralogist, 1891.

Gas and petroleum yielding formations of Central Valley of California. W. L. Watts. Sacramento, 1894. 8vo, 90 pp.

San Diego.

OUT OF DOORS FOR WOMEN, I, pts. 1-2, 1893.

WEST AMERICAN SCIENTIST, I, pts. 3, 5, 10, 11; II, pts. 12-19; III, pts. 22-24, 26, 28-30; IV, pts. 33-38; V, pts. 39-41; VIII, pts. 67-68, 74-75, 77. Index, I-IV.

San Francisco.

- CALIFORNIA ACADEMY OF SCIENCES.
Catalogue of West North American
and many foreign shells. Sacra-
mento, 1894. 4to.
Memoirs, II, pt. 4, 1894.
Proceedings, IV, pts. 1-2, 1894-95.
INDUSTRY, Nos. 76-83, 1894-1895.

MEMORIAL MUSEUM.

- Guide to California Midwinter Expo-
sition. San Francisco, 1895. 8vo,
123 pp.
San Francisco Chronicle, LXI, pt. 68,
1895.

Colorado.

Colorado Springs.

- COLORADO COLLEGE SCIENTIFIC SOCI-
ETY.
Fifth annual publication, 1894.
Ethical problem of public schools.
Suspected new mineral from Cripple
Creek. Argo, 1894. 8vo, 6 pp.

Denver.

- COLORADO SCIENTIFIC SOCIETY.
Notes on geology of western slope of
Sangre de Cristo. E. C. and P. H.
Diest. 1894. 8vo, 5 pp.
Geology of the Cripple Creek gold
mining district. E. C. and P. H.
Diest. Denver, 1894. 8vo, 37 pp.
The Costilla meteorite. R. C. Hills.
Denver, 1895. 8vo, 2 pp.
Ore deposits of Camp Floyd district,
Utah. R. C. Hills, 1894. 8vo, 12 pp.
Further notes on Cripple Creek ores.
R. Pearce. Denver, 1894. 8vo, 7 pp.
Proceedings, IV, 1891-1893.
Sanitary chemical character of some
of the artesian waters of Denver.
W. C. Strong. Denver, 1894. 8vo,
9 pp.
MINING REVIEW, XXXII, pts. 25-26;
XXXIII, pts. 2-3, 5-11, 17-26; XXXIV,
pts. 1-25, 1891-1895.

UNIVERSITY OF COLORADO.

- Calendar, 1885-86.
Catalogues, 1883-1884, 1886-1893.
Colorado Divinity School. Boulder,
1893-94. 8vo, 11 pp.
Colorado School of Medicine. 1893-94.
Boulder, 1893. 8vo, 22 pp.
Inauguration of President Baker,
1892. Denver, 1892. 8vo, 72 pp.

Denver—Continued.

- UNIVERSITY OF COLORADO—Cont'd.
List of typical books. Boulder. 1893.
4to, 16 pp.
The university library. Charles E.
Lowrey. [n. d.] 8vo, 10 pp.
Order of exercises, ninth anniver-
sary. Boulder, 1886. 8vo, 3 pp.
Prospectus and circular of informa-
tion, 1883-84, Medical department.
Special bulletin of medical and law
school, 1892-93.
Summer bulletin, 1893.
State Preparatory School of Colo-
rado. Denver, 1893. 8vo, 7 pp.
University of Colorado and State
Preparatory School. Boulder,
1892. 4 pp.

Fort Collins.

- STATE AGRICULTURAL COLLEGE. EX-
PERIMENT STATION.
Annual report, XVI, 1894.
Bulletins 4-6, 18, 20, 23-30, 1888-1893.
Special bulletin A, 1892.

Connecticut.

Hartford.

- STORRS AGRICULTURAL SCHOOL. EX-
PERIMENT STATION.
Annual reports 1-7, 1888-1894.
Bulletins 1-12, 1888-1894.

Middletown.

- MUSEUM OF WESLEYAN UNIVERSITY.
Annual reports of curators, 5, 6, 8-21,
1877-1892.

New Haven.

- CONNECTICUT AGRICULTURAL EXPERI-
MENTAL STATION.
Annual reports, 1877-1893; 1894, pts.
2-4; 1895, pts. 2-4.
STATE BOARD OF HEALTH.
Annual report, 17.
SHEFFIELD SCIENTIFIC SCHOOL.
Reports, 1-24, 1866-1893.

Portland.

- PRACTICAL MICROSCOPY, VI, pts. 1, 4,
1895.

Delaware.

Wilmington.

- DELAWARE COLLEGE EXPERIMENT STA-
TION.
Annual reports 1-5, 1888-1892.
Bulletins 1-24.
Special bulletin A, 1890.

District of Columbia.

Washington.

- AGRICULTURE, DEPARTMENT OF.
 Bulletins of the Bureau of Animal Industry, 6, 7, 1894.
 Bulletin of the Weather Bureau, No. 12, 1895.
 Farmers' Bulletins 23, 24, 1895.
 Insect Life, II, pt. 1, 1888; VI, pt. 5, 1894; VII, pts. 1-4, 1894-1895.
 Library Bulletins 1-4, 1894; 6, 1895.
 Monthly Weather Review, XXII, pts. 1-12, 1894.
 North American Fauna, No. 7, pt. 2, 1893; No. 8, 1895.
 Report of Experiment Station, 1895.
 Wreck and casualty chart of Great Lakes.
 Two new species of beetles of genus *Echocerus*, F. H. Crittenden. Washington, 1895. 8vo, 2 pp.
 Report of the chief of the Division of Forestry, 1893. B. E. Fernow.
 Report of the chief of the Division of Microscopy 1893. T. Taylor.
- AMERICAN MONTHLY MICROSCOPICAL JOURNAL, XV, pts. 7-12, 1894; XVI, pts. 2-6, 1895.
- BIOLOGICAL SOCIETY OF WASHINGTON. Proceedings, VII-IX, 1892-1894.
- BUREAU OF AMERICAN REPUBLICS.
 Agricultura y la Ganadería. Provincia de Entre Ríos, 1890. Paraná, 1890. 4to.
 Anales del Museo Nacional. Costa Rica, 1888.
 Costa Rica and her future. Paul Biolley. Washington, D. C., 1889. 8vo, 95 pp.
 Boletín de la Exposición Mexicana, 1892, No. 1.
 Boletín de la Sociedad Nacional de Minería, (2) V, pts. 54-56, 59, 61-62, 1893.
 Catálogo de los objetos y productos del Departamento de La Paz. La Paz, 1889. 8vo, 28 pp.
 Diccionario geográfico de la República de Bolivia, I. La Paz, 1890. 8vo, 164 pp.
 Documentos de la comision oficial. Exposicion de Costa Rica. San José, 1892. 8vo, 13 pp.
 Educacion comun en la capital, y las provincias, 1887-88. Buenos Aires, 1888. 8vo, 155 pp.

Washington—Continued.

BUREAU OF AMERICAN REPUBLICS—Continued.

- Exposiçãos Generalissimo Chefe do Governo Provisorio. Rio de Janeiro, 1890. 8vo, 19 pp.
 Informe dirigido al Sr. Ministro de Fomento. G. E. Guzman. Guatemala, 1890. 8vo, 9 pp.
 Memorias y Revista de la Sociedad Científica, V, pts. 5-6, 1892.
 Monitor de la Educacion Comum, IX, pts. 179-180; X, pts. 181-186, 1890.
 Prefectura Maritima y sus dependencias. Buenos Aires, 1890. 8vo, 517 pp.
 Prefectura Maritima, sus dependencias y Junta Central de Lazaretos. Buenos Aires, 1883. 8vo, 296 pp.
 Recompensas obtenidas por la República de Guatemala. 1889. 4to, 26 pp.
 Sinopsis Estadística y Geográfica de Chile, 1891. Santiago, 1892. 8vo, 163 pp.
 Republic of Guatemala. New York, 1885. 8vo, 47 pp.
- BUREAU OF EDUCATION.
 Annual report, 1891, I-II.
- BUREAU OF ETHNOLOGY.
 Annual reports, XI-XII, 1889-1891.
 Chinook texts. Franz Boas. Washington, 1894. 8vo, 278 pp.
 Circulars of information, 1, 2, 5, 6, 1893.
 Archeologic investigations in James and Potomac valleys. Gerard Fowke. Washington, 1894. 8vo, 80 pp.
 List of publications. F. W. Hodge. 8vo, 25 pp.
 Ancient quarry in Indian Territory. W. H. Holmes. Washington, 1893. 8vo, 19 pp.
 Picture writing of the American Indians. Garrick Mallery. Washington, 1894. 1to, 822 pp.
 Sionan tribes of the East. James Mooney. Washington, 1894. 8vo, 100 pp.
 Bibliography of Wakashan languages. J. C. Pilling. Washington, 1894. 8vo, X + 65 pp.
 Pamunkey Indians of Virginia. J. G. Pollard. Washington, 1894. 8vo, 19 pp.

Washington—Continued.

BUREAU OF ETHNOLOGY—Continued.

Dakota grammar, texts, and ethnography. Stephen R. Riggs. Washington, 1894. 4to, 239 pp.

Maya year. C. Thomas. Washington, 1894. 8vo, 61 pp.

CATHOLIC UNIVERSITY.

Bulletin, 1, pts. 1-2, 1895.

ENTOMOLOGICAL SOCIETY.

Proceedings, III, pts. 3, 4, 1894.

CENSUS BUREAU.

Abstract of Eleventh Census, 1890.

Washington, 1894. 8vo, 250 pp.

Compendium of Eleventh Census, pt.

2. Washington, 1894. 8vo, 1064 pp.

Report on statistics of churches in the United States. Washington, 1894. 4to, 812 pp.

COAST AND GEODETIC SURVEY.

Annual reports of Superintendents, 1851-1892.

Atlantic Coast Pilot.

Division B, Boston to New York. 1880.

Boston Bay to New York, 1878. 4to, 589 pp.

Division A and Division B. 4to, 630 pp.

Harbors in Long Island Sound, 1879. 4to.

Long Island Sound and East River, 1879. 4to.

Nantucket and Vineyard Sounds, 1879. 4to.

South coast of Long Island, New York Bay and Hudson River. 1879. 4to.

Block Island and Fishers Island Sounds, 1879. 4to.

Boston Bay to Monomoy, 1879. 4to.
Buzzards and Narragansett Bays, 1879. 4to.

Atlantic Local Coast Pilot, subdivisions 1-15, 19-22.

Bulletins 1-30.

Catalogues of charts, 1875, 1877, 1880, 1883-84, 1886-87, 1890, 1892-93.

General properties of equations of steady motion. Thomas Craig. Washington, 1881. 4to, 26 pp.

Treatise on projections. Thomas Craig. 1882. 4to, 247 pp.

Coast Pilot of Alaska, pt. 1, 1869. 4to, 251 pp.

Washington—Continued.

COAST AND GEODETIC SURVEY—Continued.

Coast Pilot for Atlantic Seaboard, 1875. 4to, 960 pp.

Field catalogue of 983 transit stars. George Davidson. Washington, 1871. 8vo, 33 pp.

Descriptions of articles forming the Coast and Geodetic exhibit, 1884-85. New Orleans, 1884. 8vo, 25 pp.
Tidal researches. William Ferrel. 1874. 4to, 268 pp.

General instructions for hydrographic parties. 1894. 8vo, 110 pp.

General instructions for hydrographic work. 1883. 8vo, 81 pp.

General instructions in regard to hydrographic work of Coast Survey. 1875. 8vo, 25 pp.

General instructions for inshore hydrographic work of Coast Survey. 1878. 8vo, 50 pp.

On tides and tidal action in harbors. J. E. Hilgard. 1875. 8vo, 22 pp.

Instructions and memoranda for descriptive reports, 1877. 8vo, 9 pp.

Investigation of oyster beds. 1879. 4to, 21 pp.

Laws of general application. 1881. 8vo, 52 pp.

Laws and regulations relating to Coast and Geodetic Survey. 1887. 8vo, 59 pp.

Notices to Mariners, Nos. 5, 7, 8, 14, 15, 16, 18-20, 24, 26, 28-30, 32-56, 58-83, 85-95, 97-185, 1875-1887.

Pacific Coast Pilot, No. 1, 1883, No. 1, 1891, and appendix 1, 1879. California, Oregon, and Washington.

Deep sea sounding and dredging. Charles D. Sigsbee. 1880. 4to, 221 pp.

Report of Nicaragua route for an interoceanic ship canal. 1874. 4to, 22 pp.

Tide tables for the Atlantic Coast, 1867-1895.

Tide tables for the Pacific Coast, 1867-1895.

FISH COMMISSION.

Bulletins 12, 13, 1892-93.

Results of explorations in Western Canada and Northwestern United States. C. H. Eigenmann. Washington, 1894. 4to, 30 pp.

Washington—Continued.

FISH COMMISSION—Continued.

- Fishes from the vicinity of Neosho, Mo. B. W. Evermann and W. C. Kendall. Washington, 1895. 4to, 17 pp.
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The United States Geological Survey. C. D. Walcott. Washington, 1895. 8vo, 20 pp.

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Annual report of the Museum of Comparative Zoology, 1893-94. Cambridge, 1894. 8vo, 55 pp.

Cretaceous deposits of the Sioux Valley. H. F. Bain. Des Moines, 1895. 8vo, 102-114 pp.

Notes on the new fossil *Daimonelix*. E. H. Barbour. 1894. 8vo, 16 pp.

Certain astronomical conditions favorable to glaciation. G. F. Becker. 1894. 8vo, 18 pp.

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Geographic and hypsometric distribution of North American Viviparidæ. R. E. Call. Louisville, 1894. 8vo, 10 pp.

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New and little known invertebrata from the Neocomian of Kansas. F. W. Cragin. Colorado Springs, 1894. 8vo, 12 pp.

Origin of parallel and intersecting joints. W. O. Crosby. 1893. 8vo, 8 pp.

WHITE, C. A.—Continued.

Révision sommaire de la faune du terrain oligocène marin aux environs d'Étampes. M. Crossman. 1893. 8vo, 67 pp.

Discovery of Devonian rocks in California. J. S. Diller and C. Schuchert. 1894. 8vo, 6 pp.

Cenozoic deposits of Texas. E. T. Dumble. 1894. 8vo, 12 pp.

Analcite diabase from San Luis Obispo County, California. H. W. Fairbanks. Berkeley, 1895. 8vo, 27 pp.

Geology of northern Ventura, Santa Barbara, San Luis Obispo, Monterey, and San Benito counties. H. W. Fairbanks. Sacramento, 1894. 8vo, 36 pp.

Notes on some localities of mesozoic and paleozoic in Shasta County, California. H. W. Fairbanks. Berkeley, 1894. 8vo, 6 pp.

Evolution of the ungulate mammals. H. Le Roy Fairchild. Rochester, 1894. 8vo, 4 pp.

Geological history of Rochester, N. Y. H. Le Roy Fairchild. Rochester, 1894. 8vo, 10 pp.

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Paleontology of New York. J. Hall. 1894. 8vo, 4 pp.

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Fossil plants as an aid to geology. F. H. Knowlton. Chicago, 1894. 8vo, 17 pp.

New fossil Hepatic from the Lower Yellowstone in Montana. F. H. Knowlton. 1894. 8vo, 4 pp.

Age of the Newark browstone. B. S. Lyman. 1894. 8vo, 10 pp.

Some new red horizons. B. S. Lyman. 1894. 8vo, 193-215 pp.

Pithecanthropus erectus, DuBois, from Java. O. C. Marsh. 1895. 8vo, 6 pp.

New species of *Avicola*. E. W. Nelson. 1893. 4 pp.

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WHITE, C. A.—Continued.

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Géologie de la Russie, région centrale. A. Pavlow. Paris, 1893-94. 8vo, 25 pp.

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North American Ceuthophili. S. H. Scudder. 1894. 8vo, 96 pp.

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Matériaux pour la faune du houiller de Belgique. X. Stainier. Bruxelles, 1894. 8vo, 136 pp.

On the use of the name Catskill. J. J. Stevenson. 1894. 8vo, 10 pp.

Origin of the Pennsylvania anthracite. J. J. Stevenson. Chicago, 1893. 8vo, 12 pp.

Report of a reconnoissance in north-west Minnesota, 1893. J. E. Todd. Minneapolis, 1894. 8vo, 6 pp.

New Trilobite from Arkansas Lower Coal Measure. A. W. Vogdes. 1895. 8vo, 4 pp.

Notes on the Ammonites of the Cretaceous rocks of the District of Atha-

WHITE, C. A.—Continued.

basca. J. F. Whiteaves. 1892. 4to, 11 pp.

Succession of fossil fauna at Springfield, Mo. S. Weller. New Haven, 1895. 8vo, 15 pp.

On large Unio-like shells from the South Joggins coal fields. J. F. Whiteaves. 1893. 4to, 4 pp.

Lower Silurian Brachiopoda of Minnesota. N. H. Winchell and C. Schuchert. 1893. 8vo, 4 pp.

Ventral armor of Dinichthys. A. A. Wright. 1894. 8vo, 7 pp.

Continuity of the Glacial period. G. F. Wright. 1894. 8vo, 26 pp.

ZEBALLOS, DON ESTANISLAO S.

Literary sketches of Argentine writers. Martín Garcia Meron. Buenos Aires, 1892. 8vo, 8 pp.

Message of the President of the Republic. Buenos Aires, 1892. 4to, 180 pp.

Arbitration upon a part of the national territory of Misiones. Don Estanislao S. Zeballos. Buenos Aires, 1893. 8vo, 111 pp.

Limites entre las Repúblicas Argentina y del Brasil. Don Estanislao S. Zeballos. Buenos Aires, 1892. 8vo, 180 pp.

Reciprocidad comercial. Don Estanislao S. Zeballos. Buenos Aires, 1892. 8vo, 57 pp.

ZUÑIGA, ENRIQUE PEREZ.

Manual de técnica fisiológica general. Enrique Perez Zuñiga. Madrid, 1889. 8vo, 138 pp.

APPENDIX IV.

BIBLIOGRAPHY OF THE U. S. NATIONAL MUSEUM FOR THE FISCAL YEAR ENDING JUNE 30, 1895.

(With supplementary lists of new families, genera, and species.)

PUBLICATIONS OF THE MUSEUM.

ANNUAL REPORT.

Annual Report | of the | Board of Re-
gents | of the | Smithsonian Institu-
tion, | showing | the Operations, Ex-
penditures, and Condition | of the
Institution | for the | Year ending June

30, 1892. | —Report | of the | U. S. Na-
tional Museum. | — Washington: |
Government Printing Office. | 1893.
8vo, pp. 1-XV, 1-620, pls. 1-III, figs. 1-5.

BULLETIN.

Smithsonian Institution. | United States
National Museum. | — | Bulletin | of
the | United States National Museum. |
No. 48. | Contribution toward a Mono-
graph of the Insects | of the Lepidop-
terous Family Noctuidæ of | Boreal

North America.—A Revision | of the
Deltoid Moths. | By | John B. Smith,
Sc. D., | Professor of Entomology in
Rutgers College. | — | Washington:
| Government Printing Office. | 1895:
8vo, pp. 1-VI, 1-129, pls. 1-XIV.

PAPERS BY OFFICERS OF THE NATIONAL MUSEUM AND OTHERS WHOSE WRITINGS ARE BASED DIRECTLY OR INDIRECTLY ON MUSEUM MATERIAL.

ADLER, CYRUS. Report on the Section
of Oriental Antiquities in the U. S. Na-
tional Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.),
1892 (1893), pp. 111-113.

ANTHONY, A. W. Notes on the genus
Helcodytes, with a description of a new
subspecies.

Auk, XI, No. 3, July, 1894, pp. 210-214.

Describes a new subspecies, *Helcodytes brun-
neicapillus Bryanti*, and makes observations on
a series of cactus wrens from the southwestern
part of the United States and Lower California.
The St. Lucas Cactus Wren (*Helcodytes affinis*)
is shown to be a subspecies of the common form.

— *Oceanodroma Townsendi*, off San Di-
ego, California.

Auk, XI, No. 4, Oct., 1894, pp. 321-322.

Records the regular (though rare) occurrence
of *Oceanodroma Townsendi* on the coast of Cali-
fornia.

ANTHONY, A. W. A new species of
Thryothorus from the Pacific Coast.

Auk, XII, No. 1, Jan., 1895, pp. 51-52.

Describes a new wren (*Thryothorus leuco-
phrys*) from San Clemente Island, Califor-
nia, closely related to *Thryothorus Bewickii*
spilurus.

— A new subspecies of *Harpophynchus*
from Lower California.

Auk, XII, No. 1, Jan., 1895, pp. 52-53.

Harpophynchus cinereus Mearnsi, from San
Quentin, Lower California, is described, and
some notes on its habits are added.

— The Fulmars of Southern Califor-
nia.

Auk, XII, No. 2, Apr., 1895, pp. 109-109.

An account of the habits of the Fulmars of
the Southern California Coast, to which is
added a description of a new subspecies, *Ful-
marus glacialis columba*, from the vicinity of
San Diego, Cal.

ASHMEAD, WILLIAM H. Notes on cotton insects found in Mississippi.

Insect Life, VII, No. 3, Dec., 1894, pp. 240-247; No. 4, pp. 320-326.

An enumeration of the species found on cotton at Utica, Miss. They belong to the orders Orthoptera, Neuroptera, Platyptera, Hymenoptera, Coleoptera, Hemiptera, Lepidoptera, and Diptera. The following new species are described: *Thrips trifasciatus*, *Psocus gossypii*, *Zachrestia dimidiata*, *Linnæria mississippiensis*, *Lymnæa annulicorvis*, *Otacustes chrysopæ*, and *O. atriceps*. *Chrysophagus compressicornis* is described as a new genus and species.

(See also under CHARLES V. RILEY.)

BAUR, G. The relationship of the Lacerilian genus *Anniella*, Gray.

Proc. U. S. Nat. Mus., XVII, No. 1065, Nov. 15, 1894, pp. 345-351.

BEAN, BARTON A. Scientific results of explorations by the U. S. Fish Commission Steamer *Albatross*. XXXIII.—Descriptions of two new flounders, *Gastropssetta frontalis* and *Cyclopssetta Chittendeni*.

Proc. U. S. Nat. Mus., XVII, No. 1030, May 11, 1895, pp. 633-636, figs. 1-3.

In this paper is described a new genus and species, *Gastropssetta frontalis*, taken by the steamer *Albatross* in the Gulf of Mexico in 1885. The other species, which was presented by the late Dr. John F. Chittenden, of the Victoria Institute, Trinidad, is provisionally placed with Dr. Gill's recent genus, *Cyclopssetta*. (See also under TARLETON H. BEAN.)

BEAN, TARLETON HOFFMAN. Description of a new species of Rock Fish, *Sebastichthys brevispinis*, from Alaska.

Proc. U. S. Nat. Mus., XVII, No. 1027, May 11, 1895, pp. 627-628.

The specimen described in this paper was taken at Hassler Harbor, Alaska, in 1882, by Capt H. E. Nichols, U. S. Navy.

— Description of a new species of fish, *Bleckeria Gilli*.

Proc. U. S. Nat. Mus., XVII, No. 1028, May 11, 1895, pp. 629-630.

This paper is based upon eleven examples of Sand Lance, presumably from the North Pacific, and part of the Stimpson collections.

— Report on the Department of Fishes in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 159-161.

(See also under G. BROWN GOODE.)

BEAN, TARLETON H. and BARTON A. Description of *Gobioides broussoneti*, a fish new to North America, from the Gulf of Mexico.

Proc. U. S. Nat. Mus., XVII, No. 1029, May 11, 1895, pp. 631-632, fig. 1.

BEESON, CHARLES H.

(See under CARL H. EIGENMANN.)

BENDIRE, CHARLES. Description of nests and eggs of some new birds collected on the Island of Aldabra, northwest of Madagascar, by Dr. W. L. Abbott.

Proc. U. S. Nat. Mus., XVII, No. 983, July 19, 1894, pp. 39-41.

— The American Barn Owl breeding at Washington, D. C., in winter.

Auk, XII, No. 2, Apr., 1895, pp. 180-181.

Mentions the occurrence of two young birds in the Smithsonian grounds in December and February of 1894 and 1895, respectively.

— Report on the Department of Oology in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 153-154.

BENEDICT, JAMES E. Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. No. XXXI.—Descriptions of new genera and species of crabs of the family Lithodidae, with notes on the young of *Lithodes camtschaticus* and *Lithodes brevipipes*.

Proc. U. S. Nat. Mus., XVII, No. 1016, Jan. 29, 1895, pp. 479-488.

Four new genera and eleven new species are described. They are based on specimens collected by the steamer *Albatross* and by Dr. W. H. Dall and Mr. J. G. Swan, chiefly from the North Pacific.

BIGELOW, ROBERT PAYNE. Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. No. XXXII.—Report upon the Crustacea of the order Stomatopoda collected by the steamer *Albatross* between 1885 and 1891, and on other specimens in the U. S. National Museum.

Proc. U. S. Nat. Mus., XVII, No. 1017, Feb. 5, 1895, pp. 489-550, pls. XX-XXII, figs. 1-28.

A comprehensive treatment of the group, with analytical keys to all the genera and species. Detailed descriptions are added of species first described by Dr. Bigelow in Johns Hopkins University Circular, 106, June, 1893, p. 100. *Odontodactylus*, there ranked as a subgenus, is here made a genus.

BREWSTER, WILLIAM. Notes on certain Flycatchers of the genus *Empidonax*.

Auk, No. 2, Apr., 1895, pp. 157-163.

Empidonax virescens (Vieillot) is shown to be the proper name for the bird long known as *E. acadicus* (Gmelin), and two other species are affected, in that the name *Empidonax traillii* is restricted to the one heretofore known as *E. pusillus* (*Tyrannula pusilla* of Swainson

BREWSTER, WILLIAM—Continued.

being considered indeterminable), and *Empidonax trailii alnorum* is proposed as a new name for the eastern form hitherto known as *E. pusillus trailii*.

BROWN, EDWARD J. Bird notes from Virginia.

Auk, XI, No. 3, July, 1894, p. 259.

Mentions several species met with at Smith's Island, among them *Tringa fuscicollis*, not before recorded from the State.

CASANOWICZ, I. M. Religious ceremonies in the Talmud.

Proc. Am. Oriental Soc., XVI, 1894, pp. LXXVI-LXXXII.

CHITTENDEN, FRANK H. Two new species of beetles of the Tenebrionid genus *Echocerus*.

Proc. U. S. Nat. Mus., XVIII, No. 1041, advance sheet, Jan. 16, 1895, pp. 79-80.

Describes as new species *E. dentiger* and *E. recurvatus*.

— The Potato-Bud Weevil (*Anthonomus nigrius*, Boh.).

Insect Life, VII, No. 4, Mar., 1895, pp. 350-352.

An account of the habits of this insect, and the damage which it does to potato buds.

CLARK, ALONZO HOWARD. Report on the Historical Collections in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 115-120.

CLARKE, FRANK W. The constitution of the Zeolites.

Am. Journ. Sci. (Series III), XLIX, Sept., 1894, p. 187.

— An occurrence of Anorthite and Epidote.

Am. Journ. Sci. (Series III), XLIX, Nov., 1894, p. 429.

— Report of the Committee on Atomic Weights, published during 1894.

Journ. Am. Chem. Soc. (Series III), L, Mar., 1895, p. 201.

— The constitution of the Silicates.

Bull. U. S. Geol. Surv., No. 125, 1895, p. 109.

— Report on the Department of Minerals in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 201-203.

CLARK, HUBERT LYMAN. The pterylography of certain American goat-suckers and owls.

Proc. U. S. Nat. Mus., XVII, No. 1018, May 11, 1895, pp. 551-572, figs. 1-11.

COCKERELL, T. D. A. Notes on the geographical distribution of scale insects.

Proc. U. S. Nat. Mus., XVII, No. 1026, May 11, 1895, pp. 615-625.

COQUILLET, DANIEL W. Is *Cyrtoneura corsia* an injurious insect?

Insect Life, VII, No. 4, Mar., 1895, pp. 338-339, fig. 2.

An account of the supposed rearing of this insect from squash roots, and a suggestion that the facts in the case were incorrect, and that the insect is a scavenger rather than a plant feeder.

— A Cecidomyiid that lives on poison oak.

Insect Life, VII, No. 4, Mar., 1895, p. 348.

Description of *Cecidomyia rhois*, new species.

COULTER, JOHN M., and ROSE, JOSEPH NELSON. *Musineon* of Rafinesque.

Botan. Gaz., XX, No. 6, June, 1895, pp. 258-260.

This paper is a revision of the genus *Musineon*. One new species is described, *Musineon alpinum*.

COVILLE, FREDERICK VERNON. The wild rice of Minnesota.

Botan. Gaz., XIX, Dec., 1894, pp. 504-509.

— Report of the Botanist, U. S. Department of Agriculture, for 1893.

Rep. Secy. Agric., 1893 (1894), pp. 235-244.

— A reply to Dr. Robinson's criticism of the List of Pteridophyta and Spermatophyta of Northeastern America.

Botan. Gaz., XX, Apr., 1895, pp. 162-167.

CROSS, C. WHITMAN. The Laccolitic Mountain Groups of Colorado, Utah, and Arizona.

Fourteenth Ann. Rep. U. S. Geol. Surv., 1892-93, pp. 159-241.

This paper includes a description of the Elk Mountain collections and other rocks in the U. S. National Museum.

DALL, WILLIAM HEALEY. Monograph of the genus *Gnathodon*, Gray (*Rangia*, Desmonlins).

Proc. U. S. Nat. Mus., XVII, No. 988, July 23, 1894, pp. 89-100, pl. VII, figs. 1-10.

In this paper the genus *Gnathodon*, which, hitherto, has held a very uncertain place in systematic classification, is placed by the author in the Maetridae, on account of the characters of both the shell and the soft parts, and it is shown that the young shell is essentially maetroid. The synonymy of the species, notes, and descriptions are given.

— Synopsis of the Maetridae of North America.

Nautilus, VIII, No. 3, July, 1894, pp. 25-28; No. 4, Aug., 1894, pp. 39-43.

DALL, WILLIAM HEALEY—Continued.

I. A revision of the classification of the Mactridæ of the eastern coast of the United States, with an enumeration of the species.

II. This paper contains a complete revision of the Mactridæ of the west coast of North America, south to Panama, with an enumeration of the species.

— Notes on the Miocene and Pliocene of Gay Head, Martha's Vineyard, Massachusetts, and on the "Land Phosphate" of the Ashley River district, South Carolina.

Am. Journ. Sci., XLVIII, Oct., 1894, pp. 297-301.

This paper enumerates for the first time the fossils of the Miocene beds of Martha's Vineyard, and describes two new species. The Pliocene is recognized in the beds above the Miocene and a list of the species found in it is given. It is shown that the Ashley marls of South Carolina and the phosphatic rock which overlies them are probably Miocene and not Eocene in age, as hitherto supposed. A list of species from the phosphate rock is given, which includes the characteristic Miocene type *Ephora quadricostata*.

— Cruise of the steam yacht *Wild Duck* in the Bahamas, January to April, 1893, in charge of Alexander Agassiz. Notes on the shells collected.

Bull. Mus. Comp. Zool., XXV, No. 9, Oct., 1894, pp. 113-124, with plate.

This paper consists of a set of notes on a small lot of material sent to the Smithsonian Institution some years ago by Dr. J. J. Brown, of Sheboygan, Wis., from Watling Island, Bahamas; another small lot from the same place, collected by the U. S. Fish Commission, and a third lot collected by Dr. Alexander Agassiz. The lagoon species are peculiarly thin, small in size, and, when colored, quite brilliant. Notes are given on 12 marine and 16 land species and varieties, of which 5 are new. The genus *Cerion* (formerly called *Strophia*) is divided into subgenera founded on characters of the internal laminae.

— Description of a new species of *Doridium* from Puget Sound.

Nautilus, VIII, No. 7, Nov., 1894, pp. 73-74.

A description of an interesting new *Doridium* (*D. adelle*, Dall).

— How I came to be a paleontologist.

Outdoor World, v, No. 11, Nov., 1894, pp. 335-336.

A brief autobiographical note with portrait.

— The mechanical cause of the folds in the aperture of the shell of Gastropoda.

Am. Naturalist, XXVIII, Nov., 1894, pp. 909-914, figs. 1-3.

Adapted from the Transactions of the Wag-

DALL, WILLIAM HEALEY—Continued.

ner Free Institute of Science, III, 1890, p. 58. Mr. Dall shows that in those Gastropods which have plicate apertures the adductor muscle, which is attached to the columella, is placed deeper within the shell than in the non-plicate forms; that in such cases the body of the animal covered with its mantle is compressed as it is being drawn into the shell and therefore longitudinal wrinkles are formed in the mantle. The secreting surfaces deposit shelly material, which, in the folds, takes the form of ridges in the aperture of the shell.

— A new Chiton from California.

Nautilus, VIII, No. 8, Dec., 1894, pp. 90-91.

A description of a new Chiton (*Lepidopleurus pererassus*, Dall). In this species the girdle is extended in such a manner as to partly separate the shelly portions of the valves. For this peculiar form is proposed a section *Oldroydia*.

— On a new species of *Holospira* from Texas.

Nautilus, VIII, No. 10, Feb., 1895, p. 112.

A description of a new *Holospira* (*H. pasonis*, Dall), from El Paso County, Tex.

— Contributions to the Tertiary fauna of Florida, with especial reference to the Miocene silex beds of Tampa and the Caloosahatchie River. Part III.— A new classification of the Pelecypoda.

Trans. Wagner Free Inst. Sci., III, pt. III, Mar., 1895, pp. 483-570.

The author in 1889, in a "Catalogue of the shell-bearing mollusks of the southeastern United States," proposed a new classification of the Pelecypoda. This paper is an amplification of that work, bringing it down to the present date, but conforming to the general principles on which the earlier classification was founded. In this system the shell, the anatomy, the embryology, and evidence from all sources are considered and made use of. A brief dissertation on the shell, anatomy, and functions of the Pelecypoda is given. Then follows an enumeration of the orders, suborders, superfamilies, and families of the Pelecypoda, each of which is differentially defined in a manner enabling a direct comparison to be made between groups of the same rank. Under each family is given its range in geological time and a list of the principal genera believed to be referable to it. Some notes on the principles of nomenclature applied in the work and an index to the genera are appended. The importance of this paper lies in the revision of the diagnostic characters, which are endeavored to be made strictly comparable in the different groups, and when common to a larger group are not repeated in the definitions of its subordinate divisions; and in the bringing up to date of the data employed.

DALL, WILLIAM HEALEY. A review of the genera of recent and Tertiary Macrura and Mesodesmatida.

Proc. Malacological Soc., London, 1, pt. 5, Mar., 1895, pp. 203-213.

A description of the parts of the hinge in the Macrura in which the several parts are named and discriminated, followed by a table in which the larger groups are characterized, several new ones discriminated, and the general classification of the group thoroughly revised.

— New species of shells from the Galapagos Islands.

Nautilus, VIII, No. 11, Mar., 1895, pp. 126-127.

Two new and interesting species of *Bulimus* are described. *B. reibischi*, Dall, and *B. Tanneri*, Dall.

— New species of shells from Puget Sound.

Nautilus, VIII, No. 11, Mar., 1895, pp. 129-130.

Description of two minute land shells from Puget Sound, viz: *Patulastra? pugetensis*, Dall, and *Pyramidula? Randolphi*, Dall, whose generic position is doubtful.

— An undescribed *Meretrix* from Florida.

Nautilus, IX, No. 1, May, 1895, pp. 10-11.
Describes *Meretrix Simpsoni*, Dall.

— Review of [The Cambridge Natural History], Vol. III, Molluscs and Brachiopods.

Science (New series), 1, No. 22, May 31, 1895, p. 610.

A review of the volume cited.

— Report on the Department of Mollusks (including Cenozoic fossils) in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 163-167.

DEWEY, LYSTER H. Nut grass.

Circ. No. 2, Div. Botany, U. S. Dept. Agric., Oct. 16, 1894, pp. 1-4, fig. 1.

This circular contains a description of nut grass, and gives information for getting rid of it.

— The Russian Thistle.

Circ. No. 3, Div. Botany, U. S. Dept. Agric., Jan. 4, 1895, pp. 1-8, figs. 1-3.

This circular contains a description of the Russian thistle.

— Weeds, and how to kill them.

Farmers' Bull. No. 28, U. S. Dept. Agric., May 28, 1895, pp. 1-31, with figures.

This bulletin contains a description of eleven troublesome weeds, with directions for destroying them.

DIXON, WILLIAM S. Report on the Section of Materia Medica in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), p. 133.

EIGENMANN, CARL H., and BEESON, CHARLES H. A revision of the fishes of the subfamily Sebastinae of the Pacific Coast of America.

Proc. U. S. Nat. Mus., XVII, No. 1009, Nov. 15, 1894, pp. 375-407.

The object of this paper, as stated by the authors, is to present analytical keys, synonymy, and bibliography of the viviparous genera of Pacific Sebastinae. For convenience, the oviparous genera of Sebastinae have also been added.

FARRINGTON, OLIVER C. An analysis of Jadeite from Mogoung, Burmah.

Proc. U. S. Nat. Mus., XVII, No. 981, July 19, 1894, pp. 29-31.

FAXON, WALTER. Reports on an exploration of the west coasts of Mexico, Central and South America, and off the Galapagos Islands, in charge of Alexander Agassiz, by the U. S. Fish Commission steamer *Albatross*, during 1891, Lieut. Commander Z. L. Tanner, U. S. N., commanding. xv.—The Stalk-eyed Crustacea.

Mem. Mus. Comp. Zool., XVIII, Apr., 1895, pp. 1-292, pls. A-K, 1-LVII.

The systematic account of the species is followed by chapters on the distribution and on the colors of deep-sea crustacea. Tables are given showing geographical and bathymetrical distribution, and records of dredging stations, etc.

FERNOW, BERNHARD EDUARD. Report on the Section of Forestry in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), p. 125.

FISHER, A. K. The capture of *Basilinna leucotis* in southern Arizona.

Auk, XI, No. 4, Oct., 1894, pp. 325-326.

Records the capture by himself of a specimen of this species in the Chiricahua Mountains, Arizona, June 9, 1894.

— Occurrence of *Aphelocoma cyanotis* in western Texas.

Auk, XI, No. 4, Oct., 1894, p. 327.

Records three specimens in the collection of the Department of Agriculture, taken at Paisano, Tex., in July, 1890. This is the first record of the occurrence of this species in the United States.

GAULT, BENJAMIN T. The Willow Thrush (*Turdus fuscescens salicicolus*), a migrant in northeastern Illinois.

Auk, XII, No. 1, Jan., 1895, p. 85.

Two specimens of this Thrush obtained in the spring of 1894 are recorded from Glenelg, Ill.

GIESBRECHT, WILHELM. Reports on the dredging operations off the west coast of Central America to the Galapagos, to the west coast of Mexico, and in the Gulf of California, in charge of Alexander Agassiz, carried on by the U. S. Fish Commission steamer *Albatross* during 1891, Lieut. Commander Z. L. Tanner, U. S. N., commanding. XVI.—Die Pelagischen Copepoden.

Bull. Mus. Comp. Zool., XXV, No. 12, Apr., 1895, pp. 243-263, pls. I-IV.

A list is given of the species taken at each station, followed by a systematic list, with descriptions of 3 new genera and 10 new species.

GILL, THEODORE. Lepidosirenids and Bdellostomids.

Am. Naturalist, XXVIII, No. 331, July 13, 1894, pp. 581-584.

In opposition to Dr. Howard Ayers, it is claimed that the genera *Lepidosiren* and *Protopterus* are perfectly distinct, and that species confounded under *Bdellostoma* are not only specifically but generically distinct, constituting the genera *Heptatrema* and *Polistotrema*.

— The nomenclature of the family Pœciliidæ or Cyprinodontidæ.

Proc. U. S. Nat. Mus., XVII, No. 991, July 19, 1894, pp. 115-116.

The family name Pœciliidæ is substituted for Cyprinodontes and the reasons therefor given; the synonyms of Pœciliidæ and Pœciliinæ are added.

— The differential characters of the Salmonidæ and Thymallidæ.

Proc. U. S. Nat. Mus., XVII, No. 992, July 19, 1894, pp. 117-122.

The salmoniform fishes with simple ovaries are divided into the families Salmonidæ and Thymallidæ; the former is subdivided into the subfamilies Salmoninæ, Coregoninæ, and Stegodontinæ. Diagnoses of all are given. The genera are also enumerated with their synonyms.

— On the relations and nomenclature of *Stizostedion* or *Luciopeera*.

Proc. U. S. Nat. Mus., XVII, No. 993, July 21, 1894, pp. 123-128.

The history of the nomenclature of the pike-perches is given, and the retention of *Stizostedion*, instead of *Luciopeera*, justified. A synopsis is also given of all the species. The supposed order of differentiation of the genera of Percinæ is indicated by a genealogical tree.

GILL, THEODORE. On the nomenclature and characteristics of the Lampreys.

Proc. U. S. Nat. Mus., XVII, No. 989, July 23, 1894, pp. 107-110.

Ammocoetes is suppressed as a generic name, and shown to be a stage common to all arctogean lampreys. *Petromyzon* and *Lampetra* are named as the longest established genera and their synonyms enumerated. The families Mordaciidæ and Petromyzonidæ are defined and justified.

— An Australasian subfamily of fresh water Atherinoid fishes.

Am. Naturalist, XXVIII, No. 332, Aug. 14, 1894, pp. 708-709.

The genus *Nematoentris* should be called by the prior name *Melanotenia*, and the genus *Aristeus* of Castelnau (not Duvernoy) is renamed *Rhombatractus*. Both belong to a fresh-water Australasian subfamily newly named *Melanoteniinæ*, and are closely related.

— A new bassalian type of crabs [Retropiumidæ].

Am. Naturalist, XXVIII, No. 336, Dec. 5, 1894, pp. 1043-1045.

The genus *Archæroplax* of Alcock and Anderson (not Stimpson) is renamed *Retropiuma* and recognized as the type of a peculiar family of Grapsoidæ—Retropiumidæ.

— *Rangia* the proper name of the Macroid genus *Gnathodon*.

Nautilus, VIII, No. 9, Jan. 1, 1895, pp. 102-103.

The name *Gnathodon* had been used in ichthyology earlier than conchology, and consequently its use is precluded in the latter department. Therefore the name *Rangia*, generally used by recent conchologists, should be retained.

— The genus *Leptophidium* [renamed *Lepophidium*].

Am. Naturalist, XXIX, No. 338, Feb., 1895, pp. 167-168.

The name *Leptophidium* was used by Hal- lowell in 1860, and consequently *Leptophidium* of Gill (1863) should receive another name; *Lepophidium* is proposed.

— *Pithecanthropus erectus*.

Nation, LX, Feb. 7, 1895, p. 105.

The genus *Pithecanthropus* is claimed to be undistinguishable, so far as the characters have been given, from *Homo*, and certainly no characters have been adduced to justify family differentiation.

— The Geoffroy Saint Hilaires and Bory de Saint Vincent.

Nation, LX, Feb. 21, 1895, p. 145.

The proper names are Geoffroy and Bory, not Saint Hilaire or Saint Vincent, as had been recently given.

GILL, THEODORE. The nomenclature of the Myliobatidæ or Aëtobatidæ.

Proc. U. S. Nat. Mus., xvii, No. 990, Feb. 25, 1895, pp. 111-114.

Aëtobatus is retained for *Aëtobatis* rather than *Myliobatis*, and the family name Aëtobatidæ and subfamilies Myliobatinae and Aëtobatinae provisionally retained. The synonyms of all are added.

— On the Torpedoes.

Science (New series), I, No. 18, May 3, 1895, pp. 502-503.

It was shown that the name *Torpedo* was first applied (by Forskål in 1775) as a generic term to the electric catfish of the Nile, subsequently called *Malapterurus*, and that for the Torpedo rays Blainville's name, *Narcobatus*, must be revived.

— The genera of Branchiostomidæ.

Am. Naturalist, xxix, No. 341, May, 1895, pp. 457-459.

The family of Branchiostomidæ has five genera successively named *Branchiostoma*, *Epigonichthys*, *Asymetron*, *Paramphioxus*, and *Amphioxides*. *Amphioxides* is a new name proposed for *Branchiostoma pelagicum*. The term Actinomimes is proposed for the so-called rays of the Branchiostomids and the so-called ventral fins are designated the Sympodium.

— The lowest of the vertebrates and their origin.

Science (New series), I, No. 24, June 14, 1895, pp. 645-649.

A review of Mr. Arthur Wiley's work, entitled "Amphioxus and the Ancestry of the Vertebrates," is given. Five genera and 8 species of Branchiostomids are recognized, and the specific characters generally used are criticized and others suggested. The relations of the including groups and their bearing on the question of ancestry are briefly considered.

— The relation of the ancient and modern Ceratodontidæ.

Science (New series), I, No. 26, June 28, 1895, p. 725.

It is claimed that *Ceratodus* is not represented by living species, but that those belong to a distinct genus, which should be called *Xoceratodus*. The ancient forms referred to the former belong to at least two genera, *Ceratodus* and *Anticeratodus* (new).

GOODE, GEORGE BROWN. America's relation to the advance of science.

Science (New series), I, No. 1, Jan. 4, 1895, pp. 4-9.

The above is an abstract of an address delivered before the Philosophical Society of Washington November 24, 1894.

— [Review of] The life and writings of Constantine Rafinesque. (Filson Club

GOODE, GEORGE BROWN—Continued.

Publications, No. 10.) By R. Ellsworth Call.

Science (New series), I, No. 14, Apr. 5, 1895, pp. 384-387.

— The ideal index to scientific literature.

Science (New series), I, No. 16, Apr. 19, 1895, pp. 433-437.

— Report upon the Condition and Progress of the U. S. National Museum during the year ending June 30, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 1-97.

GOODE, G. BROWN, and BEAN, TARLETON H. Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. xxviii.—On Cetomimidæ and Rondeletiidæ, two new families of Bathyhalic fishes from the Northwestern Atlantic.

Proc. U. S. Nat. Mus., xvii, No. 1012, Jan. 26, 1895, pp. 451-454, pl. xvii.

In this paper is given a diagnosis of two new families of fishes, with descriptions of two new genera, *Cetomimus* and *Rondeletia*. The species described are *Cetomimus Gillii*, *C. Storeri*, and *Rondeletia bicolor*.

— Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. xxix.—A revision of the order Heteromi, deep-sea fishes, with a description of the new generic types, *Macdonaldia* and *Lipogenys*.

Proc. U. S. Nat. Mus., xvii, No. 1013, Jan. 26, 1895, pp. 455-470, pl. xviii.

— Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. xxx.—On *Harriotta*, a new type of Chimæroid fish from the deeper waters of the Northwestern Atlantic.

Proc. U. S. Nat. Mus., xvii, No. 1014, Jan. 26, 1895, pp. 471-473, pl. xix.

HASSALL, ALBERT.

(See under CHARLES W. STILES.)

HOLMES, WILLIAM HENRY. Report on the Department of American Aboriginal Pottery in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), p. 109.

HOWARD, LELAND O. Two parasites of important scale insects.

Insect Life, vii, No. 1, Sept., 1894, pp. 5-8, figs. 2, 3.

Describes *Prospalta*, new genus, *Murtfeldtii*, new species, and *Ablerus*, new genus, *Clisio-campæ* (Ashmead).

HOWARD, LELAND O. The eastern occurrence of the San José Scale.

Insect Life, VII, No. 2, Oct., 1894, pp. 153-163.

An account of the different localities in the eastern United States into which *Aspidiotus perniciosus* had been introduced, accompanied by brief remarks on remedies.

— Damage by the American Locust.

Insect Life, VII, No. 3, Dec., 1894, pp. 220-229, figs. 19-22.

An account of the injurious outbreaks of *Schistocerca americana*, with special reference to the occurrence of this species in injurious numbers in 1894, near Roanoke, Va., accompanied by a description of the earlier stages, and a report by Mr. D. W. Coquillett upon an investigation of the Roanoke outbreak.

— The Maple Pseudococcus (*Pseudococcus aceris*, Geoff.).

Insect Life, VII, No. 3, Dec., 1894, pp. 235-240, figs. 23-24.

An account of the spread of this bark louse, with a description of its natural history and parasites, and some consideration of the remedies.

— A new parasite of *Mytilaspis pomorum*.

Insect Life, VII, No. 3, Dec. 1894, p. 456.

Describes *Chiloneurus diaspidinarum* as a new species.

— A new pear insect.

Insect Life, VII, No. 3, Dec., 1894, pp. 258-260, fig. 26.

A description of the work of *Agrilus sinuatus*, Ol. in pear trees in New Jersey.

— Note on the mouth parts of *Stenopelmatus*.

Proc. Ent. Soc. Wash., III, No. 2, Jan. 8, 1895, pp. 102-103.

Describes the normal mouth parts of *S. crassatus* and of an abnormal individual in which the right galea was curiously modified.

— Further notes on the San José Scale.

Insect Life, VII, No. 4, March, 1895, pp. 283-295, fig. 29.

A summary is given of additional eastern localities infested, with an account of the remedies used in each; also a detailed account of the parasites found to affect the scale, and a few facts as to the original home of the species. Notes are given on twenty-nine remedial applications tested, and the possible future spread of the scale is referred to.

— An Ortalid Fly injuring growing cereals.

Insect Life, VII, No. 4, Mar., 1895, pp. 352-354, fig. 34.

An account of *Chortopsis aenea*, Wied., with mention of rearing from corn, sugar cane, and oats.

HOWARD, LELAND O. The Gray Hair-Streak Butterfly and its damage to beans.

Insect Life, VII, No. 4, Mar., 1895, pp. 354-355, fig. 35.

An account of *Uranotes melinus*, Hübn.

— On the Bothriothoracine insects of the United States.

Proc. U. S. Nat. Mus., XVII, No. 1025, May 11, 1895, pp. 605-613.

— *Arrhenophagus* in America.

Proc. Ent. Soc. Wash., III, No. 4, June 22, 1895, pp. 239-240.

An account of the structural characters of the remarkable Encyrtine genus *Arrhenophagus*, Aurivillius, and an announcement that the type species and *A. chinaspidis* have been found in America parasitic upon *Diaspis rosea* at Kirkwood, Mo.; with some consideration of the systematic position of the genus.

(See also under CHARLES V. RILEY.)

KNOWLTON, FRANK HALL. A review of the fossil flora of Alaska, with descriptions of new species.

Proc. U. S. Nat. Mus., XVII, No. 998, Aug. 2, 1894, pp. 207-240, pl. IX.

— A new fossil Hepatic from the Lower Yellowstone in Montana.

Bull. Torrey Bot. Club, XXI, No. 10, Oct. 24, 1894, pp. 458-459, pl. 219.

— Notes on the examination of a collection of interglacial wood from the Muir Glacier, Alaska.

Journ. Geol., III, 1895, pp. 527-532, fig. 1.

Mentions the occurrence of *Picea sitchensis*, Carr., *Tsuga mertensiana*, Carr., and *Chamocyparis nutkensis*, Spach.

— Report on a small collection of fossil plants from Poverty Hill and Monte Cristo Mine on Spanish Peak, California.

Am. Geologist, XV, 1895, p. 377.

Mentions the occurrence of *Laurus salicifolia*, Lx.

— Report on a small collection of fossil leaves from Volcano Hill, Placer County, Cal.

Am. Geologist, XV, 1895, pp. 377-378.

Identifies *Ficus sordida*? *F. shastensis*? *Populus Zaddachi*? *Plantanus appendiculata*? and *Persea Dilleri*?

KOEHLER, SYLVESTER ROSA. Report on the Section of Graphic Arts in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 121-123.

LAMBE, LAWRENCE M. Sponges from the western coast of North America.

Trans. Roy. Soc. Canada, XII, Section IV, 1894 (June, 1895), pp. 112-138, pls. II-IV.

LAMBE, LAWRENCE M.—Continued.

This paper gives the results of a study of the sponges collected by Dr. William H. Dall and others in the North Pacific Ocean, Bering Sea, and the Arctic Ocean. With the exception of a few specimens, all are the property of the U. S. National Museum.

LINELL, MARTIN L. Description of a new species of Golden Beetle from Costa Rica.

Proc. U. S. Nat. Mus., xviii, No. 1040, advance sheet Jan. 12, 1895, pp. 77-78.

Plasiotis Keithi is described and the habits and rarity of the golden and silvery colored species of the genus are referred to.

LENNBERG, EINAR. Notes on the reptiles and batrachians collected in Florida in 1892 and 1893.

Proc. U. S. Nat. Mus., xvii, No. 1003, Nov. 15, 1894, pp. 317-339, figs. 1-3.

LUCAS, FREDERIC AUGUSTUS. The bird's foot.

Nat. Sci., v, Sept., 1894, pp. 208-209.

This paper supports the proposition that the synpelmous condition of the deep plantar tendons in birds is the original one.

— Notes on the anatomy and affinities of the Cerebidae and other American birds.

Proc. U. S. Nat. Mus., xvii, No. 1001, Nov. 15, 1894, pp. 299-312, figs. 1-12.

Concludes that Cerebidae is not a homogeneous group, but contains three distinct types; that among these, *Glossoptila* is the most peculiar; also that *Phainopepla* is clearly and nearly related to *Ampelis*.

— Additional characters of the Macropterygidae.

Auk, xii, No. 2, Apr., 1895, pp. 155-157, with figures.

Additional characters are given for this new family of swifts.

— A new family of birds.

Auk, xii, No. 2, Apr., 1895, p. 186.

Notes that the anatomical characters of the genus *Procnias* entitle it to family rank.

— The deep plantars in the Trochilidae.

Ibis (Series 7), i, No. 2, Apr., 1895, pp. 298-299, with figures.

Notes that all previous descriptions and figures of deep plantar tendons in the Trochilidae are wrong, and gives correct description and figure.

— Report on the Department of Comparative Anatomy in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 181-183.

LUDWIG, HUBERT. Reports on explorations off the west coasts of Mexico,

LUDWIG, HUBERT—Continued.

Central and South America, and off the Galapagos Islands, in charge of Alexander Agassiz, by the U. S. Fish Commission steamer *Albatross*, during 1891, Lieut. Commander Z. L. Tanner, U. S. N., commanding. xii.—The Holothurioidea.

Mem. Mus. Comp. Zool., xvii, No. 3, Oct., 1894, pp. 1-183, pls. 1-XIX.

Full descriptions are given of the species which were noticed in a preliminary report published in the Bulletin of the Museum of Comparative Zoology, xxvi, No. 4, June, 1893, pp. 105-114. The species are finely illustrated, many of them by colored figures.

MARLATT, CHARLES L. The Buffalo Tree-hopper (*Ceresa bubalus*, Fab.).

Insect Life, vii, No. 1, Sept., 1894, pp. 8-14, figs. 4-7.

An account of the life history of this insect, with a description of its method of work and of its earlier stages, and an enumeration of its food plants and the remedies to be used against it.

— The American species of *Scolioneura*, Kuw.

Proc. Ent. Soc. Wash., iii, No. 4, June 22, 1895, pp. 234-236.

Describes *S. capitalis*, Norton, *S. canadensis*, new species, and *S. populi*, new species.

MARSH, OTINIEL CHARLES. Report on the Department of Vertebrate Fossils in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 169-170.

MASON, OTIS TUFTON. Migration and the food quest: a study in the peopling of America.

Am. Anthropologist, vii, No. 3, July, 1894, pp. 275-292.

This paper calls attention to a great circle of the earth passing from the straits of Malacca to the Rio de la Plata mouth through a series of land-locked seas and culture areas of great value, especially in the line of food production and variety of employment. It calls attention to this great circle as an unbroken line of migration and of constant development of culture about the Pacific Ocean.

— Summary of progress in anthropology.

Rep. Smithsonian Inst., 1893 (1894), pp. 601-629.

The object of this paper is to present in a few pages the progress made in the various branches of anthropology during the year 1893.

— North American bows, arrows, and quivers.

Rep. Smithsonian Inst., 1893 (1894), pp. 631-680, pls. 37-94.

MASON, OTIS TUFTON—Continued.

The object of this paper is to study the manufacture, the ethnographic, and the geographic distribution of all the types of bows, arrows, and quivers among the North American tribes. The plan has been to treat these objects as specimens of natural history, and to consider their structure, function, and distribution on the line of environment and of evolution or elaboration, in a series of explanatory pages. Each separate piece is described as minutely as possible, so as to render the specimens in question types for future investigation.

— Overlying with copper by the American aborigines.

Proc. U. S. Nat. Mus., xvii, No 1015, Jan. 26, 1895, pp. 475-477, figs. 1-4.

This paper is based on two examples from the Tlinget Indians, Alaska, in which two wooden birds have their wings overlaid with cold-hammered sheets of copper and then engraved with totems.

— Historic and ethnologic science.

Epoch, 1, 1895, pp. 3-11.

The object of this paper is to show that the two lines of study, the historic and the ethnologic, are indispensable one to the other for investigating the progress of human culture.

— Similar inventions in areas wide apart.

Science (New series), 1, 1895, pp. 235-236.

This paper calls attention to the wide dispersion of a weaving frame or harness consisting of a series of slats, each one pierced in the middle. The warp threads pass alternately between the slats and through the holes, and this enables the weaver to shift the warp. The question is raised whether the Pueblo Indians invented this apparatus or received it from the Europeans.

— The distribution of sledges.

This article calls attention to the fact that no sledge, snowshoe, or goggle has ever been discovered in South America.

— Report on the Department of Ethnology in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 101-107.

MATTHEWS, R. S. Baird's Sandpiper near Washington, D. C.

Auk, xi, No. 4, Oct., 1894, p. 325.

Records the occurrence of a specimen of this species (now in the Museum collection) on the Potomac River, near Washington, Sept. 3, 1894.

MEARNS, EDGAR A. Description of a new species of Cotton Rat (*Sigmodon minima*) from New Mexico.

Proc. U. S. Nat. Mus., xvii, No. 994, July 19, 1894, pp. 129-130.

MERRILL, GEORGE P. On the formation of stalactites and gypsum incrustations in caves.

Proc. U. S. Nat. Mus., xvii, No. 985, July 23, 1894, pp. 77-81, pls. II-V.

Describes the peculiar vermicular and knurly stalactites of Wyandotte and Luray caves, and ascribes their formation to the action of capillarity. Also describes the peculiar curved and rosetteform gypsums from Mammoth and Wyandotte caves, ascribing their form to conditions of strain under which the spicules were pushed outward by growth from the bottom.

— The formation of sandstone concretions.

Proc. U. S. Nat. Mus., xvii, No. 987, July 23, 1894, pp. 87-88, pl. vi.

Describes the formation of concretions through the oxidizing influence of water and air on concretionary masses of marcasite.

— Notes on the petrography of the Paleozoic section in the vicinity of Three Forks, Montana.

Bull. U. S. Geol. Surv., No. 110, 1893 (1894), pp. 47-54, figs. 1, 2.

— [The methods of testing slate.]

Trans. Am. Inst. Civil Engineers, xxxii, Dec., 1894, pp. 540-541.

A discussion of Prof. Mansfield Merriam's paper on the strength and weathering qualities of roofing slate.

— The United States National Museum.

Cadet, Orono, Me., Mar., 1895, pp. 257-267, with plate.

A brief account setting forth the aims and present condition of the National Museum.

— Notes on some eruptive rocks from Gallatin, Jefferson, and Madison counties, Montana.

Proc. U. S. Nat. Mus., xvii, No. 1031, May 11, 1895, pp. 637-673.

Describes the petrographic character of a series of rocks collected by the author and Dr. A. C. Peale, of the U. S. Geological Survey, during several seasons' field work in the region mentioned.

— Disintegration of the granitic rocks of the District of Columbia.

Bull. Geol. Soc. Am., vi, 1895, pp. 331-332, with plate.

The author describes in detail the phases of the granitic disintegration, and gives analyses of fresh and disintegrated material. The disintegration is shown to have taken place since Cretaceous times, and to be accompanied by a comparatively small amount of decomposition. The theory is advanced that the disintegration is due mainly to hydration.

— [Marble.]

Johnson's American Cyclopædia, vi, 1895, pp. 539-540.

MERRILL, GEORGE P. [Hawaiian lavas.]

Rep. U. S. Coast and Geodetic Survey,
1893 (1895), appendix 12, pp. 630-633.

The author gives petrographic characters and results of specific-gravity determinations of samples submitted by Mr. E. D. Preston, and discusses briefly the results with regard to their bearing upon the density of the earth.

— Report on the Department of Geology in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.),
1892 (1893), pp. 205-217, pl. III.

ORTMANN, ARNOLD. Reports on the dredging operations off the west coast of Central America to the Galapagos, to the west coast of Mexico, and in the Gulf of California, in charge of Alexander Agassiz, carried on by the U. S. Fish Commission steamer *Albatross*, during 1891, Lieut. Commander Z. L. Tanner, U. S. N., commanding. XIV.—The Pelagic Schizopoda.

Bull. Mus. Comp. Zool., xxv, No. 8, Sept.,
1894, pp. 99-111, with plate.

The author gives a list of eighteen species, with their geographical and vertical distribution. Three species are described as new.

PALMER, WILLIAM. Plumages of the Young Hooded Warbler.

Auk, xi, No. 4, Oct., 1894, pp. 282-291, with
four text figures.

Describes the changes of plumage in both sexes in the young of the Hooded Warbler, and corrects some erroneous statements on these points in the literature of the species.

— An Asiatic Cuckoo in the Pribyloff Islands, Alaska.

Auk, xi, No. 4, Oct., 1894, p. 325.

Mentions the capture by himself of a specimen of *Cuculus canorus telephonus* (Heine), on St. Paul's Island, Alaska.

— Four additions to the birds of the Virginias.

Auk, xi, No. 4, Oct., 1894, pp. 333-334.

Records four species, *Acanthis linaria*, *Ammodramus caudacutus Nelsoni*, *Dendroica palmarum*, and *Helminthophila Bachmani*, new to the avifauna of the Virginias, and describes an immature specimen of the last-named species taken in King William County, Va.

PERGANDE, THEODOR. The Cotton or Melon Plant Louse (*Aphis gossypii*, Glover).

Insect Life, vii, No. 4, Mar., 1895, pp. 309-315.

Full notes are given, with a list of food plants, and a description of the species. It is shown for the first time that *Apis citrifolii*,

PERGANDE, THEODOR—Continued.

Ashm., *A. cucumeris*, Forbes, and *A. Forbesii*, Weed are synonyms of the above-named species.

POLLARD, CHARLES LOUIS. The genus *Zenobia*, Don.

Bull. Torrey Botan. Club, xxii, May 15,
1895, p. 231.

Separates *Zenobia*, Don. from *Andromeda* L., and recognizes two species, *Zenobia cassineifolia* (Vent.) and *Zenobia pulverulenta* (Willd.).

RATHBUN, MARY J. Notes on the crabs of the family Inachidæ in the U. S. National Museum.

Proc. U. S. Nat. Mus., xvii, No. 984, July
21, 1894, pp. 43-75.

Fifty-five species are noticed, of which eight are described as new. Two new genera and one new subspecies are also described.

— Descriptions of a new genus and four new species of crabs from the Antillean region.

Proc. U. S. Nat. Mus., xvii, No. 986, July
21, 1894, pp. 83-86.

(An advance sheet of this paper was published Mar. 30, 1894.)

RATHBUN, RICHARD. Report on the Department of Marine Invertebrates in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.),
1892 (1893), pp. 175-179.

RICHMOND, CHARLES W. A contribution to the life history of *Porzana cinereiceps*, Lawrence, with critical notes on some of its allies.

Auk, xii, No. 1, Jan., 1895, pp. 19-32.

An account of the habits of *Porzana cinereiceps*, with descriptions of the eggs, downy young, immature, and adult, followed by observations on the status of some allied species, and synonymy of *P. albicularis* and *P. cinereiceps*.

— On the status of Bischoff's Song Sparrow (*Melospiza insignis*, Baird).

Auk, xii, No. 2, Apr. 1895, pp. 144-150.

An attempt to show that this species should be recognized as distinct from *Melospiza cinerea*. A description of the bird is given, together with series of measurements, descriptions of the eggs, and a full synonymy of both species.

— Diagnosis of a new genus of Trogons (*Heterotrogon*), based on *Hapaloderma vittatum* of Shelley, with a description of the female of that species.

Proc. U. S. Nat. Mus., xvii, No. 1024, May
11, 1895, pp. 601-603.

A new generic name (*Heterotrogon*) is proposed for the species heretofore called *Hapaloderma vittatum*, and the female, previously unknown, is here described.

RICHMOND, CHARLES W., and KNOWLTON, FRANK HALL. Birds of south central Montana.

Auk, XI, No. 4, Oct., 1894, pp. 298-308.

An annotated list of 112 species observed during two seasons, mainly in Gallatin County, Mont.

RIDGWAY, ROBERT. Geographical, versus sexual, variation in *Oreortyx pictus*.

Auk, XI, No. 3, July, 1894, pp. 193-197, pl. vi.

The differences between *Oreortyx pictus* and *O. pictus plumiferus* are explained, and attention is directed to some erroneous statements made in the British Museum Catalogue concerning American game birds.

— *Colinus virginianus cubanensis* not a Florida bird.

Auk, XI, No. 4, 1894, p. 324.

Explains the error through which this bird was recorded as a North American species.

— Descriptions of twenty-two new species of birds from the Galapagos Islands.

Proc. U. S. Nat. Mus., XVII, No. 1007, Nov. 15, 1894, pp. 357-370.

The following species here described are new: *Nesominus Bauri*, *N. bindlæi*, *N. Adamsi*, *Certhidea Salvini*, *C. bifasciata*, *C. mentalis*, *C. albemarlei*, *C. luteola*, *Geospiza Barringtoni*, *G. propinqua*, *G. Bauri*, *G. albemarlei*, *G. fratercula*, *G. debiliostris*, *G. acutirostris*, *Camarhynchus rostratus*, *C. productus*, *C. Salvini*, *C. affinis*, *Pyrocephalus carolensis*, *P. intercedens*, *P. abingdoni*. The name *Geospiza intermedia* is tentatively proposed for a species from Charles Island, supposed to be separable from *G. assimilis* (Gould). Some critical remarks are offered on *Geospiza assimilis* (Gould), and *Pyrocephalus dubius*, Gould.

— Descriptions of some new birds from Aldabra, Assumption, and Gloriosa Islands, collected by Dr. W. L. Abbott.

Proc. U. S. Nat. Mus., XVII, No. 1008, Nov. 15, 1894, pp. 371-373.

The following species are described as new: *Zosterops aldabrensis*, *Z. madagascariensis gloriose*, *Cinnyris aldabrensis*, *C. Abbotti*, *Centropus insularis*, and *Caprimulgus aldabrensis*.

— Additional notes on the native trees of the Lower Wabash Valley.

Proc. U. S. Nat. Mus., XVII, No. 1010, Jan. 26, 1895, pp. 409-421, pls. x-xv.

— Report on the Department of Birds in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 147-152.

RILEY, CHARLES VALENTINE. Bees.

Insect Life, VI, No. 5, Sept., 1894, pp. 350-360, figs. 23-25.

RILEY, CHARLES VALENTINE—Cont'd.

This paper gives an account of the habits of bees, especially the honey bee, the more important special organs, and the species of the genus *Apis* and variations in *Apis mellifica*.

— The senses of insects.

Insect Life, VII, No. 1, Sept., 1894, pp. 33-41, figs. 10-14.

— Notes upon *Belostoma* and *Benacus*.

Proc. Ent. Soc. Wash., III, No. 2, Jan. 8, 1895, pp. 83-86, figs. 4-5.

Gives the structural characters of the genera mentioned.

— The eggs of *Ceresa bubalus*, Fab. and those of *C. taurina*, Fitch.

Proc. Ent. Soc. Wash., III, No. 2, Jan. 8, 1895, pp. 88-92, figs. 6-11.

— Notes from California: Results of Mr. Koebele's second mission to Australia.

Proc. Ent. Soc. Wash., III, No. 4, June 22, 1895, pp. 250-252.

Expresses the opinion that the predaceous insects introduced by Mr. Koebele on his second trip to Australia will not prove a success in exterminating California scale-insects.

— On oviposition in the Cynipidæ.

Proc. Ent. Soc. Wash., III, No. 4, June 22, 1895, pp. 254-273.

A review of the observations of Adler and Hartig on the oviposition of the Cynipidæ, with an account of observations of his own which indicated that the oviposition in this family follows no uniform system.

— Report on the Department of Insects in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 171-174.

RILEY, CHARLES VALENTINE, ASHMEAD, WILLIAM H., and HOWARD, LELAND O. Report upon the parasitic Hymenoptera of the island of St. Vincent.

Journ. Linn. Soc., Zoology, XXV, 1894, Nos. 159-160, pp. 56-254.

This paper, which was read June 29, 1893, embraces the following sections: (a) Introduction by C. V. Riley, with list of previously described parasitic Hymenoptera found in St. Vincent (pp. 56-61); (b) report on the parasitic Cynipidæ, by W. H. Ashmead (pp. 61-78), including synoptic tables of the species of 4 genera and describing 24 new species; (c) report on part of the Chalcididæ, by L. O. Howard (pp. 79-108), describing 4 new genera and 33 new species, redescribing more fully some previously known genera and species, and giving synoptic tables of the species of 2 genera; (d) report on part of the Braconidæ.

RILEY, CHARLES VALENTINE, ETC.—
Continued.

by W. H. Ashmead (pp. 108-138), giving synoptic tables of the species of 5 genera and describing 56 new species; (*e*) report on the Ichneumonidae, by W. H. Ashmead (pp. 138-143), describing 10 new species; (*f*) report on part of the Chalcididae, by W. H. Ashmead (pp. 143-188), giving synoptic tables of the species of 12 genera and describing 5 new genera and 72 new species; (*g*) report on the Proctotrypidae, by W. H. Ashmead (pp. 188-254), giving synoptic tables of the genera of the tribe Scelionini and of the species of 24 genera, and describing 105 new species.

ROBERTS, CHRISTOPHER II. The species of *Dineutes* of America north of Mexico.

Trans. Am. Ent. Soc., XXII, No. 3, July, 1895, pp. 279-288, pls. v, vi.

Twelve species are recognized and carefully described, of which three are new. New sexual characters are observed in the front legs.

ROBINSON, WIRT. A Flying Trip to the Tropics. | A Record of an Ornithological Visit | to the | United States of Colombia, South America | and to the Island of Curaçao, | West Indies, | in the year 1892. | By Wirt Robinson | Second Lieutenant, Fourth U. S. Artillery. | Cambridge | Printed at the Riverside Press | 1895. |

8-vo., pp. i-x, 1-194, with 108 illustrations.

An account, in the form of a journal of a trip to Colombia, and to the island of Curaçao, lasting fifty-four days. Much attention was directed to natural history, especially to birds. An annotated list of 91 species of birds observed in Colombia, and an additional list of 38 species of hummingbirds from Bogota are given; also a list, with notes, of 23 species observed on the island of Curaçao. Full bibliographies of works relating to Colombia and to Curaçao are appended, and lists of maps and zoological papers and works. Many illustrations are given in the text, and the following birds are illustrated by colored plates: *Ramphastos citreoleucus*, *Psittacula perspicillata*, *Eupsychortyx leucotis*, and *Icterus xanthornus curasensis*.

ROSE, JOSEPH NELSON. Some notes upon the tree Ipomoeas of Mexico.

Garden and Forest, VII, Sept. 12, 1894, p. 367, pls. 58, 59.

Ipomoea intrapilosa and *Ipomoea Wolcottiana* are described as new.

— Report upon a collection of plants made in the States of Colima and Sonora, Mexico, by Edward Palmer, in the years 1890 and 1891.

Contrib. U. S. Nat. Herbarium., I, No. 9, Jan. 31, 1895, pp. 293-434, pls. 24-35, figs. 1-10, frontispiece.

ROSE, JOSEPH NELSON—Continued.

This paper is based upon a collection of plants made by Dr. Palmer in western Mexico in the years 1890 and 1891. Over 50 species are described as new.

— A blue water lily from Mexico.

Garden and Forest, VIII, May 22, 1895, p. 205, fig. 31.

Castalia elygans is here described and figured.

(See also under JOHN M. COULTER.)

SCUDDER, SAMUEL H. The Cranberry Girdler (*Crambus topiarius*, Zell.).

Insect Life, VII, No. 1, Sept. 1894, pp. 1-5, fig. 1.

An account of the damage done by the larvae of this moth to cranberry meadows at Plymouth, Mass.

SHUFELDT, ROBERT W. Lectures on biology. [Read before the Catholic University of America.] No. 1 (continued).

Am. Field, XLII, No. 1, New York and Chicago, Saturday, July 7, 1894, pp. 6-8.

— Lectures on biology. No. 2. Its relation to geology.

Am. Field, XLII, No. 2, July 14, 1894, pp. 31-32.

— Lectures on biology. No. 2 (continued). Its relation to geology.

Am. Field, XLII, No. 3, July 21, 1894, pp. 55-56.

— Lectures on biology. No. 3. Its value as a study.

Am. Field, XLII, No. 4, New York and Chicago, Saturday, July 28, 1894, pp. 78-79.

— On cases of complete fibulae in existing birds.

Ibis, VI, No. 23, London, July, 1894, article XXIX, pp. 361-366, figs. 1, 2

A review of the literature upon the subject, and adding two apparently new cases of a complete fibula in birds; the one being *Plotus anhinga*, and the other *Sula piscator*. Fig. 1 represents, natural size, the right tibio-tarsus and fibula of *Plotus anhinga*, and fig. 2 the corresponding bones as found in a skeleton of *Sula piscator*. These specimens are in the U. S. National Museum, and exhibit very clearly the condition described.

— On the affinities of the Steganopodes.

Proc. Zool. Soc. Lond., Feb. 20, 1894, published July, 1894, pp. 160-162.

The affinities here suggested are based upon a study of all the skeletons of Steganopodous birds in the collections of the U. S. National Museum, as well as those in the private cabinet of the author. Many comparisons are made with related groups. The present brief paper is simply an abstract made from the original MSS. and giving the taxonomic scheme for the group.

SHUFELDT, ROBERT W. [Editorial on] The Water Ouzel or Dipper. By E. N. Lowe.

Great Divide, XI, No. 7, Denver, Colo., July, 1894, p. 176.

The figure of "The American Dipper" is by Dr. Shufeldt, being a copy of the one given by Baird, Brewer, and Ridgway in their "History of North American Birds." A brief description of the bird, its nest, and its habits are given, and the author's former opinion as to its affinities are restated, to the effect that in so far as anatomical structure seems to indicate, the nearest American ally of *Cinclus* is the Oven bird (*Sturus*).

— The American Barn Owl. Some peculiar nesting sites.

Great Divide, XI, No. 7, July, 1894, pp. 176-177. One figure in text.

Points out that neither Audubon or Wilson described the breeding habits of this owl (*Strix pratineola*), but that this has been very fully done by more recent writers. Gives instances of their breeding in burrows in the ground, and also the case cited by Bendire from the account of Mr. Emerson, of Haywards, Cal., where a pair of these owls laid twenty-four eggs on the tin roof of a house, where, completely unprotected, they spoiled. An excellent and reduced copy of Brehm's figure of this bird is presented.

— [Review of] Bird-nesting in Northwest Canada. By Walter Rainie. Illustrated. Hunter, Rose & Co., Toronto: 1892.

Auk, XI, No. 3, New York, July, 1894, pp. 247-248.

An adverse view of the work of a now notorious swindler in his traffic with museums and collectors of the eggs of birds, especially those of North America. The book is full of errors, and apparently was written to give scientific coloring to the unprincipled dealings of its author.

Many of the misstatements in the volume were detected by studies of the unrivaled collection of eggs of the birds of this country in the U. S. National Museum.

— Lectures on biology. No. 3 (continued). Its value as a study.

Am. Field, XLII, No. 5, New York and Chicago, Saturday, Aug. 4, 1894, pp. 104-105.

— Lectures on biology. No. 3 (continued). Its value as a study.

Am. Field, XLII, No. 6, New York and Chicago, Saturday, Aug. 11, 1894, pp. 128-129.

— Lectures on biology. No. 4. Its growth and future influence.

Am. Field, No. 7, New York and Chicago, Saturday, Aug. 18, 1894, pp. 151-153.

SHUFELDT, ROBERT W. Lectures on biology. No. 4 (continued). Its growth and future influence.

Am. Field, No. 8, New York and Chicago, Saturday, Aug. 25, 1894, pp. 177-178.

This lecture concludes the series. The lectures were subsequently printed in full, with a historical "Preface."

— On the osteology of Cranes, Rails, etc.

pp. 1, 2, Aug., 1894.

Reprinted from Proc. Zool. Soc. Lond., Mar. 20, 1894, pp. 250-251.

This is simply a brief abstract from the author's original MSS. giving an account of the osteology and affinities of this group of birds. It is based upon a study of the material in his private collection and also that of the U. S. National Museum.

A scheme of classification is presented that divides the suborder Paludicolæ primarily into two superfamilies, viz: the Gruoidea and the Ralloidea. The first named contains the family Gruidae, represented by the genus *Grus*; and the family Aramidæ by *Aramus*. The Ralloidea, with the single family Rallidæ, is made to contain the genera *Rallus*, *Crex*, *Porzana*, *Ionornis*, *Gallinula*, and *Fulica*.

— Giants among Woodpeckers.

Great Divide, X, No. 8, Aug., 1894, p. 189. One figure in text.

A brief account of the Ivory-billed Woodpecker, calling attention to the fact that by the misinformed the Pileated Woodpecker is frequently mistaken for the Ivory-billed, in those parts of the country where both species occur together. A good copy of Brehm's figure of the bird illustrates this article.

— The introduction of birds.

Great Divide, XI, No. 8, Denver, Colo., Aug., 1894, p. 189. One figure in text.

Gives a brief and popular account of many of the birds that have been introduced into the United States from foreign countries, and invites especial attention to the introduction of the Caperally, of which species a figure of the cock and hen illustrates the article. Mounted specimens of this bird are to be found in the exhibition series of the Museum, and these were made use of in describing the appearance of the two sexes.

— Notes on some western animals.

Great Divide, XI, No. 9, Chicago, Sept., 1894, pp. 218-219.

Makes brief reference to quite a number of western mammals and birds, describing their habits and geographical range. Figures are given of the Round-tailed Muskrat (*Neofiber Alleni*), after True's drawing in the Proceedings U. S. National Museum; of the Woodchuck (*A. monax*); and of the Canada Porcupine (*E. d. dorsatus*).

SHUFELDT, ROBERT W. Notes on the Steganopodes, and on fossil birds' eggs.

Auk, XI, No. 4, New York, Oct., 1894, pp. 337-339.

Presents a scheme of classification for the Suborder Steganopodes, based upon a study of the osteological material representing that group in the author's collection, and in the collections of the U. S. National Museum. The article is but an abstract from original MSS.

Reference is also made in this article to such specimens of fossil eggs of birds as have come to the notice of the author, as those in the collection of the U. S. National Museum, and also those described by M. Alp. Milne-Edwards and others.

— On the osteology of certain Cranes, Rails, and their allies, with remarks upon their affinities.

Journal of Anatomy and Physiology, XXIX (New series), IX, pt. 1, London, Oct., 1894, article 5, pp. 21-43. Three figures.

This paper is an extensive and illustrated abstract from the author's unpublished MSS. It is based upon the osteological material in the collections of the U. S. National Museum, and in his private cabinet, and such other material as has been lent by the British Museum and British naturalists. A history of the various proposed classifications of the group (*Paludicola*) is presented; also a synopsis of the osteological characters of *Rallus*, *Aramus*, and *Grus* is given. Figures of the lateral views of the skulls of a *Rallus*, of *Aramus giganteus*, and of a *Grus* are also given.

— Deep-sea fishes.

Great Divide, XI, No. 10, Chicago, Oct., 1894, pp. 240-241. Five figures in text.

A popular account of deep-sea fishing in various parts of the world, with descriptions of many deep-sea forms. References are made to the publications upon this subject by the U. S. National Museum, and to the work accomplished by the U. S. Fish Commission and by British Naturalists in the Indian Ocean. The Torch-fish (*Linophryne lucifer*) is figured, as are also five of the deep-sea fishes of India (after Alcock) viz: *Neobythites staititicus*, *Odontostomus atratus*, *Bathypereis platurhynchus*, and *Physiculus argyropastus*.

— The seventeen-year Cicada and some of its allies.

Popular Science News, XXVIII, No. 10, New York, Oct., 1894, pp. 154-155, with figures.

A somewhat extended account of the natural history of the Cicadidae based upon personal observations of the author, upon the collections in the Department of Entomology in the U. S. National Museum, and the writings of Riley, Packard, Kirby, and others. Numerous figures are given of *Cicada septendecim*, *C. pruinosa*, and *Thopha saccata* of Australia.

SHUFELDT, ROBERT W.—Continued.

Figures of the eggs and metamorphoses of these insects are also presented, together with a drawing of the twig of a tree showing the peculiar puncturing done by Cicadas.

— On the affinities of the Steganopodes: A correction.

Proc. Zool. Soc. London, Nov. 6, 1894, p. 608.

Makes a correction in the taxonomic scheme proposed by the author for the Steganopodes in the Proceedings of the Zoological Society for 1894, p. 160. As corrected, the author is of the opinion that the suborder Steganopodes is divisible into three superfamilies, viz, the Pelecanoidea, the Phaëthontoidea, and the Fregatoidea. In the first superfamily are arrayed the families Pelecanidae, Phalacrocoracidae, Anhingidae, and Sulidae; in the second, the Phaëthontidae; and in the last the Fregatidae.

— Pelicans.

Popular Science News, XXVIII, No. 11, New York, Nov., 1894, pp. 165-166. One figure.

This is a brief account of the natural history of several species of Pelicans and their allies in various parts of the world. Reference is also made to the mythical legends about these birds, and to such fossil Pelicans as have been described by the author and others. The article is illustrated by a good figure of the Brown Pelican drawn by Dr. Shufeldt from the large painting of that species by Audubon.

— King snakes.

Observer, v, No. 11, Portland, Conn., Nov., 1894, pp. 323-329. One figure.

Contains brief references to the various species of King Snakes (*Ophibolus*) of the United States, as represented in the collections of the U. S. National Museum, and described in its publications.

A figure of a young king snake, *Ophibolus g. getulus* is given. (From a photograph by the author; natural size.)

— The photography of birds.

Great Divide, XI, No. 11, Chicago, Nov., 1894, pp. 263-264. Three figures.

Good photographs of living specimens of wild and domestic animals of all kinds, as well as the various structures they build for their habitation and the rearing of their young, have proved of very great service to naturalists, taxidermists, and many others. In the present contribution Dr. Shufeldt deals with the subject of the photography of birds, the methods employed, and some of the many difficulties to be overcome. Half-tone figures of living specimens of the Screech Owl (*Megascops*), the Great Horned Owl (*Bubo*), and Gambel's Partridge (*Callipepla*) illustrate the article. The last named was taken at the U. S. National Museum.

— Storks.

Nidologist, II, No. 4, Alameda, Cal., Dec., 1894, pp. 45-47. Three figures in text.

SHUFELDT, ROBERT W.—Continued.

Three half-tone figures illustrate this article, being reproductions of photographs of the Common White Stork of Europe (*Ciconia alba*). The most interesting one of these gives a Stork in full flight the moment it quits its nest, while the other two show them in different attitudes. Brief popular accounts are given of various species of storks found in different parts of the world, and several legends in regard to some of them are also referred to.

— Grebes.

Popular Science News, XIX, No. 1, New York, Jan., 1895, pp. 3-4.

This is a popular account of the birds called Grebes, and their allies, based upon the author's extended scientific work in the group, in which latter the collections of the U. S. National Museum have been very extensively used. It gives the classification and relationships of the *Pygopodes*, and makes constant reference to those occurring in the United States and elsewhere, as well as the probable origin of the Loons and Grebes in time. Of this it is pointed out that they are the descendants of a now extinct ancestral stock of birds, from which those remarkable fossil forms of toothed divers of the Cretaceous beds of Kansas, described by Marsh—the *Hesperornithide*—were an offshoot. The article is illustrated by a half-tone of the author, and figures of the Horned Grebe, drawn by Dr. Shufeldt after Audubon.

— [Letter to Editor. Reply to Professor Coe.]

Popular Science News, XXIX, No. 1, New York, Jan., 1895, p. 7.

Sustains the opinion of Dr. Günther, of the British Museum, in that the Rattlesnake (*Crotalus*) is incapable of sounding its rattle when from any reason the interspaces between the several individual rattles are filled with water. This fact has been noted at the Zoological Gardens of London in the case of these reptiles. Professor Coe holds a contrary opinion, based upon personal observation and experiments with rattles taken from the snakes.

— The Loons.

Popular Science News, XXIX, No. 2, New York, Feb., 1895, pp. 17-18. One figure in text.

A popular description of the Loons of the United States, their habits, plumage, and geographical ranges, much of the information being derived from the specimens contained in the collections of the U. S. National Museum. Reference is made to the rarity of the Black-throated Diver in the latter, of which species there are no skins in the collection, and only a few mounted examples.

A figure of *Urinator arcticus* is given, drawn from one of these specimens.

SHUFELDT, ROBERT W. Beauty from an Indian's point of view.

Cosmopolitan, VIII, No. 5, New York, Mar., 1895, pp. 591-598. Nine figures in text.

In this contribution the question of the estimation of female beauty in several of the tribes of North American Indians is dealt with. Descriptions, comparisons, and the reproductions from photographs of a number of women considered to be belles in the several tribes to which they belong are given. Among these are to be noted selections from the Lagunas, the Navajoes, the Zuñians, the Apaches, the Yumas, the Moquis, and the Mojaves.

To these descriptions (anatomical, anthropological, and otherwise), are added accounts of the various kinds of dress and trinkets worn by these women as a matter of personal adornment.

— Anks and their allies.

Popular Science News, XXIX, No. 3, New York, Mar., 1895, pp. 33-34, with figures.

A great many of the skins and mounted specimens, as well as all the osteological material representing this group of birds in the collections of the U. S. National Museum, have been extensively studied by the author. Much of this has already been published, while still more remains in MSS. It is upon this that the present popular article is based. The article is illustrated with drawings by Dr. Shufeldt, such as the Whiskered Auklet (after Ridgway), and the Great Auk. The latter was loaned by the Century Company, the original having appeared in *The Century Magazine*, where it illustrated another article by the author (Jan., 1886).

— On a method of modeling certain invertebrata for museum exhibition.

Journ. Institute Jamaica, XI, No. 2, Kingston, Jamaica, Apr., 1895, pp. 179-172.

Presents a fairly complete account of the methods employed at the U. S. National Museum to preserve and mount various forms of invertebrates, both marine and terrestrial. The modeling of an *Octopus* is given as an example, and the material used in making gelatin casts is likewise described, and its formula presented.

Reference is also made to the mode of preparing models from zoological figures and photographs of the specimens.

— Some Fort Wingate reminiscences. New Mexico.

Nidologist, II, No. 8, New York, Apr., 1895, pp. 102-105. Two plates.

In 1888-89 the author was stationed, as post surgeon, at Fort Wingate, N. Mex., and during the latter part of this period he passed through the ordeal of a military court-martial, one of the most famous in the history of this country. It practically tested the question as to whether or not an officer on duty could avail himself of his spare time for the purpose of scientific investigation.

SHUFELDT, ROBERT W.—Continued.

A varied collection was made at Wingate by Dr. Shufeldt for the U. S. National Museum, but the most of his time was given over to the publication of his researches, the whole representing several volumes. A portion of this was published by the Museum, while the major part of it appeared in London. A fine plate of the "Navajo church," as well as one of the author's study at Wingate, illustrates the contribution.

— Some of the "Outliers" among birds.

Popular Science Monthly, XLVI, No. 6, New York, Apr., 1895, pp. 760-780. Ten figures in text.

Numerous types of birds still puzzle avian taxonomers, and no unanimity of opinion yet exists as to their affinities. Examples of these may be seen in such forms as the Sun Bittern (*Eurypyga*) and others.

In the present article nearly all of these puzzling species are described and figured, and the various opinions held by ornithologists upon their kinships are given in greater or less detail. In his studies of these "outlying types" Dr. Shufeldt made very extensive use of the collections of the U. S. National Museum.

— Modern taxidermy.

Am. Field, XLVII, No. 20, New York and Chicago, Saturday, May 18, 1895, pp. 463-464, with two figures in text; No. 21, May 25, pp. 488-490, with six figures in text.

Popular articles based upon the author's well-known report upon "Scientific Taxidermy for Museums," published by the U. S. National Museum. The half-tones illustrating these articles were made by the American Field Publishing Company direct from the original photographs taken at the Museum, and they constitute a very useful series of zoological figures.

— Gulls and their allies.

Popular Science News, XXIX, No. 5, New York, May, 1895, pp. 65-66, with figures.

Partly scientific in character, this popular account is based upon the author's studies of all the osteological and other material in the collections of the U. S. National Museum, and his private cabinet, illustrating the group of birds known as the Longipennes and their allies. The major portion of these researches are in MSS. and ready for publication, with numerous original figures.

The present article is illustrated by a good electrocut of Ross's Gull (adult male and young female), redrawn by the author from J. H. Ridgway's colored plates in the Report of the International Polar Expedition to Point Barrow, Alaska, by Lieut. P. H. Ray, U. S. A.

— [Review of] A Handbook of the Birds of Eastern North America. By Frank M. Chapman. New York, D.

SHUFELDT, ROBERT W.—Continued.

Appleton & Co., 1895. 12 mo, pp. 1-420, with plates and text figures.

Nidologist, II, No. 9, New York, May, 1895, pp. 127-128.

In general, a very favorable notice of the work, the principal exceptions being that its author is taken to task for not employing the metric system for the purposes of measurement; and secondly, that he perpetuates some very antiquated notions in regard to the classification of some of the groups of birds. For example, Mr. Chapman retains the Flamingoes in an order by themselves, and yet places the American Vultures (Cathartidae) as a family in the order Raptores, in total disregard of what is now known of the structure of these several forms.

— Some famous butterflies.

Great Divide, XII, No. 5, Chicago, May, 1895, pp. 104-105, with figures.

Contains more or less full descriptions of the "dead-leaf butterflies" of Java (*Kallima paralekta*) and its peculiar habits, and also the related species *K. inachis*, the first named being figured. Brief accounts are given also of several South American forms, as *Dynastor napoleon*, *Euptychia tricolor*, *Perisama euricta*, and others. The species last mentioned are figured, as well as *Leptocircus curions*. Reference is made by the author to some of the American butterflies collected by him in New Orleans and now forming a part of the Museum collection.

— [Review of] The pterylography of certain American Goatsuckers and Owls. By Hubert Lyman Clark. *Proc. U. S. Nat. Mus.*, XVII, 1894, pp. 551-572, figs. 1-11.

Nidologist, II, No. 10, New York, June 1895.

A favorable notice of a brief but none the less important contribution to the pterylography of North American birds.

After a careful study of the pteryloses of a sufficient number of Owls and Goatsuckers, Mr. Clark naturally comes to the conclusion "that the Caprimulgi are related to Striges, and not very distantly either—probably a branch from the early part of the Strigine stem," an opinion in which his reviewer most fully concurs.

— Lectures on biology.

pp. I-III, 1-102.

Reprinted from the *American Field*, XLI, No. 26, to XLII, No. 8.

These are the biological lectures given in full, as they were delivered at the Catholic University of America by Dr. Shufeldt (together with a historical preface), during the month of January, 1892. The entire field of biology is reviewed with greater or less thoroughness, and as many biological laws conflict with the dogmas entertained by the Church of

SHUFELDT, ROBERT W.—Continued.

Rome, these lectures met with very marked disfavor from such quarters. Through the operation of Catholic influence it was found impossible for the author to print them, either in Europe or America, until two years after their delivery, and the reasons therefor are set forth in the preface. Not a few references are made to the work accomplished by the U. S. National Museum and to its collections.

— [Article on the Mocking Bird.]

Dictionary of Birds. By Alfred Newton, assisted by Hans Gadow, with contributions from Richard Lydekker, B. A., F. R. S., Charles S. Roy, M. A., F. R. S., and Robert W. Shufeldt, M. D. (late U. S. Army). Pt. III. London, 1894, pp. 582-585.

A life history of *Mimus polyglottus*, contributed to Newton's Dictionary of Birds, and one that has been very favorably spoken of by not a few British ornithologists, notwithstanding the fact that its author says: "To compare him with his only rival, the European Nightingale, seems to me quite out of place, though I will say that my faith in the powers of the Mocking-bird is so firm, that I believe were he successfully introduced into those countries where the Nightingale flourishes, that princely performer might some day wince as he was obliged to listen to his own most powerful strains poured forth with all their native purity by this king of feathered mockers, the subject of the present notice."

SIMPSON, CHARLES TORREY. Types of *Anodonta dejecta* rediscovered.

Nautilus, VIII, No. 5, Sept., 1894, pp. 52-53.

The types of *Anodonta dejecta*, Lewis, which were in the National Museum collection, were rediscovered by the writer in examining some duplicate material, and prove to be the same as his *A. mearnsiana* from the Pacific drainage. The locality, "head of Arkansas River," given for Lewis's types is no doubt erroneous.

— *Patella* (Helcioniseus) *nigrisquamata*, Rve.

Nautilus, VIII, No. 8, Dec., 1894, pp. 91-92.

The writer shows that the shell named *Patella boninensis* by Pilsbry is only an adult form of *P. nigrisquamata*, named long ago by Reeve.

— Distribution of the land and fresh-water mollusks of the West Indian region and their evidence with regard to past changes of land and sea.

Proc. U. S. Nat. Mus., XVII, No. 1011, Jan. 26, 1895, pp. 425-450, pl. XVI, figs. 1-8.

In this paper some account is given of the means of distribution of land and fresh-water snails. The theory is advanced that the land-snail fauna of the Greater Antilles is ancient and has developed on the islands, which formerly were more elevated and united together

SIMPSON, CHARLES TORREY—Cont'd.

as well as to Middle America, and, by way of the Bahamas, to South Florida; that a subsidence separated the islands from each other and from Middle America, leaving only the summits of the mountains above the sea, and that they have since, during a period of uplifting, reached their present elevation; that the land-snail fauna of the Lesser Antilles is closely related to that of South America, and that there is no evidence that the Lesser Antilles have ever been united to the Greater Antilles. These deductions are drawn largely from biological evidence.

— Note on *Unio oregonensis*, Lea.

Nautilus, VIII, No. 10, Feb., 1895, pp. 116-118.

The four type specimens of *U. oregonensis*, Lea are the only ones known, and the writer, in carefully comparing them with other species, discovered that they were identical with the forms which Lea had named *Unio Rowelli* and *Unio McNeili* from Central America. The locality of *U. oregonensis* (Oregon) is undoubtedly erroneous.

— *Unio ochraceus* and *U. cariosus*.

Nautilus, VIII, No. 11, Mar., 1895, pp. 121-123. Two wood cuts.

In this paper an attempt is made to point out the differences between the closely related *U. cariosus* and *U. ochraceus*, and to show that both are valid species.

SMITH, JOHN B. Smithsonian Institution. | United States National Museum. | — | Bulletin | of the | United States National Museum. | No. 48.

Contribution toward a Monograph of the Insects | of the Lepidopterous Family Noctuidæ of | Boreal North America.—A Revision | of the Deltoid Moths. | By | John B. Smith, Sc. D., Professor of Entomology in Rutgers College. | — | Washington: | Government Printing Office. | 1895.

8vo, pp. 1-129, pls. I-XIV.

The introduction (pp. 1-13) discusses the systematic position of the group and its components. They are divided into three tribes: Hellini, Hermiini, and Hyphenini, and a synopsis of the 19 genera is given (pp. 13-14). The genera *Pseudorygia* and *Rivula* are excluded from the Deltoids. The main part of the work (pp. 15-118) gives complete descriptions of the genera and species, with full synonymy, synoptic tables, and geographical distribution. Seventy-three species are recognized as valid (listed on pp. 119-120), of which eight are described as new. Pls. I-IX give excellent photo-engravings of all species, and pls. X-XIV illustrate structural characters.

STEARNS, ROBERT E. C. The shells of the Tres Marias and other localities

STEARNS, ROBERT E. C.—Continued.
along the shores of Lower California
and the Gulf of California.

Proc. U. S. Nat. Mus., xvii, No. 996, July 19,
1894, pp. 139-204.

— *Helix (Arianta) coloradoensis*: A new
locality.

Nautilus, viii, No. 3, July, 1894, p. 29.

In this paper Dr. Stearns reports this recently
described species from Mountain Springs, Col-
orado Desert, San Diego, Cal.

— A new variety of *Ocenebra circum-*
terta, Stearns.

Nautilus, ix, No. 2, June, 1895, p. 16.

Dr. Stearns calls attention to a variety of a
pale orange color, with bandings of deeper
orange. He has named it var. *aurantia*.

STEJNEGER, LEONHARD. Notes on a
Japanese species of Reed Warbler.

Proc. U. S. Nat. Mus., xvii, No. 997, July
21, 1894, pp. 205-206.

Attention is called to the fact that a Reed
Warbler recently named *Locustella hondoensis*
by the author had been previously described
as *Locustella pleskei* by Taczanowski, whose
name has precedence over the former. A syn-
onymy of the species is added.

— Description of *Uta Mearnsi*, a new
lizard from California.

Proc. U. S. Nat. Mus., xvii, No. 1020, Nov.
30, 1894, pp. 589-591.

— Arctic notes on the habits of certain
rare northern birds in Commander Is-
lands and Kamtchatka.

Museum, i, No. 2, Dec., 1894, pp. 53-58;
No. 3, Jan., 1895, pp. 85-87; No. 4, Feb.,
1895, pp. 101-102.

Editorial abstracts from Bulletin No. 29,
U. S. National Museum.

— Notes on Butler's Garter Snake.

Proc. U. S. Nat. Mus., xvii, No. 1021, May
11, 1895, pp. 593-594.

Notes on a second specimen of *Thamnophis*
Butleri.

— On the specific name of the Coach-
whip Snake.

Proc. U. S. Nat. Mus., xvii, No. 1022, May
11, 1895, pp. 595-596.

The correct specific name is shown to be
Bascantion flagellum.

— Description of a new Salamander
from Arkansas, with notes on *Ambys-*
toma annulatum.

Proc. U. S. Nat. Mus., xvi, No. 1023, May
11, 1895, pp. 597-599.

Desmognathus Brimleyorum is described as
a new species.

STEJNEGER, LEONHARD. Report on
the Department of Reptiles and
Batrachians in the U. S. National Mu-
seum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.)
1892 (1893), pp. 155-157.

STILES, CHARLES WARDELL. Notes on
parasites.

Veterinary Journal (London), xxxix, No.
230, Aug., 1894, pp. 107-110, figs. 1-4.

Reprinted from Johns Hopkins Hospital
Bulletin, No. 40, May, 1894, pp. 57-58 (Notes on
Parasites—26: *Distoma (Mesogonimus) Wester-*
manni. Discovery of a Parasite of Man, new
to the United States).

— The anatomy of the large American
Fluke (*Fasciola magna*), and a compari-
son with other species of the genus
Fasciola, s. st. (containing also a list
of the chief epizootics of *Fascioliasis*
(Diatomatosis), and a Bibliography of
Fasciola hepatica, by Albert Hassall.

Journ. Comp. Med. and Vet. Arch., xv,
No. 5, Oct., 1894, pp. 299-313; No. 6,
Nov., 1894, pp. 407-417; No. 7, Dec.,
1894, pp. 457-462; xvi, No. 3, Mar., 1895,
pp. 139-147; No. 4, Apr., 1895, pp. 213-
222; No. 5, May, 1895, pp. 277-282. Eight
plates.

The first parts of this article appeared in the
same journal.

— Notes on parasites—27. Experimen-
tal Trichinosis in *Spermophilus 13-*
lineatus.

Centralb. f. Bakteriologie u. Parasitenk., xvi,
No. 19, Nov. 3, 1894, pp. 777-778.

Reprinted in the *Veterinary Magazine*, i, No.
11, Nov., 1894, pp. 727-728.

— Notes on parasites—28. New Amer-
ican finds of Sarcosporidia.

Veterinary Magazine, i, No. 11, Nov., 1894,
pp. 728-729.

Abstracted as "Nouvelles espèces améri-
caines de Sarcosporidies" (Résumé), *Bull. Soc.*
Zool. de France, xix, (séance du 11 Déc.), 1894,
p. 160.

— Notes sur les parasites—31. Une
phase précoce des Ténias du lapin
(notice préliminaire).

Bull. Soc. Zool. de France, xix (séance du
11 Déc.) 1894, pp. 163-165.

Translated as "Notes on parasites—31. An
early stage of rabbit tapeworm," *Veterinary*
Magazine, ii, No. 1, Jan., 1895, pp. 32-33.

— Notes on parasites—35. Errata to
notes 21, 28, 29 and 30.

Veterinary Magazine, ii, No. 1, Jan., 1895,
pp. 33-34.

Abstract in *Bull. Soc. Zool. de France*, xx,
No. 2, Feb., 1895, p. 31.

STILES, CHARLES WARDELL. Notes on parasites—33. On the identity of *Tenia Brandti*, Cholodkowsky, 1894, with *Tenia Giardi*, Moniez, 1879, and *Tenia orilla*, Rivolta, 1878.

Centrabl. f. Bakteriöl. u. Parasitenk., 1. Abt., XVII, Nos. 7-8, Feb. 28, 1895, pp. 254-256.

Reprinted in the *Veterinary Magazine*, II, No. 4, Apr., 1895, pp. 217-220.

— Notes on parasites—34. On the presence of adult Cestodes in hogs.

Centrabl. f. Bakteriöl. u. Parasitenk., 1. Abt., XVII, Nos. 7-8, Feb. 28, 1895, pp. 256-257.

Reprinted in the *Veterinary Magazine*, II, No. 4, Apr., 1895, pp. 220-222.

— Notes on parasites—36. A double-pored Cestode, with occasional single pores.

Centrabl. f. Bakteriöl. u. Parasitenk., 1. Abt., XVII, Nos. 13-14, Apr. 16, 1895, pp. 457-459. One figure.

Reprinted in the *Veterinary Magazine*, II, No. 4, April, 1895, pp. 222-225.

— Notes on parasites—37. A bibliography of "Notes on Parasites" (Notes sur les Parasites, Bemerkungen über Parasiten)—Nos. 1-31, inclusive, published 1891-1894, inclusive.

Veterinary Magazine, II, No. 4, Apr., 1895, pp. 225-228.

— Notes sur les parasites—32. De la rareté du *Tenia solium* dans l'Amérique du Nord.

Bull. Soc. zool. de France, XX, No. 5, Mai, 1895, pp. 127-131.

Translated as "Notes on Parasites—32. On the rarity of *Tenia solium* in North America." *Veterinary Magazine*, II, No. 5, May, 1895, pp. 281-286.

— Notes on parasites—38. Preliminary note to "A revision of the adult Leporine Cestodes."

Veterinary Magazine, II, No. 6, June, 1895, pp. 341-346.

— Notes on parasites—39. *Pyrosoma*, *Apiosoma*, and *Piroplasma*.

Veterinary Magazine, II, No. 6, June, 1895, p. 346.

Translated as "Bemerkungen über Parasiten—39. *Pyrosoma*, *Apiosoma* und *Piroplasma*, Gattungsnamen des Texasleberparasiten." *Centralbl. f. Bakteriöl. u. Parasitenk.*, 1. Abt., XVII, No. 9-10, 1895, p. 282-283.

— Report on a parasitic Protozoan observed on the fish in the aquarium.

Bull. U. S. Fish Com., 1893 (1894), pp. 173-190, pls. 11, 12.

STILES, CHARLES WARDELL—Cont'd.

Summary translated by René Paratre in *Bull. Soc. Cent. d'Agriculture de France*, 2d sér., VI, Nos. 7-9, July-September, 1894, pp. 165-167, pl. 1.

STILES, CHARLES WARDELL, and HASSALL, ALBERT. Notes on parasites—29. A new species of intestinal fluke in the Cotton-tail Rabbit (*Lepus sylvaticus*, Bachman) and in the Northern Hare (*L. americanus*, Erxleben).

Veterinary Magazine, I, No. 11, Nov., 1894, pp. 729-737. Eight figures.

The "Summary" (pp. 736-737) appeared as "Notes sur les Parasites—29. Nouvelle espèce de Douve intestinale (*Distomum tricolor*) chez le Lapin à queue cotonneuse (*Lepus sylvaticus* Bachman) et chez le Lièvre du Nord (*Lepus americanus* Erxleben)" (Résumé), *Bull. Soc. Zool. de France*, XIX (séance du 11 Déc.), 1894, pp. 160-162, fig. 1.

— Notes on parasites—30. *Distoma (Polyorchis) molle* (Leidy, 1856) S. and H., 1894.

Veterinary Magazine, I, No. 11, Nov., 1894, pp. 737-742. Three figures.

The "Summary" appeared as "Notes sur les Parasites—30. *Distomum (Polyorchis) molle* (Leidy, 1858 [read 1856]), (Wardell, Stiles, et Hassall, 1894)," (Résumé), *Bull. Soc. zool. de France*, XIX (séance du 11 Déc.), 1894, pp. 162-163, fig. 2.

STONE, WITMER. The | Birds of Eastern Pennsylvania | and | New Jersey, | with Introductory Chapters on | Geographical Distribution and Migration. | Prepared under the direction of the | Delaware Valley Ornithological Club. | By | Witmer Stone, | Conservator Ornithological Section Academy of Sciences of Philadelphia, | — | Philadelphia. | Delaware Valley Ornithological Club. | 1894.

8vo, pp. i-vii, 1-185, frontispiece and two maps.

An annotated list of 349 species of birds ascertained to occur within the limits of eastern Pennsylvania and New Jersey, preceded by chapters devoted to "Geographical Distribution of Birds" and "Bird Migration." A full bibliography is added.

TAYLOR, W. E. The Box Tortoises of North America.

Proc. U. S. Nat. Mus., XVII, No. 1019, May 11, 1895, pp. 573-588, figs. 1-7.

TOWNSEND, C. H. TYLER. Report on the Mexican Cotton-Boll Weevil in Texas. (*Anthonomus grandis*, Boh.)

Insect Life, VII, No. 4, Mar., 1895, pp. 295-309, figs. 30-31.

TOWNSEND, C. H. TYLER—Continued.

An account of the introduction of *Anthonomus grandis*, Bob., from Texas, and a record of its life history, habits, parasites, and probable enemies, together with an account of its spread, its present condition in Texas, method of importation, and the extent of damage which it has caused.

TRUE, FREDERICK W. Notes on some skeletons and skulls of porpoises of the genus *Prodelphinus*, collected by Dr. W. L. Abbott in the Indian Ocean.

Proc. U. S. Nat. Mus., xvii, No. 982, July 19, 1894, pp. 33-37.

Describes skeletons of species of *Prodelphinus* in connection with accounts of external coloration from Dr. Abbott's notes, the correlation being of much importance in determining species in this group.

— Diagnoses of new North American mammals.

Proc. U. S. Nat. Mus., xvii, No. 999, Nov. 15, 1894, pp. 241-243.

An advance sheet of this paper was published April 26, 1894.

— On the rodents of the genus *Sminthus* in Kashmir.

Proc. U. S. Nat. Mus., xvii, No. 1004, Nov. 15, 1894, pp. 341-343.

Remarks are given on the distribution of the genus in Asia. *S. flavus* is made a new species on the basis of specimens collected by Dr. Abbott.

— Diagnoses of some undescribed Wood Rats (genus *Neotoma*) in the National Museum.

Proc. U. S. Nat. Mus., xvii, No. 1006, Nov. 15, 1894, pp. 353-355.

An advance sheet of this paper was published November 15, 1894.

— The proper name for Brewer's Mole.

Science, i, No. 4, Jan. 25, 1895, p. 101.

Attention is called to the scientific name appropriate for this species, which is believed to be *Parascalops Brewerii*.

— Toads on the seashore.

Science, i, No. 6, Feb. 8, 1895, p. 166.

A natural history observation at Cape May, N. J.

— Report on the Department of Mammals in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 143-145.

VASEY, GEORGE. Report on the Department of Botany in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 197-200.

VERRILL, ADDISON E. Descriptions of new species of Starfishes and Ophiurans, with a revision of certain species formerly described; mostly from the collections made by the U. S. Commission of Fish and Fisheries.

Proc. U. S. Nat. Mus., xvii, No. 1000, Nov. 15, 1894, pp. 245-297.

This paper is based almost entirely on specimens collected by the U. S. Fish Commission on the eastern coast of North America. Two new subfamilies, 2 new genera, and 15 new species are described.

— Brief contributions to zoology from the Museum of Yale College, Nos. LVIII and LIX. Distribution of the Echinoderms of northeastern America.

Am. Journ. Sci. (series 3), XLIX, Nos. 290-291, Feb.-Mar., 1895, pp. 127-141, 199-212.

This paper embraces a systematic list of the Starfishes, with their bathymetrical and geographical distribution. Most of the material on which this paper is based was collected by the U. S. Fish Commission and will become the property of the Museum.

WALCOTT, CHARLES DOOLITTLE. Discovery of the genus *Oldhamia* in America.

Proc. U. S. Nat. Mus., xvii, No. 1002, Nov. 15, 1894, pp. 313-315, fig. 1

— Report on the Department of Paleozoic Invertebrate Fossils in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 191-194.

WARD, LESTER F. Recent discoveries of cycadean trunks in the Potomac formation of Maryland.

Bull. Torrey Bot. Club, XXI, No. 7, July 20, 1894, pp. 291-294.

Gives an account of a collection of cycadean trunks made by Mr. Arthur Bibbins in Maryland, and the peculiar manner in which it was made, the specimens being all found in the possession of private individuals; also of efforts made to determine the geological horizon at which they originally occurred

— [Note on Professor Jenney's collection of fossil plants from the Lower Cretaceous of the Black Hills.]

Science (New series), i, New York, Feb. 1, 1895, pp. 137-138.

— The Mesozoic flora of Portugal compared with that of the United States.

Science (New series), i, New York, Mar. 29, 1895, pp. 337-346.

A review of the literature of the Mesozoic flora of Portugal, and especially of the recent elaborate memoir of the Marquis Saporta and

WARD, LESTER F.—Continued.

M. Paul Choffat, with special indication of the analogies, both stratigraphical and paleontological, to the older Mesozoic and the Potomac formation of the United States.

— Remarks on the genus *Caulinites*, Brongn., with exhibition of specimens (rhizomes of *Tripsacum dactyloides*).

Science (New series), 1, New York, June 28, 1895, pp. 725-726.

Abstract of a paper read before the Biological Society of Washington, June 1, 1895. These rhizomes very closely resemble *C. parisiensis* (Demarest) Brongn.

— [Fossil plants.]

Johnson's Universal Cyclopaedia (New edition), vi, New York, 1895, pp. 639-645.

A somewhat complete account of the past history and present state of the science of paleobotany.

— Report on the Department of Fossil Plants in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 185-190.

WATKINS, JOHN ELFRETH. Report on the Section of Transportation and Engineering in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 127-132, pls. 1-11.

WHITE, CHARLES ABIATHAR. Notes on the invertebrate fauna of the Dakota Formation, with descriptions of new molluscan forms.

Proc. U. S. Nat. Mus., xvii, No. 995, July 19, 1894, pp. 131-138, pl. viii.

— Memoir of Ferdinand Vandiveer Hayden, 1839-1887.

Biographical Memoirs of the National Academy of Sciences, iii, pp. 395-413.

This paper was read before the National Academy of Sciences, November, 1894.

Published also in separate form.

— Report on the Department of Mesozoic Invertebrate Fossils in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), p. 195.

WILSON, THOMAS. Primitive industry.

Archeologist, ii, No. 7, 1894, pp. 200-204; No. 8, Aug., 1894, pp. 238-246.

This paper describes early objects of primitive industry found in Europe, and compares them with those found in America. Dr. Abbott's finds of similar implements in the gravels of the river terrace at Trenton, N. J., are compared with the infructuous searches of other persons in the same terrace. It is shown that, by reason of the scarcity of the implements,

WILSON, THOMAS—Continued.

the failure of an observer to find them in one locality is no evidence that another observer may not have found them in another locality. Similar experiences of the best observers in France and England are cited. Many implements of similar form and manufacture have been found in nearly every State of the Union, though practically all on the surface. This does not, however, prove the existence of Paleolithic man in America, but, as says M. Boule, is "an argument in favor of their antiquity which will greatly impress prehistoric archaeologists of experience." It will serve a good purpose in stimulating further investigation, and prevent the formation of conclusions before the search has been exhausted and the evidence all in.

— Polished stone hatchets.

Archeologist, iii, No. 1, Jan., 1895, pp. 8-14; No. 2, Feb., 1895, pp. 43-50.

The polished stone hatchet is, more than any other implement, the representative of man's culture during the Neolithic or Polished Stone age. Man in this stage spread himself by migration practically over the whole world, and in so doing carried with him this implement more than any other. While the Paleolithic age of prehistoric man is called the chipped stone age, the chipping of stone-cutting implements did not cease with it, but was to some extent carried into the Neolithic or Polished Stone age. Some implements thus chipped were ground to a sharp edge or point, while others were left unground. The tools used were hammer-stones and grinding-stones. The processes are shown in six figures forming a series, from the rudely chipped to the finely polished hatchets. In the Paleolithic age the material used was such as could be chipped, while in the Neolithic age many stone implements of nonchippable material, like granite, diorite, etc., were used. These had to be reduced to the required form by hammering or pecking, called by the French *martelage*. The hatchet was inserted in a handle of wood, with the cutting edge on a line with the handle. Many specimens, mostly from France and England, have been found, which indicate this as the general method of use. The National Museum is the fortunate possessor of two original specimens thus mounted, one the property of Mr. Byron E. Dodge, of Wisconsin, and the other of Mr. C. M. Crouse, of Syracuse, N. Y. The universality of the polished stone hatchet during the Neolithic period is shown by the universality of the material used. On the seacoast and the islands fossil shells were not infrequently employed. While no two polished stone hatchets may be exactly alike, each having been the handwork of an individual who apparently worked for himself and without pattern, they are all capable of being reduced to a few general types, and a series taken from almost any locality in the United States would represent a similar series

WILSON, THOMAS—Continued.

from almost any other locality in the same country, and would closely resemble a series from any part of the world.

— On the presence of fluorine as a test for the fossilization of animal bones.

Am. Naturalist, xxix, No. 340, Apr. 1895, pp. 301-317; No. 341, May, 1895, pp. 439-456.

It is greatly to be desired that some test should be discovered by which the antiquity of animal, and especially human, bones might be determined. This test is believed to have been found in fluorine. It may not be certain nor always equal, but if it furnishes, or promises to furnish, an aid in this direction, it is to be studied, examined, experimented with, and proved. Modern animal bones have but a small percentage of fluorine, less than two-tenths of 1 per cent, while it appears to increase in quantity and proportion until in those of the earlier geologic ages the proportion reaches 3 and even 4 per cent. This increase may be different in different localities, but from analyses of a large number of specimens it seems a steadily increasing ratio, and therefore affords a means of approximate determination.

— Grooved stone axes.

Archæologist, III, No. 5, May, 1895, pp. 155-157.

While the polished stone hatchet was almost universal among prehistoric peoples, the grooved stone ax is confined to the United States.

When the prehistoric man of Europe desired a heavier cutting implement than his polished stone hatchet, he drilled a hole through the ax and inserted a handle, sledge fashion. When

WILSON, THOMAS—Continued.

the prehistoric man of America wanted a similar implement, he made a groove around the implement and bound it with a withe, which served as a handle.

Some of these implements have the edge placed transversely to the handle and so they become adzes, and where the edge is curved instead of straight they become gouges. The same difference of detail in size, shape, form, and material remarked among polished stone hatchets have been found among grooved stone axes.

— Stone cutting implements.

Archæologist, III, No. 6, June, 1895, pp. 179-185.

Rude notched axes resemble the grooved ax. A notch has been prepared by chipping for a withe or handle, the edges of which notch have been hammered or pecked so as to destroy their sharpness and permit the use of the withe, but they are rudely chipped, and beyond this show no traces of pecking and never of smoothing or grinding. They are peculiar in their shape and can not have been grooved stone axes in process of manufacture, though they may have been its evolutionary ancestor. They are always made of material which can be chipped—like flint, quartzite, rhyolite, etc.—and seem never to have been made of non-chippable material, as granite, diorite, etc. They are found in many localities throughout the United States.

— Report on the Department of Prehistoric Anthropology in the U. S. National Museum, 1892.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1892 (1893), pp. 135-142.

LIST OF NAMES OF INDIVIDUALS, WITH ADDRESSES, INCLUDED IN THE FOREGOING BIBLIOGRAPHY.

- ADLER, CYRUS, Librarian, Smithsonian Institution; Honorary Assistant Curator of Oriental Antiquities, and Custodian of the Collection of Religious Ceremonial Objects, U. S. National Museum.
- ANTHONY, A. W., San Diego, Cal.
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- BEAN, BARTON A., Assistant Curator, Department of Fishes, U. S. National Museum.
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- BEESON, CHARLES H.
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SUPPLEMENT A.

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¹ Genus of *Cyrenellidae*, based on the Philippine *Cyrenella oblonga*, Sowerby. The name, however, turns out to be preoccupied by Monterosato (1883), and may be modified to *Joannisiella*.

SUPPLEMENT B.

LIST OF NEW SPECIES AND SUBSPECIES DESCRIBED IN THE PAPERS REFERRED TO IN THE FOREGOING BIBLIOGRAPHY.

[An asterisk indicates that the type specimen is not in the National Museum.]

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- Caloteleia elongata*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 219.
- Caloteleia maculipennis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 221.
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St. Vincent. *Journ. Linn. Soc.* (Zool.),
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(Aves.) Albemarle Island, Galapagos.
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(Aves.) Albemarle Island, Galapagos.
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(Aves.) James Island, Galapagos
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Nov. 15, 1894, p. 363.
- Camarhynchus Salvini*. Ridgway.
(Aves.) Chatham Island, Galapagos.
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(Hym.) St. Vincent. *Journ. Linn. Soc.*
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(Aves.) Aldabra Island. *Proc. U. S.*
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- Cassia manzanilloana*. Rose. (Bot.)
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- Catolaccus vulgaris*. Ashmead. (Hym.)
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- Catystichus auratus*. Ashmead. (Hym.)
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- Celosia monospera*. Rose. (Bot.) Man-
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(Copep.) Off California. *Bull. Mus.*
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Aldabra Island. *Proc. U. S. Nat. Mus.*,
xvii, No. 1008, Nov. 15, 1894, p. 373.
- Ceraphron fumipennis*. Ashmead. (Hym.)
St. Vincent. *Journ. Linn. Soc.* (Zool.)
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- Ceraphron meridionalis*. Ashmead.
(Hym.) St. Vincent. *Journ. Linn. Soc.*
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(Hym.) St. Vincent. *Journ. Linn. Soc.*
(Zool.), xxv, 1894, Nos. 159-160, p. 199.
- Ceraphron solitarius*. Ashmead. (Hym.)
St. Vincent. *Journ. Linn. Soc.* (Zool.),
xxv, 1894, Nos. 159-160, p. 200.
- Ceratoneura pallida*. Ashmead. (Hym.)
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(Hym.) St. Vincent. *Journ. Linn. Soc.*
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(Hym.) St. Vincent. *Journ. Linn. Soc.*
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- Cerchysius terebratus*. Howard. (Hym.)
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- Cerion Agassizi*. Dall. (Moll.) Bahamas.
Bull. Mus. Comp. Zool., xxv, No. 9, II,
Oct., 1894, p. 120, figs. 9-10.
- Cerithium (Pyrazus) septemstriatum*
degeneratum. Dall. (Moll.) Bahamas.
Bull. Mus. Comp. Zool., xxv, No. 9, II,
Oct., 1894, p. 115.
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(Aves.) Albemarle Island, Galapagos.
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Barrington Island, Galapagos. *Proc.*
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15, 1894, p. 359.

- Certhidea luteola*. * Ridgway. (Aves.) Chatham Island, Galapagos. *Proc. U. S. Nat. Mus.*, xvii, No. 1007, Nov. 15, 1894, p. 360.
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- Cetomimus Storeri*. Goode and Bean. (Pisc.) Northwestern Atlantic. *Proc. U. S. Nat. Mus.*, xvii, No. 1012, Jan. 26, 1895, p. 453, pl. xvii, fig. 3.
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- Chrysocharis lividiceps*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 176.
- Chrysocharis lividus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 175.
- Chrysocharis stigmatus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 175.
- Chrysocharis thoracicus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 176.
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- Diapria mellea*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 251.
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- Dissomphalus confusus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 194.
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- Elachistus scutellatus*. Howard. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 107.
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- Encarsia flaviclava*. Howard. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 97.
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- Euphorbia sonora*. Rose. (Bot.) Agiabampo, Mexico. *Contrib. U. S. Nat. Herbarium*, i, No. 9, Jan. 31, 1895, p. 356.
- Euprognatha rastellifera spinosa*. M. J. Rathbun. (Decap.) Off Havana and South Carolina. *Proc. U. S. Nat. Mus.*, xvii, No. 984, July 21, 1894, p. 55.
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- Eurytoma maculiventris*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 149.
- Eurytoma peraffinis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 149.
- Eurytomocharis minima*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 151.
- Exochus tegularis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 141.

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- Ganaspis apicalis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 67.
- Ganaspis atriceps*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 67.
- Ganychorus collaris*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 131.
- Gastropsetta frontalis*. Barton A. Bean. (Pisc.) Gulf of Mexico. *Proc. U. S. Nat. Mus.*, xvii, No. 1030, May 11, 1895, p. 633, fig. 1.
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- Geospiza acentrostris*.* Ridgway. (Aves.) Tower Island, Galapagos. *Proc. U. S. Nat. Mus.*, xvii, No. 1007, Nov. 15, 1894, p. 363.
- Geospiza albemarlei*. Ridgway. (Aves.) Albemarle Island, Galapagos. *Proc. U. S. Nat. Mus.*, xvii, No. 1007, Nov. 15, 1894, p. 362.
- Geospiza barringtoni*.* Ridgway. (Aves.) Barrington Island, Galapagos. *Proc. U. S. Nat. Mus.*, xvii, No. 1007, Nov. 15, 1894, p. 361.
- Geospiza Bauri*.* Ridgway. (Aves.) James Island, Galapagos. *Proc. U. S. Nat. Mus.*, xvii, No. 1007, Nov. 15, 1894, p. 362.
- Geospiza debiliostris*. Ridgway. (Aves.) James Island, Galapagos. *Proc. U. S. Nat. Mus.*, xvii, No. 1007, Nov. 15, 1894, p. 363.
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- Geospiza intermedia*. Ridgway. (Aves.) Charles Island, Galapagos. *Proc. U. S. Nat. Mus.*, xvii, No. 1007, Nov. 15, 1894, p. 361.
- Geospiza propinqua*.* Ridgway. (Aves.) Tower Island, Galapagos. *Proc. U. S. Nat. Mus.*, xvii, No. 1007, Nov. 15, 1894, p. 362.
- Gigliolia Moseleyi*. Goode and Bean. (Pisc.) Northwestern Atlantic. *Proc. U. S. Nat. Mus.*, xvii, No. 1013, Jan. 26, 1895, p. 465, pl. xviii, fig. 1.
- Glyphe punctata*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 162.
- Gnathodon cuneatus nasutus*. Dall. (Moll.) Port Lavaca, Tex. *Proc. U. S. Nat. Mus.*, xvii, No. 988, July, 1894, p. 98, pl. vii, fig. 8.
- Gnathodon flexuosus petitionus*. Dall. (Moll.), Vera Cruz, Mexico. *Proc. U. S. Nat. Mus.*, xvii, No. 988, July 11, 1894, p. 103, pl. vii, fig. 5.
- Gnathodon Johnsoni*. Dall. (Moll.) Shell Bluff, Pascagoula River, Green County, Miss., etc. *Proc. U. S. Nat. Mus.*, xvii, No. 988, July 11, 1894, p. 100, pl. vii, fig. 7.
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- Goniozus nigrifemur*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 195.
- Goniozus Sancti-Vincenti*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 196.
- Gramptodon atricandus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 133.

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- Gyrolasia ciliata*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 180.
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- Hadronotus carinatifrons*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 230.
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- Hadronotus politus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 230.
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- Harriotta raleighana*. Goode and Bean. (Pisc.) Northwestern Atlantic. *Proc. U. S. Nat. Mus.*, xviii, No. 1014, Jan. 26, 1895, p. 472, pl. xix, figs. 1-4.
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- Hemilexis latipennis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 244.
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- Hemitrichis varipes*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 157.
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- Heptameris rufipes*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 71.
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- Heterospilus ferruginus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 117.
- Heterospilus humeralis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 121.
- Heterospilus longicaudus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 119.
- Heterospilus nigrescens*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 120.
- Heterospilus pallidipes*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 119.
- Heterospilus variegatus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 120.
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- Hexacola Sancti-Vincenti*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 74.
- Hexacola solitaria*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 73.
- Hexaplasta incerta*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 77.
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- Holcopelte metallicus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 170.

- Holcopelte nigroaenus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 172.
- Holcopelte nigrocyaneus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 171.
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- Idiotypa pallida*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, 243.
- Ildris aenea*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 231.
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- Ipomoea Nelsoni*. Rose. (Bot.) Manzanillo, Mexico. *Contrib. U. S. Nat. Herbarium*, i, No. 9, Jan. 31, 1895, p. 343.
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- Isobrachium collinum*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 190.
- Isosoma heteromera*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 151.
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- Kleidotoma insularis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 69.
- Krameria Palmeri*. Rose. (Bot.) Agiabampo, Mexico. *Contrib. U. S. Nat. Herbarium*, i, No. 9, Jan. 31, 1895, p. 304.
- Jacobinia auriculata*. Rose. (Bot.) Colima, Mexico. *Contrib. U. S. Nat. Herbarium*, i, No. 9, Jan. 31, 1895, p. 349.
- Jatropha purpurea*. Rose. (Bot.) Agiabampo, Mexico. *Contrib. U. S. Nat. Herbarium*, i, No. 9, Jan. 31, 1895, p. 357.
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- Lelaps flavescens*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 156.
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- Liophron minutus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 132.
- Lipogenys Gillii*. Goode and Bean. (Pisc.) Northwestern Atlantic. *Proc. U. S. Nat. Mus.*, xvii, No. 1013, Jan. 26, 1895, p. 469, pl. xviii, fig. 3.
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- Lithodes californiensis*. Benedict. (Decap.) Off Santa Cruz Island, California. *Proc. U. S. Nat. Mus.*, xvii, No. 1016, Jan. 29, 1895, p. 483.
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- Microdus uncinatus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 129.
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- Opus melanocephalus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 134.
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- Orgilus pallidus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 130.
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- Paramesius thoracicus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 245.
- Paraolinx lineatifrons*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 166.
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- Phænocarpa plenralis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 137.
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- Phænotoma fuscovaria*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 126.
- Phænotoma humeralis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 125.
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- Piper unguiculatum longifolium*. De Candolle. (Bot.) Colima, Mexico. *Contrib. U. S. Nat. Herbarium*, i, No. 9, Jan. 31, 1895, p. 354.
- Piptadenia leptocarpa*. Rose. (Bot.) Manzanillo, Mexico. *Contrib. U. S. Nat. Herbarium*, i, No. 9, Jan. 31, 1895, p. 325.
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- Polygnotus gracilicornis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 242.
- Polygnotus laticlavus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 242.
- Polygnotus meridionalis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 241.
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- Porania insignis*. Verrill. (Aster.) Northeast coast of America. *Am. Journ. Sci.* (series 3), XLIX, No. 290, Feb., 1895, p. 138.

- Porophyllum* Palmeri. Rose. (Bot.) Colima, Mexico. *Contrib. U. S. Nat. Herbarium*, 1, No. 9, Jan. 31, 1895, p. 338.
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- Prosacantha* brevispina. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, XXV, 1894, Nos. 159-160, p. 213.
- Prosacantha* sublineata. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, XXV, 1894, Nos. 159-160, p. 214.
- Prosacantha* tibialis. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, XXV, 1894, Nos. 159-160, p. 214.
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- Psoeus* gossypii. Ashmead. (Neurop.) Utica, Miss. *Insect Life*, VII, No. 1, Sept., 1894, p. 29.
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- Rhogas* pectoralis. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, XXV, 1894, Nos. 159-160, p. 123.
- Rhoptromeris* insularis. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, XXV, 1894, Nos. 159-160, p. 71.
- Rhus* frigida. Knowlton. (Foss. pl.) Alaska. *Proc. U. S. Nat. Mus.*, XVII, No. 998, Aug. 2, 1894, p. 227, pl. IX, fig. 6.
- Rhyssalus* brunneiventris. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, XXV, 1894, Nos. 159-160, p. 128.
- Rhyssalus* canophanoides. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, XXV, 1894, Nos. 159-160, p. 127.
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- Sactogaster* affinis. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, XXV, 1894, Nos. 159-160, p. 238.
- Sactogaster* rufipes. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, XXV, 1894, Nos. 159-160, p. 238.
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- Scolecithrix cristata*. Giesbrecht. (Copep.) Off California. *Bull. Mus. Comp. Zool.*, xxv, No. 12, Apr., 1895, p. 252, pl. II, figs. 6-8; pl. III, figs. 1-5.
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- Scolioneira populi* Marlatt. (Hym.) Las Cruces, N. Mex. *Proc. Ent. Soc. Wash.*, III, June, 1895, No. 4, p. 235.
- Sebastichthys brevispinis*. Tarleton H. Bean. (Pisc.) Alaska. *Proc. U. S. Nat. Mus.*, xvii, No. 1027, May 11, 1895, pp. 627-628.
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- Serjania trifoliolata*. Radlkofer. (Bot.) Manzanillo, Mexico. *Contrib. U. S. Nat. Herbarium*, I, No. 9, Jan., 1895, p. 317.
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- Solaster syrtensis*. Verrill. (Aster.) Northeast coast North America. *Proc. U. S. Nat. Mus.*, xvii, No. 1000, Nov. 15, 1894, p. 271.
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- Spilochalcis misturatus*. Howard. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 80.
- Spilochalcis nigritus*. Howard. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 79.
- Spilomicrus aneurus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 246.
- Spilomicrus vulgaris*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 247.
- Spintherus dubius*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 159.
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- Syntomaspis punctifrons*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 154.
- Syntomosphyrum insularis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 181.
- Systole abnormis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 146.
- Tedania fragilis*. Lambe. (Porif.) Alaska and British Columbia. *Trans. Roy. Soc. Canada*, XII, 1894, section 4, p. 116, pl. II, figs. 3, 3a-c, June, 1895.
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- Telenomus cubiceps*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 206.
- Telenomus difformis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 205.
- Telenomus flavicornis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 210.
- Telenomus flavopetiolatus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 207.

- Telenomus fuscipennis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 210.
- Telenomus impressus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 204.
- Telenomus magniclavus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 205.
- Telenomus medius*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 207.
- Telenomus megacephalus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 212.
- Telenomus meridionalis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 208.
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- Telenomus nigrocoxalis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 211.
- Telenomus pectoralis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 206.
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- Telenomus Sancti-Vincenti*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 211.
- Telenomus scaber*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 208.
- Telenomus Smithii*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 209.
- Tephrosia multifolia*. Rose. (Bot.) Manzanillo, Mexico. *Contrib. U. S. Nat. Herbarium*, 1, No. 9, Jan. 31, 1895, p. 320.
- Tetanolita floridana*. Smith. (Lep.) Florida, Texas. *Bull. U. S. Nat. Mus.*, No. 18, 1895, p. 63.
- Tetramerium aureum*. Rose. (Bot.) Colima, Mexico. *Contrib. U. S. Nat. Herbarium*, 1, No. 9, Jan. 31, 1895, p. 349.
- Tetramerium diffusum*. Rose. (Bot.) Manzanillo, Mexico. *Contrib. U. S. Nat. Herbarium*, 1, No. 9, Jan. 31, 1895, p. 349.
- Tetramerium tenuissimum*. Rose. (Bot.) Colima, Mexico. *Contrib. U. S. Nat. Herbarium*, 1, No. 9, Jan. 31, 1895, p. 349.
- Tetrarhapta rufipes*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 69.
- Tetrastichodes cupreus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 182.
- Tetrastichodes femoratus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 183.
- Tetrastichus acutipennis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 186.
- Tetrastichus basilaris*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 186.
- Tetrastichus cupreus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 184.
- Tetrastichus fasciatus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 187.
- Tetrastichus longicornis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 185.
- Tetrastichus punctifrons*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 187.
- Tetrastichus vulgaris*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 185.
- Thichopria atriceps*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 253.
- Thrips trifasciatus*. Ashmead. (Thysanoptera.) Utica, Miss. *Insect Life*, VII, No. 1, Sept., 1894, p. 27.
- Thryothorus leucophrys*. Anthony. (Aves.) San Clemente Island, California. *Auk*, XII, No. 1, Jan., 1895, p. 52.
- Thysanopoda Agassizi*. Ortman. (Schiz.) Gulf of Panama and vicinity. *Bull. Mus. Comp. Zool.*, xxv, No. 8, Sept., 1894, p. 99.
- Tornatina parviplica*. Dall. (Moll.) Bahamas. *Bull. Mus. Comp. Zool.*, xxv, No. 9, II, Oct., 1894, p. 115, fig. 8.
- Torymus pallidipes*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 153.

- Torymus rugosipunctatus*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 153.
- Toxochalina borealis*. Lambe. (Porif.) Kyska Harbor, Alaska. *Trans. Roy. Soc. Canada*, xii, 1894, section 4, p. 115, pl. II, figs. 2, 2a-e, June, 1895.
- Toxoneura atricornis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 132.
- Trichilia havaneensis spatulata*. Rose. (Bot.) Colima, Mexico. *Contrib. U. S. Nat. Herbarium*, I, No. 9, Jan. 31, 1895, p. 314.
- Trichopria insularis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 252.
- Trichopria pleuralis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 252.
- Tridax dubia*. Rose. (Bot.) Colima, Mexico. *Contrib. U. S. Nat. Herbarium*, I, No. 9, Jan. 31, 1895, p. 337.
- Tridymus solitarius*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 154.
- Trissolcus laticeps*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 212.
- Tropidopria nigriceps*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 250.
- Tropidopria pallida*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 250.
- Tropidopria triangularis*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 249.
- Tropidopsis clavata*. Ashmead. (Hym.) St. Vincent. *Journ. Linn. Soc. (Zool.)*, xxv, 1894, Nos. 159-160, p. 245.
- Uta Mearnsi*. Stejneger. (Rept.) Coast Range of California. *Proc. U. S. Nat. Mus.*, xvii, No. 1020, Nov. 30, 1894, p. 589.
- Venus (Anomalocardia) leptalea*. Dall. (Moll.) Bahamas. *Bull. Mus. Comp. Zool.*, xxv, No. 9, II, Oct., 1894, p. 114, fig. 5.
- Vigniera tenuis alba*. Rose. (Bot.) Colima, Mexico. *Contrib. U. S. Nat. Herbarium*, I, No. 9, Jan. 31, 1895, p. 336.
- Xylosma horrida*. Rose. (Bot.) Manzanillo, Mexico. *Contrib. U. S. Nat. Herbarium*, I, No. 9, Jan. 31, 1895, p. 303.
- Xylosma Palmeri*. Rose. (Bot.) Manzanillo, Mexico. *Contrib. U. S. Nat. Herbarium*, I, No. 9, Jan. 31, 1895, p. 303.
- Zachresta dimidiata*. Ashmead. (Hym.) Utica, Miss. *Insect Life*, vii, No. 3, Dec., 1894, p. 243.
- Zanclognatha minoralis*. Smith. (Lep.) New York. *Bull. U. S. Nat. Mus.*, No. 48, 1895, p. 34.
- Zanclognatha punctiformis*. Smith. (Lep.) District of Columbia. *Bull. U. S. Nat. Mus.*, No. 48, 1895, p. 37.
- Ziziphus Townsendi*. Knowlton. (Foss. pl.) *Proc. U. S. Nat. Mus.*, xvii, No. 998, Aug. 2, 1894, p. 229, pl. IX, figs. 8, 9.
- Zizyphus mexicana*. Rose. (Bot.) Armenia, Mexico. *Contrib. U. S. Nat. Herbarium*, I, No. 9, Jan. 31, 1895, p. 315.
- Zosterops aldabrensis*. Ridgway. (Aves.) Aldabra Island. *Proc. U. S. Nat. Mus.*, xvii, No. 1008, Nov. 15, 1894, p. 371.
- Zosterops madagascariensis gloriosae*. Ridgway. (Aves.) Gloriosa Island. *Proc. U. S. Nat. Mus.*, xvii, No. 1008, Nov. 15, 1894, p. 372.

APPENDIX V.

LIST OF PAPERS IN THE PROCEEDINGS OF THE NATIONAL MUSEUM,
PUBLISHED IN SEPARATE FORM DURING THE YEAR ENDING
JUNE 30, 1895.

FROM PROCEEDINGS, VOLUME XVII.

- No. 981. An analysis of Jadeite from Mogoong, Burma. By Oliver C. Farrington. pp. 29-31.
- No. 982. Notes on some skeletons and skulls of Porpoises of the genus *Prodelphinus*, collected by Dr. W. L. Abbott in the Indian Ocean. By Frederick W. True. pp. 33-37.
- No. 983. Description of nests and eggs of some new birds, collected on the island of Aldabra, northwest of Madagascar. By Dr. W. L. Abbott. pp. 39-41.
- No. 984. Notes on the crabs of the family Inachidæ in the U. S. National Museum. By Mary J. Rathbun. pp. 43-75.
- No. 985. On the formation of stalactites and gypsum incrustations in caves. By George P. Merrill. pp. 77-81, pls. II-V.
- No. 986. Descriptions of a new genus and four new species of crabs from the Antillean region. By Mary J. Rathbun. pp. 83-86. (An advance edition of this paper was published during the preceding fiscal year.)
- No. 987. The formation of sandstone concretions. By George P. Merrill. pp. 87-88, pl. VI.
- No. 988. Monograph of the genus *Gnathodon*, Gray (*Rangia*, Desmoulin). By Wm. H. Dall. pp. 89-106, pl. VII.
- No. 989. On the nomenclature and characteristics of the Lampreys. By Theodore Gill. pp. 107-110.
- No. 990. The nomenclature of the Myliobatidæ or Ætobatidæ. By Theodore Gill. pp. 111-114.
- No. 991. The nomenclature of the family Peciliidæ or Cyprinodontidæ. By Theodore Gill. pp. 115-116.
- No. 992. The differential characters of the Salmonidæ and Thymallidæ. By Theodore Gill. pp. 117-122.
- No. 993. On the relations and nomenclature of Stizostedion or Lucioperca. By Theodore Gill. pp. 123-128.
- No. 994. Description of a new species of Cotton Rat (*Sigmodon minima*) from New Mexico. By Edgar A. Mearns. pp. 129-130.
- No. 995. Notes on the invertebrate fauna of the Dakota formation, with descriptions of new molluscan forms. By Charles A. White. pp. 131-138, pl. VIII.
- No. 996. The shells of the Tres Marias and other localities along the shores of Lower California and the Gulf of California. By Robert E. C. Stearns. pp. 139-204.
- No. 997. Notes on a Japanese species of Reed Warbler. By Leonhard Stejneger. pp. 205-206.
- No. 998. A review of the fossil flora of Alaska, with descriptions of new species. By F. H. Knowlton. pp. 207-240, pl. IX.

- No. 999. Diagnoses of new North American mammals. By Frederiek W. True. pp. 241-243. (An advance edition of this paper was published during the preceding fiscal year.)
- No. 1000. Descriptions of new species of starfishes and ophiurans, with a revision of certain species formerly described. By A. E. Verrill. pp. 245-297.
- No. 1001. Notes on the anatomy and affinities of the Cerebidae and other American birds. By Frederic A. Lucas. pp. 299-312.
- No. 1002. Discovery of the genus *Oldhamia* in America. By Charles D. Walcott. pp. 313-315.
- No. 1003. Notes on reptiles and batrachians collected in Florida in 1892 and 1893. By Einar Lønuberg. pp. 317-339.
- No. 1004. On the rodents of the genus *Spiuthus* in Kashmir. By Frederiek W. True. pp. 341-343.
- No. 1005. The relationship of the lacertilian genus *Anniella*, Gray. By G. Baur. pp. 345-351.
- No. 1006. Diagnoses of some undescribed Wood Rats (genus *Neotoma*) in the National Museum. By Frederiek W. True. pp. 353-355. (An advance edition of this paper was published during the preceding fiscal year.)
- No. 1007. Descriptions of twenty-two new species of birds from the Galapagos Islands. By Robert Ridgway. pp. 357-370.
- No. 1008. Descriptions of some new birds from Aldabra, Assumption, and Gloriosa islands, collected by Dr. W. L. Abbott. By Robert Ridgway. pp. 371-373.
- No. 1009. A revision of the fishes of the subfamily Sebastinae of the Pacific coast of America. By Carl H. Eigenmann and Charles H. Beeson. pp. 375-407.
- No. 1010. Additional notes on the native trees of the Lower Wabash Valley. By Robert Ridgway. pp. 409-421, pls. x-xv.
- No. 1011. Distribution of the land and fresh-water mollusks of the West Indian region, and their evidence with regard to past changes of land and sea. By Charles Torrey Simpson. pp. 423-450, pl. xvii.
- No. 1012. Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. No. xxviii.—On Cetomimidae and Rondeletiidae, two new families of bathybial fishes from the Northwestern Atlantic. By G. Brown Goode and Tarleton H. Bean. pp. 451-454, pl. xvii.
- No. 1013. Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. No. xxix.—A revision of the order Heteromi, deep-sea fishes, with a description of the new generic types *Macdonaldia* and *Lipogenys*. By G. Brown Goode and Tarleton H. Bean. pp. 455-470, pl. xviii.
- No. 1014. Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. No. xxx.—On *Harriotta*, a new type of Chimaeroid fish from the deeper waters of the Northwestern Atlantic. By G. Brown Goode and Tarleton H. Bean. pp. 471-473, pl. xix.
- No. 1015. Overlaying with copper by the American aborigines. By Otis T. Mason. pp. 475-477.
- No. 1016. Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. No. xxxi.—Descriptions of new genera and species of crabs of the family Lithodidae, with notes on the young of *Lithodes camtschaticus* and *Lithodes brevipes*. By James E. Benedict. pp. 479-488.
- No. 1017. Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. No. xxxii.—Report upon the crustacea of the order Stomatopoda collected by the steamer *Albatross* between 1885 and 1891, and on other specimens in the U. S. National Museum. By Robert Payne Bigelow. pp. 489-550, pls. xx-xxii.
- No. 1018. The pterylography of certain American Goat-suckers and Owls. By Hubert Lyman Clark. pp. 551-572.

- No. 1019. The Box Tortoises of North America. By W. E. Taylor. pp. 573-588.
- No. 1020. Description of *Uta Mearusi*, a new lizard from California. By Leonhard Stejneger. pp. 586-591. (An advance edition of this paper was also published during the present year.)
- No. 1021. Notes on Butler's garter snake. By Leonhard Stejneger. pp. 593-594.
- No. 1022. On the specific name of the Coachwhip Snake. By Leonhard Stejneger. pp. 595-596.
- No. 1023. Description of a new Salamander from Arkansas, with notes on *Ambystoma annulatum*. By Leonhard Stejneger. pp. 597-599.
- No. 1024. Diagnosis of a new genus of Trogons (*Heterotrogou*), based on *Hapaloderma vittatum* of Shelley; with a description of the female of that species. By Charles W. Richmond. pp. 601-603.
- No. 1025. On the Bothriothoracine insects of the United States. By L. O. Howard. pp. 605-613.
- No. 1026. Notes on the geographical distribution of scale insects. By T. D. A. Cockrell. pp. 615-625.
- No. 1027. Description of a new species of Rockfish, *Sebastichthys brevispinis*, from Alaska. By Tarleton H. Bean. pp. 627-628.
- No. 1028. Description of a new species of fish, *Bleekeria Gilli*. By Tarleton H. Bean. pp. 629-630.
- No. 1029. Description of *Gobioides broussoneti*, a fish new to North America, from the Gulf of Mexico. By Tarleton H. Bean and Barton A. Bean. pp. 631-632.
- No. 1030. Scientific results of explorations by the U. S. Fish Commission steamer *Albatross*. No. XXXIII.—Descriptions of two new flounders, *Gastropssetta frontalis* and *Cyclopssetta Chittendeni*. By Barton A. Bean. pp. 633-636.
- No. 1031. Notes on some eruptive rocks from Gallatin, Jefferson, and Madison counties, Montana. By George P. Merrill. pp. 637-673.

FROM PROCEEDINGS, VOLUME XVIII.

- No. 1040. Description of a new species of Golden Beetle from Costa Rica. By Martin L. Linell. pp. 77-78. (Advance sheet.)
- No. 1041. Two new species of beetles of the tenebrionid genus *Echocerus*. By F. H. Chittenden. pp. 79-80. (Advance sheet.)

APPENDIX VI.

SPECIMENS SENT TO THE MUSEUM FOR EXAMINATION AND REPORT.¹

The following is a complete list of the specimens received for examination and report, arranged alphabetically by the names of the senders, during the year ending June 30, 1895:

- AGRICULTURE, DEPARTMENT OF, through Mr. Charles W. Dabney, jr., Assistant Secretary: Fish scales. 2811 (v).
- ALEXANDER, D. W., Indianapolis, Ind.: Insect. (Returned) 2884 (vii).
- ALFRED, H. C., Huron, Ind. T.: Small stone. 2945 (xiii)
- ALEN, LEVI, Salubria, Idaho: Ore. 3002 (xiii).
- AMERICAN MUSEUM OF NATURAL HISTORY, New York City: Skins and skulls of Kangaroo rats. (Returned.) 3092 (i).
- AMICHAUX, Mrs. G., Jersey City Heights, N. J.: Facsimile of a West Indian prehistoric object (Returned.) 2999 (xiv).
- ANDERSON, KNUD, Copenhagen, Denmark, through Dr. Leonhard Stejneger: Specimen of Chloris. 2919 (ii).
- ANTHONY, A. W., San Diego, Cal.: Thirteen birds' skins from Colorado, California, and other localities; 4 birds' skins from Lower California; 3 birds' skins from Mexico. (Returned.) 2876, 2923, 3070, 3087 (ii).
- ARCHBALD, J. R., & Co., Vallecitos, N. Mex.: Rock. (Returned.) 2870 (xiii).
- ARMISTEAD, Miss BESSIE, San Antonio, Tex.: Spider (Returned.) 2924 (vii).
- ARMSTRONG, F. B., Alta Mira, Mex.: Birds' skins (15 returned and 18 purchased); 14 birds' skins (2 returned and 12 retained); 36 birds' skins (13 returned and the remainder retained). 3049 (29026); 3066 (29103); 3072 (29125) (ii).
- ASH, JOHN, Churchland, Va.: Mineral. (Returned.) 3135 (xii).
- ASHURST, W. T., Blackburn, Mo.: Fossils. (Returned.) 2874 (x-b).
- AVENT, T. L., Fulton, Wyo.: Stone from the stomach of a deer. (Returned.) 3071 (xiii).
- BABCOCK, A. J., Mayoworth, Wyo.: Two fossil bones and 2 photographs. (Returned.) 3194 (x-b).
- BACH, E., Aberdeen, S. Dak.: Insects. 2941 (28855) (vii).
- BAILEY, J. B., Washington, D. C.: Insects. 3213 (vi).
- BAKER, Miss H. M., Manhattan, Ill.: Plants. 2784, 2824 (xi).
- BARBOUR, E. H., University of Nebraska, Lincoln, Nebr.: Clay-like substance. 3136 (29318) (xiii).
- BARCLAY, A. O., Reagan, Tex.: Ore from New Mexico. 3126 (xiii).
- BARTON, H. H., Idaho Falls, Idaho: Plants. (Returned.) 3156 (xi).

¹The first number accompanying the entries in the above list is that assigned to sendings "for examination" on the Museum records. The number in Roman, in parentheses, indicates the department in the Museum to which the material is referred for examination and report. The numbers assigned to the departments in the Museum have been changed since the last report was published. When material is permanently retained, a number of another series, i. e., the permanent accession record, is placed in parentheses between the two sets of numbers referred to.

- BAUR, DR. GEORGE, Walker Museum, University of Chicago, Chicago, Ill.: Eight birds' skins from Galapagos Islands; birds' skins from the same locality. 2806, 3173, 3183 (Returned.) (II).
- BEAVER, S. H., Seward, Nebr.: Piece of supposed meteorite. 2787 (XII).
- BECKWITH, CLINTON, Herkimer, N. Y.: Earth. (Returned.) 3000 (XIII).
- BEDTELYM, G., Larene, Wash.: Ore. (Returned.) 3010 (XIII).
- BEEHAN, I. E., Waukon, Iowa: Part of a branch of a maple tree partly covered with scales. 3161 (VII).
- BELTZER, J. A., Ogden, Utah: Mineral. (Returned.) 3104 (XII).
- BENDIRE, MAJ. CHARLES, U. S. A. (See under B. J. Bretherton and Chase Littlejohn).
- BENTLEY, C. W., jr., Bentley Springs, Md.: Ore. (Returned.) 2862 (XIII).
- BIEDERMAN, C. R., Bonito, N. Mex.: Magnetic iron. 2851 (XIII).
- BINKLEY, S. H., Alexandersville, Ohio: Natural formation. 3224 (XIV).
- BIOLOGICAL SOCIETY OF ONTARIO, Toronto, Ontario, Canada, through Herbert H. Brown: Sixty birds' skins. (Returned.) 3079 (II).
- BISHOP, DR. L. B., New Haven, Conn.: Bird skin. (Returned.) 2984 (II).
- BLACKMOND, F. B., Dowagiac, Mich.: Mineral. 2772 (XII).
- BLAKE, F. A., Rociada, N. Mex.: Ore. 3228 (XIII).
- BLATCHLEY, Prof. W. S., Terre Haute, Ind.: Snake. (Returned.) 2927 (IV).
- BLUE ROCK CONTRACTING COMPANY, San Francisco, Cal, through T. E. Champion, general superintendent: Rock. (Returned.) 2837 (XIII).
- BODENHEIMER, A. L., South Knoxville, Tenn.: Insect. (Returned.) 3199 (VII).
- BOMBERGER, Rev. J. H., Columbiana, Ohio: Beetles; insects. 2831 (28471); 3021 (returned). (VII).
- BOND, W. R., Custer, S. Dak.: Supposed lithographic stone. (Returned.) 3033 (XIII).
- BOOTH, L. M., Stepney, Conn.: Insect. (Returned.) 2795 (VII).
- BOSNIART, C. F., Lowville, N. Y.: Four birds' skins. (Returned.) 3034 (II).
- BOWER, L. F., Carlisle, Pa.: Fish bone. (Returned.) 3133 (V).
- BOWMAN, D. A., Bakersville, N. C.: Gangue specimen of emerald. (Returned.) 3025 (XII).
- BOWRON, W. M., South Pittsburg, Tenn.: Fossil. (Returned.) 2875 (x-b).
- BOYD, S. D., Leesburg, Va.: Minerals. (Returned.) 2891 (XII).
- BRACKEN, A. H., Hensley, N. C.: Ore. 2855 (XIII).
- BRADLEY, I. S., Dayton, Ohio: Insect egg. (Returned.) 3016 (VII).
- BRAXTON, L. F., Mount Morris, Ill.: Insects. 2809 (VII).
- BRENGER, G. F., Santa Cruz, Cal.: Thirty birds' skins. 3100 (29297) (II).
- BRETHERTON, B. J., Newport, Oreg., through Maj. Charles Bendire, U. S. Army: Birds' skins from Oregon and Alaska. 2902, 2968, 2987 (returned); 3091 (29296); 3167 (29436) (II).
- BREWSTER, M. W., Boundary, Wash.: Rocks. (Returned.) 2827 (XIII).
- BREWSTER, WILLIAM, Cambridge, Mass.: Eight specimens of Gyrfalcona from Greenland, Maine, and Alaska; 31 birds' skins from Lower California. (Returned.) 3042, 3124 (II).
- BRIMLEY, H. H. & C. S., Raleigh, N. C.: Reptiles and batrachians from North Carolina, Texas, and Canada. (Returned.) 2962, 3020, 3148 (IV).
- BRISBIN, EDWARD, Boise City, Idaho: Rock. 2952 (XIII).
- BROWN, G. W., Riverton, Ala.: Four-leaved weed, supposed to be an antidote for the bite of a rattlesnake. 2817 (XVII).
- BROWN, HERBERT, Tucson, Ariz.: Snakes and lizards. (Returned.) 2980 (IV).
- BROWN, H. H. (See under Biological Society of Ontario.)
- BROWN, N. H., Lander, Wyo.: Crystals. (Returned.) 2982 (XII).
- BROWN, Prof. S. B., Morgantown, W. Va.: Fossil plants. 2966 (28758) (x-e).
- BRUNER, Prof. H. L., Irvington, Ind.: Two snakes. (Returned.) 3052 (IV).
- BUCK, Rev. D. S., Lepanto, Ark.: Fragments of bone and pottery. 3029 (29382) (XIV).
- BULL, EDWARD, Newbern, N. C.: White substance taken from honey. (Returned.) 3116 (VII).
- BURCH, J. F., Mankato, Minn.: Coin. (Returned.) 3078 (XVII).

- BURNS, J. J., Sprague, Wash.: Rock. (Returned.) 3102 (XIII).
- BUSHNELL, C. S., Jacksonville, Fla.: Rock. (Returned.) 3187 (XIII).
- BUSTER, J. C., San Pedro, Cal.: Minerals. (Returned.) 3184 (XII).
- BUTCHER, M., Ogden, Utah: White substance resembling sand. (Returned.) 2778 (XIII).
- BYNUM, Dr. J. C., Stewartville, Mo.: Supposed petrified eye. (Returned.) 3009 (X-a).
- CALIFORNIA ACADEMY OF SCIENCES, San Francisco, through L. M. Loomis: Eleven birds' skins; 8 birds' skins from Lower California. (Returned.) 3099, 3125 (II).
- CALLIHAN, A. E., Benkelman, Nebr.: Small iron spoons. (Returned.) 3207 (XV).
- CAMP, Col. W. B., Sacketts Harbor, N. Y.: Two carved stone pipes. (Returned.) 2960 (XIV).
- CAMPBELL, W. P., Bethany, W. Va.: Maori robe, made from the root of New Zealand flax. 3234 (29561) (XIV).
- CAPWELL, V. L., Luzerne, Pa.: Ores. 3176 (XIII).
- CARPENTER, D. H., Sidney, Colo.: Two specimens of onyx. 2830 (XIII).
- CARR, J. C., Morris, Ill.: Fossil plants. 3058 (X-c).
- CARSON, C. J. R., Los Angeles, Cal.: Mexican Indian armor, Spanish shield, and California Mission keys. (Keys returned, armor and shield retained.) 3081 (29421) (XV).
- CASE, S. T., Escondido, Cal.: Mineral. (Returned.) 3074 (XII).
- CHAMBERS, JAMES, Prescott, Ariz.: Ore. (Returned.) 3015 (XIII).
- CHAMPION, T. E. (See under Blue Rock Contracting Company.)
- CHAMBERS, M. J. C., Frankfort, Mich.: Fragments of pottery. (Returned.) 3093 (XIV).
- CHANDLER, G. A., Osage, Iowa: Fur coat. (Returned.) 3197 (I).
- CHARLTON, L., Edgefield Court-house, S. C.: Earth. (Returned.) 3038 (XIII).
- CHASE, V. H., Wady Petra, Ill.: Three specimens of *Caulopterus*. (Returned.) 3131 (X-b).
- CHILD, ERASTUS, Bedford, Iowa: Insect. (Returned.) 2947 (VII).
- CLARK, C. B., Covington, Ky.: Supposed aerolite. (Returned.) 3018 (XII).
- CLEMONS, W. T., Syracuse, N. Y.: Insect. (Returned.) 2790 (VII).
- CLICKERSON, CHARLES, Tangier, Ind.: Arrow-head. (Returned.) 2769 (XIV).
- COLLINS, THOMAS, New York City: Insect. (Returned.) 2794 (VII).
- COLLINS, T. J., Haddonfield, N. J.: Unfinished ceremonial object, boat-shaped object, and fragment of a worked skull. (Returned.) 2894 (XIV).
- CONNOR, DAVID, San Pedro, Cal.: Ore. (Returned.) 2938 (XIII).
- COOK, F. L., Milford, Ohio: Continental fractional currency. (Returned.) 3039 (XVII).
- COSTA RICA, MUSEUM OF, through Señor J. Fid. Tristán: Crustaceans. (8 specimens returned, 3 retained.) 2971 (30099) (VIII).
- COX, PHILIP, Upper Maugerville, New Brunswick: Fishes; 3 frogs. (Returned.) 2818, 2926 (V-IV).
- CRAIGEN, C. S., Fox Lake, Wis.: Supposed meteorite. (Returned.) 3179 (XII).
- CRESNUTT, M. N., Big Spring, Ind.: Insect. (Returned.) 3177 (VII).
- CRITES, S. M., Peoria, Ill.: Sample of wood. (Returned.) 2853 (XVII).
- CROCKETT, Dr. J. G., Pulaski, Va.: Chrysalis of an insect. (Returned.) 3191 (VII).
- CUNDIFF, W. H., Decatur, Tex.: Rocks. (Returned.) 3185 (XIII).
- CURRY, J. B., jr., Key West, Fla.: through Senator Pasco: Substance taken from a whale. 2957 (I).
- DABNEY, CHARLES W., jr. (See under Department of Agriculture.)
- DAVEY, M. A., Galveston, Tex.: Crabs. 3170 (29419) (VIII).
- DAVIDSON, F. J., Pinos Altos, N. Mex.: Mineral. (Returned.) 2981 (XII).
- DAVIES, J. L., Davenport, Wash.: Rock. (Returned.) 2975 (XIII).
- DAY, C. W., Cliftondale, Mass.: Coleoptera. (Returned.) 3134, 3169 (VII).
- DE LONG, W. E., Morrilton, Ark.: Plant. 3041 (XI).
- DENNETT, W. S., Saco, Me.: Acorn from a red-oak tree, with a worm and case embedded. 2918 (VII).
- DEVEREUX, A., Decatur, Tex.: Rocks. 3206 (XIII).

- DIEHL, V. B., Scotland, S. Dak.: Rock. (Returned.) 3032 (XIII).
- DOLAN, A., Greenwood Springs, Colo.: Minerals. (Returned.) 2233 (XII).
- DONALDSON, F. H., East Helena, Mont.: Insect. (Returned.) 2885 (VII).
- DOWNIE, W. G., Pomeroy, Ohio: Supposed mica. (Returned.) 2950 (XII).
- DRAKE, Mrs. MARIA, Tacoma, Wash.: Marine shells. (Returned.) 3222 (VI).
- DRYSDALE, S. H., Proctor, Mo.: Mineral. (Returned.) 3108 (XII).
- DUGÈS, Dr. A., Guanajuato, Mexico: Dismas. 3119 (VIII-a).
- DUPREE, WILLIAM, Brooklyn, N. Y.: Ore from Missouri. (Returned.) 3028 (XIII).
- DWIGHT, JONATHAN, jr., New York City: Bird. 2930 (II).
- EALSCH, CHARLES, Georgetown, N. Mex.: Ore. (Returned.) 3165 (XIII).
- EBBS-CANOVAN, H. W., Department of Interior, Topographical Surveys Branch, Ottawa, Canada: Plants. (Returned.) 3073 (XI).
- ELLIS, Dr. J. G., Denison, Tex.: Plant. 2856 (XI).
- ELROD, Prof. M. J., Wesleyan University, Bloomington, Ill.: Plants; 40 birds' skins from Idaho. 3043 (portion returned, remainder retained, 29038); 3064 (portion returned, 1 specimen retained, 29076). (XI, II.)
- ENGLE, G. F., Angelica, N. Y.: Supposed meteorite. (Returned.) 2900 (XII).
- ESTES, F. D., Leavenworth, Wash.: Ore. (Returned.) 3086 (XIII).
- EVANS, C. R., Myrtlewood, Ala.: Insect. (Returned.) 2886 (VII).
- EVANS, Dr. D. W., Dell Rapids, S. Dak.: Cement concretions. (Returned.) 3044 (XIII).
- EVENSON, W. E.: Mushroom. 2909 (XI).
- FENTON, HUGH, Peola, Wash.: Sand supposed to contain mineral substance. (Returned.) 2976 (XIII).
- FIELD, W. R., Greenville, Pa.: Botanical specimen. 2943 (XI).
- FIELDS, C. C., Wallace, Va.: Rock and clay. (Returned.) 3146 (XIII).
- FISHER, A. W., Moscow, Mich.: Flint. 2835 (XIV).
- FISHER, G. S., Belle Vernon, Pa.: Arrowheads, old coins, and fragments of pottery. (Returned.) 2869 (XIV).
- FISHER, W. H., Baltimore, Md.: Fish. 2904 (28601) (v).
- FITZGERALD, E., Indian Orchard, Mass.: Two stone implements. (Returned.) 3129 (XIV).
- FITZGERALD, M. G., Dayton, Ohio: Stone. (Returned.) 2815 (XIII).
- FLINT, H. H., Willimantic, Conn.: Samples of Japanese lacquer. 2843 (XVII).
- FORREST, L. B., Quicks Bend, Pa.: Mineral. (Returned.) 2958 (XII).
- FORSTER, J. B., Chipley, Fla. Rock. 3101 (XIII).
- FOSTER, Miss ALIDA, Custer City, Pa.: Insect. (Returned.) 3202 (VII).
- FRAILEY, Miss, Brookeville, Md.: Chrysalis of an insect. (Returned.) 2852 (VII).
- FRASER, J. D., Edgefield, S. C.: Earth. (Returned.) 3038 (XIII).
- FRAZER, Mrs. A. E., Dakota City, Nebr.: Drilled ceremonial object from Ohio. 3112 (XIV).
- FRAZER, J. E., Kokomo, Ind.: Metal. (Returned.) 3130 (XIII).
- FRENCH, J. C., Olean, N. Y.: Ore. (Returned.) 2797 (XIII).
- FRILL, JOSEPH, Victoria, Ky.: Powder which fell during a snowstorm. 3035 (XIII).
- FULLER, J. C., Salem, Mass.: North American land shells. (Returned.) 2905 (VI).
- FURMAN, C. M., jr., Clemson College, S. C.: Indian implement. 2880 (29909) (XIV).
- GADSBY, JOHN, Eau Claire, Pa.: Insect. (Returned.) 2793 (VII).
- GALLAGHER, J. D., Newark, N. J. Insects. 3230 (VII).
- GALLAHER, E. D., Rosslyn, Wash.: Mineral. 2929 (XII).
- GANNAWAY, C. B., Fort Smith, Ark. Ceremonial tablet. 2863 (XIV).
- GARNER, R. L., Washington, D. C.: Mineral from Virginia. (Returned.) 2774 (XII).
- GARVEY, D. D., Duluth, Minn.: Clay. (Returned.) 2860 (XIII).
- GILLIAN, Rev. J. D., Salt Lake City, Utah: Fragment of a mammal bone. (Returned.) 2936 (IX).
- GODKIN, O. W., Tacoma, Wash.: Two specimens of lignite and ore. (Returned.) 3037 (XIII).

- GOUDGE, Mrs. I. H. (See under Provincial Museum, Halifax, Nova Scotia.)
- GOULD, C. N., Maple City, Kans.: Fossils. 3159 (part returned, remainder retained, 29402); 3117 (portion returned, remainder retained, 29232); 3208 (portion returned, remainder retained, 29481). (X-l).
- GRAHAM, H. J., Boerne, Tex.: Ore. 3192 (XIII).
- GRAVENHORST, Hon. W. M. B., vice-consul of The Netherlands, New York City: Shell. 3164 (VI).
- GRAY, S. C., Deavertown, Ohio: Stone implements. (Returned.) 3088 (XIV).
- GRESLEY, W. S., Erie, Pa., through Prof. H. S. Williams: Iron containing supposed organic markings. 3068 (XIII).
- GRIFFEN, JAMES, & Co., Grand Junction, Colo.: Rock. (Returned.) 2825 (XIII).
- GRINNELL, GEORGE BIRD, New York City: Skin of a Mule Deer. 3024 (I).
- GRINTER, T. W., Cincinnati, Ohio: Carbon; glass carbon and other material. (Returned.) 3132, 3150 (XIII).
- GUNN, JAMES, Boise City, Idaho: Minerals. 2773 (XII).
- HANAFORD, S. P., Bucoda, Wash.: Ore. (Returned.) 2908 (XIII).
- HANNIBAL WATER COMPANY, Hannibal, Mo.: Shells. 3232 (29553) (VI).
- HAMLIN UNIVERSITY, St. Paul, through Prof. H. L. Osborn: Land and freshwater shells, and a few marine shells, from the Philippine Islands. (Returned.) 3182 (VI).
- HARMAN, W. L., Pittsburg, Pa.: Facsimile of a coin in plaster. 2993 (XVII).
- HARPER, J. J., Albany, N. Y.: Minerals. (Returned.) 3152 (XII).
- HARRIS, Mrs. M. V., Carbon Hill, Ala.: Mineral. (Returned.) 2954 (XII).
- HARRISON, C. F., Custer City, S. Dak.: Eight specimens of garnets from the Black Hills. (Returned.) 2921 (XII).
- HARSHBARGER, W. A., Topeka, Kans.: North American Coleoptera. 3113 (portion returned, remainder retained, 29303) (VII).
- HARTLEY, W. P., Mount Jackson, Pa.: Insect. 2970 (29043) (VII).
- HASKELL, Miss B. A., Philadelphia, Pa.: Insect from Massachusetts. 3090 (29243) (VII).
- HATCH, W. F., Homer, N. Y.: Mammal skin from British America. (Returned.) 2934 (I).
- HATHEWAY, G. H., Palestine, Tex.: Jaw of a fish. (Returned.) 2841 (V).
- HARVEY, Prof. F. L., Orono, Me.: Three mammals. 3153 (I).
- HAY, F. S., U. S. Army, Fort Huachuca, Ariz.: Concretion from Fort Wingate, N. Mex. 2819 (28472) (XIII).
- HAYS, T. C., Maspeth, N. Y.: Beetles. (Returned.) 2780 (VII).
- HAZELDINE, Dr. M. F. W., Tampa, Fla.: Claylike substance. (Returned.) 3017 (XIII).
- HEARD, W. W., Mount Carmel, S. C.: Earth. (Returned.) 2804 (XIII).
- HEDGES, HENRY, Douglas, Wash.: Stones; minerals. (Returned.) 2820, 3048 (XIII, XII).
- HEMPHILL, Hon. J. J., M. C.: Plant. 3217 (XI). (Transmitted in behalf of J. L. Luykendaal.)
- HERING, E. A., Harrisonburg, Va.: Stone with peculiar markings. 2792 (XIII).
- HERMAN, W. W., Boston, Mass.: Crustaceans and echinoderms. (Returned.) 3097 (VIII).
- HERRON, R. B., San Bernardino, Cal.: Five birds' skins. (Returned.) 3226 (II).
- HEYDE, Rev. H. T., New Orleans, La.: Birds' skins from Central and South America. 3163, 3166 (portion returned, remainder retained, 29954) (II).
- HEYMAN, S., Fayetteville, Tenn.: Phosphate and other material. 3191 (29510) (XIII).
- HIGBE, Mrs. S. H., Thayne, Wyo.: Ore. 2785 (XIII).
- HILL, J. B., Edgefield, S. C.: Ore. (Returned.) 2958 (XIII).
- HINES, H. L., Greensboro, N. C.: Whortleberry root resembling a snake. 3095 (XI).
- HOOPES, JOSIAH, West Chester, Pa.: Birds' skins. (Returned.) 2983, 3142 (II).
- HOPKINS, Prof. A. D., Morgantown, W. Va.: Insects. (Returned.) 2996 (VII).
- HOPSON, W. R., Bridgeport, Conn.: Insect. (Returned.) 2810 (VII).
- HORR & McFALL, Red Lodge, Mont.: Black substance from a deposit in Wyoming. (Returned.) 2770 (XIII).

- HOUSE, G. E., Ulster Park, N. Y.: Fossil tooth of a mammal. (Returned.) 2844 (x-a).
- HUDGIN, W. G., Hinton, W. Va.: Ore. (Returned.) 2901 (xiii).
- HULING, Hon. J. H., Charleston, W. Va.: Mineral. (Returned.) 3118 (xi).
- HUNTER, Mrs. L., Dayton, Ohio: Butterfly. (Returned.) 2788 (vii).
- HYNDS, S. H., Gillise's Mills, Tenn.: Ore. 2849 (xiii).
- INGHAM, Miss L., Philadelphia, Pa.: Insect. (Returned.) 3231 (vii).
- IRWIN, Dr. J. W., Tyre, Mich.: White substance. (Returned.) 2779 (xiii).
- JACKSON, J. F., Richmond, Va.: Supposed fossil fruit. (Returned.) 3186 (x-c).
- JACOBS, O. B., Gilberts, Ill.: Fossil. (Returned.) 3012 (x-b).
- JOHNSON, J. F., Toledo, Oreg.: Rock. 3201 (xiii).
- JOHNSON, J. L., Duffield, Va.: Indian relics. 2989 (29105) (xiv).
- JOHNSON, N. P. B., Nyaek, N. Y.: Botanical specimen. 2896 (xi).
- JOHNSON, W. H., Baker City, Oreg.: Coal. (Returned.) 3111 (xiii).
- JONES, H. N., Jacksonville, Fla.: Natural formation. (Returned.) 2956 (xiv).
- JONES, S. A., Washington, D. C.: Mineral. (Returned.) 2888 (xii).
- KAYSER, WILLIAM, Wapakoneta, Ohio: Insects. (Returned.) 2783 (vii).
- KELLEY, F. M., Phenix, Ariz.: Mineral. 2801 (xii).
- KENT, A. J., Bonners Ferry, Idaho: Mineral. 2812 (xii).
- KIDD, E. Z., Deadwood, S. Dak.: Ore. (Returned.) 3181 (xiii).
- KING, A., Ardenburg, Java: Two beetles found boring into a cocoa tree, and cross sections of wood showing their work. 2964 (vii).
- KING, Dr. C. L., Springfield, Mo.: Insect. (Returned.) 2932 (vii).
- KING, J. F., Peoria, Ill.: Two archaeological objects. (Returned.) 3220 (xiv).
- KIRKWOOD, F. C., Baltimore, Md.: Birds' skins. (Returned.) 2833 (ii).
- KLINK, C. F., Horton, Kans.: Grass. 2873 (28561) (xi).
- KNIGHT, Prof. W. C., University of Wyoming, Laramie, Wyo.: Archaeological objects. (Returned.) 3063 (xiv).
- KORN, S., Union House, Cal.: Insect. (Returned.) 2850 (vii).
- LA FOY, A. M., Little Falls, N. J.: Insect. (Returned.) 2944 (vii).
- LARKIN, Mrs. J. R., Matunuck, R. I.: Portions of the backbone of a shark. 2782 (28359) (ix).
- LATHAM, R. L., Lovingson, Va.: Mineral. (Returned.) 3209 (xii).
- LAVERTY, Mrs. JAMES, Jamestown, N. Dak.: Pebbles. (Returned.) 3149 (xiii).
- LAW, Mrs. N. W., Oswego, Kans.: Two insects. (Returned.) 2881 (vii).
- LAY, WILLIAM, Honeoye Falls, N. Y.: Specimen obtained from the interior of a lump of bituminous coal. 3109 (29193) (xiii).
- LELAND, J. P., Mechanicsville, N. Y.: Twelvestone implements. (Returned.) 3056 (xiv).
- LEMON, Dr. J. H., New Albany, Ind.: Two moths. (Returned.) 3225 (vii).
- LERCH, Dr. OTTO, Prussia, Germany: Rocks from Nicaragua. 3214 (xiii). (Transferred to U. S. Geological Survey).
- LESTER, H. C., Shady Grove, Va.: Supposed madstone. (Returned.) 3050 (xvii).
- LEWIS, F. W., McLeod, Mont.: Ores. (Returned.) 3034 (xiii).
- LEWMAN WILLIAM, Escalante, Utah: Ore. (Returned.) 2890 (xiii).
- LINDERBORN, W. E., Thompson Falls, Mont.: Mineral. (Returned.) 3128 (xii).
- LITTLEJOHN, CHASE, Redwood City, Cal.: Birds' skins from Alaska and California. (Returned.) 2914, 2922, 2969 (ii). (Some of these skins were transmitted through Major Bendire, U. S. Army.)
- LONERGAN, T. A., Florence, Oreg.: Supposed coal from Arizona. (Returned.) 3211 (xiii).
- LOOMIS, L. M., California Academy of Sciences, San Francisco, Cal.: Birds' skins. (Returned.) 2951 (ii). (See under California Academy of Sciences.)
- LORET, J. F., Patterson, La.: Insect. (Returned.) 3080 (vii).
- LOWE, R. E., Erwin, Tenn.: Minerals. (Returned.) 3076, 3145 (xii).
- LOWE, Dr. J. H., Holm, La.: Plant; insect. (Returned.) 3085, 3154 (xi, vii).

- LOWRY, W. L., Plant City, Fla.: Coin. (Returned.) 3193 (XVII).
- LUCAS, G. W., Dunkirk, Ind.: Mineral; ore from Tennessee. (Returned.) 2990, 3051 (XII, XIII).
- LUYKENDAL, J. L. (See under Hon. J. J. Hemphill.)
- LYON, A. L., Moulton, Iowa: Stone. (Returned.) 3144 (XIII).
- MCBRIDE, W. S., Marshalltown, Iowa: Two concretions. (Returned.) 2994 (XIII).
- MCCARTHY, JOHN, Hermosa, S. Dak.: Cement gravel containing crystals; rock. 2977, 2842 (XIII).
- MCCREERY, J. H., Oceanport, N. J.: Tooth of a shark (?) (Returned.) 2972 (IX.)
- MCDANIEL, E. S., Campti, La.: Mammal skin. 2988 (I).
- MCDOWELL & SONS, Washington, D. C.: Talcose slate. (Returned.) 2911 (XII).
- McILHENNY, E. A., Avery, La.: Bird. 2912 (28637) (II).
- McILWAINE, A. G., Roanoke, Va.: Supposed phosphate. 2997 (XIII).
- MCKEE, J. C., Marble Falls, Tex.: Mineral. (Returned.) 3077 (XII).
- MCKINLEY, C., Charleston, S. C.: Insect. (Returned.) 2925 (VII).
- MCKINNON, J. D., Portland, Oreg.: Black sand. (Returned.) 2906 (XIII).
- McLAIN, R. B., Ithaca, N. Y.: Birds' eggs. 3040 (28996) (III).
- MCLEAN, J. P., Greenville, Ohio: Engraved bone implement. 3022 (XIV).
- McMILLIN, Hon. BENTON, M. C.: Ore. (Returned.) 2813 (XIII).
- MCNEILL, JEROME, Arkansas Industrial University, Fayetteville, Ark.: Scalp of a supposed rabbit. 3168 (I).
- MCRAE, BEIL, Hopewell, N. Mex.: Ore. (Returned.) 3030 (XIII).
- MAGEE, J. M., Sligo, Pa.: Ore. (Returned.) 2928 (XIII).
- MAGUFFY, JOHN, Boise City, Idaho: Mineral. (Returned.) 2915 (XII).
- MAHON, Hon. THADDEUS M., M. C.: Geological material. (Returned.) 3007 (XIII).
- MANN, W. J., Upperville, Va.: Insect. (Returned.) 3151 (VII).
- MARSHALL, GEORGE, Dayton, Ohio: Insect. (Returned.) 2889 (VII).
- MATHES, K. B., St. Augustine, Fla.: Fifty-nine birds' skins. 3001 (portion returned, remainder retained, 28859) (II).
- MATTHEWS, P. F., Florence, Ala.: Archaeological object from Michigan. (Returned.) 3157 (XIV).
- MAYFIELD, P. B., Cleveland, Tenn.: Plant, supposed to be an antidote for the bite of snakes. 2892 (XVI).
- MAYER, J. C., Roundtop, Tex.: Two arrow-heads and a stone. (Stone returned, 2910; arrow-heads retained, 28662.) (XIV.)
- MEEKER, Dr. J. W., Nyack-on-Hudson, N. Y.: Plants. 2893 (returned), 3189 (XI).
- MILLER, CHARLES, jr., Grand Rapids, Mich.: Two specimens of minerals. (Returned.) 3005 (XII).
- MILLER, JOHN, Prescott, Ariz.: Geological material. (Returned.) 2799 (XII).
- MITCHELL, Hon. J. D., Victoria, Tex.: Three crustaceans and a starfish. 2916 (returned); 2 crustaceans, 3180 (29447). (VIII.)
- MOLINER, G. M., Mexico, Mexico: Sword, scabbard, and 3 copper spoons; coin; ethnological objects; blade of an ax, headless tortoise, and a few fragments of painted pottery; photograph of one of the outlines of a side of the pyramid of Hermes; silver ornament, bronze ax, small copper or bronze figure. (Returned.) 2887, 2973, 2903, 2907, 3008, 3069 (XV, XVII, XV, XV, XV, XV).
- MOORE, J. P., Wayne, Pa.: Insects. (Returned.) 3178 (VII).
- MOONAN, L. C., Chaparral, Ariz.: Insect. 2931 (28798) (VII).
- MORRISON, E. A., Memphis, Tenn.: Two samples of clay. (Returned.) 2808 (XIII).
- MUND, A. H., Fairburg, Ill.: Two worms. 2916 (29164) (VIII-a).
- MURCH, E. E., Ellsworth, Me.: Two birds' skins. (Returned.) 2800 (II).
- MURPHY, JOHN, Eagleville, Nev.: Ore. 3105 (XIII).
- MYER, W. E., Carthage, Tenn.: Fossil. (Returned.) 3027 (X-b).
- NAGLE, Dr. J. T., Oceanic, N. J.: Larva of insect. (Returned.) 2796 (VII).
- NEIL, JAMES, Coalville, Utah: Minerals. (Returned.) 2871 (XII).

- NEWELL, W. L., Milan, Wash.: Two specimens of ores. 3195 (XIII).
- NEWLON, DR. W. S., Oswego, Kans.: Plate (?) of an extinct animal; fossil. 2786 (28393); 2848 (returned). (x-a, x-b.)
- NIXON, H. B., Everton, Mo.: Minerals. (Returned.) 3053, 3115 (XII).
- NORRIS, A. J., Marshall, Va.: Twenty-five birds' skins from the Peruvian Andes. 3047 (29298) (II).
- NYE, WILLARD, New Bedford, Mass.: Plant. 3139 (XI).
- ORCUTT, C. R., San Diego, Cal.: Coins and medals, 2829 (portion returned, remainder retained, 29039). (XVII.)
- OSBORN, Prof. H. L. (See under Hamline University.)
- OVER, C. M., Kelly, N. Mex.: Mineral. (Returned.) 3106 (XII).
- PALMER, S. D., Burnsville, Ala.: Stone supposed to be of meteoric origin. 2771 (XII).
- PAQUIN, MOSES, Portland, Colo.: Ore. (Returned.) 2814 (XIII).
- PARKER, W. F., Davis, Ind. T.: Ore. (Returned.) 2920 (XIII).
- PARKS, J. G., Ducktown, Tenn.: Copper slags, pieces of copper, fragments of pottery, and broken arrow-heads. 3082 (XIV).
- PASCO, Senator. (See under J. R. CURRY.)
- PAYN, E. J., Olympia, Wash.: Clay. 2895 (XIII).
- PAYNE, B. L., Rest, Va.: Ores. (Returned.) 2803 (XIII).
- PAYNE, Hon. S. E., M. C.: Stone from Florida. (Returned.) 2832 (XIII).
- PEASE, Dr. A. P. L., Massillon, Ohio: Rude chipped flint implement. (Returned.) 3059 (XIV).
- PECK, S. A., Plainville, Conn.: Fungus. 2854 (XI).
- PEIFFER, HENRY, Ono, Pa.: Insect. (Returned.) 2878 (VII).
- PETERS, M., Deadwood, S. Dak.: Minerals. (Returned.) 3098 (XII).
- PETERS, THOMAS, Prescott, Ariz.: Specimens from a deposit on the Rio Verde River. (Returned.) 3067 (XIII).
- PETERSON, P. H., Boundary, Wash.: Ore. 2845 (XIII).
- PIERCE, W. J., Council Valley, Idaho: Ore. (Returned.) 3110 (XIII).
- PISOR, J. H., Horr, Mont.: Rocks. (Returned.) 3190 (XIII).
- POHL, A., Aspen, Colo.: Wax impression of a medal. 3083 (XVII).
- POOLE, RICHARD, Poolesville, Md.: Mineral. 2868 (XII).
- PRESTON, J. W., Baxter, Iowa: Insect. (Returned.) 3114 (VII).
- PRIDEMORE, Gen. A. L., Jonesville, Va.: Beads and shells. 2938 (XIV).
- PRINGLE, C. G., Charlotte, Vt.: Plants from Mexico. 3096 (portion returned, remainder retained, 29213) (XI).
- PROVINCIAL MUSEUM, Halifax, Nova Scotia, through Mrs. I. H. Goudge, curator: Claw of a crab. 2937 (VIII).
- RADFORD, Dr. W. B., Lakehall, Fla.: Insects. 3140 (VII).
- RAGSDALE, G. H., Gainesville, Tex.: Shells of turtles. (Returned.) 2816 (IV).
- RAMEY, Dr. P. T., Cascilla, Miss.: Ore. (Returned.) 2974 (XIII).
- RANDOLPH, P. B., Seattle, Wash.: Land shells. 3223 (portion returned, remainder retained, 29541) (VI).
- REIK, J. J., Ewart, Mich.: Copper implements. (Returned.) 2776 (XIV).
- RICE, Miss C. B., Malden, Mass.: Coleoptera. (Returned.) 3122 (VII).
- RICHTER, E. F., Cairo, Ga. Plant supposed to contain medicinal properties. 3204 (XVII).
- RICKETTS, Miss D. E., Rockville, Md.: Insect. (Returned.) 3175 (VII).
- RICKLY, A. M., Columbus, Ohio: Stone pipe from Tennessee. 3215 (29528) (XIV).
- ROBERTSON, L. E., Fredonia, N. Y.: Mineral. (Returned.) 2866 (XII).
- ROBINET, S. F., Eagle Point, Oreg.: Mineral. (Returned.) 3094 (XII).
- ROBINSON, Dr. B. L., Harvard University, Cambridge, Mass.: Plants. (Returned.) 3013, 3014 (XI).
- ROSENBERGER, GEORGE, St. Paul, Minn.: Butterfly. (Returned.) 3216 (VII).
- ROWE, C. H., Cliftondale, Mass.: Land shells; shells. 2867 (portion returned, remainder retained, 28568); 3006 (returned) (VI).
- RUSSELL, H. R., Manhattan, Ill.: Stone; grooved ax. 2882 (28563); 2991 (returned) (XIV).
- RYDING, ANDREW, Salemsburg, Kans.: Piece of bone. (Returned.) 2798 (IX.)
- SALLING, GUY, South Greenfield, Mo.: Prehistoric implements. 2826 (XIV).

- SALVIN, OSBERT, London, England: Bird skin. (Returned.) 2998 (II).
- SAUNDERS, H. R., U. S. vice-consul, Nassau, New Providence: Clay or marl. (Returned.) 2840 (XIII).
- SCHILL, J. E., Frederick, Md.: Insect. (Returned.) 2859 (VII).
- SCHROETER, O., Toledo, Ohio: Silver coin. (Returned.) 3137 (XVII).
- SCHUYLER, DR. R., Azalia, Mich.: Insect. (Returned.) 3155 (VII).
- SCRUGGS, E. C., Nashville, Tenn.: Stone. (Returned.) 2953 (XIII).
- SECKLES, L. W., Trinity, Tex.: Ore. (Returned.) 2846 (XIII).
- SHARP, W. A., Boulevard, Wash.: Ores. (Returned.) 3089, 3143 (XII).
- SHIELDS, C. H., Kenton, Ohio: Insect. (Returned.) 3221 (VII).
- SHRIVER, HOWARD, Cumberland, Md.: Fossils. (Returned.) 2992, 3171 (x-b).
- SLEASE, C. M., Winfield, Kans.: Skull of a mammal; coal marking from the Kansas coal fields. 2949 (returned), 3107 (I, x-b).
- SMITH, HARLAN I., Saginaw, Mich.: Oak leaves containing a peculiar growth; 6 shreds of fabrics. 2935, 2959 (XI, XVII).
- SMITH, JOHN DONNELL, Baltimore, Md.: Two plants. (Returned.) 2955 (XI).
- SOLOMON, J. B., Los Angeles, Cal.: Plaster cast of an ancient silver coin. 3011 (XVII).
- SPARKS, W. T., McKenzie, Tenn.: Ore. (Returned.) 3075 (XIII).
- SPENCER, V. O., Lake Worth, Fla.: Insect. (Returned.) 3045 (VII).
- STEJNEGER, DR. LEONHARD. (See under Knud Anderson.)
- STEVENSON, E., Labarge, Wyo.: Plants. 2807 (28494) (XI).
- STEWART, DR. T. B., Lockhaven, Pa.: Indian relics. (Returned.) 2781, 2917, 3123 (XIV).
- STRAUB, Lient. P. F., U. S. Army, San Carlos, Ariz.: Stones. 2977 (XIII).
- STUMP, W. J., Emory, W. Va.: Two stones. (Returned.) 2979 (XIII).
- SUCHETET, A., Antiville-Breante, France: Two birds' skins. (Returned.) 2805 (II).
- SWEENEY, P. M., Lima, Mont.: Ore. (Returned.) 3227 (XIII).
- TANNER, J. J., Tooele City, Utah: Substance found in a solid rock; also piece of the rock. 3003 (XIII).
- TAUSSIG, H. P., St. Louis, Mo.: Mineral. 3055 (XII).
- TAYLOR, MARSHALL, Cave Creek, Ark.: Ore; rock. (Returned.) 3031, 3062 (XIII).
- TERRELL, Miss OLIVIA, Waterford, Miss.: Clay. (Returned.) 2821 (XIII).
- THE DRUGGISTS CIRCULAR, New York City: Plant from Mansfield, La. 3205, (XI).
- THISELTON-DYER, Dr. W. T., director Royal Botanical Gardens, Kew, England: Specimens of "Arizona Tea." 3065 (XI).
- THOMPSON, CHARLES, Peoria, Ill.: Stone implement. (Returned.) 3147 (XIV).
- TIBBETTS BROTHERS, Tampa, Fla.: Sand-like substance. (Returned.) 2847 (XIII).
- TIMMS, G. F., Washington, D. C.: Mineral oil. (Returned.) 2965 (XII).
- TOMS, C. F., Hendersonville, N. C.: Mineral. (Returned.) 2834 (XII).
- TOPP, L. R., Louisville, Ky.: Two specimens of clay. 3162 (XIII).
- TORRE, DELA, DR. CARLOS, Royal University, Havana, Cuba: Quartz. 2865 (28562) (XII).
- TOWNSEND, Dr. J. A., Newport, Oreg.: Plants. 3203 (29514) (XI).
- TOWNSEND, O. D., Isle St. George, Ohio: Copper idol found in Canada. (Returned.) 2913 (XIV).
- TRACY, HUGH, Morocco, Ind.: Rocks. (Returned.) 3121 (XIII).
- TRACY, H. C., Oberlin College, Oberlin, Ohio: Bird skin from Pennsylvania. (Returned.) 2898 (II).
- TREMBLY, J. M., Wood, Ohio: Shells. 2940 (VI).
- TRENT, JOHN, Dudley, Tex.: Tooth and portion of vertebra. (Returned.) 3019 (IX).
- TRISTÁN, Señor J. FID. (See under Costa Rica, National Museum of.)
- TROSTLER, I. S., Omaha, Nebr.: Part of a skeleton from Iowa. (Returned.) 3219 (IX).
- TURNER, L. M., Seattle, Wash.: Mineral. (Returned.) 2942 (XII).
- TURNER, W. C., Postoak Springs, Tenn.: Ore. (Returned.) 2872 (XIII).
- TWYMAN, Dr. E. W., Twymans Mills, Va.: Insect. (Returned.) 2861 (VII).

- VAN VLIET, Dr. F. C., Shrewsbury, N. J.: Stone. (Returned.) 2879 (XIII).
- VANCE, T. C. H., Louisville, Ky.: Clay-like substance from Florida. (Returned.) 3120 (XIII).
- VELIE, Dr. J. W., St. Joseph, Mich.: Two mice from Florida; land crabs. (Returned.) 2932, 2967 (I, VIII).
- VINCENT, G. M., Thayer, Mo.: Rock. 2948 (XIII).
- VOWLES, J. J., Washington, D. C.: Minerals. (Returned.) 2939 (XII).
- WALKER, CHARLES, Beltón, Tex.: Fossil. 2791 (28394) (x-b).
- WALL, R. L., jr., Interlachen, Fla.: Insect. (Returned.) 3061 (VII).
- WANEN, H. M., Enterprise, Kans.: Two insects. (Returned.) 3174 (VII).
- WARD, F. A., Ward's Natural Science Establishment, Rochester, N. Y.: Twenty-one Humming Birds. (Returned.) 2985 (II).
- WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: One hundred and fifty-four birds' skins from Borneo; mounted mammals. 2857 (portion returned, remainder retained, 28550); 2828 (29784) (II, I).
- WARING, I. S., Crichton, Idaho: Clay. (Returned.) 2883 (XIII).
- WARNER, C. C., Turrialba, Costa Rica: Mineral. (Returned.) 3060 (XII).
- WASHINGTON, A. F., St. Joseph, Mo.: Oil from Fremont County, Wyo. (Returned.) 2777 (XIII).
- WATKINS, G. W., Moriah, N. Y.: Mineral. (Returned.) 2978 (XII).
- WATTS, CHARLES, Caldwell, Kans.: Bead. (Returned.) 3229 (XIV).
- WEBB, Miss CARRIE, Branchtown, Pa.: Petrified nut (?). 2899 (28597) (x-c.)
- WEBB, I. A., Deadwood, S. Dak.: Ore. (Returned.) 3026 (XIII).
- WEBB, J. S., Mount Ararat Farm, Va.: Plant. 3138 (XI).
- WEBB, W. F., Albion, N. Y.: Birds' skins from Texas, Central America, West Indies, and Mexico; 24 birds' skins from eastern Mexico; 2 squirrel skins from Mexico, with skulls, and 9 birds' skins; 23 birds from Mexico; skins and skulls of squirrels and mice. 2897 (returned); 2961 (returned); 2986 (birds' skins returned and squirrel skins retained, 29357); 2995 (portion returned and remainder retained, 28880); 3004 (29357) (II, II, I, II, II, I).
- WECKSESSER, G. A., Mount Vernon, Ind.: Tooth of a mammal. (Returned.) 3160 (IX).
- WELBORN, D. A., Pilotpoint, Tex.: Insect. 3212 (VII).
- WESTRAY, W. P., Harrelsville, Ky.: Mineral. (Returned.) 3158 (XII).
- WHEELER, Mrs. W. M., Oakdam, Ind.: Insect. (Returned.) 2839 (VII).
- WHITE, Mrs. U. B., Elyria, Ohio: Ethnological objects from India. 3141 (29407) (XV).
- WHITEHORN, G. W., Rochester, Nebr.: Insect. (Returned.) 3235 (VII).
- WHITING, Prof. C. A., University of Utah, Salt Lake City, Utah: Snake. (Returned.) 3196 (IV).
- WILLIAMS, Prof. H. S. (See under W. S. Gressley.)
- WILLIS, Miss NELLIE, Oakland, Fla.: Insect. (Returned.) 2963 (VII).
- WILVERT, EMIL, Sunbury, Pa.: Ore. (Returned.) 3023 (XIII).
- WILSON, Miss M. E. V., Kansas City, Mo.: Substance found on the beach at Santa Monica, Cal. (Returned.) 3217 (VIII).
- WINDER, W. A., Covelo, Cal.: Insect. 2864 (VII).
- WISE, F. M., Washington, D. C.: Snake from St. Pierre, Martinique. (Returned.) 3210 (IV).
- WOOD, Miss SARAH, Salem, Okla.: Mineral. (Returned.) 3218 (XII).
- WOODARD, Hon. F. A., M. C.: Ore. (Returned.) 3103 (XIII).
- WOODING, Dr. B. F., Denver, Colo.: Ore. 3200 (XIII).
- WOODRUFF, F. M., Chicago Academy of Sciences, Chicago, Ill.: Birds' skins. (Returned.) 3057 (II).
- WORTHEN, C. K., Warsaw, Ill.: Twenty-two birds' skins; 7 mammal skins. 3046 (portion returned, remainder retained, 29017); 3172 (29460) (II, I).
- WRIGHTMAN, Prof. F. J., Sublimity, Oreg.: Tooth of a mammal. (Returned.) 2775 (IX).
- YATES, JESSE, Atlantic City, N. J.: Fish. 2789 (V).
- YECKLEY, W. T., Navajoe, Okla.: Clay. 3036 (XIII).
- YOUNG, F. M., St. Paul, Ark.: Two specimens of rock. (Returned.) 2823 (XIII).
- YOUNT, S. E., Keystone, Nev.: Sand. 2822 (XIII).
- ZIMMERMAN, J., Toms Creek, Tenn.: Ores and rocks. (Returned.) 2802 (XIII).

Index to list of specimens sent for examination and report, arranged geographically.

Source.	Number of lot.	Total.
North America:		
British America	2818, 2913, 2926, 2934, 2937, 3073, 3079, 3148.	9
Central America	2897, 2953, 2971, 3060, 3163, 3166, 3214.	7
Mexico	2876, 2887, 2897, 2903, 2907, 2961, 2973, 2986, 2995, 3008, 3049, 3066, 3069, 3070, 3072, 3087, 3096, 3119, 3124, 3125.	20
United States:		
Alabama	2771, 2817, 2886, 2954.	4
Alaska	2914, 2922, 2968, 2969, 2987, 3042.	6
Arizona	2799, 2801, 2931, 2977, 2980, 3015, 3067, 3211.	8
Arkansas	2823, 2863, 3029, 3031, 3041, 3062, 3168.	7
California	2829, 2837, 2850, 2864, 2914, 2923, 2938, 2951, 3011, 3074, 3081, 3099, 3100, 3127, 3184, 3226.	16
Colorado	2814, 2825, 2830, 2923, 3083, 3200, 3233.	7
Connecticut	2795, 2810, 2843, 2854, 2984.	5
District of Columbia	2811, 2813, 2836, 2888, 2909, 2911, 2939, 2965, 3013, 3213.	10
Florida	2832, 2847, 2933, 2956, 2957, 2963, 3001, 3017, 3045, 3061, 3101, 3120, 3187, 3193.	14
Georgia	3204.	1
Idaho	2773, 2812, 2883, 2915, 2952, 3002, 3043, 3064, 3110, 3156.	10
Illinois	2784, 2809, 2824, 2853, 2882, 2916, 2991, 3012, 3046, 3057, 3058, 3131, 3147, 3172, 3220.	15
Indian Territory	2920, 2945.	2
Indiana	2769, 2839, 2884, 2927, 2990, 3052, 3121, 3130, 3160, 3177, 3225.	1
Iowa	2947, 2994, 3114, 3144, 3161, 3197, 3219.	7
Kansas	2786, 2798, 2848, 2873, 2881, 2949, 3107, 3113, 8117, 3159, 3174, 3208, 3229.	13
Kentucky	3018, 3035, 3158, 3162.	4
Louisiana	2912, 2988, 3080, 3085, 3154, 3205.	6
Maine	2800, 2918, 3042, 3153.	4
Maryland	2833, 2852, 2859, 2862, 2868, 2901, 2992, 3171, 3175.	9
Massachusetts	2867, 2905, 3006, 3013, 3014, 3090, 3097, 3122, 3129, 3134, 3139, 3169.	12
Michigan	2772, 2776, 2779, 2835, 2935, 2959, 2967, 3005, 3093, 3155, 3157.	11
Minnesota	2816, 2860, 3078, 3216.	4
Mississippi	2821, 2974.	2
Missouri	2826, 2874, 2932, 2948, 3009, 3028, 3053, 3055, 3108, 3115, 3232.	11
Montana	2885, 3084, 3128, 3190, 3227.	5
Nebraska	2787, 3136, 3207, 3235.	4
Nevada	2822, 3105.	2
New Mexico	2819, 2851, 2870, 2981, 3030, 3106, 3126, 3163, 3228.	9
New Jersey	2789, 2796, 2879, 2944, 2972, 2999, 3230.	7
New York	2780, 2790, 2794, 2797, 2828, 2844, 2866, 2893, 2894, 2896, 2900, 2930, 2960, 2978, 2985, 3000, 3004, 3024, 3034, 3040, 3056, 3092, 3109, 3152, 3164, 3189.	26
North Carolina	2834, 2855, 2962, 3020, 3025, 3095, 3116, 3148.	8
North Dakota	3149.	1
Ohio	2783, 2788, 2815, 2831, 2889, 2940, 2950, 3016, 3021, 3022, 3039, 3059, 3088, 3112, 3132, 3137, 3150, 3221, 3224.	19
Oklahoma	3036, 3218.	2
Oregon	2795, 2902, 2906, 3091, 3094, 3111, 3167, 3201, 3203.	9
Pennsylvania	2781, 2793, 2869, 2878, 2898, 2899, 2917, 2928, 2943, 2958, 2970, 2983, 2993, 3007, 3023, 3068, 3123, 3133, 3176, 3178, 3202, 3231.	22
Rhode Island	2782.	1
South Carolina	2804, 2858, 2880, 2925, 3038, 3217.	6
South Dakota	2842, 2877, 2921, 2941, 3026, 3032, 3033, 3044, 3098, 3181.	10

Index to list of specimens sent for examination and report, etc.—Continued.

Source.	Number of lot.	Total.
North America—Continued.		
United States—Continued.		
Tennessee	2802, 2808, 2849, 2872, 2875, 2892, 2953, 3027, 3051, 3075, 3076, 3077, 3082, 3145, 3191, 3199, 3215.	17
Texas	2791, 2816, 2841, 2846, 2856, 2897, 2910, 2924, 2946, 3019, 3148, 3170, 3180, 3185, 3192, 3206, 3212.	17
Utah	2778, 2871, 2890, 2936, 3003, 3104, 3196	7
Virginia	2774, 2792, 2803, 2838, 2861, 2891, 2989, 2997, 3050, 3135, 3138, 3146, 3151, 3186, 3198, 3209.	16
Washington	2820, 2827, 2845, 2895, 2908, 2929, 2942, 2975, 2976, 3010, 3037, 3048, 3086, 3089, 3102, 3143, 3195, 3222, 3223.	19
West Virginia	2901, 2966, 2979, 2996, 3118	5
Wisconsin	3179	1
Wyoming	2770, 2777, 2785, 2807, 2982, 3063, 3071, 3194	8
Islands in the Pacific Ocean	2806, 3173, 3183	3
West Indies	2840, 2865, 2897, 3210	4
South America	3047, 3163, 3166	3
Europe	2805, 2919, 2998, 3040, 3042, 3065	6
Asia	3141	1
Oceanica	2857, 2894, 2964, 2998, 3182, 3234	6
Total		479

Number of lots of specimens referred to the departments in the Museum for examination and report.

Department.	Number of lots.
Mammals	13
Birds	51
Birds' eggs	1
Reptiles and batrachians	10
Fishes	5
Mollusks	9
Insects	70
Marine invertebrates	8
Helminthology	2
Comparative anatomy	10
Paleontology	21
Botany	24
Minerals	57
Geology	122
Prehistoric anthropology	37
Ethnology	9
Arts and industries	18
Total	467

APPENDIX VII.

LECTURES AND MEETINGS OF SOCIETIES.

The titles of the lectures delivered and of the papers read at the meetings of the various associations which have held their sessions in the lecture hall of the museum during the year, are here presented.

PROGRAMME OF THE TENTH ANNUAL MEETING OF THE AMERICAN HISTORICAL ASSOCIATION, DECEMBER 26-28, 1894.

WEDNESDAY, DECEMBER 26.

OPENING SESSION, 8 P. M.

1. Beginning of the idea of imperial federation. Prof. George B. Adams, Yale University.
2. The historical work of Prof. Herbert Tuttle. Herbert B. Adams, Johns Hopkins University.
3. Turning points in the American civil war. Rossiter Johnson, Ph. D., LL. D., New York City.
4. Tributes to Hon. John Jay, Hon. Robert C. Winthrop, and President James C. Welling. Gen. James Grant Wilson, New York City.

THURSDAY, DECEMBER 27.

MORNING SESSION.

1. The Tejas: Their habits, government, and superstitions. Mrs. Lee C. Harby, of New York.
2. Why Coronado went to New Mexico in 1540. George Parker Winship, Harvard University.
3. The Casa de Contratacion of Seville. Prof. Bernard Moses, University of California.
4. Some European modifications of the jury system. Dr. Walter B. Scaife, Geneva, Switzerland.
5. The Regulators of North Carolina (1766-1771). Prof. John S. Bassett, Trinity College, Durham, N. C.
6. A chapter in the life of Charles Robinson, the first governor of Kansas. Prof. Frank W. Blackmar, University of Kansas.
7. The Continental Congress: A neglected portion of American Revolutionary history. Dr. Herbert Friedenwald, Philadelphia.
8. Origin and development of the labor movement in English national and municipal politics. Edward Porritt, Farmington, Conn.
9. American political philosophy. Prof. William A. Dunning, Columbia College.

EVENING SESSION.

1. The Papal and the Imperial electoral colleges. Prof. E. Emerton, Harvard University.
2. The first committee of public safety: Its organization, policy, and fall. Prof. Henry E. Bourne, College for Women, Western Reserve University, Cleveland.
3. The Quebec bill and the American Revolution. Asst. Prof. Victor Coffin, University of Wisconsin.
4. The historical archives of the State Department. Andrew Hussey Allen, chief of Bureau of Rolls and Library, Department of State, Washington, D. C.
5. The German Emperor. Prof. Richard Hudson, University of Michigan.

FRIDAY, DECEMBER 28.

MORNING SESSION.

1. Appeals from Rhode Island courts to the King in council. Harold D. Hazeltine, Brown University.
2. Rhode Island and the impost of 1781. Frank Greene Bates, Cornell University.
3. The constitutional controversy in Rhode Island in 1841. Arthur May Mowry, Harvard University.
4. Party struggles over the Pennsylvania Constitution, 1775-1790. Samuel B. Harding, Harvard University.
5. Pennsylvania Germans: Their language, manners, history, and customs. S. M. Sener, Lancaster, Pa.
6. Evolution of township government in Ohio. James A. Wilgus, Ohio University, Columbus.
7. The retention of the western posts by the British after 1783. Prof. A. C. McLaughlin, University of Michigan.
8. Existing autographs of Christopher Columbus. William E. Curtis, Washington, D. C.

EVENING SESSION.

1. Mountains and history. Prof. Edmund K. Alden, Packer Institute, Brooklyn.
2. Causes and consequences of the party revolution of 1800. Prof. Anson D. Morse, Amherst College.
3. The tennis court oath. Prof. James H. Robinson, University of Pennsylvania.
4. The Royal Society of Canada and its associated historical societies. J. G. Bourinot, C. M. G., F. R. S. C., clerk of the Canadian House of Commons.
5. What the United States Government has done for history. A. Howard Clark, U. S. National Museum.

PAPERS READ AT THE MEETING OF THE NATIONAL SCIENCE CLUB,
JANUARY 3, 1895.

- I. How to observe birds. Miss Florence A. Merriam.
- II. Women in science. Mrs. Rosa S. Eigenmann. (Read by Mrs. Horatio King.)
- III. Recent excavations in Greece. Mrs. M. E. Boyce. (Read by Mrs. Mark Harrington.)
- IV. Parasitic fungi on epidermis. Dr. Anna Searing.
- V. (a) Trichomes, (b) Seeds, (c) Wild flowers of Illinois. Mrs. M. M. Boyce.
- VI. The flower with iron mask. Miss E. J. Has Brouck. (Read by Miss Herschell Main.)
- VII. Seaside studies. Mrs. L. O. Talbott.
- VIII. Algae outline. Miss Cora H. Clarke.
- IX. Las Vegas. Mrs. M. Salazar. Read by Miss Isabel Lenman.
- X. Zinc mine in New Jersey. Miss J. Husson.
- XI. Geological formation of Hyde Park, Mass. Miss Ella F. Boyd.

- XII. Sanitary cooking. Mrs. H. Fauquier.
 XIII. Natural resources of Loudoun County, Va. Mrs. L. O. Talbott.
 XIV. Pathological chart. Mrs. L. O. Talbott.
 XV. Flora *versus* fauna; insectivorous plants. Mrs. Lydia Diller Zell.
 XVI. Observations in meteorology and ornithology. Mrs. Louise Stephenson.
 XVII. Motherhood. Mrs. Harriett Lincoln Coolidge.
 XVIII. Remarks on a collection from Koptos recently received from Mr. Flinders-Petrie. Mrs. Sara Y. Stephenson.
 XIX. Principles of inference. Miss Ellen Hayes.
 XX. Science of languages. Helen L. Webster, Ph. D.
 XXI. Memoir of Mrs. Asaph Hall. Mrs. Horatio King.
 XXII. Outline for study in botany. Mrs. Ellen Weir Catheart.
 XXIII. Mosses. Mrs. Elizabeth G. Britton.

LIST OF PAPERS ENTERED TO BE READ AT THE MEETING OF THE
 NATIONAL ACADEMY OF SCIENCES IN APRIL, 1895.

- I. On some variations in the genus *Eucope*. Prof. A. Agassiz and W. McM. Woodworth.
 II. Notes on the Florida reef. Prof. A. Agassiz.
 III. The progress of the publications on the expedition of 1891 of the U. S. Fish Commission steamer *Albatross*, Lieut. Commander Z. L. Tanner, commanding. Prof. A. Agassiz.
 IV. On soil bacteria. M. P. Ravenel (introduced by Dr. J. S. Billings).
 V. A linkage showing the laws of the refraction of light. A. M. Mayer.
 VI. On the color relations of atoms, ions, and molecules. M. Carey Lea.
 VII. Mechanical interpretation of the variations of latitude. R. S. Woodward (introduced by S. C. Chandler).
 VIII. On a new determination of the nutation-constant, and some allied topics. S. C. Chandler.
 IX. On the secular motion of a free magnetic needle. L. A. Bauer (introduced by Prof. Cleveland Abbe).
 X. On the composition of expired air, and its effect upon animal life. Dr. J. S. Billings.
 XI. Systematic catalogue of European fishes. Dr. Theodore Gill.
 XII. The extinct Cetacea of North America. Prof. E. D. Cope.
 XIII. On the application of a percentage method in the study of the distribution of oceanic fishes. Dr. G. Brown Goode.
 A. Definition of eleven faunas and two subfaunas of deep-sea fishes.
 B. The relationships and origin of the Caribbeo-Mexican and Mediterranean subfaunas.
 XIV. On the two isomeric chlorides of ortho-sulpho-benzoic acid. Ira Rensen.
 XV. On some compounds containing two halogen atoms in combination with nitrogen. Ira Rensen.
 XVI. Presentation of the Watson medal to Mr. Seth C. Chandler, for his researches on the variation of latitudes and on variable stars, and for his other works in astronomy.
 XVII. Biographical memoir of Dr. Lewis M. Rutherford. B. A. Gould.
 XVIII. Relation of Jupiter's orbit to the mean plane of four hundred and one minor planet orbits. H. A. Newton.
 XIX. Orbit of Miss Mitchell's comet, 1847, VI, H. A. Newton.

TITLES OF SATURDAY LECTURES FOR 1895.

COURSE 1.—*Anthropology.*

February 23.—What is the science of demology? Maj. J. W. Powell.

March 2.—Human growth. Dr. Franz Boas.

March 9.—The founding of sociology. Lester F. Ward.

March 16.—The progress of the scientific method. W. J. McGee.

March 23.—The growth of arts. Frank Hamilton Cushing.

COURSE 2.—*Geology.*

March 30.—The continent in Algonkian time. Prof. C. R. Van Hise.

April 6.—The continent in Cambrian and Silurian time. Hon. Charles D. Walcott.

April 13.—The continent in Devonian time. Marius R. Campbell.

April 20.—The continent in Cretaceous and Tertiary time. G. K. Gilbert.

April 27.—The continent in Glacial and recent time. Prof. William B. Clark.

APPENDIX VIII.

FINANCE, PROPERTY, SUPPLIES, AND ACCOUNTS.

The appropriations for the fiscal year ending June 30, 1895, were as follows:

For continuing the preservation, exhibition, and increase of the collections from the surveying and exploring expeditions of the Government and from other sources, including salaries or compensation of all necessary employees, \$143,000.

For cases, furniture, fixtures, and appliances required for the exhibition and safe-keeping of the collections of the National Museum, including salaries or compensation of all necessary employees, \$10,000.

For printing labels and blanks and for the Bulletins and annual volumes of the Proceedings of the National Museum, \$11,000.

For binding scientific books and pamphlets presented to and acquired by the National Museum library, \$1,000.

For expenses of heating, lighting, electrical, telegraphic, and telephonic service for the National Museum, \$13,000.

For postage stamps and foreign postal cards for the National Museum, \$500.

For tearing down and rebuilding the brick walls of the steam boilers, providing tie rods and buck staves and grates for the same, removing, replacing, and resetting the fronts, and replacing wornout boiler tubes, and for covering heating pipes with fireproof material, including all necessary labor and material, \$4,000.

For rent of workshops for the National Museum, \$600.

On the 1st day of July, 1894, the National Museum had to its credit the following sums, viz: Appropriation for 1893 (balance), \$329.28; appropriation for 1894 (balance), \$6,165.03; appropriation for 1895, \$171,000, making a total of \$177,594.31. This amount was divided among the different appropriations as follows:

Preservation of collections:

1893	\$318. 02	
1894	4, 180. 20	
1895	143, 000. 00	
		\$147, 498. 22

Furniture and fixtures:

1893 .....	. 16	
1894	803. 24	
1895	10, 000. 00	
		10, 803. 40

Heating and lighting:

1893	\$11. 10	
1894	724. 30	
1895	13, 000. 00	
		\$13, 735. 40

Building repairs, 1895..... 4, 000. 00

Rent of work shops:

1894	457. 29	
1895	600. 00	
		1, 057. 29

Postage, 1895

		500. 00
		177, 594. 31

Total..... 177, 594. 31

From the unexpended balances of the appropriations for 1893 and 1894 remaining on hand at the close of the last fiscal year the following expenditures have been made in payment of liabilities contracted in the years for which the appropriations were applicable, viz:

Preservation of collections, 1893.—For special or contract services, 75 cents; supplies, \$39; specimens, \$276, making a total of \$315.75, and leaving a balance of \$2.27.

The above amount, together with the sum of 16 cents, the unexpended balance of the appropriation for furniture and fixtures, and \$11.10, the unexpended balance of the heating and lighting fund, will, under the law, revert to the Treasury, there being no other outstanding claims against the appropriation.

Preservation of collections, 1894.—For salaries or compensation, \$165; special or contract services, \$489.21; supplies, \$960.58; stationery, \$132.78; freight and cartage, \$697.79; travel, \$122.42; specimens, \$756.19; books and periodicals, \$620.96; total, \$3,944.93.

Furniture and fixtures, 1894.—For exhibition cases, \$84; frames, stands, etc., \$62.70; glass, \$40; hardware, \$35.15; tools, \$5; cloth, cotton, etc., \$48.75; lumber, \$72.35; paints, oils, and glue, \$111.26; office and hall furniture, etc., \$330.66; metals, \$6.05; leather and rubber, \$4.98; apparatus, \$2.25; total, \$803.15.

Heating and lighting, 1894.—For special or contract services, \$6.25; coal and wood, \$24.75; gas, \$78.50; telephones, \$165.50; electrical supplies, \$50.60; rental of call boxes, \$20; heating supplies, \$348.48; telegrams, \$29.46; total, \$723.54.

The expenditures made from the funds appropriated for the fiscal year ending June 30, 1895, have been as follows:

Preservation of collections.—For salaries or compensation, \$126,142.26; special or contract services, \$3,381.24; supplies, \$2,276.56; stationery, \$811.62; freight and cartage, \$1,469.98; travel, \$585.64; specimens, \$2,367.14; books and periodicals, \$1,014.68; total, \$138,049.12.

Furniture and fixtures.—For salaries or compensation, \$5,609.20; special or contract services, \$86.13; designs and drawings, \$91.25; drawers, trays, and boxes, \$671.79; frames, stands, etc., \$67; glass, \$45.90; hardware, etc., \$510.30; tools, \$63.69; cloth, cotton, etc., \$20;

glass jars, bottles, etc., \$248.32; lumber, \$1,108.22; paints, oils, glue, etc., \$450.14; office and hall furniture, etc., \$122.73; metals, \$47.16; leather and rubber, \$18.80; iron brackets, \$141.94; total, \$9,302.57.

The following is a list of cases, furniture, etc., purchased during the year: One quartered-oak drawer cabinet, \$125; one quartered-oak desk, \$93; one suspension ladder and truck, \$25; three typewriting machines, at \$85, \$87.75, and \$90, respectively; one oak stepladder, \$2; one oak washstand, \$6; two hundred sub-unit trays, \$64.

The following is a partial list of cases, furniture, and fittings constructed in the Museum shops during the year: Ten exhibition cases, four office bookcases, nine storage cases, twenty-two unit drawers, two doors, four ladders, six screens, seven thousand four hundred label holders, sixteen metal pans, one sash, fourteen label frames, fifteen bases, one thousand five hundred exhibition blocks, fifty-five packing boxes, and sixty-seven boxes for other purposes.

The following is a partial list of cases, furniture, fittings, etc., repaired and altered: Seven bases, eight unit boxes, eight metal buckets, twenty-four exhibition cases, eight chairs, three desks, seventeen doors, thirteen drawers of desks, etc., eight unit drawers, three label frames, fifty-two locks, six sash, seven screens, eleven skylights, and four windows.

Other incidental work was attended to as follows: Unit boxes varnished, 20; fire buckets painted, 30; fire buckets lined, 3; exhibition cases painted, 96; exhibition cases glazed, 22; exhibition cases varnished, 7; exhibition cases provided with castors, 24; doors fitted, 36; doors painted, 3; desk drawers fitted, 12; unit drawers provided with paper bottoms, 198; unit drawers fitted, 971; label frames varnished, 17; picture frames varnished, 2; locks placed on cases, desks, etc., 32; sash glazed, 2; sash painted, 2; screens painted, 23; skylight glazed, 1; windows painted, 11; windows glazed, 41.

Heating and lighting.—For salaries or compensation, \$6,177.43; special or contract services, \$51.25; coal and wood, \$2,791.90; gas, \$1,455.88; telephones, \$444; electrical supplies, \$210.75; rental of call boxes, \$90; heating supplies, \$327.41; telegrams, \$6.31; total, \$11,554.93.

Repairs to buildings.—Services, \$662.13; brickwork (by contract), \$1,378; boiler tubes, \$594; boiler compound, \$56; polishing compound, \$8.75; iron water headers, \$200; iron grate bars, \$109.78; magnesia pipe covering, \$916.20; pipe fittings, \$18.88; asphaltum and bronze, \$2.50; plastering, \$7.80; advertising proposals, \$32.67; total, \$3,986.71.

Rent of workshops.—For lumber, \$29.75; rent, \$975; total, \$1,004.75.

Postage.—For postage stamps, etc., \$500.

The foregoing expenditures leave unexpended balances for the years ending June 30, 1894, and June 30, 1895, with which such indebtedness as was created during those fiscal years and still remains outstanding, may be liquidated, as follows: Fiscal year 1894, \$236.12; fiscal year 1895, \$7,159.21. These balances are divided as follows, viz:

Appropriation for 1894.—Preservation of collections, \$235.27; furniture and fixtures, 9 cents; heating and lighting, 76 cents; total, \$236.12.

Appropriation for 1895.—Preservation of collections, \$4,950.88; furniture and fixtures, \$697.43; heating and lighting, \$1,445.07; building repairs, \$13.29; rent of workshops, etc., \$52.54; total, \$7,159.21.

The amount appropriated for printing and binding for the National Museum for the fiscal year covered by this report was \$12,000. The expenditures have been as follows:

For Bulletins Nos. 39, 47, 48, and Special Bulletins Nos. 2 and 3, \$6,202.53; Proceedings (Vol. xvii), \$3,179.93; Reports (extras), \$28.06; labels for specimens, \$234.78; letter heads, pads, and envelopes, \$610.18; blank forms, \$413.60; electros, \$14.50; binding, \$1,258.60; Congressional Records, \$20, making a total of \$11,962.18, and leaving an unexpended balance of \$37.82.

APPENDIX IX.

LISTS OF DUPLICATE SPECIMENS PREPARED FOR DISTRIBUTION TO EDUCATIONAL ESTABLISHMENTS SINCE 1890.¹

Within the past five years collections of minerals, fishes, casts of prehistoric implements, rocks and ores, and marine invertebrates have been distributed among a limited number of educational establishments in the United States. Although numerous applications from high schools and the smaller colleges have been received, it has been found necessary, as a rule, to decline compliance. It is hoped, however, that before many years the Museum will be enabled to separate the duplicate material in all of its departments and make it up into sets. When this has been done, it will doubtless be possible to extend the scope of distribution so as to include those grades which have not hitherto been supplied.

LABELS FOR DUPLICATE MINERALS DISTRIBUTED BY THE SMITHSONIAN INSTITUTION ON BEHALF OF THE NATIONAL MUSEUM.

[Prepared under the direction of Prof. F. W. Clarke, Honorary Curator, Department of Minerals.]

<p style="text-align: center;">NATIVE SULPHUR [S]. [Crystallization—Orthorhombic.] Humboldt County, Nev. 1</p>	<p style="text-align: center;">CHALCOPYRITE [CuFeS₂]. [Crystallization—Tetragonal.] This specimen contains a small quantity of nickel, probably as sulphide, and is used as an ore of nickel. Norway. 6</p>
<p style="text-align: center;">SIDERITE OR SPATHIC IRON [FeCO₃]. [Crystallization—Rhomboidal.] Germany. 2</p>	<p style="text-align: center;">PYRRARGYRITE [Ag₃SbS₃]. [Crystallization—Rhomboidal.] Though the body of this specimen is quartz, SiO₂, it contains enough of the pyrrargyrite, with its associate, proustite, Ag₃AsS₃, to make it a valuable ore of silver. Manhattan Mines, Lander County, Nev. 7</p>
<p style="text-align: center;">GALENA [PbS]. [Crystallization—Isometric.] Calcite, CaCO₃, is associated with galena in this specimen. Pego Mine, Portugal. 3</p>	<p style="text-align: center;">GARNET [Al₂R''₃(SiO₄)₃]. [Crystallization—Isometric.] In this specimen massive garnet is associated with amphibole, R''SiO₃. Trotter Mine, Franklin, N. J. 8</p>
<p style="text-align: center;">SPHALERITE OR ZINC BLENDE [ZnS]. [Crystallization—Isometric.] This specimen of granular sphalerite contains pyrite, FeS₂, as an inclusion. Friedensville, Pa. 4</p>	<p style="text-align: center;">MAGNETITE [Fe₃O₄]. [Crystallization—Isometric.] Paisberg, Sweden. 9</p>
<p style="text-align: center;">HALITE OR ROCK SALT [NaCl]. [Crystallization—Isometric.] Rio Virgin Mine, Lincoln County, Nev. 5</p>	

¹ The majority of the collections contained only a portion of the specimens indicated upon these lists.

CORUNDUM [Al ₂ O ₃]. [Crystallization—Rhombohedral.] Belts Bridge, Iredell County, N. C. 10	ENSTATITE, var. BRONZITE [(Mg, Fe)SiO ₃]. [Crystallization—Orthorhombic.] Webster, Jackson County, N. C. 21
TOURMALINE, var. RUBELLITE [AlH ₃ BO ₂ (SiO ₄).] [Crystallization—Rhombohedral.] This mineral, with albite, AlNaSi ₃ O ₈ , is present as an inclusion in lepidolite, Al ₂ KLi(SiO ₃)F ₂ . Rumford, Me. 11	LEPIDOLITE [Al ₂ KLi(SiO ₃) ₃ F ₂]. [Crystallization—Monoclinic.] Auburn, Me. 22
MICACEOUS HEMATITE [Fe ₂ O ₃]. [Crystallization—Rhombohedral.] Marquette, Mich. 12	ALBITE [AlNaSi ₃ O ₈]. [Crystallization—Triclinic.] Mica Mines, Amelia, Va. 23
MAGNETITE [Fe ₃ O ₄]. [Crystallization—Isometric.] This variety is known by the miners as "shot ore." Mineville, Essex County, N. Y. 13	MICROLINE, var. AMAZONSTONE [AlKSi ₃ O ₈]. [Crystallization—Triclinic.] This variety is susceptible of a high polish, and is used for making paper weights and ornaments. Mica Mines, Amelia, Va. 24
MASSIVE FRANKLINITE [ZnFe ₂ O ₄]. [Crystallization—Isometric.] Trotter Mine, Franklin, N. J. 14	KYANITE [Al ₂ SiO ₅]. [Crystallization—Triclinic.] Black Mountain Station, Buncombe County, N. C. 25
QUARTZ CRYSTALS [SiO ₂]. [Crystallization—Rhombohedral.] Crystal Mountain, near Hot Springs, Ark. 15	BARITE OR HEAVY SPAR [BaSO ₄]. [Crystallization—Orthorhombic.] Tennessee. 26
QUARTZ, var. AGATIZED WOOD [SiO ₂]. [Crystallization—Rhombohedral.] Sections of this material are cut transversely through the log into slabs, which are highly polished, and offered for sale, the best at as high a price as \$800. Chalcedony Park, Ariz. 16	LIMONITE [Fe(OH) ₃]. [Amorphous.] Salisbury, Conn. 27
AMPHIBOLE, var. ACTINOLITE [(Ca, Mg) SiO ₃]. [Crystallization—Monoclinic.] This mineral is associated with talc, Mg ₃ H ₂ (SiO ₃) ₄ , as its matrix. Belts Bridge, Iredell County, N. C. 17	SERPENTINE [Mg ₃ H ₄ Si ₂ O ₁₀]. [Amorphous.] This serpentine results as an alteration from a variety of pyroxene, RSiO ₃ . Near Montville, Morris County, N. J. 28
RHODONITE, var. FOWLERITE [(Mn, Fe, Zn)SiO ₃]. [Crystallization—Triclinic.] Epidote, Al ₂ (Ca, Fe) ₂ HSi ₂ O ₁₃ , and rothfite, Ca ₃ Fe ₂ (SiO ₄) ₃ , a species of garnet, are present as inclusions in the fowlerite. Trotter Mine, Franklin, N. J. 18	MASSIVE APATITE [Ca ₅ (PO ₄) ₃ F]. [Crystallization—Hexagonal.] This material is ground up and treated with sulphuric acid to prepare it for use as a fertilizer. Kragerøe, Norway. 29
BERYL [Al ₂ G ₃ (SiO ₃) ₆]. [Crystallization—Hexagonal.] Ray's Mica Mine, Yancey County, N. C. 19	ROSE QUARTZ [SiO ₂]. [Crystallization—Rhombohedral.] Paris, Me. 30
WILLEMITE [Zn ₂ SiO ₄]. [Crystallization—Rhombohedral.] This mineral is associated with franklinite, ZnFe ₂ O ₄ , and zincite, ZnO. Together they form one of the largest and most valuable deposits of zinc ore in the world. Taylor Mine, Franklin, N. J. 20	TURQUOISE [Al ₄ (OH) ₆ (PO ₄) ₂ ·H ₂ O]. [Amorphous.] The matrix of this mineral is a felspathic rock. This locality has afforded many fine gems. Los Cerillos, New Mexico. 31
	DUFRENITE [Fe ₂ (OH) ₃ PO ₄]. [Crystallization—Orthorhombic.] Irish Creek, near Lexington, Va. 32

- ULEXITE [$\text{NaCaB}_5\text{O}_{10} \cdot 6 \text{H}_2\text{O}$].
[Crystallization—Unknown.]
Rhodes' Marsh, Esmeralda County, Nev. 33
- GYPSUM [$\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$].
[Crystallization—Monoclinic.]
This material is ground up and used as a fertilizer known as "land plaster."
Windsor, Nova Scotia. 34
- PINK CALCITE [CaCO_3].
[Crystallization—Rhombohedral.]
Franklin, Sussex County, N. J. 35
- THERMONATRITE [$\text{Na}_2\text{H}_2\text{CO}_4$].
[Crystallization—Orthorhombic.]
This mineral, known commercially as crude carbonate of soda, is used principally in the manufacture of soap, glass, and paper. It is also used in bleaching, dyeing, calico printing, the manufacture of baking powders and washing soda, and in many other chemical operations.
Churchill County, Nev. 36
- MUSCOVITE [$\text{Al}_3\text{K} \text{H}_2(\text{SiO}_4)_2$].
[Crystallization—Monoclinic.]
This specimen contains beautiful dendritic inclusions of magnetite, Fe_3O_4 .
Pennsbury, Pa. 37
- CHROMITE [FeCr_2O_4].
[Crystallization—Isometric.]
This is the ore from which chromic acid and the various salts of chromium are obtained.
Webster, Jackson County, N. C. 38
- BEAUXITE [$\text{Al}_2\text{Fe}_2\text{O}_3 \cdot 2\text{H}_2\text{O}$].
[Amorphous.]
Floyd County, Ga. 39
- WERNERITE [$(\text{CaNa}_2)\text{Al}_2(\text{SiO}_4)_2$].
[Crystallization—Tetragonal.]
Bolton, Mass. 40
- PYRITE [FeS_2].
[Crystallization—Isometric.]
This specimen contains a small quantity of nickel, probably as sulphide, and is used as an ore of nickel.
Norway. 41
- PYRRHOTITE [Fe_7S_8].
[Crystallization—Hexagonal.]
This pyrrhotite is nickeliferous, and affords most of the nickel produced in the United States.
Gap Mine, Lancaster County, Pa. 42
- OPAL, var. GEYSERITE [$\text{SiO}_2 \cdot \text{Aq}$].
[Amorphous.]
This variety is deposited from the silicious waters of geysers in cauliflower-like and other fantastic forms around the basins and the orifices of eruption. It is frequently deposited in rounded concretions and on roots, leaves, and limbs of trees.
Yellowstone National Park, Wyo. 43
- CALCITE, var. CALCAREOUS TUFF [CaCO_3].
[Crystallization—Rhombohedral.]
Yellowstone National Park, Wyo. 44
- ZIRCON CRYSTALS [ZrSiO_4].
[Crystallization—Tetragonal.]
The zircons of this locality are extensively mined, and used in the manufacture of the Welsbach incandescent gas-burner.
Zircon Mines, Henderson County, N. C. 45
- RUTILE [TiO_2].
[Crystallization—Tetragonal.]
This mineral is used for giving the requisite tint in the manufacture of artificial teeth. The demand for it is on the increase, and in the year 1887 one thousand pounds of it were sold to manufacturers and specimen dealers.
Swain County, N. C. 46
- LEPIDOMELANE [$\text{R}'_6\text{R}''\text{Al}_6\text{Si}_5\text{O}_{24}$].
[Crystallization—Monoclinic.]
This mica occurs at this locality in the rock known as eaeolite-syenite.
Litchfield, Me. 47
- MASSIVE TOPAZ [$\text{Al}_2\text{SiO}_4\text{F}_2$].
[Crystallization—Orthorhombic.]
Transparent portions of the topaz from this locality have afforded small gems.
Stoneham, Me. 48
- VESUVIANITE [$\text{Al}_4\text{Ca}_8(\text{SiO}_4)_7$].
[Crystallization—Tetragonal.]
Woodstock, Me. 49
- CANCRINITE [$\text{Al}_3(\text{SiO}_4)_8(\text{CO}_3)_2\text{CaNa}_6\text{H}_6$].
[Crystallization—Hexagonal.]
This mineral is here associated with lepidomelane, $\text{R}'_6\text{R}''\text{Al}_6\text{Si}_5\text{O}_{24}$, in the rock known as eaeolite-syenite.
Litchfield, Me. 50
- ELEOLITE [$\text{Al}_3\text{Na}_8\text{Si}_9\text{O}_{34}$].
[Crystallization—Hexagonal.]
This mineral here occurs as the chief constituent of the rock eaeolite-syenite.
Litchfield, Me. 51

TRIPLITE [(Fe, Mn) ₂ PO ₄ F].		TRIPHYLITE [FeLiPO ₄].	
[Crystallization—Monoclinic.]		[Crystallization—Orthorhombic.]	
Stoneham, Me.	52	Stoneham, Me.	55
		CRYOLITE [AlNa ₃ F ₆].	
SPODUMENE [AlLi(SiO ₃) ₂].		[Crystallization—Triclinic.]	
[Crystallization—Monoclinic.]		This mineral, which is here associated with	
Peru, Me.	53	siderite, FeCO ₃ , is used for making soda, in the	
		manufacture of a white, porcelain-like glass, and,	
CHRYSOCOLLA [CuSiO ₃ ·2HO].		to a limited extent, in the production of aluminum.	
[Crystallization—Unknown.]		Evigtok, Arksut-Fiord, Greenland.	56
Malachite, Cu ₂ (CO ₃)(OH) ₂ , and azurite, Cu ₃ (CO ₃) ₂ (OH) ₂ , are here associated with this mineral, and, together, they form an important ore of copper.		PYROLUSITE [MnO ₂].	
Gordon Mine, Logan County, Kans.	54	[Crystallization—Orthorhombic.]	
		This mineral constitutes the chief ore of manganese, and is used in the manufacture of "bleaching powder" and painters' driers, in the production of oxygen, and to destroy the green tint in glass produced by traces of iron.	
		Spain.	57

LIST OF DUPLICATE FISHES DISTRIBUTED BY THE SMITHSONIAN INSTITUTION ON BEHALF OF THE NATIONAL MUSEUM.

[Prepared under the direction of Dr. Tarleton H. Bean, Honorary Curator, Department of Fishes.]

- | | |
|--|---|
| 1. <i>Chilomycterus geometricus</i> , Kaup. | 30. <i>Merluccius bilinearis</i> , Mitch. |
| 2. <i>Lagocephalus laevigatus</i> , L. | 31. <i>Zoarces anguillaris</i> , Peck. |
| 3. <i>Tetrodon turgidus</i> , Mitch. | 32. <i>Anoplarchus atropurpureus</i> , Kittlitz. |
| 4. <i>Tetrodon nepheus</i> , Goode and Bean. | 33. <i>Xiphister mucosus</i> , Girard. |
| 5. <i>Tetrodon testudineus</i> , L. | 34. <i>Xiphister rupestris</i> , Jor. and Gilb. |
| 6. <i>Ostracion quadricorne</i> , L. | 35. <i>Muraenoides gunnellus</i> , L. |
| 7. <i>Alutera Schœpffi</i> , Walb. | 36. <i>Muraenoides ornatus</i> , Girard. |
| 8. <i>Monacanthus hispidus</i> , L. | 37. <i>Cyclopterus lumpus</i> , L. |
| 9. <i>Balistes caprisiensis</i> , Gmelin. | 38. <i>Liparis lineata</i> , Lepechin. |
| 10. <i>Siphostoma fuscum</i> , Storer. | 39. <i>Gillichthys mirabilis</i> , Cooper. |
| 11. <i>Achirus fasciatus</i> , Lacépède. | 40. <i>Apodichthys flavidus</i> , Girard. |
| 12. <i>Aphoristia plagnisa</i> , L. | 41. <i>Batrachus tau</i> , L. |
| 13. <i>Bothus maculatus</i> , Mitch. | 42. <i>Prionotus carolinus</i> , L. |
| 14. <i>Citharichthys spilopterus</i> , Gunther. | 43. <i>Prionotus evolans</i> , L. |
| 15. <i>Pseudopleuronectes americanus</i> . | 44. <i>Prionotus strigatus</i> , Cuv. and Val. |
| 16. <i>Pleuronectes stellatus</i> , Pallas. | 45. <i>Aspidophoroides monopterygius</i> , Bloch. |
| 17. <i>Pleuronectes glaber</i> , Storer. | 46. <i>Triglops pingelii</i> , Reinh. |
| 18. <i>Hippoglossoides platessoides</i> , Fabricius. | 47. <i>Icelus uncinatus</i> , Reinhart. |
| 19. <i>Paralichthys dentatus</i> , L. | 48. <i>Cottus aneus</i> , Mitch. |
| 19A. <i>Paralichthys oblongus</i> . | 49. <i>Cottus groenlandicus</i> , Cuv. and Val. |
| 20. <i>Limanda ferruginea</i> , Storer. | 50. <i>Cottus octodecimspinosus</i> , Mitch. |
| 21. <i>Gadus callarias</i> , L. | 51. <i>Oligocottus maculosus</i> , Girard. |
| 22. <i>Microgadus tomcod</i> , Walb. | 52. <i>Hemitripterus americanus</i> , Gmelin. |
| 23. <i>Onos eimbrinus</i> , L. | 53. <i>Sebastes marinus</i> , L. |
| 24. <i>Phycis chuss</i> , Walb. | 54. <i>Tautoga onitis</i> , L. |
| 25. <i>Phycis regius</i> , Walb. | 55. <i>Ctenolabrus adspersus</i> , Walb. |
| 26. <i>Phycis tenuis</i> , Mitch. | 56. <i>Gerres plumieri</i> , Cuv. and Val. |
| 27. <i>Melanogrammus aeglefinus</i> , L. | 57. <i>Trichiurus lepturus</i> , L. |
| 28. <i>Pollachius virens</i> , L. | 58. <i>Scomberomorus maculatus</i> , Mitch. |
| 29. <i>Brosmius brosme</i> , Muller. | 59. <i>Sarda pelamys</i> , Gill. |

60. *Scomber scombrus*, L.
 61. *Scomber pneumatophorus*, De la Roche.
 62. *Caranx hippos*, L.
 63. *Caranx chrysus*, Mitch.
 64. *Chloroscombrus chrysurus*, L.
 65. *Decapterus punctatus*, Agassiz.
 66. *Oligoplites occidentalis*, L.
 67. *Trachurops crumenophthalmus*, Bloch.
 68. *Seriola zonata*, Mitch.
 69. *Trachurus trachurus*, L.
 70. *Trachynotus carolinus*, L.
 71. *Selene vomer*, L.
 72. *Stromateus triacanthus*, L.
 73. *Stromateus paru*, L.
 74. *Haplodinotus grunniens*, Raf.
 75. *Cynoscion regalis*, Bloch and Schneider.
 76. *Liostomus xanthurus*, Lacepede.
 77. *Micropogon undulatus*, L.
 78. *Menticirrus nebulosus*, Mitch.
 79. *Bairdella chrysurus*, Lacépède.
 80. *Diplodus probatocephalus*, Walb.
 81. *Stenotomus chrysops*, L.
 82. *Lagodon rhomboides*, L.
 83. *Orthopristis chrysopterus*, L.
 84. *Hæmulon aurolineatum*, Cuv. and Val.
 85. *Enneacanthus obesus*, Baird.
 86. *Enneacanthus simulans*, Cope.
 87. *Lepomis gibbosus*, L.
 88. *Lepomis auritus*, L.
 89. *Lepomis cyanellus*, Raf.
 90. *Lepomis pallidus*, Raf.
 91. *Lepomis megalis*, Mitch.
 92. *Lepomis humilis*, Girard.
 93. *Chanobrythus gulosus*, Cuv. and Val.
 94. *Ambloplites rupestris*, Raf.
 95. *Micropterus dolomieu*, Lacépède.
 96. *Micropterus salmoides*, Lacépède.
 97. *Pomoxys sparoides*, Lacépède.
 98. *Centropristis striatus*, L.
 99. *Morone americana*, Guelin.
 100. *Roccus lineatus*, Bloch.
 101. *Serranus fascicularis*, Cuv. and Val.
 102. *Ammocrypta pellucida*, Baird.
 103. *Boleosoma Olmstedii*, Storer.
 104. *Diplesion blennioides*, Raf.
 105. *Diplesion simoterm*, Cope.
 106. *Etheostoma squameiceps*, Jordan.
 107. *Etheostoma spectabilis*, Agassiz.
 108. *Etheostoma tuscumbia*, Gilb. and Swain.
 109. *Etheostoma Whipplei*, Girard.
 110. *Etheostoma zonale*, Cope.
 111. *Hadropterus evides*, Jor. and Cope-land.
 112. *Hadropterus phoxocephalus*, Nelson.
 113. *Hadropterus scierus*, Swain.
 114. *Perca flavescens*, Mitch.
 115. *Stizostedium vitreum*, Mitch.
 116. *Stizostedium canadense*, Smith.
 117. *Pomatomus saltatrix*, L.
 118. *Elacate canada*, L.
 119. *Anmodytes americanus*, De Kay.
 120. *Aphredoderus sayanus*, Gilliams.
 121. *Sphyræna borealis*, De Kay.
 122. *Echeneis naucrates*, L.
 123. *Atherina stipes*, Muller and Troschel.
 124. *Menidia vagrans*, Goode and Bean.
 125. *Menidia notata*, Mitch.
 126. *Menidia peninsulae*, Goode and Bean.
 127. *Atherinopsis californiensis*, Girard.
 128. *Leuresthes tenuis*, Ayers.
 129. *Mugil albula*, L.
 130. *Mugil curema*, Cuv. and Val.
 131. *Apeltes quadracus*, Mitch.
 132. *Gasterosteus aculeatus*, L.
 133. *Gasterosteus biaculeatus*, Shaw.
 134. *Gasterosteus pungitius*, L.
 135. *Eucalia inconstans*, Kirtland.
 136. *Tylosurus marinus*, Bloch and Schneider.
 137. *Hemirhamphus pleei*, Cuv. and Val.
 137A. *Hemirhamphus rosæ*.
 138. *Hemirhamphus unifasciatus*, Ran-zani.
 139. *Scomberesox saurus*, Walb.
 140. *Exocoetus nova-boracensis*, Mitch.
 141. *Esox americanus*, Gmelin.
 142. *Esox reticulatus*, Le Sueur.
 143. *Esox vermiculatus*, Le Sueur.
 144. *Labidesthes sicculus*, Cope.
 145. *Umbra limi*, Kirtland.
 146. *Umbra limi pygmaea*, De Kay.
 147. *Cyprinodon gibbosus*, Baird and Girard.
 148. *Cyprinodon mydrus*, Goode and Bean.
 149. *Cyprinodon variegatus*, Lacepede.
 150. *Fundulus heteroclitus*, L.
 151. *Fundulus majalis*, Walb.
 152. *Fundulus parvipinnis*, Girard.
 153. *Fundulus seminolis*, Girard.
 154. *Fundulus similis*, Baird and Girard.
 155. *Gambusia punctata*, Poey.
 156. *Girardinus metallicus*, Poey.
 157. *Limia cubensis*, Poey.
 158. *Fundulus catenatus*, Storer.
 159. *Fundulus diaphanus*, Le Sueur.
 160. *Fundulus chrysotus*, Gunther.

161. *Gambusia patruelis*, Baird and Girard.
162. *Lucania venusta*, Girard.
163. *Mollienisia latipinna*, Le Sueur.
164. *Zygonectes notatus*, Raf.
165. *Zygonectes henshali*, Jordan.
166. *Zygonectes sciadicus*, Cope.
167. *Percopsis guttatus*, Agassiz.
168. *Synodus fetens*, L.
169. *Hypomesus olidus*, Pallas.
170. *Mallotus villosus*, Muller.
171. *Osmerus mordax*, Mitchell.
172. *Thaleichthys pacificus*, Richardson.
173. *Salmo salar*, L.
174. *Salmo irideus*, Gibbons.
175. *Salmo mykiss*, Walb.
176. *Salmo pleuriticus*, Cope.
177. *Salvelinus fontinalis*, Mitch.
178. *Thymallus signifer tricolor*, Cope.
179. *Brevoortia tyrannus*, Latrobe.
180. *Clupea harengus*, L.
181. *Clupea vernalis*, Mitch.
182. *Clupea æstivalis*, Mitch.
183. *Clupea sapidissima*, Wilson.
184. *Entrumeus teres*, De Kay.
185. *Dorosoma cepedianum*, Le Sueur.
186. *Stolephorus Mitchilli*, Cuv. and Val.
187. *Stolephorus Browni*, Gmelin.
188. *Stolephorus delicatissimus*, Girard.
189. *Stolephorus perfasciatus*, Poey.
190. *Stolephorus ringens*, Jenyns.
191. *Catostomus teres*, Mitch.
192. *Catostomus nigricans*, Le Sueur.
193. *Ictiobus cyprinella*, Cuv. and Val.
194. *Ictiobus velifer*, Raf.
195. *Ictiobus carpio*, Raf.
196. *Ictiobus difformis*, Cope.
197. *Erimyzon sucetta*, Lacépède.
198. *Moxostoma aureolum*, Le Sueur.
199. *Campostoma anomalum*, Raf.
200. *Carassius auratus*, L.
201. *Cliola vigilax*, Baird and Girard.
202. *Chrosomus erythrogaster*, Raf.
203. *Eriocymba buccata*, Cope.
204. *Exoglossum maxillingua*, Le Sueur.
205. *Hybognathus nuchalis*, Agassiz.
206. *Hybopsis kentuckiensis*, Raf.
207. *Hybopsis hudsonius*, De Witt Clinton.
208. *Hybopsis dissimilis*, Kirtland.
209. *Hybopsis amblops*, Raf.
210. *Hybopsis storerianus*, Kirtland.
211. *Notemigonus chrysoleucus*, Mitch.
212. *Notropis analostanus*, Girard.
213. *Notropis boops*, Gilbert.
214. *Notropis camurus*, Jordan and Meek.
215. *Notropis coccogenis*, Cope.
216. *Notropis dilectus*, Girard.
217. *Notropis galacturus*, Cope.
218. *Notropis lntrensis*, Baird and Girard.
219. *Notropis megalops*, Raf.
220. *Notropis micropteryx*, Cope.
221. *Notropis deliciosus*, Girard.
222. *Notropis pyrrhomelas*, Cope.
223. *Notropis rubrifrons*, Cope.
224. *Notropis scylla*, Cope.
225. *Notropis stigmatura*, Jordan.
226. *Notropis umbratilis*, Girard.
227. *Notropis venustus*, Girard.
228. *Notropis Whipplei*, Girard.
229. *Notropis xanocephalus*, Jordan.
230. *Notropis zonatus*, Agassiz.
231. *Phenacobius uranops*, Cope.
232. *Pimephales notatus*, Raf.
233. *Pimephales promelas*, Raf.
234. *Platygobio gracilis*, Richardson.
235. *Rhinichthys atronasmus*, Mitchell.
236. *Rhinichthys cataractæ*, Cuv. and Val.
237. *Semotilus bullaris*, Raf.
238. *Semotilus atromaculatus*, Mitchell.
239. *Aminurus albidus*, Le Sueur.
240. *Synaphobranchus pinnatus*, Gronow.
241. *Simenchelys parasiticus*, Gill.
242. *Petromyzon marinus*, L.
243. *Myxine glutinosa*, L.
244. *Anguilla rostrata*, Le Sueur.

LABELS FOR CASTS OF PREHISTORIC IMPLEMENTS DISTRIBUTED BY THE SMITHSONIAN INSTITUTION ON BEHALF OF THE NATIONAL MUSEUM.

[Prepared under the direction of Dr. Thomas Wilson, Curator Department of Prehistoric Anthropology.]

PALEOLITHIC AGE, EUROPE.

Drift period (Sir John Lubbock, Mr. John Evans);
Cave Bear period (Lartet); Chelléen epoch (de Mortillet); Alluvium (Solomon Reinach).

These implements are the earliest known to have been made by man. They are distributed in almost every quarter of the globe. They are found on the surface on hills and high table-lands, but mostly in the gravels of the river valleys, and consequently are believed to be of the same age. They are found associated with the remains of the extinct fauna of the Quaternary period and were contemporaneous therewith. The characteristic of the industry of this age is, that all the stone implements were made by chipping or flaking. Man knew not that rubbing one stone against another would sharpen or polish it.

Refer for description and bibliography to "A Study of Prehistoric Anthropology; Handbook for Beginners," Report National Museum, 1887-88, pp. 599-613, pl. LXXXVII.

CHELLÉEN IMPLEMENT.—Flint.

From the river gravels of the Little Ouse,
Norfolk, England.

Original, No. 9745, in U. S. National Museum; collected by Mr. John Evans; presented by Sir William Blackmore.

CHELLÉEN IMPLEMENT.—Flint.

From the gravels of the River Somme, St.
Acheul, France.

Original, No. 146623, in U. S. National Museum; collected by Monsieur Ed. d'Acy, Paris; deposited by Thomas Wilson.

CHELLÉEN IMPLEMENT.—Quartzite.

From a paleolithic workshop, Bois du
Rocher, Brittany, France.

Original, No. 99531, in U. S. National Museum; collected by Judge E. Fournier, Rennes; deposited by Thomas Wilson.

PALEOLITHIC AGE, UNITED STATES.

Implements similar in form, style, and mode of manufacture to those from other countries have been found in the United States, and they seem to indicate a similar stage of culture, though the contemporaneity of neither the implements nor the stages of culture to which they belonged has yet been established so as to be universally accepted; nor has the relationship of the men

who made or used them on the two hemispheres been established. Yet the fact is undoubted that the implements are practically the same. These implements have been found to the number of several hundred by Dr. Abbott in the gravels of the Delaware River, as they were washed from the glacial terminal moraine and deposited at Trenton, N. J.; by Miss Franc E. Babbitt, in the gravels of one of the terraces of the Mississippi River, at Little Falls, Minn.; by Dr. C. L. Metz, in the gravels of the Little Miami River at Loveland, Ohio; by Dr. Hilborne T. Cresson, at White River, Indiana, and in the Columbia gravels of the railway cuts south of Chester, Pa. The association and condition of these finds would seem to establish the antiquity of man's occupation in this country, and its contemporaneity with the glacial epoch at least on the Atlantic Coast. Similar implements have been discovered on the surface in almost every State. ("A Study of Prehistoric Anthropology; Handbook for Beginners," Report National Museum, 1887-88, pp. 629-636, figs. 1-9; "Results of an Inquiry as to the Existence of Man in North America," *ibid.*, p. 677.)

PALEOLITHIC IMPLEMENT.—Quartzite.

Mount Verdon, Va.

Original, No. 1073, in U. S. National Museum; loan collection of N. S. Way.

PALEOLITHIC IMPLEMENT.—Quartzite.

Mount Verdon, Va.

Original, No. 1073 *a*, in U. S. National Museum; loan collection of N. S. Way.

STONE PICK OR AX.

These implements are found associated with, and undoubtedly were used in the manufacture of, aboriginal steatite vessels. The material differs according to locality, impure serpentine (Rhode Island), trap (Pennsylvania), quartz and quartzite (Maryland and Virginia) being the most common.

PICK OR AX.—Used in making steatite vessels. Trap.

Fremont, Pa.

Original, No. 35487, in U. S. National Museum; collected by Isaac S. Kirk.

HAMMER AND PITTED STONES.

The largest number of this class are flat or oval pebbles of quartzite, etc., which have been used by holding in the hand. The broken corners and edges, pecked and roughened by numberless strokes, are the only evidence of their use. Many

specimens show an intentional worked depression in the center of one or both sides, and in some instances this cavity is so well defined that it is difficult to draw the line between hammers and cup-stones. Some large and heavy specimens show a groove, as do the axes, which served for an attachment of a handle. These are called mauls. Other classes of hammers are the flint pebbles peculiar to Flint Ridge, Muskingum County, Ohio, and those from the Pacific Coast. (Handbook, pp. 646-648, fig. 22, Nos. 80, 81, 78, 82.)

HAMMER AND PITTED STONE.—Quartzite.

Morehouse Parish, La.

Original, No. 29172, in U. S. National Museum; collected by Dr. Benj. H. Brodnax.

RUDE NOTCHED AX.

A rough, chipped stone ax or adze, notched on both edges; many specimens showing that the notches were used by means of a withe or thong for the attachment of a handle. These are found principally on the Atlantic Seaboard from Massachusetts to Georgia. It has been suggested that they were used in making the "dug-out" canoes. (Handbook, pp. 633-635, fig. 10, pl. cv, No. b.)

RUDE NOTCHED AX.—Quartzite.

Fairfax County, Va.

Original, No. 1073, in U. S. National Museum; loan collection of N. S. Way.

GROOVED STONE AXES.

These are characteristic implements of aboriginal Indian industry in the United States, and their distribution is general. They are peculiar to this country, and do not belong to Europe. Almost the only prehistoric grooved stone implements found there are mauls used in mining or quarrying. The material in the United States differs with the locality; but granite, trap, and rocks which would not flake were used. Grooved axes are made of water-worn pebbles as well as of quarried rock. They were chipped and pecked into shape and then smoothed or polished by rubbing or grinding. Some were not polished but only pecked. The handle was attached by means of a withe or thong passing around in the groove. Grooved axes may be divided according to form, but there are no sharp divisions between the classes. Peculiar forms are to be noted, of hematite from the Mississippi Valley, or of actinolite from the pueblos of the Southwest. (Handbook, p. 647, fig. 22.)

These have been classified as follows:

- I. Grooved, either wholly or partially, some with projecting wings.
- II. Flat back for insertion of tightening wedge.
- III. Double-bitted.
- IV. Hematite.
- V. Actinolite from the pueblos of the Southwest.

GROOVED STONE AX, CLASS I.—10 by 6½ by 3 inches.

Rome, Ga.

Cast, No. 31977, in U. S. National Museum. Original in Museum of Natural History, New York.

GROOVED STONE AX, CLASS I.—Granite, made from pebble.

Naples, Ill.

Cast, No. 11612, in U. S. National Museum; original collected by J. G. Henderson.

GROOVED STONE AX, CLASS I.—Porphyry. Middleboro, Mass.

Original, No. 6542, in U. S. National Museum; collected by J. W. P. Jenks.

GROOVED STONE AX, CLASS I.—Basalt, made from pebble.

Swanton, Vt.

Cast, No. 30043, in U. S. National Museum; original collected by H. H. Dean.

STONE AX, CLASS I.

Louisville, Ky.

Cast, No. 30180, in U. S. National Museum; original collected by Dr. James Knapp.

GROOVED STONE AX, CLASS II.—Granite; large, 11 by 6½ by 3 inches.

Franklin County, Ind.

Original, No. 8206, in U. S. National Museum; collected by Wm. Shank.

GROOVED STONE AX, CLASS II.

Guernsey County, Ohio.

Original, No. 29014, in U. S. National Museum; collected by W. B. Rosamond.

GROOVED STONE AX, CLASS II.—Dark greenstone.

Fort Whipple, Ariz.

Original, No. 1134, in U. S. National Museum; collected by Dr. Elliott Coues.

GROOVED STONE AX, CLASS II.—Hematite.

Pike County, Ill.

Original, No. 32646, in U. S. National Museum; collected by Brainard Mitchell.

GROOVED STONE AX, CLASS II.—Of peculiar form, round in section, sloping grooves, possibly used as a digging implement; 12½ inches long.

Cedarburg, Wis.

Cast, No. 11641, in U. S. National Museum; original collected by F. S. Perkins.

GROOVED STONE AX, CLASS III.—Has a cutting edge at each end and a groove in the middle.

Madison, Wis.

Cast, No. 11640, in U. S. National Museum; original collected by F. S. Perkins.

POLISHED STONE HATCHETS.

These, frequently called "Celts," and erroneously "Fleshers" and "Skin-dressers," in the United States, and "Thunder" or "Lightning" stones in the Eastern Hemisphere, were possibly intended for use similar to the grooved axes; and the same remarks as to material, locality, and mode of manufacture apply to one as to the other. Although these vary greatly in form and size, yet they were practically for the same use. They were inserted in their handles as shown by No. 11479, which, though of stone, is like many others of wood. These are the representative implements of the Neolithic or Polished Stone Age, and are found throughout the prehistoric world. On the coast and islands they are often made of shell. (Handbook, p. 645, fig. 20.)

POLISHED STONE HATCHET.—Hard greenstone.

Valley of the Big Harpeth River, Tennessee.

Cast, No. 11482, in U. S. National Museum; original collected by Dr. Joseph Jones.

POLISHED STONE HATCHET.

Anne Arundel County, Md.

Cast, No. 32085, in U. S. National Museum; original collected by J. D. McGuire, esq.

POLISHED STONE HATCHET.

Rock Island, Ill.

Original, No. 26817, in U. S. National Museum; collected by Miss M. Hobart.

POLISHED STONE HATCHET.

Knox County, Tenn.

Original, No. 59239, in U. S. National Museum; collected by C. L. Stratton.

POLISHED STONE HATCHET.—Mottled jaspery slate.

Fort Wayne, Ind.

Original, No. 30818, in U. S. National Museum; collected by R. S. Robertson.

POLISHED STONE HATCHET.—Flint.

From a mound. St. Clair County, Ill.

Cast, No. 30079, in U. S. National Museum; original collected by Dr. J. F. Snyder.

POLISHED STONE HATCHET.—(Chalcedony?)

From the Cahokia Mound, Illinois.

Cast, No. 30205, in U. S. National Museum; original in Peabody Museum, Cambridge, Mass.

POLISHED STONE HATCHET.—Compact micaceous slate.

Lake County, Ind.

Original, No. 45742, in U. S. National Museum; collected by W. W. Chesire.

POLISHED STONE HATCHET.—Double-headed, with handle in one piece. Green chloritic stone.

From a mound, Cumberland River, opposite Nashville, Tenn.

Cast, No. 11479, in U. S. National Museum; original collected by Dr. Joseph Jones.

POLISHED STONE HATCHET.—Greenstone. Groveport, Ohio.

Original, No. 7745, in U. S. National Museum; collected by W. R. Limpert.

POLISHED STONE HATCHET.—Syenite.

Swanton, Vt.

Cast, No. 30044, in U. S. National Museum; original collected by H. H. Dean.

POLISHED STONE HATCHET.—Olive green, variegated stone.

Valley of the Cumberland River, Tennessee.

Cast, No. 11484, in U. S. National Museum; original collected by Dr. Joseph Jones.

POLISHED STONE HATCHET.—Quartzite.

Mound in Stoddard County, Mo.

Original, No. 99341, in U. S. National Museum; collected by T. L. Whitehead.

COPPER IMPLEMENTS AND ORNAMENTS.

The North American Indians, although living in the age of Polished Stone, made use of native copper. It was chiefly obtained from the Lake Superior region. Aboriginal mining has been described by Mr. Charles Whittlesey in Smithsonian Contributions, Vol. XIII. Native copper has been found in New England, New Jersey, and the mountains of Virginia and the Carolinas. It is generally believed that the Indians did not smelt or cast copper, but hammered their implements out of nuggets; yet it is possible that some races or tribes had the knowledge of casting. The implements of copper were principally hatchets, knives, and spearheads, but there are elaborate ornaments. (Handbook, pp. 666-667, fig. 40.)

COPPER HATCHET.

From a mound, Union Hills, Laporte County, Ind.

Cast, No. 30820, in U. S. National Museum; original collected by R. S. Robertson.

COPPER HATCHET.

Chattanooga, Tenn.

Cast, No. 30256, in U. S. National Museum;
original collected by Gen. J. T. Wilder.

GOUGES.

These are similar to the polished stone hatchets in material, mode of manufacture, and in every way except their gouge form. They were probably handled and used in the same manner. They are more plentiful in, if not confined to, the Atlantic States. Those of the southern coast and the West Indies are of shell. They occur in Europe, especially in Scandinavia. (Handbook, p. 646, fig. 21.)

GOUGE.

Salisbury, Mass.

Cast, No. 13165, in U. S. National Museum;
original collected by H. G. Leslie

GOUGE.—Black slate.

Onondaga County, N. Y.

Cast, No. 32286, in U. S. National Museum;
original collected by Otis M. Bigelow.

GOUGE.—Trap rock.

Onondaga County, N. Y.

Cast, No. 32304, in U. S. National Museum;
original collected by Otis M. Bigelow.

GOUGE.—Porphyritic greenstone.

Harpwell, Me.

Original, No. 12294, in U. S. National Museum;
collected by Dr. E. Palmer.

GOUGE.—Sandstone.

Middleboro, Mass.

Original, No. 6495, in U. S. National Museum;
collected by J. W. P. Jenks.

GOUGE.—Syenite.

Fremont, Ohio.

Cast, No. 35622, in U. S. National Museum;
original collected by Lewis Leppelman.

GOUGE.—Sandstone.

Cayuga County, N. Y.

Cast, No. 32287, in U. S. National Museum;
original collected by Otis M. Bigelow.

ADZES.

These are, apparently, only a variation in form and use from the polished stone hatchet and gouge. They are more rare. Their distribution in the United States seems to be limited to the northeast Atlantic and the northwest Pacific coasts, but they have been found in other parts of the prehistoric world. Their mode of hafting is shown in fig. 21, Nos. 70 and 71. (Handbook, p. 646.)

ADZE.

British Columbia.

Original, No. 9791, in U. S. National Museum;
collected by Lieut. F. W. Ring,
U. S. A.

ADZE.

Lyme, Conn.

Cast, No. 21892, in U. S. National Museum;
original collected by L. G. Olmstead.

ADZE.

Middletown, Conn.

Original, No. 34275, in U. S. National Museum;
collected by A. R. Crittenden.

ADZE.

Hobart, Ind.

Cast, No. 45743, in U. S. National Museum;
original collected by W. W. Cheshire.

ADZE.—Granite. This implement, from its form, might pass for an adze, but other uses might be indicated; they may have been bark peelers.

Casey County, Ky.

Original, No. 97322, in U. S. National Museum;
collected by A. Fairhurst.

POLISHED SPEARHEADS OR KNIVES.

These are mostly made of slate, and occur oftenest in the northern regions of America (Alaska, etc.), but quite a number have been found in Maine and New York.

POLISHED SPEARHEAD OR KNIFE.—Black slate.

Onondaga County, N. Y.

Cast, No. 32295, in U. S. National Museum;
collected by Otis M. Bigelow.

POLISHED SPEARHEAD OR KNIFE.—Black slate.

Union Springs, N. Y.

Cast, No. 32639, in U. S. National Museum original;
collected by Otis M. Bigelow.

PERFORATORS.

This name has been given to a class of clipped objects which indicate by their form a possibility of being used as such. There is hardly enough evidence, however, in their appearance to warrant this conclusion. Many of the points are slightly broken, and in a few instances the edges are smoothed; but nearly all are in their original condition and show no signs of use. A member of the Sioux Indian delegation at Washington, in January, 1890, pronounced many of them to be ornaments worn suspended from the neck. A Mohawk Indian declared them to be amulets or charms. (Handbook, p. 643, fig. 18.)

PERFORATOR.—Hornstone.

Valley of the Ohio River.

Original, No. 35303, in U. S. National Museum; collected by W. W. Bowers.

DIGGING IMPLEMENTS.

Large, flat objects, usually of siliceous material, chipped into an oval or ovoid outline, sharp around the edge; some tapering, some truncated and notched. These are peculiar to the eastern half of the United States. One has lately been deposited in the Peabody Museum. It was found in Maine, and is the largest known, being 18 inches long, 6 inches wide, and $1\frac{1}{2}$ inches thick. They are more frequent in the region of the Mississippi, Ohio, and Tennessee valleys. Many show evidences of wear, but some show a polish not yet accounted for. (Handbook, p. 644, fig. 19.)

Class I. Oval without notches.

Class II. Ovoid, truncated, notched, etc.

DIGGING IMPLEMENT, CLASS I.—Novaculite.

St. Clair County, Ill.

Cast, No. 30230, in U. S. National Museum; original collected by Dr. J. J. R. Patrick.

DIGGING IMPLEMENT, CLASS I.—Flint.

From an ancient cemetery, White Creek road, 9 miles from Nashville, Tenn.

Cast, No. 11487, in U. S. National Museum; original collected by Dr. Joseph Jones.

DIGGING IMPLEMENT, CLASS I.—White hornstone.

St. Clair County, Ill.

Cast, No. 30153, in U. S. National Museum; original collected by Dr. J. J. R. Patrick.

DIGGING IMPLEMENT, CLASS II.—Bluish-gray flint.

East St. Louis, Ill.

Cast, No. 30228, in U. S. National Museum; original collected by Dr. J. J. R. Patrick.

DIGGING IMPLEMENT, CLASS II.—Gray flint.

Madison County, Ill.

Cast, No. 10049, in U. S. National Museum; original in collection of William S. Vaux.

DIGGING IMPLEMENT, CLASS II.—Bluish-gray flint.

East St. Louis, Ill.

Cast, No. 30229, in U. S. National Museum; original collected by Dr. J. J. R. Patrick.

SCRAPERS.

Thick flakes of flint, obsidian, etc., worked at one extremity to a convex edge. They were inserted in a handle and used for scraping any needed

substance, but principally for dressingskins. Occasional specimens are found with a stem and barb, resembling in that regard certain arrow and spear heads, from a broken one of which it is supposed they have been made, thus serving a secondary purpose. Another class are the disks of quartz which are mostly found on the Atlantic Coast from Maine to North Carolina. (Handbook, p. 643, fig. 17.)

DISK-SCRAPER.—Quartz.

Sag Harbor, N. V.

Original, No. 59109, in U. S. National Museum; collected by W. W. Tooker.

STONE DAGGERS.

These are different from and not to be confounded with the leaf-shaped implements which may have had wooden handles and have been used indifferently as knives or spearheads. (Handbook, p. 640, pl. CVI.) They are rare in the United States. They resemble the same weapon from Scandinavia, and are, like them, always chipped and rarely or never polished. The handles have been worked out of the solid. (Handbook, p. 639, fig. 13.)

STONE DAGGER.—Chert.

Pearl Depot, Pike County, Ill.

Original, No. 32831, in U. S. National Museum; collected by Brainard Mitchell.

STONE DAGGER.—Brown, jaspery flint.

Warren County, Ky.

Cast, No. 61858, in U. S. National Museum; original collected by Dr. John E. Younglove.

STONE DAGGER.—Gray flint.

Found in a mound near Carthage, Hale County, Ala.

Original, No. 9330, in U. S. National Museum; collected by Prof. N. T. Lupton.

STONE DAGGER.—Hornstone.

Found in a mound near Nashville, Tenn.

Original, No. 32059, in U. S. National Museum; collected by Maj. J. W. Powell.

STONE SWORDS!

These are similar to the daggers, yet without indication of handles. They were chipped and not polished. The handle was doubtless wrapped with skin, cloth, grass, or the like. (Handbook, p. 639, pl. CVI, fig. 78.)

STONE SWORD.—Dark-brown flint.

Ancient earthwork on the Big Harpeth River, near Franklin, Tenn.

Cast, No. 11481, in U. S. National Museum; original collected by Dr. Joseph Jones.

STONE SWORD.—Obsidian.

From a mound, Oregon.

Cast, No. 30190, in U. S. National Museum; original collected by Capt. A. W. Chase.

MORTARS AND PESTLES.

These implements were in common use by the aborigines throughout the United States. Nearly every material was utilized for mortars, but stone was usual. One has been found in California made of a fossil whale vertebra. Those of wood are not infrequent. The metate of Mexico is similar in purpose. These objects are important in this, that while they have continued in use within the knowledge of persons still living, they have been found in the auriferous gravels of California at such depth and with such associations as to be assigned to the Quaternary, or even Tertiary, geologic period. If this be true, they are the earliest known smoothed stone implements made or used by man. Mortars are not exhibited in this collection. (Handbook, pp. 659-660, figs. 32, 33.)

PESTLE.—Sandstone.

Santa Barbara County, Cal.

Cast, No. 30545, in U. S. National Museum; original collected by Stephen Bowers.

PESTLE.

South Westport, Mass.

Cast, No. 35284, in U. S. National Museum; original collected by Mrs. R. L. Smith.

DRILLED TABLETS.

These objects, which form a numerous class, are of various shapes and careful finish, pierced with one, two, or more holes. They are usually made of slate, but other material was used. Different purposes have been ascribed to them, but nothing certain is known. They may have been pendants, amulets, or badges of distinction. They are never brought to a cutting edge, and, except in rare cases, show no signs of use. They have been found on the breasts of skeletons of antiquity in the United States. (Handbook, p. 650, fig. 24.)

DRILLED TABLET.—Porphyritic syenite.

White County, Ill.

Cast, No. 42915, in U. S. National Museum; original collected by W. M. Locke.

DRILLED TABLET.—Clay ironstone.

Morhouse County, La.

Original, No. 29173, in U. S. National Museum; collected by Benj. H. Brodnax.

DRILLED TABLET.—Slate.

Western Reserve, Ohio.

Original, No. 6865, in U. S. National Museum; collected by J. H. Devereux.

DRILLED TABLET.—Striped slate.

Portage County, Ohio.

Cast, No. 42914, in U. S. National Museum; original collected by Dr. S. M. Luther.

DRILLED TABLET.—Striped slate.

Western Reserve, Ohio.

Original, No. 6850, in U. S. National Museum; collected by J. H. Devereux.

INSCRIBED TABLETS.

These are extremely rare and are principally found in mounds. Their inscriptions have never been read, and the pretended translations are not approved by students of prehistoric archaeology. A number of tablets have been reported of which some are without doubt genuine, but the majority are believed, or are contended to be, frauds. The presumption would be against any newly found tablet, and its genuineness must be established. The best known tablets believed or accepted as genuine are the Cincinnati Tablet (S. I. Contributions to Knowledge, Vol. I, p. 274 et seq.); Davenport Tablet, Short ("North American Indians of Antiquity," p. 38, et seq.); Grave Creek Tablet, McLean ("The Mound Builders," p. 91, et seq.).

INSCRIBED TABLET.—Fine-grained sandstone of a light-brown color.

From a mound, Cincinnati, Ohio.

Cast, No. 7250, in U. S. National Museum; original in the possession of Robert Clark, Cincinnati, Ohio.

SINKERS, PENDANTS, OR CHARMS.

This series shows various, though not all, kinds of the objects. These are made of hematite or hard stone, and are finely polished. Some sinkers not shown are smooth, flat, shore pebbles, broken on the edge so as to easily take and hold the line. One has a hole in the top by which a line can be attached; others have a groove, though very slight; while some have neither groove nor hole. Objects similar to these have been found with a truncated butt. Their distribution throughout the interior in greater numbers than on the lake or sea shores adds to the difficulty of their classification and a knowledge of their purpose. (Handbook, p. 653, fig. 26.)

SINKER, PENDANT, OR CHARM.

Eastport, Me.

Original, No. 11624, in U. S. National Museum; collected by Rev. Eugene Vetromile.

SINKER, PENDANT, OR CHARM.

From a mound, Manatee County, Fla.

Original, No. 30119, in U. S. National Museum; collected by John P. Wall.

SINKER, PENDANT, OR CHARM.—Hematite.

Hancock County, Ill.

Original, No. 59580, in U. S. National Museum; collected by M. Tandy.

SINKER, PENDANT, OR CHARM.—Hematite.
Morehouse County, La.

Original, No. 29178, in U. S. National Museum; collected by Benj. H. Brodnax.

SINKER, PENDANT, OR CHARM.—Hematite.
Plantersville, La.

Original, No. 34408, in U. S. National Museum; collected by Benj. H. Brodnax.

SPADE-SHAPED IMPLEMENTS.

These might be classed with the ceremonial objects, as no practical use has been suggested for them. Their rarity and restricted locality would seem to indicate a purpose more ceremonial than otherwise. Less than a dozen are represented in the collection of the U. S. National Museum, the majority coming from Tennessee; northern Georgia and northeastern Arkansas furnishing one specimen each. They are always polished, and the spade portion is never brought to a sharp cutting edge. The material of which they are made is always compact, fine-grained stone, greenstone, chlorite, lydite, etc. (Handbook, p. 657, fig. 26.)

SPADE-SHAPED IMPLEMENT.—Green chlorite.

From a mound (without skeleton), Hill Bayou, near Des Arc, Prairie County, Ark.

Original, No. 88130, in U. S. National Museum; collected by Dr. E. Palmer.

CEREMONIAL OBJECTS.

The purpose of these objects is purely conjectural. For want of a name indicating their use they have been called variously, ceremonial objects, banner stones, butterflies, etc. Their material is usually too soft and fragile to have served as cutting implements or weapons. They are not sharpened to a cutting edge, and their signs of use are rare, except that they are often broken. The hole is too small for the insertion of a handle for service. While some specimens are of slate and other soft substances, indicating that they might have been ornaments, yet others are of quartz, jasper, syenite, and similar substances—hard, and difficult to shape, polish, or drill. Some specimens show only the rude form made by hammering and pecking; others, although finished by polishing, are destitute of shaft holes, or merely show their beginnings, demonstrating the fact that in America (as in Europe) articles were first brought to the required shape and afterwards drilled. A large number of these objects are found broken after being completely finished, both by polishing and drilling, and in some cases the blades or wings show perforations similar to those in the tablets. This indicates a secondary use, possibly as badges or ornaments, and so they were considered of value, even when broken. (Handbook, p. 648, fig. 23.)

CEREMONIAL OBJECT.

Howard County, Md.

Cast, No. 32086, in U. S. National Museum; original collected by J. D. McGuire, esq.

CEREMONIAL OBJECT.—Striped slate.

Sandusky County, Ohio.

Cast, No. 35627, in U. S. National Museum; original collected by Lewis Leppelman.

CEREMONIAL OBJECT.—Mottled syenite.

Prince George County, Md.

Original, No. 34648, in U. S. National Museum; collected by Dr. E. R. Reynolds.

CEREMONIAL OBJECT.—Argillite.

Fremont, Ohio.

Cast, No. 35625, in U. S. National Museum; original collected by Lewis Leppelman.

CEREMONIAL OBJECT.—Striped slate.

Fremont, Ohio.

Cast, No. 35608, in U. S. National Museum; original collected by Lewis Leppelman.

CEREMONIAL OBJECT.—Ferruginous quartz.

Wayne County, Ohio.

Cast, No. 32362, in U. S. National Museum; original collected by R. M. Norris.

CEREMONIAL OBJECT.—Ferruginous quartz.

From a mound, Connorsville, Ind.

Cast, No. 31675, in U. S. National Museum; original collected by Prof. Van Benschoten.

CEREMONIAL OBJECT.—Striped slate.

Cumberland County, Pa.

Cast, No. 31674, in U. S. National Museum; original collected by John G. Comfort.

CEREMONIAL OBJECT.—Striped slate.

Fremont, Ohio.

Cast, No. 35611, in U. S. National Museum; original collected by Lewis Leppelman.

BIRD-SHAPED OBJECTS.

This name is given to a class of objects somewhat bird-like in shape, but which run imperceptibly into other conventional forms, such as the fence lizard, turtle, etc. They generally stand on flat bases, pierced with a diagonal hole at each end where the breast and tail rise. In some cases the eyes are not represented; in others they are marked by bead like projections expanding into discs. Some specimens belonging to this class were evidently not intended to represent either birds or animals, both ends being alike. Various theories as to their use have been

advanced, knife handles, corn huskers, etc., but none of these are satisfactory. One specimen in the National Museum (No. 9075) from the Northwest coast (entirely modern) has a cord attached, evidently for suspension. Their use as charms or amulets seems the most probable. A Chippewa Indian stated that they served for gaming. They were placed in a flat pan or basket which, being covered, was shaken up and down, then set down carefully, the cover removed, and an inspection would show how many birds were seated upright. He who had the greatest number won the game. (Handbook, p. 651, fig. 25, Nos. 210, 211.)

BIRD SHAPED OBJECT.—Striped slate.

Fremont, Ohio.

Cast, No. 35610, in U. S. National Museum; original collected by Lewis Leppelman.

BIRD-SHAPED OBJECT.

Sacketts Harbor, N. Y.

Original, No. 97128, in U. S. National Museum; received from the Army Medical Museum.

BOAT-SHAPED OBJECTS.

The title indicates our want of knowledge concerning their purpose. Different uses have been assigned to them, such as twine twistors, handles for carrying parcels, or for tightening cords or lines. A Mohawk medicine woman said they were "a witch's amulets for her transportation over the water, as is the broomstick by the modern witch for flight through the air. If it was lost, her power of flight or passage was gone." Some are solid, others are hollowed out, and the perforations may be either at the center or near the ends. These objects are nearly always well made and polished; their material is syenite, though greenstone and occasionally slate were used, especially the striped variety. A limited number of specimens of this class, made of galena, have been found. (Handbook, p. 650, fig. 24, Nos. 134-135.)

BOAT-SHAPED OBJECT.

Southington, Conn.

Cast, No. 34597, in U. S. National Museum; original collected by Larner Andrews.

BOAT-SHAPED OBJECT.—Striped slate.

From a mound in Perry County, Ohio.

Original, No. 13702, in U. S. National Museum; collected by William Anderson.

BOAT-SHAPED OBJECT.—Syenite.

Pearl Depot, Pike County, Ill.

Original No. 32833, in U. S. National Museum; collected by Brainard Mitchell.

TUBES.

In the National Museum is a number of stone tubes of cylindrical and other forms and different lengths. The smaller ones, often only a few inches in length, have been thought to be ornaments. A variety of uses is ascribed to the larger objects, the most plausible being that by the medicine man for the pretended curing of diseases. Their use for smoking or as whistles or calls has also been suggested. The hole through the tube is sometimes the same size throughout, having been drilled from one end, and sometimes biconical, having been drilled from both ends. Another class has large, straight, cylindrical holes drilled almost the entire length of the tube and then finished with one of a small diameter. One specimen in the Museum collection is 13 inches long and terminates at one end in an expanding mouth-piece (No. 7243). The materials are usually steatite, banded slate, and chlorite, although specimens of sandstone are not wanting. (Handbook, p. 664, fig. 37.)

TUBE.—Striped slate.

Fremont, Ohio.

Cast, No. 35632, in U. S. National Museum; original collected by Lewis Leppelman.

TUBE.—Greenish banded slate.

From a mound, Chillicothe, Ohio.

Cast, No. 7243, in U. S. National Museum; original collected by Dr. E. H. Davis.

TUBE.—Gray steatite.

From a mound in Rockingham County, Va.

Original, No. 42674, in U. S. National Museum; collected by Dr. Solon P. Henkle.

PIPES.

No class of aboriginal prehistoric art productions exhibits a greater variety of forms than pipes. They are chiefly carved from stone, but not unfrequently were molded in clay. A classification of pipes is impossible on account of their diversity of shape. For illustration and description of the more marked types see Handbook, p. 662 et seq., figs. 35, 36, 38.

PIPE.—Dark chlorite.

From a mound, Lebanon, Ky.

Original, No. 30177, in U. S. National Museum; collected by W. T. Knott.

PIPE.—Catlinite.

Hart County, Ky.

Cast, No. 30085, in U. S. National Museum; original collected by Prof. J. R. Proctor.

PIPE.—Black chlorite.

Clinch River, East Tennessee.

Cast No. 35383, in U. S. National Museum; original collected by W. M. H. Taylor.

PIPE.—Slate.

Onondaga County, N. Y.

Original, No. 16567, in U. S. National Museum; collected by F. H. Cushing.

PIPE.—Black chlorite.

Fremont, Ohio.

Cast, No. 35620, in U. S. National Museum; original collected by Lewis Leppelman.

DISCOIDAL STONES.

The specimens here enumerated are not less than 2 inches, and seldom over 6 inches, in diameter, and show unmistakable indications of having been artificially worked into shape by pecking or grinding. The material is usually hard, such as quartz, white, brown, or yellow quartzite (sometimes translucent), dark greenstone, etc. Specimens of argillite and sandstone, however, are not wanting. They are supposed to have been used by the Indians in a game called "clungkee," described by Adair, DuPratz, Lawson, and other early writers, and referred to by Lewis and Clarke, Catlin, and writers of more recent date. They are found principally in the Southern and Western States. (Handbook, p. 654, fig. 27.)

DISCOIDAL STONE.—Brown jaspers quartz.

East Tennessee.

Cast, No. 35450, in U. S. National Museum; original collected by Rev. C. Foster Williams.

DISCOIDAL STONE.—Reddish syenite.

Virginia.

Original, No. 30234, in U. S. National Museum; collected by F. H. Cushing.

STONE OBJECTS FROM THE AURIFEROUS GRAVELS OF CALIFORNIA.

These are the enigmas of prehistoric man in North America. If any reliance can be placed in human testimony, we must believe that these, with mortars and similar objects, came from under the lava beds and belong to the early Quaternary, if not the Tertiary geologic period. If thus found they would seem to be the earliest known implements made by man, and again they are of the Neolithic or Polished Stone civilization, and so belong to the more modern prehistoric man in the present geologic period. These contradictions must await the investigations of the geologist and paleontologist as well as the archaeologist. In our present knowledge it would be unwise to announce any hard and fast theory.

OBJECT FROM THE AURIFEROUS GRAVELS OF CALIFORNIA.—Fragment of a pestle.

Tuolumne County, Cal.

Cast, No. 8742, in U. S. National Museum; original collected by Dr. L. G. Yates.

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OBJECT FROM THE AURIFEROUS GRAVELS OF CALIFORNIA.—Fragment of a steatite ladle.

Tuolumne County, Cal.

Cast, No. 8736, in U. S. National Museum; original collected by Dr. L. G. Yates.

PATU-PATU OR MERAI.

This is the traditional weapon of the New Zealander. They may be made of wood, but usually are of hard greenstone, the jade of that country. They have been polished with a species of cornudum found in the island. They are finely and symmetrically made, must have required much labor, and are valued highly. They become heirlooms and are given proper names. A sword knot is attached either by a groove or hole. This specimen was given by J. B. Aldrich, who describes it by letter from Memphis, June 25, 1883, thus: "It was dug out of a mound under my direction in 1866, while quartermaster, United States Army. The mound was situated just south of the Arkansas River, near the thirty-eighth parallel, in Bent County, southeastern Colorado. It was the theory of Kit Carson, who accompanied the command, that it had been secreted there by some of the Comanche or Apache Indians who then occupied the Territory." The hole is filled with a remnant of the loop, made of vegetable fiber.

PATU-PATU OR MERAI.

Said to have been found in a mound, Bent County, Colo.; believed to have come from New Zealand, Pacific Ocean.

Original, No. 61959, in U. S. National Museum; collected by J. B. Aldrich.

PERFORATED STONE CLUB HEADS.

The objects forming this series in the Museum collection have been mostly obtained from Indian graves and from the surface of the Santa Barbara Islands and the opposite Californian coast. Their material is sandstone, serpentine, soapstone, etc., though specimens of harder material, such as greenstone, have been found. They vary in size and form, being from $\frac{1}{2}$ to 5 inches or more in diameter. There are some specimens only one-half inch in thickness, while others are so thick as to equal their diameter and give them a globular form. (Handbook, p. 655, fig. 28.)

PERFORATED STONE CLUB HEAD.

Santa Cruz Island, California.

Original, No. 18227, in U. S. National Museum; collected by Paul Schumacher.

LIST OF DUPLICATE ROCKS AND ORES DISTRIBUTED BY THE SMITHSONIAN INSTITUTION ON BEHALF OF THE NATIONAL MUSEUM.

[Prepared under the direction of Dr. George P. Merrill, Curator, Department of Geology.]

1. Gold ore. Auriferous sulphurets.
Gilpin County, Colo.
2. Gold ore. Auriferous sulpharsenides
in quartz.
Kern County, Cal.
3. Gold ore. Auriferous sulphurets in
quartz.
Mariposa County, Cal.
4. Gold-silver ore. Quartz with aurif-
erous and argentiferous sulphu-
rets.
Comstock Lode, Storey County,
Nev.
5. Gold-silver ore. Siliceous rock with
auriferous and argentiferous
sulphurets,
French District, Owyhee County,
Idaho.
6. Silver ore. Ruby silver and steph-
anite in quartz.
Reese River District, Lander
County, Nev.
7. Silver ore. Granitic rock carrying
silver chloride.
Colorado.
8. Silver ore. Hard carbonate ore.
Leadville, Lake County, Colo.
9. Silver-lead ore. Argentiferous ga-
lena.
Utah.
10. Silver-lead ore. Argentiferous ga-
lena.
Hidden Treasure Mine, Utah.
11. Silver-lead ore. Argentiferous ga-
lena.
Montana.
12. Silver-copper ore. Argentiferous
chalcopyrite.
Pocahontas Mine, Fremont
County, Colo.
13. Lead-zinc ore. Galena and sphaler-
ite.
Portugal.
14. Lead-zinc ore. Galena, blende, and
mispickel in quartz.
Donna Ana County, N. Mex.
15. Lead-zinc-copper ore. Galena,
sphalerite, and chalcopyrite.
Donna Ana County, N. Mex.
16. Zinc ore. Calamine.
Friedensville, Pa.
17. Zinc ore. Sphalerite.
Friedensville, Pa.
18. Zinc ore. Smithsonite.
Austria (?).
19. Zinc ore. Willemite, zincite, and
franklinite.
Franklin Furnace, Sussex County,
N. J.
20. Copper ore. Chalcopyrite.
Queensland, Australia.
21. Copper ore. Chalcopyrite.
Donna Ana County, N. Mex.
22. Copper ore. Chalcopyrite.
Ely, Orange County, Vt.
23. Copper ore. Native copper in feld-
sitic conglomerate.
Calumet and Hecla Mine, Lake
Superior, Michigan.
24. Copper ore. Native copper in mela-
phyre.
Lake Superior, Michigan.
25. Nickel ore. Nickeliferous pyrrho-
tite.
Gap Mine, Lancaster County, Pa.
26. Nickel-copper ore. Nickeliferous
pyrrhotite and chalcopyrite.
Modum, Norway.
27. Nickel ore. Oxidized ore. (Eryth-
rite, anabergite, etc.)
Loveloeks, Churchill County, Nev.
28. Silver-lead ore. Cerussite.
Utah and Nevada.
29. Tin ore. Cassiterite with wolfram
and pyrolusite.
Temescal, San Bernardino County,
Cal.
30. Pyrite. For making sulphuric acid.
Rio Tinto, Portugal.
31. Pyrite. For making sulphuric acid.
Louisa County, Va.
32. Pyrite and chalcopyrite. For mak-
ing sulphuric acid.
Louisa County, Va.
33. Iron ore. Red hematite.
Giles County, Va.
34. Iron ore. Magnetite.
Essex County, N. Y.
35. Iron ore. Magnetite.
Sweden.
36. Iron ore. Hematite, specular iron
ore.
Marquette County, Mich.

37. Iron ore. Siderite.
Germany.
38. Iron ore. Limonite.
Germany.
39. Iron ore. Limonite.
Lawrence County, Ind.
40. Iron ore. Hematite. Called fossil
ore.
Tennessee.
41. Manganese ore. Impure wad.
Tennessee.
42. Manganese ore.
Tennessee.
43. Ferro-manganese.
Italy.
44. Ferro-manganese.
Austria.
45. Native sulphur.
Rabbit Hole Mine, Humboldt
County, Nev.
46. Mercury ore. Cinnabar.
California.
47. Chromite. Chrome iron ore.
Shasta County, Cal.
48. Anthracite coal. Graphitic.
Newport, R. I.
49. Anthracite coal.
Schuylkill County, Pa.
50. Bituminous coal,
West Virginia.
51. Cannel coal.
Kentucky.
52. Graphite.
Buckingham, Quebec, Canada.
53. Emery rock.
Chester, Hampden County, Mass.
54. Phosphatic sandstone.
South Carolina.
55. Massive apatite.
Canada.
56. Massive apatite.
Norway.
57. Rock salt.
Petite Anse, La.
58. Kaolin.
Lawrence County, Ind.
59. Biotite granite.
Woodstock, Md.
60. Biotite granite.
Red Beach, near Calais, Me.
61. Biotite granite.
62. Biotite muscovite granite.
West Concord, N. H.
63. Orbicular granite.
Craftsbury, Vt.
64. Hornblende syenite (drift).
Cape Elizabeth, Me.
65. Elaeolite syenite.
Litchfield, Me.
66. Elaeolite syenite.
Libertyville, N. J.
67. Diabase.
York, Pa.
68. Diabase.
69. Olivine diabase.
Mine Lamotte, Mo.
70. Gabbro.
71. Diorite.
72. Norite.
Keeseville, N. Y.
73. Kersantite.
Franklin Furnace, Sussex County,
N. J.
74. Camptonite.
Lewiston, Me.
75. Quartz porphyry.
Ironton, Mo.
76. Liparite (rhyolite).
Yellowstone National Park.
77. Liparite (rhyolite).
Zacatecas, Mexico.
78. Liparite (obsidian).
Yellowstone National Park.
79. Liparite (obsidian).
Mono Craters, Cal.
80. Trachyte.
Silver Cliff, Colo.
81. Phonolite.
Black Hills, Dak.
82. Hornblende andesite.
Yellowstone National Park.
83. Hornblende andesite.
Madison County, Mont.
84. Basalt.
Yellowstone National Park.
85. Basalt.
86. Melaphyre.
Brighton, Mass.
87. Peridotite (picrite).
Little Deer Isle, Me.
88. Peridotite (hornblende picrite).
Stonypoint, N. Y.
89. Peridotite (dunite).
Cullasaja, N. C.
90. Pyroxinite.
Webster, N. C.
91. Theralite.
Crazy Mountain, Mont.
92. Impure serpentine.
Chester County, Pa.

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| <p>93. Serpentine.
Deer Isle, Me.</p> <p>94. Serpentine.
Montville, N. J.</p> <p>95. Serpentine.
Easton, Pa.</p> <p>96. Serpentine (variety williamsite).
Fulton, Lancaster County, Pa.</p> <p>97. Glaucophanes rock.
Sonoma County, Cal.</p> <p>98. Gneiss with cordierite.
Guilford County, Conn.</p> <p>99. Gneiss.
Montgomery County, Md.</p> <p>100. Amphibolite.
Hanover, N. H.</p> <p>101. Mica schist.
West Washington, D. C.</p> <p>102. Quartzite.
Potsdam, N. Y.</p> <p>103. Steatite (soapstone).
Grafton, Vt.</p> <p>104. Crystalline limestone (marble).
West Rutland, Vt.</p> <p>105. Crystalline dolomite (marble).
Westchester, N. Y.</p> <p>106. Crystalline dolomite (marble).
Lee, Mass.</p> <p>107. Ophiolite.
Essex County, N. Y.</p> <p>108. Limestone (fossiliferous).
Rochester, N. Y.</p> <p>109. Limestone (oolitic).
Indiana.</p> | <p>110. Limestone (oolitic).
Kentucky.</p> <p>111. Limestone (coral).
Bermuda.</p> <p>112. Slate.
Buckingham, Quebec, Canada.</p> <p>113. Gypsum.
Saltville, Va.</p> <p>114. Calc sinter.
Yellowstone National Park.</p> <p>115. Siliceous oolite.
Center County, Pa.</p> <p>116. Chert.
Licking County, Ohio.</p> <p>117. Sandstone (Triassic).
Seneca Creek, Md.</p> <p>118. Sandstone (Subcarboniferous).
Berea, Ohio.</p> <p>119. Calcareous conglomerate.
Loudoun County, Va.</p> <p>120. Rhyolite tuff.
Douglas County, Colo.</p> <p>121. Rhyolite tuff.
Zacatecas, Mexico.</p> <p>122. Infusorial earth.
Popes Creek, Md.</p> <p>123. Infusorial earth.
Nevada.</p> <p>124. Oolitic sand.
Salt Lake, Utah.</p> <p>125. Shell sand.
Hawaiian Islands.</p> <p>126. Lapilli.
Mono Craters, Cal.</p> |
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LIST OF DUPLICATE MARINE INVERTEBRATES DISTRIBUTED BY THE SMITHSONIAN
INSTITUTION ON BEHALF OF THE NATIONAL MUSEUM.

SERIES V.

[Prepared under the direction of Mr. James E. Benedict, Assistant Curator, Department of Marine Invertebrates.]

CRUSTACEA.

Brachyura.

1. *Oregonia gracilis*, Dana.
Bering Sea to Oregon; 5 to 135 fathoms.
2. *Euprognatha rastellifera*, Stimpson.
Off Marthas Vineyard; 70 fathoms.
3. *Pugettia gracilis*, Dana.
West coast North America; shallow water.
4. *Epialtus productus*, Randall.
West coast United States; shallow water.

CRUSTACEA—continued.

Brachyura—Continued.

5. *Chionocetes opilio*, Kröyer.
North Pacific, North Atlantic; 10 to 120 fathoms.
6. *Chionocetes Tanneri*, Rathbun.
North Pacific; 300 to 1,600 fathoms.
7. *Hyas araneus*, Leach.
North Atlantic; 35 to 90 fathoms.
8. *Hyas coarctatus*, Leach.
North Atlantic; 20 to 65 fathoms.
9. *Hyas coarctatus*, Leach.
North Pacific; 10 to 50 fathoms.

CRUSTACEA—continued.

Brachyura—Continued.

10. *Hyas lyratus*, Dana.
Bering Sea to Puget Sound, 5 to 110 fathoms.
11. *Hyastenus longipes* (Dana).
North Pacific, 30 to 600 fathoms.
12. *Libinia dubia*, M. Edw.
Woods Holl, Mass.; shallow water.
13. *Libinia emarginata*, Leach.
New England; shallow water.
14. *Microphrys bicornutus* (Latreille).
Florida and West Indies; shallow water.
15. *Othonia aculeata* (Gibbes).
Key West, Fla.; shallow water.
16. *Othonia Lherminieri*, Schramm.
Florida; shallow water.
17. *Mithrax cinctimanus* (Stimpson).
Key West, Fla.; shallow water.
18. *Mithrax hispidus* (Herbst).
St. Thomas, W. I.; shallow water.
19. *Mithrax sculptus* (Lamarck).
Florida and West Indies; shallow water.
20. *Cancer borealis*, Stimpson.
Northeast coast United States; shallow water.
21. *Cancer gracilis*, Dana.
California; shallow water.
22. *Cancer irroratus*, Say.
East coast North America; low tide to 50 fathoms.
23. *Cancer magister*, Dana.
West coast North America; below low tide.
24. *Cancer productus*, Randall.
West coast North America; shallow water along shore.
25. *Menippe mereenaria* (Say).
West coast of Florida; shallow water.
26. *Panopeus angustifrons*, Benedict and Rathbun.
East coast United States; shallow water.
27. *Panopeus depressus*, Smith.
Florida; shallow water.
28. *Panopeus Herbstii*, M. Edw.
East coast United States; shallow water.
29. *Panopeus occidentalis*, Saussure.
Florida and West Indies; shallow water.

CRUSTACEA—continued.

Brachyura—Continued.

30. *Panopeus Paekardii*, Kingsley.
Florida; shallow water.
31. *Panopeus Sayi*, Smith.
Massachusetts to South Carolina; shallow water.
32. *Panopeus texanus*, Stimpson.
Florida; shallow water.
33. *Eriphia gonagra* (Fabr.).
Florida; shallow water.
34. *Pseudothelphusa Jonyi*, Rathbun.
Lake Chapala, Mexico.
35. *Trichocarcinus oregonensis* (Dana).
West coast North America; shallow water.
36. *Telmessus cheiragonus* (Tilesius).
Alaska and Puget Sound; shallow water.
37. *Callinectes hastatus* (Say).
East coast United States; shallow water.
38. *Callinectes larvatus*, Ordway.
Southern coast United States; shallow water.
39. *Callinectes ornatus*, Ordway.
Southern coast United States; shallow water.
40. *Neptunus Sayi*, Stimpson.
North Atlantic; surface.
41. *Platyonichus ocellatus*, Latreille.
New England; shallow water.
42. *Carcinus menas*, Leach.
New England; shallow water.
43. *Geryon quinquedens*, Smith.
Off Marthas Vineyard; 400 to 1,000 fathoms.
44. *Gelasimus pugilator* (Bosc).
Massachusetts to Florida; shore.
45. *Gelasimus pugnax*, Smith.
Southern New England; shore.
46. *Ocypoda arenaria* (Catesby).
West Indies; shore.
47. *Nautilograpsus minutus* (Linné).
North Atlantic; surface.
48. *Grapsus maculatus* (Catesby).
Tropical America; shore.
49. *Pachygrapsus crassipes*, Randall.
West coast United States; shore.
50. *Brachynotus (Heterograpsus) nudus* (Stimpson).
West coast North America; shore.
51. *Sesarma cinerea* (Bosc).
Southern coast United States; shore.

CRUSTACEA—continued.

Brachyura—Continued.

52. *Calappa marmorata*, Fabricius.
Southern coast United States;
shallow water.

Anomura.

53. *Munida caribæa*? Smith.
Off Marthas Vineyard; 50 to 150
fathoms.
54. *Hippa talpoida*, Say.
Massachusetts to Florida; sandy
shores.
55. *Eupagurus alaskensis*, Benedict.
Alaska; 5 to 45 fathoms.
56. *Eupagurus aleuticus*, Benedict.
Aleutian Islands; 10 to 250 fathoms.
57. *Eupagurus Bernhardus*, Brandt.
Off New England coast; 5 to 250
fathoms.
58. *Eupagurus Brandti*, Benedict.
Aleutian Islands; 15 to 85 fathoms.
59. *Eupagurus capillatus*, Benedict.
Alaska; 15 to 250 fathoms.
60. *Eupagurus confragosus*, Benedict.
Alaska; 40 to 240 fathoms
61. *Eupagurus Dalli*, Benedict.
Aleutian Islands; 15 to 85 fathoms.
62. *Eupagurus hirsutiusculus* (Dana).
Alaska and Bering Island; shallow
water.
63. *Eupagurus Krøyeri*, Stimpson.
East coast United States; 50 to 150
fathoms.
64. *Eupagurus longicarpus*, Stimpson.
New England; shallow water,
along shore.
65. *Eupagurus munitus*, Benedict.
Alaska; 20 to 80 fathoms.
66. *Eupagurus politus*, Smith.
Off Marthas Vineyard; 10 to 600
fathoms.
67. *Eupagurus pollicaris*, Stimpson.
Southern coast New England; 1 to
25 fathoms.
68. *Eupagurus pubescens*, Brandt.
Off New England coast; 10 to 150
fathoms.
69. *Eupagurus Rathbuni*, Benedict.
Alaska; 30 to 70 fathoms.
70. *Eupagurus splendescens* (Owen).
North Pacific; 15 to 225 fathoms.

CRUSTACEA—continued.

Anomura—Continued.

71. *Eupagurus Tanneri*, Benedict.
Alaska; 50 to 550 fathoms.
72. *Eupagurus trigonocheirus*, Stimpson.
Alaska; 15 to 80 fathoms.
73. *Parapagurus pilosimanus*, Smith. In
Epizoanthus paguriphilus, Ver-
rill.
Off Marthas Vineyard; 300 fathoms.
74. *Catapagurus Sharreri*, A. M. Edw.
Off Marthas Vineyard; 120 fathoms.

Macrura.

75. *Homarus americanus*, M. Edw.
Southern New England; shallow
water.
76. *Crangon vulgaris*, Fabr.
New England; shallow water.
77. *Palaemonetes vulgaris*, Stimpson.
Narragansett Bay; shore.
78. *Sergestes arcticus*, Krøyer.
North Atlantic; 400 to 650 fathoms.
79. *Pontophilus norvegicus*, Sars.
North Atlantic; 100 to 400 fathoms.
80. *Pandalus borealis*, Krøyer.
North Atlantic; 50 to 150 fathoms.
81. *Pandalus leptocerus*, Smith.
North Atlantic; 30 to 300 fathoms.
82. *Pandalus Montagni*, Leach.
North Atlantic; 30 to 80 fathoms.
83. *Pandalus propinquus*, G. O. Sars.
North Atlantic; 150 to 500 fathoms.
84. *Hippolyte Gaimardii*, M. Edw.
North Atlantic; 40 fathoms.
85. *Hippolyte Liljeborgii*, Dan.
North Atlantic; 100 to 300 fathoms.
86. *Hippolyte macilenta*, Krøyer.
Grand Bank; 67 fathoms.
87. *Hippolyte spinus*, Leach.
North Atlantic; 40 to 45 fathoms.
88. *Nematocarcinus ensiferus*, Smith.
East coast United States; 700 to
2,000 fathoms.
89. *Latreutes ensiferus*, Stimpson.
North Atlantic; surface.
90. *Leander tennicornis*, Kingsley.
North Atlantic; surface.
91. *Cambarus affinis* (Say).
Pennsylvania; fresh water.
92. *Cambarus Bartonii* (Fabr.).
Virginia, District of Columbia;
fresh water.

CRUSTACEA—continued.

Macrura—Continued.

93. *Cambarus Blandingii acutus*, Faxon.
Alabama, Louisiana; fresh water.

Schizopoda.

94. *Mysis americana*, Smith.
Woods Holl, Mass.; surface.

Cumacea.

95. *Diastylis quadrispinosus*, G. O. Sars.
Block Island Sound; shallow water.

Isopoda.

96. *Idotea robusta*, Kröyer.
Off Block Island; surface.

Amphipoda.

97. *Orchestia agilis*, Smith.
Newport, R. I.; shore.
98. *Talorchestia longicornis*, Smith.
New Haven, Conn.; shore.
99. *Unciola irrorata*, Say.
Southern New England; low water to 400 fathoms.

100. *Caprella geometrica*, Say.
Woods Holl, Mass.; shallow water along shore.

Cirripedia.

101. *Balanus porcatus*, Costa.
Off Chatham, Mass.; shallow water.
102. *Lepas anatifera*, Linné.
Gulf Stream; floating, on logs.

MEROSTOMATA.

103. *Limulus polyphemus*, Latreille.
Southern New England; along shore.

ANNELIDA.

Chaetopoda.

104. *Aphrodita aculeata*, Linné.
Off Marthas Vineyard; deep water.
105. *Chaetopterus pergamentaceus*.
Tubes. Vineyard Sound; along shore.
106. *Cirratulus grandis*, Verrill.
Southern New England; shore.

ANNELIDA—continued.

Chaetopoda—Continued.

107. *Hyalinocia artifex*, Verrill.
Off Marthas Vineyard; 150 to 400 fathoms.
108. *Hyalinocia artifex*, Verrill.
Tubes. Off Marthas Vineyard; 150 to 400 fathoms.
109. *Lepidonotus squamatus*, Leach.
New England; along shore.
110. *Nephtys incisa*, Malmgren.
Narragansett Bay; 5 to 10 fathoms.
111. *Nereis pelagica*, Linné.
Vineyard Sound; shallow water.
112. *Nothria conchylega*, Malmgren.
Long Island Sound; 4 fathoms.
113. *Rhynchobolus dibranchiatus*, Verrill.
Naushon Island, Mass.; shore.
114. *Thelepus cincinnatus*, Malmgren.
Off New England coast; shallow water.
115. *Trophonia affinis*, Verrill.
Narragansett Bay; 10 to 20 fathoms.

Gephyrea.

116. *Phascolosoma Gouldii*, Dies.
Naushon Island, Mass.; shore.

TUNICATA.

117. *Amarœcium constellatum*, Verrill.
Woods Holl, Mass.; low tide.
118. *Amarœcium pellucidum*, Verrill.
Vineyard Sound; low tide.
119. *Amarœcium stellatum*, Verrill.
Vineyard Sound; low tide.
120. *Ascidioopsis complanata*, Verrill.
Eastport Harbor, Me.
121. *Boltenia Bolteni* (Linné).
Eastport Harbor, Me.
122. *Botryllus Gouldii*, Verrill.
Vineyard Sound, Buzzards Bay.
123. *Ciona ocellata*, Verrill.
Newport Harbor, R. I.
124. *Halocynthia pyriformis*, Verrill.
Bay of Fundy.
125. *Leptoclinum albidum*, Verrill.
Vineyard Sound.
126. *Perophora viridis*, Verrill.
Woods Holl, Mass.; shallow water.
127. *Salpa Caboti*, Desor.
Vineyard Sound; surface.

TUNICATA—continued.

128. *Salpa*, sp.
Off Marthas Vineyard; surface.

MOLLUSCOIDA.

Polyzoa.

129. *Bugula turrita*, Verrill.
Southern New England; shallow water.

130. *Gemellaria loricata*, Busk.
Off Cape Cod, Mass.; 27 to 30 fathoms.

ECHINODERMATA.

Holothurioidea.

131. *Thyone briareus*, Selenka.
Massachusetts and North Carolina; shallow water.
132. *Euphronides cornuta*, Verrill.
Off Chesapeake Bay; 1,500 to 1,700 fathoms.

Echinoidea.

133. *Cidaris tribuloides*, Blainville.
Gulf of Mexico; 24 fathoms.
134. *Derocidaris papillata*, A. Ag., var.
North Carolina to Florida; 50 to 100 fathoms.
135. *Echinus norvegicus*, Düb. & K.
Northeast coast America; 100 to 1,300 fathoms.
136. *Arbacia punctulata*, Gray.
Southern New England; shallow water.
137. *Arbacia stellata*, Gray.
Gulf of California; shallow water.
138. *Toxopneustes variegatus*, A. Ag.
Florida; shallow water.
139. *Strongylocentrotus dröbachiensis*, A. Ag.
North Pacific and North Atlantic; low tide, shallow water.
140. *Echinometra subangularis*, Desm.
Florida and Bahamas; shallow water.
141. *Ceolopleurus floridanus*, A. Ag.
From Cape Hatteras to Havana; 60 to 220 fathoms.
142. *Echinanthus rosaceus*, Gray.
Nassau, New Providence; shallow water.

ECHINODERMATA—continued.

Echinoidea—continued.

143. *Echinarachnius excentricus*, Val.
San Diego, Cal.; shallow water.
144. *Echinarachnius parma*, Gray.
North Atlantic; North Pacific; shallow water.
145. *Mellita testudinata*, Klein.
North and South Carolina and Florida; shallow water.
146. *Encope michelini*, Agassiz.
Coast of Southern States; 20 to 30 fathoms.
147. *Clypeaster Ravenellii*, A. Ag.
Gulf of Mexico; 35 fathoms.
148. *Clypeaster subdepressus*, Agassiz.
Gulf of Mexico; 30 fathoms.
149. *Phormosoma placenta*, Wyv-Thom.
Off Marthas Vineyard; 900 to 1,200 fathoms.
150. *Asthenosoma hystrix*, A. Ag.
Off South Carolina; 250 fathoms.
151. *Linopneustes longispinus*, A. Ag.
Bahamas; 338 fathoms.
152. *Schizaster fragilis*, Agassiz.
Northeast coast of America; 150 to 500 fathoms.

Asterioidea.

153. *Archaster Agassizii*, Verrill.
Off Marthas Vineyard; 300 to 1,000 fathoms.
154. *Archaster americanus*, Verrill.
Off Marthas Vineyard; 50 to 200 fathoms.
155. *Archaster floreæ*, Verrill.
Off Marthas Vineyard; 100 to 300 fathoms.
156. *Archaster grandis*, Verrill.
East coast United States; 1,400 to 1,600 fathoms.
157. *Archaster tenuispinus*, Düb. and K.
East coast United States; 1,200 to 1,400 fathoms.
158. *Asterias Forbesii*, Verrill.
New England.
159. *Asterias Tameri*, Verrill.
East coast United States; 50 to 100 fathoms.
160. *Asterias vulgaris*, Stimpson.
Northeast coast North America; shallow water.
161. *Cribrella sanguinolenta*, Lütken.
Northeast coast North America; shallow water.

ECHINODERMATA—continued.

Asterioidea—Continued.

162. *Ctenodiscus crispatus*, D. and K.
Northeast coast North America;
shallow water.
163. *Diplopteraster multipes*, Verrill.
Off Marthas Vineyard; 150 to 250
fathoms.
164. *Heliaster microbrachia*, Xantus.
West coast of Mexico and Central
America; shallow water.
165. *Leptasterias compta*, Verrill.
Off New England coast; shallow
water.
166. *Luidia clathrata*, Lütken.
From Cape Hatteras to Florida;
13 to 18 fathoms.
167. *Odontaster hispidus*, Verrill.
Off Marthas Vineyard; 89 to 225
fathoms.
168. *Oreaster reticulatus*, M. and T.
Jamaica and Florida; shallow
water.
169. *Benthoptecten spinosus*, Verrill.
Off Marthas Vineyard; 1,500 fath-
oms.
170. *Porania grandis*, Verrill.
East coast United States; 85 to
150 fathoms.
171. *Stephanasterias albula*, Verrill.
Off Marthas Vineyard; 70 to 100
fathoms.
172. *Zoroaster diomedææ*, Verrill.
Off Marthas Vineyard; 1,200 to
1,500 fathoms.

Ophiuroidea.

173. *Ophiacantha bidentata*, Ljg.
Off Marthas Vineyard; 70 to 200
fathoms.
174. *Ophiacantha millespina*, Verrill.
Off Marthas Vineyard; 100 to 250
fathoms.
175. *Ophiactis Mülleri*, Ltk., var. *quin-
queradia*.
Gulf of Mexico and Caribbean
Sea; 26 to 34 fathoms.
176. *Ophiocamax fasciculata*, Lyman.
Caribbean Sea; 208 fathoms.
177. *Ophiocamax hystrix*, Lyman.
Caribbean Sea; 150 to 250 fath-
oms.
178. *Ophiocnida olivacea*, Lyman.
Off Marthas Vineyard; 120 fath-
oms.

ECHINODERMATA—continued.

Ophiuroidea—Continued.

179. *Ophioglypha acervata*, Lyman.
Gulf of Mexico; 150 to 200 fath-
oms.
180. *Ophioglypha convexa*, Lyman.
Off North Carolina; 2,000 fath-
oms.
181. *Ophioglypha lepida*, Lyman.
Off Marthas Vineyard; 1,500 fath-
oms.
182. *Ophioglypha lepida*, Lyman, var.
spinulosa Verrill.
Off Chesapeake Bay; 1,500 fath-
oms.
183. *Ophioglypha robusta*, Lyman.
Off Point Franklin, Alaska; 13
fathoms.
184. *Ophioglypha Sarsii*, Lyman.
North Atlantic; 20 to 100 fathoms.
185. *Ophiomusium armigerum*, Lyman.
Off Nantucket Shoals; 1,700 to
2,000 fathoms.
186. *Ophiomusium Lymani*, Wyv.-Thom.
Northeast coast America; 1,000 to
1,400 fathoms.
187. *Ophiopholis aculeata*, Gray.
Off New England coast; 15 to 250
fathoms.
188. *Ophiosclex glacialis*, M. & T.
Off Marthas Vineyard; 200 fath-
oms.
189. *Ophiothrix angulata*, Ayres.
West Indies; shallow water.
190. *Amphiura macilentæ*, Verrill.
Off Marthas Vineyard; 63 fathoms.
191. *Hemipholis cordifera*, Lyman.
Trinidad; shallow water.
192. *Astrochele Lymani*, Verrill.
Off Marthas Vineyard; 450 to 550
fathoms.
193. *Gorgonocephalus Agassizii*, Lyman.
Off Cape Cod, Mass.; 30 fathoms.
194. *Gorgonocephalus Lamarekii*, Ly-
man.
Georges Bank; 125 fathoms.

Crinoidea.

195. *Antedon dentata*, Verrill.
Off Marthas Vineyard; 150 to 200
fathoms.

CŒLEENTERATA.

Anthozoa.

196. *Amphihelia oculata*, Edw. & H.
Off Florida; 275 to 450 fathoms.
197. *Astrangia danae*, Agassiz.
Woods Holl, Mass; low tide.
198. *Dendrophyllia? profunda*, Pour.
Off Georgia and Florida; 250 to 450 fathoms.
199. *Flabellum Goodei*, Verrill.
East coast United States, 200 to 800 fathoms.
200. *Lophohelia prolifera*, Edw. & H.
Off Florida, 277 to 434 fathoms.
201. *Madracis decactis*, Verrill.
Bermuda; shallow water.
202. *Madrepora cervicornis*, Lamk.
Florida; shallow water.
203. *Madrepora palmata*, Lamk.
Florida; shallow water.
204. *Madrepora prolifera*, Lamk.
Florida and Hayti; shallow water.
205. *Manicina areolata*, Ehr.
Key West, Fla.; shallow water.
206. *Oculina diffusa*, Lamk.
Florida; shallow water.
207. *Oculina implicata*, Ag., MS.
Off Cape Hatteras; 16 fathoms.
208. *Forites astraeoides*, Lamk.
Florida and Bahamas; shallow water.
209. *Porites clavaria*, Lamk.
Florida; shallow water.
210. *Porites furcata*, Lamk.
Florida; shallow water.
211. *Acanella Normani*, Verrill.
Off Marthas Vineyard; 250 to 650 fathoms.
212. *Prinnoa reseda*, Verrill.
Fishing banks, northeast coast of America; 100 to 250 fathoms.
213. *Pennatulula aculeata*, K. & D.
Off Marthas Vineyard; 200 to 250 fathoms.
214. *Gorgonia anceps*, Pallas.
Florida; shallow water.

CŒLEENTERATA—continued.

Anthozoa—Continued.

215. *Gorgonia flabellum*, Linné.
West Indies and Bahamas; shallow water.
216. *Bolocera tuediae*, Gosse.
Off Marthas Vineyard; 200 to 250 fathoms.
217. *Actinange nodosa*, Verrill.
Northeast coast America; 75 to 250 fathoms.
218. *Sagartia abyssicola*, Verrill.
Off Marthas Vineyard; 200 fathoms.
219. *Metridium marginatum*, M. Edw.
Newport, R. I. and Woods Holl, Mass.; shallow water.
220. *Epizoanthus americanus*, Verrill.
Off Marthas Vineyard; 100 to 200 fathoms.

Hydroidea.

221. *Obelia geniculata*, Hincks.
Off Block Island; 13 fathoms.
222. *Pennaria tiarella*, McCr.
Buzzards Bay.
223. *Tubularia*, sp.
Buzzards Bay.

PORIFERA.

224. *Hircinia campana*, Hyatt, var. *turrita*.
Harrington Sound, Bermuda.
225. *Spongia tubulifera*, Hyatt, var. *turrita*.
Harrington Sound, Bermuda.
226. *Suberites compacta*, Verrill.
Massachusetts; shallow water.
227. *Tethya gravata*, Hyatt.
Buzzards Bay, 5 fathoms.
228. *Tuba vaginalis*, var. *crispa*.
Harrington Sound, Bermuda.
229. *Verongia fistularis?* Hyatt.
Harrington Sound, Bermuda.

APPENDIX X.

STATEMENT OF THE DISTRIBUTION OF SPECIMENS DURING THE YEAR ENDING JUNE 30, 1895.

NORTH AMERICA.

Canada.

ONTARIO: Geological Survey of Canada.
Ottawa: *Pachydiscus Newberryensis*
(3 specimens); fossils (54 specimens).
Lent for study. (D. 8523, 9173.)

Lambe, Lawrence M., Geological Survey
of Canada, Ottawa: Set of dup-
licate Alaskan sponges. Exchange.
(D. 9159.)

University of Toronto, Toronto: Worms
(194 specimens). Exchange. (D.
8885.)

Whiteaves, J. F., Ottawa: *Anodonta*
fragilis (2 specimens). Exchange.
Fossils from Manitoba (54 speci-
mens). For study and identification.
(D. 8680.)

Mexico.

GUANAJUATO: Dugés, Alfred, Guana-
juato: *Callisaurus ventralis* and *Cha-*
rina plumbea (1 specimen each). Ex-
change. (D. 9003.)

United States.

ALABAMA: Tuskegee Normal and Indus-
trial Institute, Tuskegee: Marine in-
vertebrates (624 specimens, series
v, set 16); marine and fresh-water
fishes. Gift. (D. 8783, 8832.)

ARKANSAS: McNeill, Jerome, Fayette-
ville: Collection of Orthoptera (132
specimens). For study. (D. 8838.)

CALIFORNIA: Anthony, A. W., San Diego:
Bird skin (1 specimen). For study.
Birdskins (18 specimens). Exchange.
(D. 8641, 8802.)

California State Mining Bureau, San
Francisco: Minerals (33 specimens).
Exchange. (D. 8862.)

CALIFORNIA—Continued.

Gilbert, Charles H., Stanford Univer-
sity: Alcoholic fishes (1 specimens);
Icelus eurypops (1 specimen). For
study. (D. 8736, 8880.)

Golden Gate Park Museum, San Fran-
cisco: Minerals (57 specimens, set
183); rocks and ores (91 specimens,
set 103); casts of prehistoric stone
implements (107 specimens, set 39);
marine invertebrates (516 specimens,
set 30, series v). Gift. (D. 8914.)

Holmes, Samuel J., University of Cali-
fornia, Berkeley: Dried crabs (2
specimens). Lent for study. (D.
8710.)

Santa Barbara Society of Natural His-
tory, care of Frederick A. Wood-
worth, Santa Barbara: Marine inver-
tebrates (set 194, series iv). Gift.
(D. 8617.)

University of California, Berkeley:
Collection of crustacea; Hippolyta (5
species). Exchange. (D. 8729, 8881.)

Van Denburgh, John, California Acad-
emy of Science, San Francisco: Liz-
ards (15 specimens). Lent for study.
(D. 8985.)

COLORADO: High School, Central City:
Rocks and ores (89 specimens, set
113). Gift. (D. 8790.)

State Normal School, Greeley: Marine
invertebrates (376 specimens, set 73,
series v). Gift. (D. 8891.)

CONNECTICUT: Slater Memorial Museum,
Norwich: Marine invertebrates (set
196, series iv). Gift. (D. 9065.)

Verrill, A. E., New Haven: Alcoholic
fishes (100 specimens); samples of
ocean bottom (103 specimens); cri-
noids. Exchange. Starfishes (5
specimens). Lent for study. Collec-
tion of parasites. Exchange. (D.
8715, 8721, 8963, 9046.)

- DISTRICT OF COLUMBIA:** Bolles, Mrs. E. C., Washington: Tapa cloth (2 pieces). Exchange. (D. 8933.)
- Burns, Frank, U. S. Geological Survey, Washington: Specimens of crabs, 1 lobster, 1 sea urchin. Exchange. (D. 8609.)
- Columbian University, Washington: Collection of rocks and ores. Gift. (D. 8601.)
- Department of Agriculture (Division of Forestry), Washington: Set of mounted photographs of the trees of the Lower Wabash Valley. Gift. (D. 8810.)
- Howell, E. E., Washington: Collection of ores; collection of crabs and foraminifera; sea fans (8 specimens) and sand dollars (200 specimens); June beetles (50 specimens). Exchange. (D. 8588, 8632, 8657, 8684.)
- Rockhill, W. W., Washington: Duplicate Samoan Kava bowl. Exchange. (D. 8658.)
- Schmid, E. S., Washington: Skeleton of parrot. Exchange. (D. 8955.)
- Washington Seminary, Washington: Skeletons of fishes (32 specimens). Exchange. (D. 9066.)
- Weed, W. H., U. S. Geological Survey, Washington: Rocks from Bear Paw Mountains (35 specimens). Lent for study. (D. 9123.)
- Whitehead, Cabell, Washington: Specimen of monazite. Exchange. (D. 8568.)
- GEORGIA:** Georgia Female College, Gainesville: Rocks and ores (91 specimens, set 100). Gift. (D. 9100.)
- Georgia State Industrial College, College: Rocks and ores (90 specimens, set 109); marine invertebrates (set 50, series I). Gift. (D. 8860, 8970.)
- ILLINOIS:** Baur, G., Walker Museum, Chicago: Specimens of reptiles for anatomical purposes; turtles for anatomical purposes (4 specimens). Skull and carapace of turtle. Lent for study. (D. 8662, 8763, 8969.)
- Field Columbian Museum, Chicago: Cave material (2 boxes); rock sections (34 specimens). Exchange. (D. 8907, 9141.)
- Illinois Wesleyan University, Bloomington: Bird skins (180 specimens);
- ILLINOIS—Continued.**
- mammal skins and skulls (67 specimens). Gift. (D. 8711.)
- Jefferson High School, care of F. W. Plapp, Ivory Park: Foraminifera. Gift. (D. 8545.)
- Worthen, Charles K., Warsaw: Bird skins (15 specimens). Exchange. (D. 8871, 8943.)
- INDIANA:** St. Meinrad Abbey, St. Meinrad: Minerals (57 specimens, set 171). Gift. (D. 8459.)
- Taylor University, Upland: Marine invertebrates (424 specimens, set 55, series v). Gift. (D. 8863.)
- IOWA:** American Archaeological and Asiatic Association, Nevada: Casts of prehistoric stone implements (107 specimens, set 40). Gift. (D. 8984.)
- High School, Boone: Marine invertebrates (372 specimens, set 78, series v). Gift. (D. 8863.)
- High School, Britt: Marine invertebrates (352 specimens, set 87, series v). Gift. (D. 8787.)
- High School, Northwood: Minerals (57 specimens, set 181); rocks and ores (90 specimens, set 167); marine invertebrates (360 specimens, set 81, series v). Gift. (D. 8858.)
- High School, Sioux City: Rocks and ores (89 specimens, set 112); marine invertebrates (368 specimens, set 74, series v). Gift. (D. 8811.)
- High School, West Union: Rocks and ores (91 specimens, set 101). Gift. (D. 8997.)
- Historical Department of Iowa, Des Moines: Bird skins (272 specimens); marine invertebrates (set 198, series IV). Gift. (D. 8779, 9164.)
- Iowa State Historical Society, care of Charles Aldrich, Des Moines: Mounted photographs of the trees of the Lower Wabash Valley. Gift. (D. 8809.)
- Museum of Natural History, Iowa City: Collection of hydroids. Lent for study. (D. 8750.)
- Natural Science Association, Ottumwa: Minerals (57 specimens, set 173). Gift. (D. 8551.)
- Public School, Emmetsburg: Marine invertebrates (392 specimens, set 67, series v). Gift. (D. 8761.)

IOWA—Continued.

Public Schools, Mapleton: Rocks and ores (89 specimens); marine invertebrates (356 specimens, set 83, series v.) Gift. (D. 8841.)

Public School, Panora: Rocks and ores (91 specimens, set 104). Gift. (D. 8890.)

State University of Iowa, Iowa City: Small set duplicate marine invertebrates. Exchange. Marine invertebrates (524 specimens, set 29, series v). Gift. Lithodidæ (3 specimens). Exchange. (D. 8635, 8878, 9063.)

KANSAS: St. John's Lutheran College, Winfield: Casts of prehistoric stone implements (107 specimens, set 36); marine invertebrates (368 specimens, set 79, series v). Gift. (D. 8616, 8768.)

Kansas Wesleyan University, Salina: Casts of prehistoric stone implements (107 specimens, set 35); marine invertebrates (404 specimens, set 62, series v). Gift. (D. 8527.)

KENTUCKY: State College of Kentucky, Lexington: Marine invertebrates (392 specimens, set 63, series v); alcoholic fishes from Kentucky and Tennessee (45 specimens). Gift. (D. 8766, 8877.)

Ulrich, E. O., Newport: Silurian fossils (188 specimens, 44 species). Lent for study. *Ctenodonta similis* (1 specimens). (D. 8596, 8643.)

MARYLAND: Clark, W. B., Johns Hopkins University, Baltimore: Fossils (28 specimens). Lent for study. (D. 8996.)

Gane, H. S., Johns Hopkins University, Baltimore: Neocene corals (5 boxes). Lent for study. (D. 8876.)

Resler, A., Baltimore: Skins of Longspurs (5 specimens). Lent for study. (D. 8896.)

Woman's College of Baltimore, Baltimore: Herbarium specimens (241 specimens, set 37, series v); *Ctenodiscus erispatus* (8 specimens); *Archaster americanus* (10 specimens). Exchange. (D. 9000, 9020.)

MASSACHUSETTS: City Library Association, Springfield: Rocks and ores (89 specimens, set 111); minerals (57 specimens, set 179); marine invertebrates (520 specimens, set 28, series

MASSACHUSETTS—Continued.

v); duplicate alcoholic fishes (100 specimens). Gift. (D. 8816, 8952.)

Crosby, W. O., Boston: Specimen of gypsum crystal. Exchange. (D. 8720.)

Faxon, Walter, Cambridge: Anoumran crabs (2 specimens). Lent for study. (D. 8612.)

Jonas Perkins School, East Braintree: Fossils (121 specimens); rocks and ores (29 specimens, set 29); minerals (57 specimens, set 192). Gift. (D. 9120.)

Lowell City Library, Lowell: Marine invertebrates (656 specimens, set 14, series v). Gift. (D. 8771.)

McPherson, William D., South Framingham: Volcanic specimens (28 specimens). Exchange. (D. 9112.)

Maynard, C. J., Newtonville: Bird skins (3 specimens). Lent for study. (D. 8928.)

Museum of Comparative Zoology, Cambridge: Collection of Solenogastoidæ (56 specimens). Exchange. (D. 8493.) Collection of Caloptenini (1,828 specimens); crayfishes (32 specimens). Lent for study. Crabs (117 specimens); alcoholic fishes, Atlantic and Pacific forms (152 specimens); collection of Alaskan sponges. Exchange. (D. 8655, 8748, 9126, 9146.)

Perkins Institution and Massachusetts School for the Blind, South Boston: Minerals (57 specimens, set 170); rocks and ores (85 specimens, set 119); marine invertebrates (400 specimens, set 61, series v). Gift. (D. 8458.)

Scudder, Samuel H., Cambridge: Mexican Orthoptera (9 specimens). Lent for study. (D. 8719.)

State Normal School, Bridgewater: Rocks and ores (91 specimens, set 105); marine invertebrates (416 specimens, set 57, series vi). Gift. (D. 8883.)

Westfield High School, Westfield: Marine invertebrates (608 specimens, set 18, series v). Gift. (D. 8777.)

MICHIGAN: Davis, G. C., Michigan Agricultural College, Lansing: Hymenoptera (5 specimens). Lent for study. (D. 8481.)

MICHIGAN—Continued.

Kent Scientific Institute, Grand Rapids: Specimen of *Pseudopleuronectes americanus*; rocks and ores (87 specimens, set 116); casts of prehistoric stone implements (107 specimens, set 37). Gift. (D. 8855, 8685.)

MINNESOTA: Pipestone Public Schools, Pipestone: Marine invertebrates (372 specimens, set 76, series v). Gift. (D. 8903.)

MISSISSIPPI: Mississippi Agricultural and Mechanical College, Agricultural College: Fossils (220 specimens). Exchange. (D. 9094.)

MISSOURI: Greger, D. K. F., Fulton: Fossils (27 species). Exchange. (D. 8815.)

Hurter, Julius, St. Louis: Reptiles (2 specimens). Exchange. (D. 8978.)

University of Missouri, Columbia: Marine invertebrates (424 specimens, set 56, series v). Gift. (D. 8945.)

MONTANA: University of Montana, Helena: Marine invertebrates (set 199, series IV); rocks and ores (92 specimens, set 98). Gift. (D. 9165.)

NEBRASKA: Bellevue College, Bellevue: Minerals (57 specimens, set 182). Gift. (D. 8882.)

Bruner, L., Lincoln: Orthoptera (865 specimens). Lent for study. (D. 8502.)

Lincoln Normal University, Lincoln: Minerals (57 specimens, set 180); marine invertebrates 512 specimens, set 35, series v). Gift. (D. 8840.)

University of Nebraska, Lincoln: Cretaceous fossils (42 specimens). Gift. (D. 8742.)

Ward, H. B., University of Nebraska, Lincoln: Collection of worms. Exchange. (D. 8814.)

NEW JERSEY: Ellis, J. B., Newfield: Fungus (2 specimens). Lent for study. (D. 8653.)

Smith, John B., New Jersey Agricultural Experiment Station, New Brunswick: Specimens of insects. Exchange. Fleas (15 specimens); microscopic slides (20). Lent for examination. (D. 8795, 8986, 9157.)

NEW YORK: Allen, J. A., American Museum of Natural History, New York City: Alcoholic bats (2 specimens);

NEW YORK—Continued.

mammal skins and skulls (4 specimens); meadow mice (3 specimens); skin and skull of mouse; bird skins (10 specimens); mammal skins and skulls (8 specimens). Lent for study. (D. 8637, 8616, 8683, 8847, 8931, 9001.)

American Museum of Natural History, New York City: Bird skins (175 specimens). Exchange. (D. 8672, 9131.)

Boys' High School, Brooklyn: Marine invertebrates (392 specimens, set 69, series v). Gift. (D. 8785.)

Brown, Mrs. J. Crosby, New York City: Musical instruments (15). Exchange. (D. 8977.)

Chapman, F. M., New York City: Alcoholic shrews (3 specimens). Lent for study. (D. 8634.)

Clarke, J. M., Albany: Fossil sponges (8 specimens); fossils (2 specimens). Lent for study. (D. 8830, 9158.)

Dean, Bashford, Columbia College, New York: Alcoholic fishes (7 specimens). Lent for study. (D. 8688.)

Glen Island Museum, Glen Island: Collection of ethnological objects (82 specimens); cast of fossil turtle. Exchange. (D. 8745, 8701.)

Halcomb, E. G., Helena: Arrow and spear heads (43 specimens). Exchange. (D. 8919.)

Huntington, George S. (for medical department, Columbia College), New York: Mammals for anatomical purposes (19 specimens). (D. 8921.)

O'Grady, Miss M. I., Vassar College, Poughkeepsie: Specimens of parasitic worms. Exchange. (D. 8836.)

Osborn, Henry F., New York City: Fossil skull of rhinoceros. Lent for study. (D. 9124.)

Roberts, Dr. C. H., New York: Coleoptera (23 specimens). Exchange. (D. 9061.)

Thayer, A. H., Scarborough: Bird skins (2 specimens). Exchange. (D. 9073.)

Union College, Schenectady: Rocks and ores (104 specimens, set 9). Gift. (D. 8884.)

NORTH DAKOTA:

North Dakota Agricultural College, Fargo: Minerals (57 specimens, set 178); rocks and ores (88 specimens, set 114). Gift. (D. 8778.)

NORTH DAKOTA—Continued.

- School for the Deaf, Devils Lake: Rocks and ores (91 specimens, set 102). Gift. (D. 8983.)
- State Normal School, Mayville: Minerals (57 specimens, set 174); rocks and ores (86 specimens, set 117); marine invertebrates (404 specimens, set 63, series v). Gift. (D. 8578.)
- OHIO: Dayton Public Library and Museum, Dayton: Marine invertebrates (404 specimens, set 64, series v); alcoholic fishes (100 specimens). Gift. (D. 8627, 8659.)
- Greenwood, G. G. B., Minerva: Archaeological objects (15 specimens). Exchange. (D. 8837.)
- Ohio University, Athens: Specimens of foraminifera; marine invertebrates (508 specimens, set 36, series v). Gift. (D. 8856, 8913.)
- Public School, West Milton: Rocks and ores (85 specimens, set 118). Gift. (D. 8550.)
- School of the Sisters of St. Marys of the Springs, Shepard: Marine invertebrates (set 197, series IV); casts of prehistoric stone implements (107 specimens, set 45); rocks and ores (91 specimens, set 99); ethnological objects (8 specimens). Gift. (D. 9153.)
- Storkes, Miss S. D., Cleveland: Insects (20 specimens). For study. (D. 8611.)
- OREGON: Bretherton, Bernard J., Westport: Bird skins (15 specimens). Exchange. (D. 8743.)
- PENNSYLVANIA: Allen, Harrison, Philadelphia: Bats (3 specimens). Lent for study. (D. 8480.)
- Central High School, Harrisburg: Marine invertebrates (640 specimens, set 15, series v). Gift. (D. 8791.)
- Clark, Hubert L., Cresson: Alcoholic birds (21 specimens). Lent for study. (D. 8511.)
- Cope, E. D., Philadelphia: Skeletons of lizards (7 specimens); skeleton of horned toad; skeletons of lizards (3 specimens); vertebrae of snakes. Lent for study. (D. 8529, 8831, 8875, 9017.)
- Culin, Stewart, University of Pennsylvania, Philadelphia: Games and gambling apparatus. Exchange. (D. 8898.)

PENNSYLVANIA—Continued.

- Danville High School, Danville: Marine invertebrates (356 specimens, set 84, series v). Gift. (D. 8828.)
- Dietz, William, Hazleton: *Centorhynchini* (239 specimens). Lent for study. (D. 9024.)
- Juniata College, Huntington: Rocks and ores (90 specimens, set 108); marine invertebrates (360 specimens, set 80, series v). Gift. (D. 8859.)
- Lehman, W. V., Tremont: Shells (135 specimens). Exchange. (D. 8799.)
- Moore, J. Percy, University of Pennsylvania, Philadelphia: Collection of leeches. Lent for study. (D. 8872.)
- Normal School, Philadelphia: Marine invertebrates (652 specimens, set 12, series v); set of duplicate fishes (140 specimens); minerals (57 specimens, set 176). Gift. (D. 8476, 8538, 8623.)
- Philadelphia School Museum, Philadelphia: Marine invertebrates (600 specimens, set 19, series v); Minerals (57 specimens, set 175). Gift. (D. 8543, 8618.)
- Potts, Edward, Philadelphia: Collection of fresh-water sponges. Lent for study. (D. 8770.)
- Reinick, W., Philadelphia: Beetles (4 species). Exchange. (D. 8460.)
- Rhoads, Samuel N., Philadelphia: Skins and skulls of *Geomys* (11 specimens); mammal skins and skulls (6 specimens). Lent for study. (D. 8503, 8663.)
- Stone, Witmer, Philadelphia: Bird skins (14 specimens). Lent for study. (D. 8813, 9049.)
- Wagner Free Institute of Science, Philadelphia: Fossils (191 specimens). Exchange. (D. 9002.)
- Warren Public School, Warren: Marine invertebrates (376 specimens, set 72, series v). Gift. (D. 8786.)
- RHODE ISLAND: Rhode Island College of Agriculture and Mechanic Arts, Kingston: Minerals (57 specimens, set 177); rocks and ores (87 specimens, set 115). Gift. (D. 8775.)
- SOUTH CAROLINA: Darlington Public Schools, Darlington: Marine invertebrates (356 specimens, set 82, series v). Gift. (D. 8769.)
- The Thornwell Orphanage, Clinton: Marine invertebrates (380 specimens, set 71, series v). Gift. (D. 8767.)

SOUTH DAKOTA: High School, Hot Springs: Rocks and ores (90 specimens, set 106). Gift. (D. 8873.)

TENNESSEE: American Temperance University, Harriman: Marine invertebrates (356 specimens, set 85, series v). Gift. (D. 8773.)

Pelisipi College, Clinton: Minerals (57 specimens, set 171). Gift. (D. 8471.)

VIRGINIA: College of William and Mary, Williamsburg: Marine invertebrates (352 specimens, set 88, series v). Gift. (D. 8774.)

Mearns, Dr. E. A., Fort Myer: Skins of rabbits (184 specimens); skulls of rabbits (135 specimens). Lent for study. (D. 8725, 8897.)

WASHINGTON: Dennison, G. W., Smiths Island: Bird skins (3 specimens). Exchange. (D. 9054.)

WISCONSIN: Black Earth High School, Black Earth: Marine invertebrates (356 specimens, set 86, series v). Gift. (D. 8845.)

Free High School, Arcadia: Marine invertebrates (384 specimens, set 70, series v). Gift. (D. 8772.)

High School, Omro: Marine invertebrates (576 specimens, set 24, series v). Gift. (D. 8760.)

Milton College, Milton: Specimens of passenger pigeon: marine invertebrates (set 195, series IV); bird skins (196 specimens, representing 137 genera and 189 species). Gift. (D. 8843, 8998, 9043.)

SOUTH AMERICA.

Argentine Republic.

Buenos Ayres Museum, Buenos Ayres: Shells (54 species). Exchange. (D. 8592.)

National Museum, Buenos Ayres: Bird skins (159 specimens). Exchange. (D. 9182.)

Normal School, Goya: Casts of prehistoric stone implements (set 43). Gift. (D. 9117.)

EUROPE.

Austria.

Wohlgemuth, Karl, Bozen (South Tyrol): American ethnological objects (14 specimens). Exchange. (D. 8924.)

Natural History Museum, Vienna: Stone implements (143 specimens, sets 9, 10); casts of prehistoric stone implements (107 specimens, set 42); holothurians (16 specimens, set 3). Exchange. (D. 9087, 9134.)

Schmidhoffen, Victor Ritter Tschusi von, Hallein, Salzburg: Bird skins (11 specimens). Exchange. (D. 8642.)

Stossich, Prof. M., Trieste: Parasitic worms (9 specimens). Exchange. (D. 8776.)

Denmark.

Royal Ethnographic Museum, Copenhagen: American aboriginal quarry specimens (125); ethnological objects from the Pueblo region (111 specimens). Exchange. (D. 8516, 8673, 8930.)

Royal Zoological Museum, Copenhagen: Holothurians (17 specimens, set 5). Exchange. (D. 9136.)

England.

Boucard, A., Spring Vale, Isle of Wight: Bird skins (2 specimens). Exchange. (D. 8781.)

British Museum, London: Casts of reptiles (12 specimens); holothurians (16 specimens, set 1). Exchange. (D. 9075, 9133.)

Hewlett, S. G., Eastbourne: Archaeological objects (200 specimens). Exchange. (D. 8901.)

Horniman Museum, Forest Hill, London: Casts of prehistoric stone implements (set 41). Exchange. (D. 9030.)

Lovett, Edward, Croydon: Ethnological objects (7 specimens). Exchange. (D. 9121.)

Museum of Natural History, Oxford: American aboriginal quarry implements (125 specimens). Exchange. (D. 8513.)

Powell, T. H., London: Archaeological objects (212 specimens). Exchange. (D. 8906.)

Pycraft, W. P., University Museum, Oxford: Bird skins (27 specimens). Lent for study. (D. 8495.)

Tristram, H. B., Durham: Bird skins (19 specimens). Exchange. (D. 9033.)

France.

- Blanchard, Prof. R., Paris: Microscopic slides of parasitic worms (32 specimens). Exchange. (D. 8739, 8758.)
- Museum of Natural History, Paris: *Lororhyuchus grandis* (1 specimen); deep sea fishes (12 specimens); *Pentacrinus decorus* (1 specimen); holothurians (17 specimens, set 1). Exchange. (D. 9074, 9156, 9135.)
- Musée Trocadéro, Paris: American aboriginal quarry implements (125 specimens). Exchange. (D. 8514.)
- Renault, B., Paris: Cannel coal (17 specimens). Exchange. (D. 8971.)
- University of Caen, Caen: Fossils (112 specimens). Exchange. (D. 9104.)

Germany.

- Anatomic-Zoological Institute of the University, Bonn am Rhein: Holothurians (23 specimens). Exchange. (D. 9147.)
- Boettger, Dr. O., Frankfort: Reptiles (3 specimens). Exchange. (D. 9004.)
- Getschmann, R., Rixdorf, near Berlin: Samples of infusorial earths. Exchange. (D. 9166.)
- Looss, Dr. A., Zoological Institute, Leipzig: Collection of parasitic worms. Exchange. (D. 8788.)
- Royal Biological Station, Helgoland: Plaster cast of fish (*Cyclopterus lumpus*). Exchange. (D. 9127.)
- Royal Ethnographic Museum, Berlin: American aboriginal quarry objects. (125 specimens.) Exchange. (D. 8515.)
- Von Ihering, Dr. H., Hamburg: Collection of unionidae. Exchange. (D. 8633.)

Holland.

- Roon, E. van, Rotterdam: Coleoptera (54 specimens). Exchange. (D. 9145.)

Russia.

- Skarjinsky, Madam, Poltava, Little Russia: American ethnological objects. Exchange. (D. 8908.)

ASIA.

India.

- Indian Museum, Calcutta: Dried plants (1,136 specimens); deep sea fishes (83 specimens); Holothurians (16 specimens, set 2). Exchange. (D. 8727, 9103, 9132.)

Japan.

- Imperial Japanese Commission, Tokio: Specimens illustrating the chemical elements and compounds of the human body; rocks, ores and minerals. Exchange. (D. 8603, 8926.)
- Newton, J. C. Calhoun, Kobé: Ethnological specimens, casts of the Temple stone, Siloam inscription, and facsimiles and casts of Assyrian and Babylonian seals. Exchange. (D. 8910.)
- Sapporo Museum, Sapporo: American ethnological objects (24 specimens). Exchange. (D. 8911.)

Syria.

- Syrian Protestant College, Beyrout: Marine invertebrates (652 specimens, set 13, series v); special set of marine invertebrates (40 specimens); collection of shells (56 specimens); alcoholic fishes (8 specimens). Exchange. (D. 8730.)

OCEANICA.

Australia.

- NEW SOUTH WALES: H. Wood, Under Secretary, Department of Mines and Agriculture, Sidney: Collections of fossils and plants (1,100 specimens). Exchange. (D. 8482.)
- SOUTH AUSTRALIA: Edgar J. Bradley, Happy Valley Water Works: Foraminifera. Exchange. (D. 8912 and 9140.)

New Zealand.

- New Zealand Philosophical Society, Nelson: Casts of prehistoric stone implements (set 38). Gift. (D. 8976.)

APPENDIX XI.

THE WORK OF THE MECHANICS AND LABORERS.

The following condensed statement is made up from the report submitted by Mr. Henry Horan, superintendent of buildings, and is intended to indicate, in a general way, the character of the work performed by the members of the force connected with his department:

1894.

July.—A set of bookshelves was constructed at the west end of the lecture hall for the use of the Museum library. All of the exhibition cases in the north hall were thoroughly cleaned and the woodwork repolished. The model of the Zuñi Indian village was removed from the department of prehistoric anthropology to the Museum building. New steam coils were placed in several of the halls of the Museum, and the radiators in the northeast court and in the boat hall were placed on the top of the wall cases recently constructed. Several exhibits in the section of fisheries, including the deep-sea sounding apparatus, were taken down and sent to storage.

August.—Exhibition cases were constructed in the room on the first floor of the south tower of the Smithsonian building for the use of the section of physical apparatus. Repairs were made to the floor in the lecture hall. The "Quarry Group" was transferred from the department of ethnology to the department of prehistoric anthropology. The lecture hall was prepared for a meeting of the Association of Agricultural Chemists, held August 23-25. Workmen were engaged for several days in enlarging one of the chimneys in the northwest pavilion. In anticipation of the meeting of the Knights of Pythias in this city, and the large number of strangers expected, all of the cases were removed from the rotunda, in order that the crowds might be handled more readily.

September.—A large radiator was placed in the paint shop, proper connections being made with the boiler room in the Smithsonian building. Repairs were made to the boilers in the Museum building, the work being performed by contract. The east balcony and the adjacent offices were fitted up for the use of the National Herbarium. The boiler and pump rooms in the Smithsonian building were cleaned and whitewashed. Direct connections were made by telephone between the Museum and the Department of Agriculture.

October.—The door-screen cases between the piers in the northwest range were replaced by pier cases. Trenches were dug and steam pipes laid from the Smithsonian building to the Astro-Physical Observatory. All of the steam pipes in the basement of the northwest pavilion were removed, and the heating apparatus in the upper stories of this section of the building overhauled. Repairs were made to the floor in the fisheries hall. The electric wires and batteries in the northwest pavilion were overhauled, the wires in the Assistant Secretary's office being placed under the floor. The work of putting the east balcony into condition for the National Herbarium, constructing and erecting cases, etc., was continued. Stationary book-cases of oak were constructed in the office of the Assistant Secretary. The large iron safe in the office of the chief clerk was set in the wall, in a space cut for the purpose. Ventilators were placed in the telephone room and in the offices of the superintendent and property clerk.

November.—A new switchboard was placed in the telephone room, and several additional instruments were installed in different parts of the building. New steam pipes were placed in the office of the department of fishes. A large exhibition case, which had heretofore been in the center of the northwest court, was remodeled and made into two wall cases, which will be set up in the section of oriental antiquities. Several pier cases were set up in the mineral hall, in place of the door-screen cases, which have been removed.

December.—All of the cases in the department of prehistoric anthropology were thoroughly cleaned. The lecture hall was put in condition for the use of the American Historical Society, whose meetings opened December 27. Considerable work was done in the southeast court, preparatory to its occupancy as the exhibition hall of the paleontological department.

1895.

January.—Work in the southeast court was continued. A number of screens were altered, and these and the walls were painted. The plaster casts and models were moved from the basement rooms under the north tower of the Smithsonian building. The exhibition cases in the department of comparative anatomy were rearranged. All of the oils and inflammable materials, which were formerly stored in the alcohol room in the basement of the Smithsonian building, were removed to other quarters.

February.—A section of the mahogany wall case on the north side of the exhibition hall of the department of comparative anatomy was removed in order to provide an entrance to the southeast court from this side. The fire plug in the east-south range was removed and placed just inside the entrance to the southeast pavilion. The north and west basement rooms of the Smithsonian building were fitted up with shelves and will be used for the storage of plaster casts and molds. Watch boxes were placed in several of the outbuildings.

March.—A telephone instrument was placed in the carpenter shop, and connections made with the telephone room. Watch boxes were erected on the second floor of each of the four balconies of the Museum building. Two fire plugs in the east hall were removed and placed inside of the east entrance to the building. The location of the fire plug in the fisheries hall was also changed.

April.—A force of men were engaged for several days in hanging the models of Indian villages on the walls of the northwest court. A man was detailed from each of the night watches for duty outside of the larger buildings, the object being to give better protection to the sheds and outbuildings. A hose reel was placed just outside the south entrance to the Smithsonian building, the hose being kept constantly attached to the fire plug and ready for immediate use. A ladder and ax have also been placed within easy reach, and connections with the telephone room established, so that help may be readily summoned in case of fire.

May.—For several days a number of men were engaged in rearranging the cases in the mineral hall. Improvements were made in one of the rooms on the second floor of the west balcony. It is proposed to place toilet rooms in the basement and on the first and second floors of the south tower of the Smithsonian building. This work was commenced about the middle of the month. A number of long-distance telephones were put up by the telephone company in place of the old style of instrument formerly in use. This change necessitated additional wires, as the new instruments require a metallic circuit.

June.—An additional watch box was placed in the Museum carpenter shop. New quarters for storage purposes were rented, and the work of removing material to the new building occupied considerable time during the month. Door-screen cases were placed between the piers above the wall cases in the department of comparative anatomy. The steam valves of the radiators throughout the buildings were examined and a portion of them repacked. The boiler rooms and coal vaults were thoroughly renovated and whitewashed.