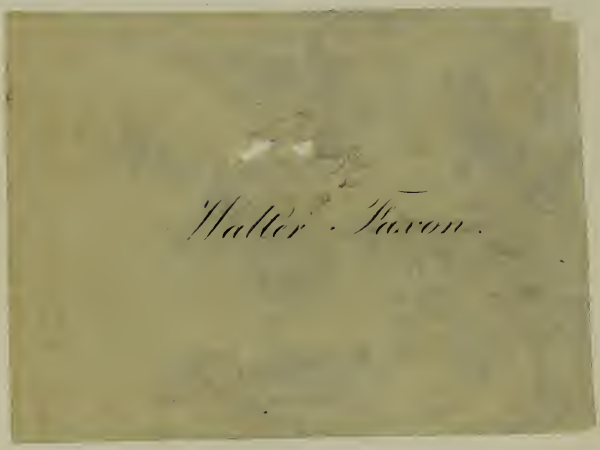
Walter Faxon.

SENATE..... .....No. 10.

ANNUAL REPORT

OF THE

TRUSTEES

OF THE

MUSEUM OF COMPARATIVE ZOÖLOGY,

AT HARVARD COLLEGE, IN CAMBRIDGE:

TOGETHER WITH THE

REPORT OF THE CURATOR

TO THE COMMITTEE ON THE MUSEUM,

FOR

1875.

BOSTON:
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1876.

Commonwealth of Massachusetts.

Boston, January 26, 1876.

To the Honorable Geo. B. Loring, *President of the Senate.*

Sir :—The Trustees of the Museum of Comparative Zoölogy, have the honor to present to the Legislature the Report of the Curator to the committee on the Museum, marked [A]. The appendix thereto, marked [B], contains letters accompanying donations from Dr. John L. Leconte, Dr. T. M. Brewer, Mr. Temple Prime, and sundry votes of the corporation of Harvard College. The paper marked [C] contains the report of the committee of the Agassiz Memorial Fund. The papers [D] and [E] contain a list of the Faculty of the Museum and assistants appointed by them, and of the present trustees. The paper marked [F] contains the plans of the proposed addition to the Museum, as well as a general sketch drawn up from the instructions left by the late Professor Agassiz.

ABBOTT LAWRENCE, *Secretary.*

[A.]

REPORT OF THE CURATOR

TO THE

MUSEUM COMMITTEE.

The general work of the Museum assistants has, as usual, consisted mainly in preparing our material for exhibition and packing our duplicate collections for exchange. A number of collections have been sent to the schools of the State; these will be supplemented from our duplicates as rapidly as possible. For the last two years the reduced staff of assistants has compelled us to limit our collections to such additions as a blank in our exhibition-cases, or the need of fresh material for instruction made necessary, the working force at our disposal being fully occupied in distributing the perishable material not needed for our own use or for special study hereafter. The great difficulty of preserving alcoholic collections, the unpleasant nature and enormous expense of the work, make it imperative, not only for storage, but still more for exhibition purposes, that they should be restricted to a minimum, and limited, as far as possible, to those classes where no other mode of preservation is practicable. The constantly increasing facilities of travel, the comparative economy with which fresh specimens can be studied, the superiority of such work (with proper appliances) to that of the Museum, the daily increasing number of workers who are able, on the sea-shore or in the field, to produce results unat-

tainable by museum study alone, shows that the time has come when large collections must naturally be supplemented by zoölogical stations. These, when once established at properly selected localities, will enable museums to dispense with much that is now exceedingly costly. They will become, for certain departments at least, chiefly depositories where the record of work done at the stations—the archives of natural science, so to speak—will be preserved; so that, while their usefulness for the general instruction of the public and of our higher institutions will not be diminished, they must hereafter be useful to the original investigator in a somewhat more limited field.

The principal additions during the year consist of the collections deposited by Harvard College and of those made by myself, with the assistance of Mr. Garman, on the west coast of South America, from Valparaiso to Lima, and along the line of the railroad leading from the coast to Lake Titicaca. We thus brought together a fair representation of the fauna of the high plateau in which Lake Titicaca is situated. A preliminary account of the materials collected is now publishing in the "Museum Bulletin." The fishes and reptiles will be described by Mr. Garman, the fossils by Prof. O. A. Derby, the crustacea by Mr. Faxon, the birds and mammals by Mr. Allen, and I hope myself to be able to give a short account of the physical geography and geology of the district. Thanks to the generosity of the Pacific Mail Steamship Company in passing our baggage free, we took to Peru a large outfit in the way of ropes, dredges, sounding-leads, thermometers for deep-water temperatures, kindly lent us by Capt. Patterson, the superintendent of the Coast Survey, and all the necessary materials for preserving large collections. Though we were greatly disappointed in the variety of animal life found in the lake and the surrounding shore, we took some very interesting deep-water temperatures (to a depth of 154 fathoms), and completed a preliminary hydrographic sketch of Lake Titicaca, which has furnished valuable results, and done much to explain the poverty of its animal life. But while thus disappointed in our original aims, we made extensive archæological collections, which have been given to the Peabody Museum.

This exploration of Lake Titicaca would hardly have been

possible without the hearty aid of Col. E. A. Flint, the superintendent of the Mollendo and Puno Railroad; to his friendly interest we owe the success we have had. To the Messrs. Meiggs of Lima, also, I must return the thanks of the Museum for the generosity with which our bulky materials were transported free of charges from the lake to the coast, over three hundred miles of railroad, crossing a region accessible till within a few years only by llamas or pack-mules, the difficulties of which only a traveller in the rainless belt of South America can appreciate. Mr. Garman sailed round the lake in a small schooner (the only sail-boat on the lake), hired for the purpose, receiving from the prefects of the various departments, both in Peru and Bolivia, all possible aid in furtherance of his objects. Thanks to letters from the Secretary of State (Mr. Fish) to Mr. Thomas, our minister at Lima, President Pardo was kind enough to give us, through the Secretary of Home Affairs, circular letters to all the custom-houses of the coast, passing our boxes in and out of the country without delay or examination. Special instructions were also given by the President to Mr. San Roman, Prefect of Puno, to whose interest we owe the opportunity of crossing the lake several times, and circumnavigating it on the small government steamers plying thereon. The officers of the "Yavari" and "Yapura" did all in their power to facilitate my work, and it is mainly owing to them that I succeeded in making a great number of soundings, and visiting all the places of interest on the islands of the lake and its shores. During my stay on board, the steamers were placed at my disposal in every sense of the word; and I cannot close my list of acknowledgments without mentioning more specially Capt. Guerrero, of the "Yavari," who was indefatigable in our behalf.

The volunteer work of the Museum has, as usual, been carried on by Messrs. L. F. de Pourtalès, Theodore Lyman, T. G. Cary, and Baron Osten-Sacken.

The care of the business has been undertaken, as in former years, by Mr. Cary, while the direction of the Museum assistants has fallen upon Mr. Pourtalès for the greater part of the year, owing to my protracted absence.

Baron Osten-Sacken has continued to take charge of our collection of Diptera. I regret, however, to state, that, for the present, at least, his absence from Cambridge will deprive the entomological department of his services.

To Messrs. Nathaniel Thayer, Geo. B. Emerson, and Theodore Lyman, the Museum is indebted for means to carry on specific parts of the current work.

The publications of the past year have been limited to a paper on Ophiuridæ (No. 10, Vol. III. of the Bulletin), published by Mr. Lyman for the Museum.

The Museum collections have, however, formed the basis of several papers by Dr. Steindachner, issued in the Proceedings of the Vienna Academy. They were mainly devoted to the fresh-water fishes of Southern Brazil, the Characines and Chromids of the Amazons, and a shorter paper on some of the species of Doras.

A large series of the duplicates of the Thayer and Hassler expeditions were sent to the Vienna Museum to enable Dr. Steindachner to describe the principal novelties of these collections.

The collections (referred to above) forming a part of the late Prof. Wyman's Anatomical Museum in Boylston Hall, have been deposited in the Museum by the corporation of the College. It is particularly rich in isolated mastodon bones; it has also a fine series of skulls in different stages, and forms, with the nearly perfect skeleton of a mastodon, found at Hacket's Farm, Warren County, N. Y., an invaluable addition to our palæontological series.

The great pains always taken to secure the authenticity of original specimens in our collections, as well as the care in preserving intact our more perishable material, are beginning to be appreciated by specialists. During the past year we have received the promise of three separate collections, all of which have been accumulated during long-continued and successful scientific work. It is with great pleasure I am able to announce the donation, by Dr. John L. Leconte, of Philadelphia, of his collection of Coleoptera, under conditions of a most generous nature, showing a flattering appreciation of the aims of our institution. Dr. Leconte's collection must always form the basis of any extensive original study of

North American Coleoptera, and is the most valuable historical collection of the order in this country. The collection of North American birds' eggs, by Dr. T. M. Brewer, is second only to that of the Smithsonian; and from the high authority of Dr. Brewer in ornithology, the gift of his collection places us at once in a most enviable position in that department. Mr. Temple Prime has given us the types of his collection of Corbiculidæ, a family of Mollusks, to which he has mainly devoted himself. The letters of these gentlemen, accompanying their donations, are printed in the Appendix.

For the regular instruction given at the Museum, I would refer to the reports of Profs. Shaler and McCrady. In addition to this, Dr. Hagen has given a course of familiar lectures on entomology, which has been attended by seven students. He has also superintended the work of one special student in his laboratory. Prof. Hamlin has been detailed this term to take charge of the undergraduate instruction in structural geology and physical geography, formerly given by Assistant Professor Pettee. This has somewhat lessened the amount of his Museum work, but the Curator has cheerfully consented to this diminution in view of his increasing usefulness in another direction. I would call attention to the great advantages given to the Museum students from their opportunity to attend the Summer School of Geology at Cumberland Gap, inaugurated by Prof. Shaler in connection with the field work of the geological survey of Kentucky. Owing to the unfortunate closing of the Anderson School at Penikese, similar privileges could not be enjoyed by the special students of zoölogy. The field work and special investigations done by them in the summer was mainly left to their own resources, with the exception of two special students whom I was able to invite to work in my private laboratory at Newport. The necessary rooms and material have been placed at the disposal of Dr. James to enable him to give the college instruction of physiology and comparative anatomy to the undergraduates at the Museum. He has under his charge the present term about forty students, who are taught by lectures and laboratory work. Prof. Whitney has begun to collect, in the limited space

we have been able to place at his disposal, the materials for the proper illustration of the geological department. He also delivers a general course on geology at the Museum, attended by students. In connection with the instruction given at the Museum, I may mention that a considerable number of diagrams have been prepared for the use of the zoölogical department by Mr. Blake, and that during the coming term he will be mainly occupied in drawing for the geological department. The largely increasing classes in natural history have made us painfully aware of our deficiencies in the common apparatus necessary for instruction, which can for the present only be supplied by additional work on the part of the professors. This condition of things will be remedied as fast as practicable. The want of aquaria, as well as of proper space to keep live stock for the use of the students and professors, is felt daily. Unfortunately, we can scarcely hope to remedy this defect until the proposed additions to the building are completed. We shall then have suitable rooms, not only for the aquaria, in which to keep an abundant supply of the more common marine animals, but also the space to keep at hand animals needed for embryological as well as anatomical and physiological instruction.

During the present year the experiment, already carried on for one year, of gradually concentrating all the instruction in natural history at the Museum, has been enlarged most successfully. The combination of Museum work by the assistants with more or less instruction to beginners and advanced students, cannot fail to benefit the Museum, by making known the scope of its usefulness. Nor does it seem advisable that the instruction in natural history, and the care of the collections in the same department, should be intrusted to different sets of workers. The Museum, when once fairly established, can hardly be expected to provide entirely for all its assistants, while the practical knowledge to be gained from the care of a special department is a necessary requisite for a successful teacher.

It is therefore with great satisfaction that I am able to report the assent of the corporation to the connection of the instruction in several departments of natural history at the University with the Museum; this will hasten the accom-

plishment of plans which, even at a comparatively recent period, seemed far removed to the founder of the Museum.

The late Mr. Samuel Hooper gave his consent to the mechanical connection of the Sturgis-Hooper Professorship of Geology with the Museum, and, with the sanction of the corporation, the geological department of the Museum will hereafter be under the general superintendence of that professor. The addition of the physiological and anatomical departments necessarily adds much which could scarcely have been expected to receive proper attention in a zoölogical museum, even when understood in its widest sense. A large part of the material required for the instructions given in these departments is identical. The same is the case for the series needed for the exhibition-rooms, and by this close connection the materials needed for comparisons from one department to the other will always be readily accessible. A degree of concentration and efficiency can thus be secured by the cordial coöperation of the different heads, hardly to be expected from separate institutions, even when part of the same university, in which the instruction and exhibition do not come so directly under the notice of the various officers, and their general care is made a part of the duties of the Curator of the Museum.

The advantages of a common library, and all the minor details of supervision, are too evident to need comment.

The proceeds of the Humboldt Fund have been used in assisting several students to continue their work at the Museum and elsewhere.

The details of the different departments are given in the reports of the assistants in charge.

By the success of the Agassiz Memorial Fund,* the Trustees and Faculty will be enabled, as soon as the contemplated additions to the buildings are erected, to carry out the principal ideas of Prof. Agassiz for the arrangement of a Museum.

The foundation will then be laid of an institution in which the claims of college students, of teachers, of special students, of advanced workers, and of original investigators will be considered, as far as the means and space of the establish-

* For the details of the Memorial Fund see Appendix.

ment will allow. The public will find in the exhibition-rooms all that is likely to be of interest from the stores of the institution, labelled and arranged so as to be not only instructive, but suggestive. Of course time alone will enable us to fill out and complete this plan. We shall be compelled at first to make a very unequal exhibition; but as the blanks become apparent they will be filled. From our stores the necessary materials for the constantly increasing number of students are to be supplied, and one of the chief duties of the Curator must always be to meet the reasonable demands of those charged with the instruction, by supplying them with ample materials suited to the wants of the different classes engaged in study at the Museum. The special students will have at their command, under proper regulations, in the store and work-rooms of the assistants, the materials of the department in which they are interested. To the original investigator the resources of the Museum will always be available, under generous restrictions, with facilities for the publication of investigations made with Museum materials, as far as the means of the institution will allow. On the completion of the additions proposed at present, the Museum will thus consist of several departments of natural history, formerly separated in the University, and now all more or less intimately connected.

The number of exhibition-rooms will undoubtedly seem small, compared with the total amount of space, to those who are accustomed to wander through room after room of such museums as the British Museum, the Jardin des Plantes; and still smaller, when compared with the new museums contemplated in London, Vienna, and Berlin. This brings us to the fundamental difference existing between the two systems possible in museums: one of which is to place before the public everything in a single series; the other to make such a selection from the general collection, and also such other combinations and special expositions, that, while the Museum retains in its stores the archives of the science, the exhibition may place before the public an exposition of the problems of natural science in a condensed and easily intelligible form.

In the rooms reserved for special departments, the bulk of

our collections must be retained, and we can only hope to make them accessible under the most liberal regulations consistent with the safety of the collections. In these rooms the furniture will of course be of the most economical character, adapted to a proper preservation of the collections, and to their ready access. By prompt distribution of the materials received, everything should be at once taken to its place, and the confusion as well as difficulty of keeping track of materials separated by imaginary lines in large rooms entirely obviated.

The great defect of museums in general is the immense number of articles exhibited, compared with the small space taken to explain what is shown. The visitor stands before a case which may be exquisitely arranged, most carefully labelled, yet he does not know, and has no means of finding out, why that case is filled as it is; nothing tells him the purpose for which it is there. The need of general labels, and a small number of specimens properly selected to illustrate the labels, would go far towards making a museum intelligible, not only to the average visitor, but often to the professional naturalist. The instruction which could thus be given without a special guide is certainly very great, and a visit to a museum thus arranged becomes of value, and cannot fail to leave some impression. The advantage, therefore, of comparatively small rooms intended for a special purpose, and for that purpose alone, will overcome at once the objections to be made to large halls where the visitor is lost in the maze of the cases, which, to him, seem placed without purpose, and filled only for the sake of not leaving them empty. Of course, as will be seen from the plans of the Museum, a few large rooms are absolutely necessary for the proper display of the few colossal mammals which must find their way into every museum. The purpose to which a room is devoted should not be known to the officers of the Museum alone; the room itself is to be as distinctly labelled as a single specimen. There must, then, again be general subdivisions of cases, properly labelled, and of certain categories in the cases, until we come to the single tablet. Such an arrangement is of course laborious, requires constant attention and alterations to represent the existing and past condi-

tions of our knowledge; but no museum where this is carried out can become fossilized and lose its usefulness from being buried in the arrangement made years before. There is always in every room blank wall-space enough not available for the exhibition of specimens, where such general information can be permanently placed,—where enlarged figures of animals, which can be exhibited in no other way, can be painted, and thus add to the general attractiveness of the Museum. The conditions upon which the bulk of the Memorial Fund was obtained limit its use for several years. It is hoped, however, that, even after the proposed addition to the Museum is completed, the endowment will still be large enough to carry on the operations of the Museum with something like their former activity. It has not been thought unwise to sacrifice a temporary brilliant existence to a permanent future; and it must be remembered by the friends of the University, who have so often and so generously assisted us, that however large the funds at our disposal as compared to those of other scientific departments of the College, our resources are nevertheless meagre, contrasted with those of similar institutions abroad. I may mention here, that, to place the Museum on a level with corresponding establishments, each of its several departments should have an income equal to that provided for the whole institution by its present endowment. Until that is accomplished, we cannot hope to compete with, much less to rival, the scientific activity of kindred institutions in France, England, and Germany.

ALEXANDER AGASSIZ.

REPORT ON THE MAMMALS AND BIRDS.

By J. A. Allen, Assistant in Ornithology.

There are few changes to report in respect to the collections of mammals and birds. The additions received during the year have been duly registered and labelled, and the collections, both alcoholic and dry, continue in safe condition. During the year, the large Big-bone Lick collection of fossils (chiefly bison remains), collected some years ago by Prof. N. S. Shaler, has been assorted, marked, and catalogued. The same has been done for the greater portion of the other mammalian remains.

The additions during the year consist mainly of the collections made by Mr. S. W. Garman, about Lake Titicaca, in Peru, embracing about one hundred species of birds and several species of mammals, including skins and skeletons of the different races of *Auchenia* found in Peru. In addition to these is a valuable collection of monkeys, collected by Mr. Garman in Central America. These collections have all been presented to the Museum by Mr. Agassiz, under whose direction they were formed. The only other collections of note are an invoice of some thirty species of birds and mammals from India, presented by the Rev. M. M. Carleton, and an invoice of about twenty-five species from Queensland, Australia, received in exchange from Mr. Charles Coxen. Other small lots have been received from Dr. T. M. Brewer, who has given us a large series of eggs of birds, and from Messrs. Walter Davis and J. A. Allen.

REPORT ON SELACHIANS, BATRACHIANS, AND REPTILES.

By S. W. Garman.

Owing to the large amount of field work, since the last report, less than half the year has been devoted to the usual Museum work on the collections. The card catalogue, introduced as an experiment in these departments, succeeds admirably; its convenience, and the amount of time and labor saved by its use, are found to be considerable.

Selachians.—During the year, an excellent lot of specimens, from the North Sea, was added to this collection. Mr. F. A. Bell presented a fine example of the panther shark, from Natal. A series of the Rajæ was sent to the Smithsonian Institution, and a number of specimens of different genera and families have been given out to students. The duplicates are being prepared for distribution amongst the correspondents of the Museum.

Batrachians and Reptiles.—The institution is indebted to Col. Edward A. Flint of Peru, Allen Lesley, Esq., of Central America, Rev. M. M. Carleton of India, Prof. N. S. Shaler of Cambridge, Mrs. George E. Ryder of Cambridgeport, and Prof. W. M. Osband of Michigan, for valuable additions to these collections.

The explorations of Mr. Alex. Agassiz, in South America, 1874-75, secured many examples of species of which we had no representatives. By exchanges with the Boston Society of Natural History, animals new to the department are obtained. A collection was forwarded to Prof. Osband. Various specimens have been drawn by the college instructors for the students. A number of large reptiles, only fit for skeletons, have been withdrawn from the alcoholic collection.

The additions to the catalogue of identifications, include many Selachians and Reptiles, all of the European Batrachians, and those of North America.

It is with pleasure these collections are reported in good condition.

REPORT ON THE FISHES.

By Richard Bliss, Jr.

During the past year there have been no additions in this department, excepting a very valuable collection of fishes from Lake Titicaca, made by Mr. A. Agassiz and Mr. S. W. Garman. The collection has been identified by Mr. Garman. The fish skeletons, now stored in the attic, have been rearranged according to families, and the work of cataloguing them has been begun. Mounted skeletons and stuffed specimens have been placed in four of the gallery cases of the large exhibition-room, the former having been selected and arranged with a view of affording students the best facilities for studying them as they stand in the cases. A small collection of typical specimens has been prepared for the use of Dr. W. James, in his lectures and instruction to the undergraduates.

Aside from a general supervision of the large collection, the work of identifying and cataloguing the specimens has been steadily carried on. The Thayer, Hassler, Garrett, and Pike collections, four of the largest in this department, are now identified, and the process of selecting duplicates for distribution and exchange has been begun. This work is rendered all the more necessary as the collection is too bulky to be properly cared for, and the loss of alcohol by evaporation from so many jars very great.

REPORT ON INSECTS.

By Dr. H. A. Hagen, Assistant in Entomology.

Additions to the collection: from—

1. Mr. J. H. Hubbard, from Detroit, Mich. A large lot of specimens for the biological collection, and Odonata.
2. Mr. E. Schwarz, from Detroit, Mich. Lepidoptera.
3. Mr. W. P. Austin. Specimens for the biological collection: Diptera; Perlidæ from the White Mountains, N. H.
4. Mr. W. M. Davis, from Philadelphia, Penn. Biological specimens.
5. Rev. M. M. Carleton, East India. A large collection of Lepidoptera from the Himalaya; other insects in alcohol; Water-Beetles and Hemiptera from Tanasur.
6. Mr. F. C. Bowditch, from Brookline, Mass. Neuroptera.
7. Mr. H. K. Morrison. Lepidoptera and biological specimens; Neuroptera from the White Mountains, N. H. (Exchange.)
8. Mr. H. K. Morrison. Diptera and Neuroptera from Glen and Hermit's Lake, White Mountains, N. H. (Purchased.)
9. Mr. H. L. Moody, from Malden, Mass. Parasites of Diapheromera femorata, and other biological specimens.
10. Mr. W. Saunders, from London, Ontario, Canada. Lepidoptera, Diptera, Neuroptera.
11. Mr. H. Strecker, from Reading, Penn. A large lot of Lepidoptera,—American and foreign. (Exchange.)
12. Mr. Thomas Bland, from New York. Zanzibar Copal, with insects.
13. Mr. A. Agassiz and Mr. S. W. Garman. Insects from Peru, Chili, and Ecuador,—dry and in alcohol.

14. Dr. R. W. Hooper. Cocoon of Silkworms from Georgia.

15. Mr. Fernald, from Orono, Me. Insects of several orders.

16. Mr. W. Putnam, from Davenport, Iowa. Neuroptera.

17. Mrs. M. de Chauvin, from Freiburg, Baden. Phryganidæ from Silesia.

18. Mr. L. Lesquereux, from Columbus, Ohio. Biological specimens of the potato-beetles.

19. Mr. Lesley, from San Pablo. Insects in alcohol.

20. Mr. H. J. Hubbard, from Detroit, Mich. A full set of the different stages of the white ant, including the queen.

21. Mr. R. Thaxter. Lepidoptera and Neuroptera from Florida and Nova Scotia.

22. Rev. Thomas Hill, from Portland, Me. Coleoptera.

23. Baron V. Osten-Sacken. Insects of different orders from New Jersey and the St. Lawrence River.

24. Mr. L. Th. Harvey, from Buffalo, N. Y. Types of Noctuidæ published by him.

25. Mr. A. R. Grote, from Buffalo, N. Y. Types of Noctuidæ published by him. (Exchange.)

26. Mr. C. E. Webster, Binghamton, N. Y. Lepidoptera.

27. Dr. Kidder, N. Y. Diptera and Psocus from Kerguelen Island.

28. Mr. S. H. Scudder. Biological specimens.

29. Prof. N. S. Shaler. Geological Survey of Kentucky; insects in alcohol.

30. Mr. Ph. R. Uhler. Neuroptera from Colorado, from Prof. Hayden's Expedition.

31. Dr. C. A. Dohrn, Zettin, Germany. A very large lot of Coleoptera. (Exchange.)

32. Prof. Rosenhauer, Erlangen, Bavaria. A very large biological collection,—1,800 of all orders,—dry and in alcohol. (Gray Fund.)

33. Dr. H. A. Hagen. Insects of several orders.

The additions to the collection have been unusually large and valuable. The biological collection from Prof. Rosenhauer, containing 1,800 species from all orders, arrived in

perfect condition. Together with the biological collections of the Museum, this branch of the collection is a very prominent one, and, so far as I know, unsurpassed,—I can say, unrivalled. With the help of Mr. Trowbridge, all alcoholic objects are arranged in vials, with rubber stoppers. The large addition by the collection of Prof. Rosenhauer, and the considerable addition of the last year, necessitates a new arrangement of the biological collection. The *Bombycidæ*, *Noctuidæ* and *Geometridæ*, are arranged by myself, and fill more than two cabinets.

In January, Mr. E. Schwarz arranged some families of the United States *Coleoptera*.

The alarming and rather perplexing condition in which the collection of the *Longicorns* had been left by Mr. Crotch made a new arrangement of them unavoidable. It took nearly three months to arrange them. The collection of *Longicorns* of the United States was arranged at the same time. Instead of 3,500 specimens bought from Deyrolle, there are at present—*including all that the Museum possessed before*—only 1,850 determined, and about 600 species not named.

During the winter months a large number of *Himalaya Lepidoptera* have been spread by Miss Clark. At the present time she is pinning and labelling the alcoholic *Coleoptera*. The exchanges with a number of entomologists in the United States and Europe were quite considerable.

A synopsis of the *Odonata* of America was published in the Proceedings of the Boston Society of Natural History. A course of lectures on general entomology is given in the winter months.

The summer of 1875 has been a very favorable one for insects. It was one of those years which appear from time to time, often separated by intervals of many years, when a large number of rare species are taken. In the course of this summer the collection has been augmented by more rarities of North American insects than in several years put together.

In the exhibition-rooms the cabinets for the insects are nearly filled.

REPORT ON THE DIPTERA.

By R. Osten-Sacken.

The principal work which occupied me during the past year was the working up of the *Tabanidæ* of the collection. The result of this work appeared in the Memoirs of the Boston Society of the Natural Sciences; as, *Prodrome of a Monograph of the Tabanidæ of the United States*: Part I. The second part is in type. All the typical specimens of this monograph are in the collection of the Museum. In a similar manner, a smaller monographic essay *on the American species of the genus Syrphus*, was prepared in putting in order the specimens of the collection. The additions to the collection were but few.

1. Dr. Kidder, who accompanied one of the United States Astronomical Expeditions in 1874, brought three remarkable species of wingless, or almost wingless, *Diptera* from Kerguelen's Island.

2. Mr. Bélanger, Curator of the Museum in Quebec, sent a considerable collection, consisting of numbered duplicates, for determination; they all remained for the Museum.

3. Mr. E. Palmer sent a small but interesting collection from the Island of Guadeloupe and the Pacific Ocean. (Inserted a notice about them in the Proceedings of the Boston Society of Natural History in October.)

4. A collection from the environs of Detroit, Mich., was presented by Mr. Hubbard.

5. Some interesting *Diptera* from the environs of Boston were given by Mr. Bowditch; from the White Mountains by Mr. George Dimmock.

6. I acquired a number of *Diptera*, collected by Mr. H. K. Morrison in the White Mountains, some of them new to the Museum; some useful duplicates.

Besides Mr. Bélanger's collection, I named several smaller collections, sent to me for that purpose.

REPORT ON THE CRUSTACEA.

By Walter Faxon, Assistant in the Zoölogical Laboratory.

The early part of the year was employed in determining and arranging the fossil *Crustacea*. A set, including the principal genera represented in the collection, has been mounted on tablets, and is now exhibited to the public. This collection is especially rich in species from Solenhofen and in North American and Bohemian *Trilobites*.

The work of identifying the recent species has been begun and carried through the *Oxyryncha*. A collection of one hundred and thirty-seven species has lately been returned from the Jardin des Plantes. The *Maioids* from the dredgings of Stimpson and the "Hassler," sent to Paris in the spring of 1874, have also been returned. Among these are types of seven new genera and twelve new species, described by M. Alphonse Milne-Edwards.

The most valuable additions to the department during the year are the interesting forms dredged in Lake Titicaca by Mr. Agassiz, in Lake Superior by the United States Lake Survey, and the collection of Bohemian *Trilobites* from Barrande.

New material has been derived from the following sources :—

Agassiz, A. Eight Palæmon Gaudichaudii from Arequipa, Peru; Amphipoda and Cyprids dredged in Lake Titicaca; mixed lot from the Isles of Pearls, Panama Bay.

Barrande, J. One hundred and ninety species, 3,492 specimens of Trilobites from Bohemia. (From the Gray Fund.)

Boll, J. Five species, 27 specimens from Dallas, Texas.

Carleton, Rev. M. M. Estheriæ from Kooloo Valley, N. India.

Comstock, Gen. C. B. Five species from Lake Superior. (U. S. Lake Survey.)

Gabb, W. M. Nine fossil Crustacea from San Domingo.

KENTUCKY GEOLOGICAL SURVEY (through Prof. N. S. SHALER). Astacidæ and Isopoda from Cumberland Gap.

SLADDEN, W. P. Fourteen fossil Merostomata from Upper Ludlow Beds of Lesmahagow, Lanarkshire. (By exchange.)

SMITH, Prof. S. I. Eight species fresh-water Crustacea.

WALKER, J. A *blue* Homarus Americanus.

YARROW, Dr. H. C. Eleven Apus æqualis, 10 Estheria, from New Mexico. (U. S. Exploring Expedition, west of 100th merid.)

REPORT ON THE DEPARTMENT OF CONCHOLOGY.

By JOHN G. ANTHONY, Assistant in Conchology.

In my last report, I mentioned that the Pease collection of shells, purchased some time previously, was then under a process of identification and incorporation with our previous collection. The plan pursued required a complete revision and reidentification of all the species then on hand, and was necessarily a slow and laborious undertaking. It was, however, thought advisable to make the work so critical and thorough that it would not be necessary to recur to it again for a long period.

The same plan has been pursued during the entire year now drawing to a close, and a very considerable progress has been made. I can now state definitely that upwards of eleven thousand species have been carefully examined, named, and roughly catalogued, preparatory to being copied into the Record Book which has been so long waiting for this purpose.

So far as we have proceeded up to this time, we have dealt with univalve shells alone, reserving our bivalves for next year's study. In this examination and identification I have had the assistance of Prof. Hamlin, all the marine gasteropods having passed under his revision, while my own labors have been mainly directed to the careful examination and revision of the fluviatile and terrestrial forms.

As fast as identified, the species have been mounted on glass or slate tablets by my daughter, whose skill in that line leaves nothing to wish for, and have then been arranged in genera and sub-genera, after the most approved plan known to me. The space allotted for shells will not admit of all being placed on exhibition; but so far as practicable, they have been made available for the purpose of study by those devoted to this branch of natural history, and by the public generally.

The plan adopted of placing our more delicate specimens in glass tubes before being mounted on tablets, has proved emi-

nently successful. It not only preserves the thin and tender shells from injury, but also obviates one great objection constantly brought against mounting shells on tablets, since this plan admits of all sides of a specimen being examined without removal, and is moreover particularly adapted to the minuter forms.

Our usual exchanges have been continued, though the number of packages and specimens received or sent away has scarcely been as great as in many previous years. Our collection being so large already, we have had no inducement or wish to solicit miscellaneous or indiscriminate exchanges, and hence we have in all cases restricted correspondents to such forms as would furnish us with new or specially desirable species, and have particularly sought for type specimens from authors engaged in describing new species. During the year we have received from 24 contributors 27 packages, containing 1,192 species and 13,683 specimens. Many of these were rare types, sent by authors, or else species seldom attainable, and hence of unusual value.

Some of the parcels received deserve more than a passing notice. Among these I may mention two packages from Mons. A. Morelet, containing mostly species described by him, and derived from localities seldom visited by collectors.

Our old correspondent, Dr. Dohrn, from whom we have hitherto received so many favors, has again laid us under obligations, by furnishing many rare and choice species from Morocco, the Red Sea, Bolivia, and Ecuador. His last box, just received, contained more than forty species entirely new to me.

Our friends, Messrs. Garrett, Geale, Bland, Count Kornis, and others, have also kindly remembered us from time to time, sending us valuable contributions, for which we desire to return them our sincere thanks. From the first named we received 340 species, all collected by himself, mostly in the Feejee Islands, and the localities being carefully noted renders them unusually valuable.

The number of packages sent to correspondents has been 32, containing 2,125 species and 7,328 specimens.

REPORT ON THE ALCOHOLIC MOLLUSCA.

By J. Henry Blake.

A portion only of my time has been employed in the customary work of this collection; during the past year it has been concentrated in the basement of the building.

The Chitons in the collection have been forwarded to Dr. P. P. Carpenter, Montreal, for identification, and with the exception of those kept for a particular purpose, all have been identified and safely returned by him.

The collection from Mr. Henry Hemphill, mentioned in last year's report, has been identified and distributed.

There are still unassorted specimens belonging to different collections. They include mainly late invoices, and the collection dredged during the Hassler voyage, all of which are still in the bottles and small boxes in which they arrived at the Museum.

The collection, however, with the exception of the cases mentioned above, is in a safe condition, and the adopted temporary arrangement renders the whole quite accessible.

Few additions have been made to the collection; the most valuable being rare specimens from different parts of Lake Titicaca, South America, dredged by Mr. Alex. Agassiz, assisted by Mr. S. W. Garman; also by same party specimens from the Pearl Islands, Panama Bay.

REPORT ON THE FOSSIL CEPHALOPODA.

By Prof. A. Hyatt.

Since the last time that the collection of fossil Cephalopods was noted in the Museum Reports, the condition of the collection has been considerably improved.

All of the Jurassic Ammonites have been prepared for mounting, and all of those belonging to the Liassic and Oolitic formations mounted and catalogued.

The work was then interrupted, and has not since been resumed. The specimens of the Upper Jura are all mounted. and ready to be named and catalogued.

Part of the collection has been placed on exhibition, and part stored in the loft of the Museum.

REPORT ON RADIATA.

By L. F. Pourtalès, Keeper of the Museum.

During the last year the large quantity of duplicate corals on hand have been classified and put in order. A catalogue of them has been prepared, so that they are now more readily available for exchange or distribution. Several sets have been selected and sent to parties to whom the Museum was indebted for collections received.

From the catalogue, it appears that the Museum has now on hand, in the duplicate room, 6,463 specimens, representing 334 species. There are on exhibition 566 species of living, and 479 species of fossil corals. The alcoholic specimens and the Alcyoniria have not yet been placed on exhibition.

The general collection of fossil corals is now being revised, and a card catalogue of them is in preparation by Miss Hyde, who also catalogued and arranged the duplicates.

The collection of Ophiuridæ and Astrophytidæ, under Mr. Lyman, has been enriched by numerous preparations of the hard parts, which have been mounted by Miss Clark.

The horny sponges have been revised by Prof. Hyatt, and those which had not been named by Prof. Oscar Schmidt have been determined.

The additions to this department have not been large during the year. Mr. Gabb has made an additional donation of tertiary fossil corals from Santo Domingo, and Mr. Agassiz brought some interesting ones from Peru.

REPORT ON THE INSTRUCTION IN GEOLOGY AND PALÆONTOLOGY.

By Prof. N. S. Shaler, Assistant in Palæontology.

During the academic year 1874–5, two courses of instruction were given,—one in Geology, the other in Palæontology. The first of these was attended by thirty students; the second by six students. The instruction in geology was given by lectures based on Lyell's Principles of Geology, by field work on the geology of the environs of Cambridge, and by laboratory work. This latter included the drawing of geological models and the study of the principles of determining organic remains as applied to characteristic fossils.

The Palæontology was taught by lectures and laboratory work. In both these courses, at least nine hours a week of attendance was required.

In order to supplement this instruction, a summer school of Geology and Palæontology was organized in connection with the Kentucky Geological Survey at Cumberland Gap, Kentucky. This was attended by several students and by about twenty-five teachers from various schools and colleges. Ten teachers, including five assistants of the Kentucky survey, and the state geologists of Tennessee, North Carolina and Kentucky, took part in the instruction in this summer school. Large collections were made, a part of which will be deposited in the students' collection of the Museum. Considerable advance has been made in the preparation of the collection designed for instruction of students. About two hundred drawers of specimens for the illustration of the teaching in Geology and Palæontology have already been set aside and in good part arranged. Before the year is out, this collection will begin to crowd the teaching-rooms in a fearful manner.

A "question guide to the geology of the environs of Boston" has been prepared, and Part I., concerning the

geology of Cambridge and Somerville has been printed for the use of the students. It is desirous to have a question catalogue adapted to the students' collection prepared on the same general plan, the object being to give the student a clue and a stimulus to his inquiries. As soon as the collection begins to be sufficiently full, this question list should be prepared.

REPORT ON THE INSTRUCTION IN ZOÖLOGY.

By Prof. JOHN MCCRADY, Assistant in Zoölogy.

During the year 1874–5, I gave two courses of lectures on Zoölogy, one including the Protozoa and Radiata, and the other the Mollusca, Articulata, and Vertebrata. This was supplemented by laboratory work by undergraduates, under the immediate supervision of Mr. Faxon, but under my general direction, and by constant practical investigations by special students, to which I gave more specially my personal attention and guidance. The number of students was as follows:—

UNDERGRADUATES.

Juniors,	8
Seniors,	6

GRADUATES.

Special students, etc.,	4

REPORT ON THE LIBRARY

By Miss Slack.

During the year there have been added to the library 964 volumes, parts of volumes, and pamphlets.

Complete works,	volumes,	159
Transactions, current and of past years,	"	106
" " " " "	parts,	381
Pamphlets,		318
		964

There have been received from the following sources,—

Mr. Alex. Agassiz: 116 volumes, 140 parts, and 124 pamphlets,	380
Library of Louis Agassiz: 119 volumes and 135 pamphlets,	254
Bought: 3 volumes and 8 parts,	11
Societies: 93 volumes and 140 parts,	233
Mr. T. Lyman: 6 volumes of photographs,	6
M. Ch. Desmoulins: 5 volumes,	5
Department of the Interior: Geological Survey,	4
Mr. L. F. Pourtalès,	2
Profs. Baird, E. T. Cox, and F. V. Hayden, each 1 volume,	3
W. H. Dall: pamphlets,	27
Dr. E. v. Martens: pamphlets,	8
Messrs. S. I. Smith and Harger: pamphlets,	4
Mr. F. W. Putnam: pamphlets,	3
The Marquis de Folin, Mr. S. W. Garman, Mons. E. Hesse, Mr. George Lawrence, Mr. R. Rathbun, Prof. A. E. Verrill, Lt. G. W. Wheeler, and Bureau of Education, each, 2 pamphlets,	16
Messrs. J. A. Allen, N. Bateman, Thos. Bland, Dr. Elliott Coues, Prof. James D. Dana, Count Hugo, Prof. O. C. Marsh, and Department of the Interior, each, 1 pamphlet,	8
	964

APPENDIX.

[B.]

PHILADELPHIA, April 28, 1875,
1625 SPRUCE STREET.

MY DEAR SIR:—For the better preservation of the types of North American Coleoptera contained in my collection, I wish to have it placed, after my death, in the Museum of Comparative Zoölogy, in Cambridge, Massachusetts.

I am moved thereto, not only by the belief that the organization of your Museum, and the climate of Cambridge, are favorable for the preservation of perishable objects of natural history, but also because I desire, in illustrating the Museum established by Prof. L. Agassiz, to testify the strong affection I had for him.

I need not mention the value which my collection has for the future study of the Coleoptera of the United States; for, besides type specimens of nearly all the species described by me, it contains specimens carefully compared with those described by Say, Harris, Melsheimer, Haldemann, and Ziegler, and all the unique types of the three last-named authors.

It has been also enriched by the extreme liberality and courtesy of many distinguished European entomologists, who have sent to me even the second specimens of many of the North American species, which were otherwise unattainable, at that time. I have thus a nearly complete series of those species described from the western coast by Eschscholtz, Mannerheim and Mäklin.

I trust that it may be consistent with the funds of the Museum to retain permanently the services of an experienced entomological curator, with sufficient assistance to keep in order and protect the vast collection now being assembled.

I would suggest that, for ordinary study, type collections should not be opened freely, but that, by accurate comparison with authentic types, a separate collection for easy reference should be formed as rapidly as by purchase, or otherwise, material may be procured.

When these separate collections become tolerably perfect, as must result after a moderate time, the typical collections would be seldom consulted, only by those who were engaged in monographic work, or in authenticating specimens for the more public collections.

It is also important, for the preservation of entomological collections, that a rigid inspection should be made of each box of specimens, at least twice a year; and I would therefore suggest that it should be a permanent and stringent rule of the Entomological Department, to have such an inspection regularly made, and its results reported to the Director of the Museum.

In addition to the recommendations above made, I would urge strongly the necessity of preserving, in type collections, all the original labels of the author; these are sometimes removed for the sake of producing uniformity of appearance, which, however pleasing to the eye, occasionally gives rise to confusion.

If these views be acceptable to you, please signify to me your approval, and I will, without delay, send you an order upon the executors of my estate, to deliver to you, or your successors in office, my entomological collection. This order will be available, in case of my death, if the collection is not sooner placed in the Museum.

I would mention, the boxes used by me are very convenient for constant study, and for permanent protection could be readily placed, by pairs, in tight glass-covered drawers, similar to those now in use in the Museum.

With my best wishes for the future extension and prosperity of the Museum, I remain, as ever,

Very sincerely yours,

JOHN L. LECONTE.

ALEXANDER AGASSIZ, Esq., *Museum of Comparative Zoölogy, Cambridge, Mass.*

PHILADELPHIA, May 13, 1875.
1625 SPRUCE STREET.

MY DEAR SIR:—I have directed my executors, in a clause of my will, to deliver to the Trustees of the Museum of Comparative Zoölogy, at Cambridge, my entire collection of insects, with the pieces of furniture in which the boxes are contained.

I send you this note, in order that when the time comes for the fulfilment of this bequest, you may designate, by proper indorsement, or other separate note, the person authorized to receive and transport to Cambridge, the collection, in such manner that it may receive no damage.

In regard to matters of general policy affecting the care and use of typical collections of such extremely perishable objects, I have expressed my views in a previous communication, and I am glad to

learn from your letter, on the 10th instant, that they have your entire concurrence, and that many of them have, in fact, been already provided for in the Museum.

Very truly yours,

JOHN L. LECONTE.

A. Agassiz, Esq.

Boston, May 10, 1875.

Dear Sir:—I have no objection to your saying to your Trustees that I design my collection to your Museum, and that while I live I shall hold it only as its trustee, and moreover intend to do my utmost to increase its value. This intention on my part is known to and is approved by my family, and also has the cordial approval of Prof. Baird, who freely allows me to take from their collections to increase both the varieties and add to the new species. This intention I made known to your father about two years ago, and since then I have given a good deal of time to perfect the marking and cataloguing of the collection. This is now completed so that any one understanding the subject could arrange all my known species.

In numbers my collection is about as large as the famous Des Murs collection, but much richer in North American eggs, and second in that respect to the Smithsonian alone, while the latter has very few foreign.

It is my intention, if I live long enough, to have a series of cabinets made and so arranged that the eggs may be examined without injury from handling, light, or dust. If I am not able to do this, I will have to trust to your Museum to supplement my imperfections.

I take to Europe with me about 1,200 duplicates for exchanges, and hope to bring back with me both more complete series of what I have and many entirely new species. About two-fifths of my collection is North American, about two-sevenths European, about one-fourteenth, each, West Indian, South American, and African; the balance, Asiatic and Australian.

You may say, too, to your Trustees, that in the interim, all the nests of interest that may come into my possession, or that I can procure, go to supplement, as it were in advance, the collection of eggs to come, either with their eggs, or where I wish to retaim them, the latter are marked to their connection.

For some years to come I shall need to use my collection in my

studies and writings, and I intend that my retention of them shall only add to their future value and interest.

Excuse the haste with which I have had to write this, but I think you will understand just how the matter stands, and that you are at liberty to claim a prospective interest in my collection.

Yours,

T. M. BREWER.

ALEXANDER AGASSIZ, Esq.

NEW YORK, April 30, 1875.

DEAR SIR:—I beg you will consider my collection of Corbiculidæ from henceforward as the property of the Museum, whether the affair of the catalogue come to anything or not. I make this donation to the Museum free of any conditions or restrictions whatever. If in a few years we do not see our way clear to the publication of a catalogue, I will then send the collection to Cambridge.

Yours, very truly,

TEMPLE PRIME.

TO ALEX. AGASSIZ.

At a meeting of the President and Fellows of Harvard College, in Boston, June 28, 1875,—

Voted, That the specimens belonging to the University, which remain in the Anatomical Museum in Boylston Hall, be *deposited* until the further order of this Board in the Museum of Comparative Zoölogy.

A true copy of record. Attest:

A. G. DAVIS, *Clerk*.

ALEXANDER AGASSIZ, Esq., Cambridge, Mass.

THE AGASSIZ MEMORIAL.

[C.]

THE AGASSIZ MEMORIAL.

BOSTON, Jan. 1, 1876.

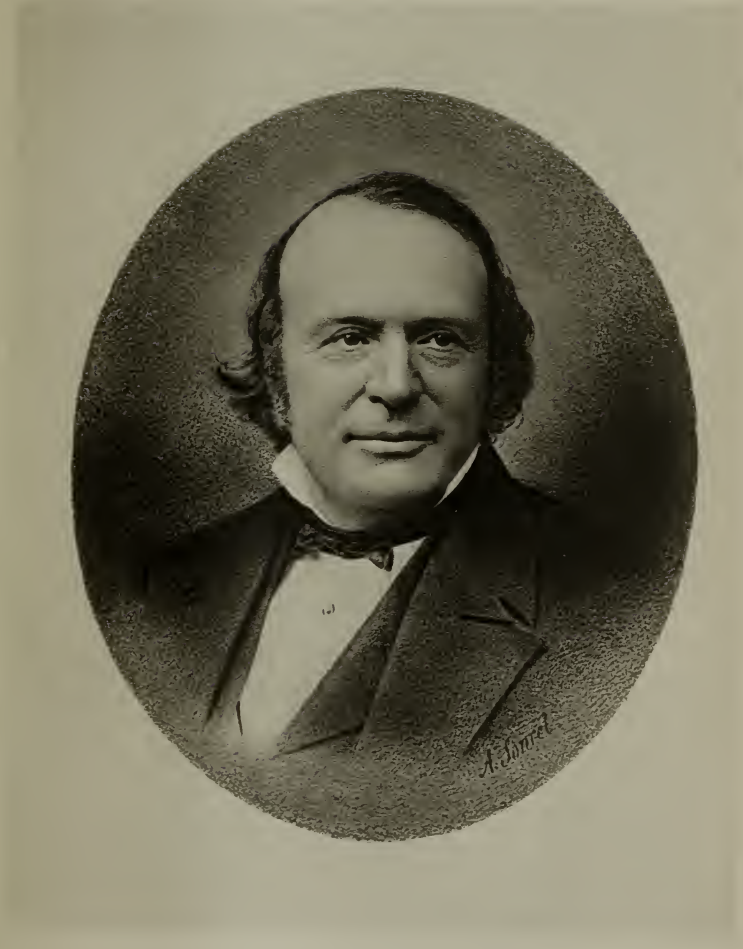
TO ALEXANDER AGASSIZ, Esq., *Curator of the Museum of Comparative Zoölogy, Cambridge, Mass.*

DEAR SIR:—At a meeting of the Agassiz Memorial Committee, held December 11, 1875, it was voted that the Secretary, with the aid of the Chairman of the Finance Committee, be instructed to prepare and forward to the Curator of the Museum a full account of the doings of the Agassiz Memorial Committee, with a request that the same be inserted as an appendix in the annual report of said Curator to the Committee on the Museum.

I beg to hand you herewith the report called for by the above vote of the Committee, and to request that you will cause the same to be appended to the next annual report to the legislature made by the Committee of the Museum.

Respectfully yours,

ROGER WOLCOTT,
Secretary Agassiz Memorial Committee.



L. Agassiz

REPORT.

The following circular was issued in February, 1874:—

DEAR SIR:—At an informal gathering of some of the friends of the late Prof. Agassiz, it was resolved to call a meeting to consider the establishment of a memorial to him.

You are invited to be present at this meeting, which will be held at Wesleyan Hall, No. 36 Bromfield Street, at 11 A. M., on Friday next, the 13th inst.

JOHN A. LOWELL, *Chairman.*
THEODORE LYMAN,
JOHN M. FORBES,
JAMES L. LITTLE,
JAMES M. BARNARD,
EDWARD H. CLARKE,
MARTIN BRIMMER,
Committee.

In accordance with the above circular, a meeting was held, at which a committee was appointed to take measures to raise a fund for the Agassiz Memorial.

The meeting was largely attended, and was called to order by Mr. Augustus T. Perkins. Hon. Robert C. Winthrop was called to the chair. At the request of the Chairman, Col. Theodore Lyman stated the purpose of the meeting to be the establishment of a memorial to the late Prof. Louis Agassiz. The most fitting memorial must be the completion of his life's work. The completion of the Museum in accordance with his plans, and its liberal endowment, would be of infinite value to the educational interests of the whole country. To do this, the sum of $300,000 is required.

Prof. William B. Rogers spoke of the national importance of the enterprise, and expressed the hope that the Commonwealth of Massachusetts and the liberal men of Boston would carry the enterprise grandly and speedily to its consummation.

Hon. George B. Loring said that he did not doubt that the Commonwealth, proud of her adopted son, would gladly join her citizens in perpetuating the memory of one who had done so much in the cause of education and to honor the country of his adoption.

Mr. Ralph Waldo Emerson said that of the scientific eminence of Agassiz he could not speak of his own knowledge, but he, in com-

mon with all who knew Agassiz, could testify to the broad humanity, the genial charm, and true disinterestedness of his character.

Dr. Oliver Wendell Holmes compared the unfinished work of Agassiz to a cathedral left incomplete at the death of the architect. In each case the noblest memorial is the completion of the work. Like St. Paul's Cathedral, this would be the truest and most lasting monument to him who had planned it.

On motion of Mr. James M. Barnard, the Chair was requested to appoint a committee of not less than thirty, with power to add to their number, whose duty it should be to take measures to raise a fund for the Agassiz Memorial.

The Chair announced the following-named persons as constituting the Committee :—

John A. Lowell.	J. Ingersoll Bowditch.
Nathaniel Thayer.	Edward H. Clarke.
George T. Bigelow.	H. Cabot Lodge.
John M. Forbes.	Lewis Cabot.
Abbott Lawrence.	William Gaston.
Theodore Lyman.	Prof. Benjamin Peirce.
Sebastian B. Schlesinger.	Charles Francis Adams.
Martin Brimmer.	Henry P. Kidder.
James M. Barnard.	Augustur Flagg.
E. R. Mudge.	T. G. Cary.
James L. Little.	Prof. James Hall, Albany.
Moses Kimball.	Prof. James D. Dana, New Haven.
George B. Loring.	Prof. A. Guyot, Princeton.
John Cummings.	Dr. J. H. Rauch, Chicago.
George C. Richardson.	Pres. Gillman, San Francisco.
Prof. William B. Rogers.	Dr. H. Wheatland, Salem.
Roger Wolcott.	Pres. A. S. White, Ithaca.
Alpheus Hardy.	Pres. Caswell, Providence.
Otis Norcross.	Prof. Joseph Henry, Washington.
Francis E. Parker.	Prof. N. S. Shaler, Cincinnati.
Edward J. Lowell.	Pres. Barnard, New York.
Alexander H. Rice.	Prof. J. P. Lesley, Philadelphia.
O. W. Holmes, Jr.	Dr. George Engelman, St. Louis.

To this Committee were subsequently added the names of Geo. P. King, E. P. Whipple, Chas. L. Peirce, Thomas G. Appleton, and William S. Appleton of Boston, Prof. Joseph Leidy and Prof. Fairman Rogers of Philadelphia, and George Davidson and Thomas S. Hoyt of San Francisco.

The Chair announced that $65,000 had already been promised by four subscribers.

The meeting was then dissolved.

The Committee appointed as above held a meeting immediately after the general meeting, and completed their organization by the choice of Hon. George T. Bigelow as permanent Chairman, S. B. Schlesinger as Treasurer, and Roger Wolcott as Secretary.

Col. Lyman, Dr. Clarke, and Prof. Rogers were appointed by the Chair a sub-committee to prepare and issue an address explaining the urgent need of a large fund, in order to insure the permanent usefulness of the Museum, and inviting subscriptions from all parts of the United States, and from all persons in Europe interested in the advance of science.

Mr. James M. Barnard, referring to Prof. Agassiz's modest recital of himself in his will as "Teacher," suggested that the teachers and pupils of the public schools of the United States should be invited to join in the establishment of the Memorial, as the best means of giving to it a national character, and that whatever sum might be raised in this manner should constitute a separate fund to be called the Teachers and Pupils' Fund.

The Chair appointed Messrs. James M. Barnard and Edward J. Lowell a sub-committee, with full powers to carry out this suggestion.

The Addresses issued by these sub-committees were widely circulated. A copy of each is given herewith.

"It cannot be too soon understood that Science is one; and that, whether we investigate language, philosophy, theology, history, or physics, we are dealing with the same problem, culminating in the knowledge of ourselves."—L. AGASSIZ.

In removing LOUIS AGASSIZ, death has deprived us of one who, for the last quarter of a century, has done more than any other person to stimulate in this country the study of Nature, and a spirit of scientific investigation. Twenty-eight years ago he left Switzerland, his native land, for the United States, and became an American citizen. Those twenty-eight years he gave to unremitted labor in behalf of that higher education, which, by the public at large, was little understood. His interest was confined to no town or State, to no individual or class. He journeyed much; and, wherever he went, there his pupils were. He might have rested on the reputation he brought from Europe, and, by lecturing and writing, have made a fortune. Such a life, however, he would not, or perhaps could not, live. At the age of sixty-seven his brain gave way, and he died, leaving no wealth but his name, his example, and his works.

It would not be grateful for the country, nor would it be for the country's interest, that Agassiz should pass away without a fitting memorial. Such a memorial can be made out of the great Museum which he began

and partially built, and for the completion of which he has left full directions. Completed, it would be a perpetual fountain of knowledge, and a monument quick with his spirit.

"Museum," a word that commonly suggests little more than a collection of curious objects, is scarcely an appropriate name for the memorial that Agassiz ought to have. The Museum he labored for is a presentation of the animal kingdom,—fossil and living,—arranged so as to picture the creative thought. The study of such a subject is the highest to which the human mind can aspire.

At the end of the nineteenth century, no nation, least of all the American, may dare to lag in science; for science is only another word for knowledge, and knowledge is the source of power, and of whatever contributes to power. All knowledge springs from one root; and the sap matured in the root flows through every twig of the tree: what is elaborated in the leaf in its turn nourishes the roots Few distinctions are so groundless as the popular one between "practical" and "scientific."

Three or four generations since, learned men wondered why the rubbing of sealing-wax should make it pick up scraps of paper; what lightning was; and why the muscles of a frog's leg should twitch without apparent cause. What, to-day, has resulted from the study of these observations? The electrotype of the printer, the plated-ware on our tables, the telegraph across the Atlantic, the determination of longitude, the knowledge of the nervous system,—these, and a hundred other things, so important to our modern civilization, have resulted from the abstract studies of Volta, Franklin, and Faraday.

Not long ago the silk-worms, a main source of wealth to Southern France and to Lombardy, were dying; nobody knew why. Prof. Cornalia said: "The worms are destroyed by a mouldy growth on their bodies. The spores, or germs, may be seen by the microscope in the blood of the parent moth. Here is the remedy: each moth's eggs must be collected separately; then the blood of the moth must be examined, and all eggs of unhealthy parents must be destroyed." So the microscopists saved the silk-growers of Italy and France.

Every workman must have his tools: the tools of a zoölogist are collections of natural objects systematically arranged. Such an arrangement means the exhibition of the animal creation in its natural order. This is one of the prime difficulties of science, which taxes the powers of the greatest genius. So difficult is it, indeed, that no two leaders of zoölogy have ever exactly agreed in their views; and it is only by comparing these views that the student can judge for himself. Of what incalculable value would collections be, if such had been arranged by Linnæus in Sweden, by Oken in Germany, by Cuvier in France! But such museums do not exist. Even the great collections of Cuvier are mingled with those of his opponents, like a book culled from the works of many authors. In this country we may have such a museum, if we choose. The celebrated System of Nature of Linnæus can be studied only in books. We may and should have Agassiz's System of Nature illustrated by the specimens which his own hands have set in order. It is for our people to say whether they will neglect this magnificent oppor-

tunity to secure a means of education which money cannot buy, and the future may not give.

The Museum of Comparative Zoölogy at Cambridge is an independent establishment, governed by a faculty of its own. It was founded fifteen years ago by Agassiz, and has grown to its present large proportions under his hand. In connection with it is the newly-established School of Experimental Zoölogy on the Island of Penikese, endowed by Mr. Anderson of New York. The system of instruction has the widest character, and includes elementary teaching, as well as the highest investigations. The exhibition-rooms are free to the public. Large sums have already been expended in bringing this national museum to its present condition. Its collections, in several branches, are superior to those of the British Museum or the Garden of Plants. To make such an establishment useful, it must have a large building, and a considerable annual income for the payment of professors and assistants. To perfect the grand plan conceived by Agassiz will require at least three hundred thousand dollars, of which about one-third would be used in enlarging the building, and two-thirds would be funded.

It is to be hoped that the people of America, for whom Agassiz unselfishly labored, and among whom he spent the best portion of his life, will not hesitate to carry on the work he began. His example and his teachings have benefited every section of the country. The Museum he planned and founded will, if suitably endowed, become an ever-increasing source of scientific and practical usefulness to the nation and the world. We cannot doubt, therefore, that this appeal will be answered by the public in the same generous spirit in which Agassiz devoted his genius to the furtherance of science and to the advancement of education among us.

But we would not appeal to the friends of liberal culture in this country alone. The works and the example of Agassiz are the precious legacy left by him to all nations; and we feel sure that in the great centres of scientific activity in the Old World, where his genius received its first impulses and achieved its earliest triumphs, there will be felt an earnest desire to aid in a work, which, while commemorating the labors and influence of Agassiz, will be an enduring source of scientific discovery and inspiration.

Agassiz Memorial Committee.

John A. Lowell.	Francis E. Parker.
Nathaniel Thayer.	Edward J. Lowell.
George T. Bigelow.	Alexander H. Rice.
John M. Forbes.	O. W. Holmes, Jr.
Abbott Lawrence.	J. Ingersoll Bowditch.
Theodore Lyman.	E. P. Whipple.
Sebastian B. Schlesinger.	Dr. Edward H. Clarke.
Martin Brimmer.	H. Cabot Lodge.
James M. Barnard	Lewis Cabot.
E R. Mudge.	William Gaston.
James L. Little.	Prof. Benjamin Peirce.
Moses Kimball.	Charles Francis Adams.

George B. Loring.
John Cummings.
George C. Richardson.
Prof. William B. Rogers.
Roger Wolcott.
Alpheus Hardy.
Otis Norcross.
Henry P. Kidder.
Augustus Flagg.
T. G. Cary.
George P. King.
Thomas G. Appleton.
William S. Appleton.
Charles L. Peirce.

Prof. James Hall, Albany.
Prof. James D. Dana, New Haven.
Prof. A. Guyot, Princeton.
Dr. J. H. Rauch, Chicago.
Pres. Gillman, San Francisco.
Dr. H. Wheatland, Salem.
Pres. A. D. White, Ithaca.
Pres. Caswell, Providence.
Prof. Joseph Henry, Washington.
Prof. N. S. Shaler, Cincinnati.
Pres. Barnard, New York.
John Anderson, New York.
Prof. J. P. Lesley, Philadelphia.
Dr. Geo. Engelman, St. Louis.
Prof. Joseph Leidy, Philadelphia.
Prof. Fairman Rogers, "
George Davidson, San Francisco.
Thomas S. Hoyt, " "

N. B.—Subscriptions may be sent to Sebastian B. Schlesinger, Esq., Treasurer of the Committee, 6 Oliver Street, Boston.

The Agassiz Memorial Teachers and Pupils' Fund.

Boston, March 10, 1874.

Louis Agassiz, Teacher. This was the heading of his simple will; this was his chosen title: and it is well known throughout this country, and in other lands, how much he has done to raise the dignity of the profession, and to improve its methods. His friends, the friends of education, propose to raise a memorial to him, by placing upon a strong and enduring basis the work to which he devoted his life,—the Museum of Comparative Zoölogy, which is at once a collection of natural objects, rivalling the most celebrated collections of the Old World, and a school open to all the teachers of the land.

It is proposed that the teachers and pupils of the whole country take part in this memorial, and that on the birthday of Agassiz, the twenty-eighth day of May, 1874, they shall each contribute something, however small, to the Teachers and Pupils' Memorial Fund, in honor of Louis Agassiz; the fund to be kept separate, and the income to be applied to the expenses of the Museum.

John Eaton, *Commissioner of Education, Washington, D. C.*
Joseph Henry, *Sec'y of the Smithsonian Inst'n, Washington, D. C.*
Joseph White, *Sec'y of the Board of Education of Mass., Boston.*
W. T. Harris, *Superintendent Public Schools, St. Louis, Mo.*
Edward J. Lowell, *Boston.*
John S. Blatchford, *Boston.*
Jas. M. Barnard, *Treasurer Teachers and Pupils' Fund, Boston.*

All communications and remittances for the "Teachers and Pupils' Fund" of the "Agassiz Memorial" may be sent to the Treasurer,

Jas. M. Barnard, *Room 4, No. 13 Exchange Street, Boston.*

At a subsequent meeting of the Committee, the following gentlemen were appointed as a sub-committee of finance: Messrs. George T. Bigelow, J. I. Bowditch, Abbott Lawrence, Theodore Lyman, and S. B. Schlesinger. The name of Roger Wolcott was added as secretary.

Soon after the organization of the several sub-committees, the state legislature, on motion of Mr. L. V. Cushing, Jr., passed the following resolve appropriating conditionally fifty thousand dollars to the Memorial Fund.

[Resolves of 1874, chap. 44.]

Resolve in favor of the Museum of Comparative Zoölogy,

Resolved, That whereas the proposed Agassiz Memorial Fund is to be devoted to the completion of the Museum of Comparative Zoölogy as the best possible recognition of the benefits conferred upon the State by the labors of the great naturalist, as an educator of the whole community, and to the end that said museum may, for all time, fulfil the aspirations of its originator; therefore,—

Resolved, That when the said memorial fund shall amount to the sum of two hundred and fifty thousand dollars subscribed and paid in from private sources, that *then* there be allowed and paid from the treasury to the trustees of the Museum of Comparative Zoölogy the sum of fifty thousand dollars. [*Approved May 11, 1874.*

The following votes of the Agassiz Memorial Committee, and of the corporation of Harvard College, and the annexed correspondence, need no special explanation:—

Voted, That the subscription for the Agassiz Memorial Fund be kept open till the sum of two hundred and fifty thousand dollars ($250,000) be raised, in order ultimately to secure the fifty thousand dollars voted conditionally by the legislative resolve of 1874.

October 26, 1874.

Voted (1), That the Finance Committee be directed to pay over and deliver to the President and Fellows of Harvard College, all sums of money received by them, and all investments of money in their hands, the proceeds of subscriptions to the Memorial Fund prior to this date, except such sum as it may be necessary to reserve to pay the current expenses; the same to be paid by said committee, and received by said President and Fellows, upon the condition that the net income thereof be paid to the Faculty of the Museum of Comparative Zoölogy, to be expended by them for the benefit of the Museum.

Voted (2), That the treasurer of the fund be directed to pay, at convenient times, any balance of interest in his hands to the Faculty

of the Museum of Comparative Zoölogy, to be expended by them for the benefit of the Museum.

Voted (3), That the money received for subscriptions to said fund from teachers and pupils in the United States be paid over to said President and Fellows; the same to be held by them in trust as a separate and distinct fund, to be called the Teachers and Pupils' Fund, and the income thereof applied to the payment of the expenses of the Museum of Comparative Zoölogy.

October 26, 1874.

At a meeting of the President and Fellows of Harvard College, in Boston, March 1, 1875, the President having laid before the Board sundry votes passed by the Agassiz Memorial Committee, whereby the treasurer of said Committee was directed to pay over and deliver to the President and Fellows certain money and investments in their hands, to be held in trust, the income to be paid over to the Faculty of the Museum, to be expended by them for the support of the Museum; and also to pay over to said President and Fellows a certain other sum of money received by said Committee from subscriptions by teachers and pupils in the United States, to be held in trust as a separate and distinct fund, the interest to be paid over to the Faculty of the Museum, to be by them applied to the payment of the expenses of the Museum of Comparative Zoölogy; it was therefore,—

Voted, That the treasurer of the corporation is hereby authorized to receive said money and property in behalf of the President and Fellows, the same to be held by them in trust on the conditions in said votes expressed, the income to be applied for the purposes above set forth.

Voted, That the President express to said Memorial Committee the grateful acknowledgments of the President and Fellows for this disposition of the money and property in their hands for the use and benefit of the Museum of Comparative Zoölogy.

Voted, That the principal fund above mentioned be called the Agassiz Memorial Fund.

A true copy of votes from record. Attest: George Putnam, *Secretary*.

Harvard University, March 2, 1875.

Sebastian B. Schlesinger, Esq.

Dear Sir:—I beg to express to all the members of the Agassiz Memorial Committee the sincere and hearty acknowledgments of the President and Fellows of Harvard College for the gift to them of the large fund which has been procured through the exertions of the Committee, in order that the memory of Prof. Louis Agassiz may be perpetuated by the adequate and secure endowment of the Museum which he founded at Harvard University. It will be a grateful duty for the President and Fellows, in executing the trust which the Committee have laid upon them, to commemorate the scientific attainments, enthusiasm, and devotion of Prof. Agassiz, while they build up and enlarge the Museum of Com-

parative Zoölogy to the full proportions which his prophetic zeal imagined for it. The continuous growth of the Museum is assured through the successful labors of the Committee.

With the warmest congratulations and thanks, I am, dear sir, very truly yours,

CHARLES W. ELIOT, *President.*

At a meeting of the Memorial Committee, held January 6, 1875, the following letter was received:—

BOSTON, Jan. 6, 1875.

HON. GEORGE T. BIGELOW, *Chairman of the Agassiz Memorial Committee.*

DEAR SIR:—I have the pleasure of announcing to you that Messrs. Quincy A. Shaw and Alexander Agassiz have authorized me to offer the sums respectively of $100,000 and $30,000, to complete the $250,000 necessary to obtain $50,000 from the State. These gifts are in addition to their previous subscriptions, and are made on the following condition: "That the Memorial Fund shall be in charge of the Corporation of the College, and that the Museum Building shall be enlarged in accordance with the plans of Louis Agassiz and of A. Agassiz, which are now in the hands of the Museum Faculty.

Very respectfully,

THEODORE LYMAN,
Agent for QUINCY A. SHAW *and* ALEX. AGASSIZ.

Voted, That the munificent donations of Mr. Quincy A. Shaw of the sum of one hundred thousand dollars, and of Mr. Alexander Agassiz of the sum of thirty thousand, be gratefully accepted, on the conditions annexed to said gifts, as stated in the letter of Theodore Lyman, agent for the donors.

JANUARY 6, 1875.

Voted, That the Treasurer of the Committee is hereby authorized to pay over and deliver, from time to time, to the President and Fellows of Harvard College, all moneys and securities that may be in his possession, the proceeds of the subscription raised by this committee and accepted by said corporation.

MARCH 13, 1875.

Voted, That hereafter, at such time or times as may be convenient, all money in the hands of the Treasurer of the "Agassiz Memorial Fund," together with such further sum as may hereafter be invested by him for the use and benefit of said committee, be by him paid over and delivered to the "President and Fellows of Harvard College," to be by them received and held in trust for the uses and pur-

poses following; namely, to keep and invest the same according to their best judgment and discretion, and collect and receive the income thereon as the same shall accrue from time to time, and apply said income as follows; to wit, first, such portion thereof as the Faculty of the Museum of Comparative Zoölogy at Harvard College shall direct, shall be accumulated and reinvested as an additional fund, so long as said Faculty shall direct; and the said fund, thus accumulated, shall be kept till said Faculty shall direct the same to be applied to the erection of an addition to the Museum Building, substantially in accordance with the plan of Prof. Agassiz, as left by him to his scientific executor; and thereupon, so much of said income as said Faculty shall from time to time direct, shall be applied and paid to said Faculty for the erection of such addition to said Museum, on requisitions therefor to be made by said Faculty and communicated to said President and Fellows; and secondly, the residue of said income shall be paid to said Faculty from time to time on their requisition, to be applied and expended for the benefit of said Museum.

December 11, 1875.

Annexed is (1) a copy of the general subscription list, furnished by the Treasurer, Mr. S. B. Schlesinger; (2) a copy of the report submitted by Mr. James M. Barnard of the Teachers and Pupils' Fund; and (3) a general recapitulation of the Agassiz Memorial Fund, all posted to January 1, 1876.

(1) Subscriptions to Agassiz Memorial Fund.

Alexander Agassiz,	$25,000 00	Col. R. S. Oliver, Albany,	$100 00
Quincy A. Shaw,	25,000 00	Otis Norcross,	1,000 00
Theodore Lyman,	10,000 00	C. H.,	25 00
Nathaniel Thayer,	5,000 00	W. R. Ellis,	50 00
Stephen Salisbury,	5,000 00	Miss Marian Hovey,	50 00
John Amory Lowell,	3,000 00	* *	5 00
James L. Little,	2,500 00	S.,	1 00
Henry P. Kidder,	1,500 00	Edw. Wigglesworth, Jr.,	100 00
William Amory,	1,000 00	Mrs. John E. Lodge, additional,	1,000 00
J. Huntington Wolcott,	1,000 00	Mrs. N. I. Bowditch,	1,000 00
Mrs. Anne S. and Miss Alice Hooper,	1,000 00	Moses Kimball,	500 00
Thomas G. Appleton,	1,000 00	George B. Loring, President N. E. Ag. Soc'y,	150 00
Abbott Lawrence,	1,000 00	J. M. Forbes,	2,500 00
George Higginson,	1,000 00	John J. May,	100 00
Mrs. John E. Lodge,	1,000 00	William F. Cary, New York,	200 00
George Baty Blake,	500 00	Abby W. May,	25 00
Mrs. Louisa Smith, Boston Highlands,	2 00		

George H. Kuhn,	$300 00
J. M. Clark,	25 00
H. L.,	10 00
D. D.,	1 00
E. S. Tappan,	100 00
M. A. Tappan,	100 00
Caroline Tappan,	100 00
G. W.,	5 00
G. F. C.,	1 00
S. A. W.,	1 00
J. B.,	1 00
Mechanic,	2 00
S. P. Barnes,	5 00
Greely S. Curtis,	200 00
E. P. C.,	10 00
J. B. T.,	5 00
M. W. Co.,	10 00
B. & P.,	2 00
Alonzo Josselyn,	5 00
Charles F. Shimmin,	100 00
Ezra Abbot,	50 00
E. Hodge & Co.,	10 00
Joseph T. Greenough,	1 00
D. Hutchins,	50 00
Bangs & Horton,	25 00
Martin Brimmer,	1,000 00
Mrs. Brimmer,	500 00
R. W.,	25 00
Otto Dresel,	50 00
Henry Schlesinger, London, England,	100 00
Dr. O. W. Holmes,	100 00
George Peabody,	500 00
Miss Mary Wigglesworth,	500 00
Arthur Lincoln,	5 00
North Middlesex Agricultural So., Lowell,	50 00
Sir Charles Lyell, Bart.,	55 00
R. M. Mason,	1,000 00
Roger Wolcott,	100 00
William T. Andrews,	500 00
R. W. Hooper,	300 00
George D. Howe,	300 00
William E. Howe,	300 00
Henry S. Snow,	100 00
Mrs. G. H. Shaw,	5,000 00
J. M. Beebe,	1,000 00
Peter C. Brooks,	1,000 00
F. C. Lowell,	$500 00
E. R. Mudge,	500 00
H. H. Hunnewell,	500 00
Cash (a friend),	500 00
Nantucket Ag. Society,	30 00
Caspar Crowninshield,	100 00
Junior Class Harvard College, through Abbott Lawrence, Jr., Chairman Com.,	208 25
F. Gordon Dexter,	500 00
W. G.,	25 00
George Baty Blake, Jr.,	100 00
Mrs. E. C. James,	100 00
L. Prang,	50 00
J. C. Burrage,	25 00
Mrs. G. R. Russell,	2,000 00
Henry Cabot Lodge,	100 00
Harvard Law School,	45 00
Horatio J. Gilbert,	100 00
J. H. Beal,	100 00
E. W. Hooper,	100 00
Robert C. Winthrop,	100 00
J. L. Gardner, Jr.,	100 00
William Munroe,	100 00
A Friend,	200 00
Mrs. George Ticknor,	200 00
The Misses Ward,	20 00
J. B. Bright,	100 00
Jarvis Lewis,	1 00
T. Wetherby,	1 00
Josiah Beard,	1 00
Alexander Starbuck,	1 00
Jos. F. Gibbs,	1 00
Thomas H. Armstrong,	1 00
George Phinney,	1 00
J. T. Prince,	1 00
James C. Parsons,	1 00
B. T. D. Adams,	1 00
"In Memoriam,"	10 00
Miss Georgina Lowell,	50 00
J. H. Center,	20 00
Miss Anna C. Lowell,	100 00
J. B. Bright,	9 30
R. P. Whitfield,	20 00
W. S. Bigelow,	100 00
Miss S. P. Banks,	50
Miss E. M. Wellington,	50
Henry A. Ward,	25 00

Lewis Cabot,	$400 00	Swiss Soc'y in Boston,	$284 00
Th M. Smith, Jr.,	1 00	Swiss Society in Philadelphia,	33 50
Harlem Collegiate Institute,	2 00	Swiss Society in Cleveland, O.,	25 00
Charles H. Williams, for Medical Students,	12 00	Swiss So. in Denver, Col.,	20 00
S. Carter, 2d,	5 00	Swiss So. in Evansville, Ind.,	8 10
Boston Daily Advertiser,	110 00	Swiss Consulate, N. Y.,	5 00
Mrs. S. V. R. Thayer,	200 00	Welch & Bigelow, Cambridge,	270 10
Hon. Samuel Hooper,	1,000 00	Henry P. Curtis,	20 00
Hingham Agr. Society,	30 00	Public Schools of Whitinsville, Mass.,	5 00
Essex Agricult. Society,	50 00	Calumet, Mich., through Chas. Briggs, Treas., subscription of 1,233 persons,	1,215 00
Albert Fearing,	35 00		
Worcester Co. East Agr. Society, Milford,	25 00		
Martha's Vineyard,	50 00		
J. A.,	100 00		
Swiss Society in Washington,	34 00	Total,	$115,600 25

SEBASTIAN B. SCHLESINGER, *Treasurer.*

(2) THE AGASSIZ MEMORIAL.

Teachers and Pupils' Fund.

13 EXCHANGE STREET, BOSTON, Dec. 12, 1874.

We have already had the pleasure of reporting, in the public newspapers, the contribution of $741.63 from 455 teachers and 12,018 pupils of the public schools of Baltimore.

The school committees of Philadelphia, New York, Brooklyn, and Boston believed it to be inexpedient to suspend, in our favor, the law forbidding contributions to be taken up in the schools. Contributions, however, have been received from those cities, excepting Philadelphia. In New York, the president of Columbia College, and Madame Charlier's Institute, gave $129 61. In Brooklyn, the Packer Institute, and Public School No. 1, gave $190. In Boston proper, twenty-one friends, some thirty teachers, and a few pupils, gave $990.15 In the Charlestown district, one hundred and fifteen teachers gave $135, through the late superintendent, the Rev. B F. Tweed. In the Western States many cities and towns gave freely: Chicago, $1,003.40; St. Louis, $765.53. The number of contributors in these cities was not reported, but it may, we believe, be estimated at ten thousand in each. Below is a table showing the amounts received from all quarters. As reports of the number of contributors were not received from all of the schools, the numbers given in this table are hypothetical, but they are believed to be substantially correct. Useful as the amount received will be in building up the Memorial, we have reason to believe, from the letters received at this office, that the indirect effects have been of equal value; that it has been a very important event in the education of the country. It has given to the teachers throughout

the land a rare opportunity to enforce upon their pupils the lesson of the boyhood and manhood of a great and good man, and to teach them the appreciation of those great ideas of which he was an exponent. It has led to meetings where Agassiz's methods of teaching have been explained and discussed. To the established associations for the study of Nature it has given a new impulse, and it has caused the formation of new ones, particularly among the young. Teachers everywhere have found in this plan to honor an eminent man, who claimed above all else that he, too, was a teacher, a new motive to faithful service. In confirmation of this opinion we quote from a letter lately received from Hon. Newton Bateman, the well-known superintendent of education of Illinois: "I am sure that the indirect results of the movement have been exceedingly valuable,—results that would have been cheaply secured by the expenditure of many times the amount of time, money, and labor that the whole enterprise has cost."

It is proposed to keep the fund open permanently for contributions.

A table showing the Amounts Contributed and the Number of Contributors to the "Teachers and Pupils' Fund" of the Agassiz Memorial from all sources, to date.

STATES.	Contributors.	Amount.	STATES.	Contributors.	Amount.
Maine, . .	743	$83 90	Indiana, .	214	$33 35
N. Hampshire,	526	64 00	Michigan, .	1,755	172 04
Vermont, .	163	18 76	Illinois, . .	30,380	1,982 54
Massachusetts,	10,941	2,555 07	Wisconsin, .	2,376	226 04
Rhode Island, .	459	140 05	Minnesota, .	1,166	114 67
Connecticut, .	227	54 36	Iowa, . .	919	71 25
New York, .	6,590	1,106 97	Missouri, .	10,975	882 79
New Jersey, .	650	216 99	Kansas, . .	315	45 00
Pennsylvania, .	500	108 81	Nebraska, .	59	12 75
Maryland, .	12,600	815 33	Colorado, .	390	66 25
Delaware, .	25	19 00	Nevada, .	290	60 00
Dist. of Columbia, .	2	25 00	California, .	–	47 50
Virginia, . .	30	5 00	Texas, . .	1	2 00
West Virginia,	195	25 45	England, .	2	34 16
N. Carolina, .	2	2 00	Unknown, .	–	27 31
S. Carolina, .	1	25			
Ohio, . .	4,200	174 25	Total, . .	86,696	$9,192 74

Total number of contributors (estimated), 86,696.
Total of contributions, $9,192.74.

For the Committee,

JAMES M. BARNARD, *Treasurer.*

(3) Recapitulation of the Agassiz Memorial Fund.

General subscription,	$115,600 25	
Teachers and Pupils' Fund,	9,192 74	
Subscriptions of Messrs. Q. A. Shaw and Alexander Agassiz,	130,000 00	
		$254,792 99
Interest paid to Faculty of Museum of Comparative Zoölogy at sundry times,—		
November, 1874,	$1,072 70	
January, 1875,	1,130 00	
" "	438 00	
July, 1875,	3,060 30	
Interest on Teachers' Fund,	180 00	
		5,881 00
		$260,673 99
Conditional State Grant,		50,000 00
Total,		$310,673 99

[D.]

FACULTY OF THE MUSEUM.

CHARLES W. ELIOT, *President.*

ALEXANDER AGASSIZ, *Curator.*
JOSIAH D. WHITNEY, *Secretary.*
JOHN B. S. JACKSON.
THEODORE LYMAN.

OFFICERS.

ALEXANDER AGASSIZ,	*Curator.*
JOSIAH D. WHITNEY,	*Sturgis-Hooper Professor of Geology.*
HERMANN A. HAGEN,	*Professor of Entomology.*
NATHANIEL S. SHALER,	*Professor of Palæontology.*
JOHN McCRADY,	*Professor of Zoölogy.*
L. F. POURTALÈS,	*Keeper.*
THEODORE LYMAN,	*Assistant in Zoölogy.*
JOHN GOULD ANTHONY,	*Assistant in Conchology.*
CHARLES E. HAMLIN,	*Assistant in Conchology.*
JOEL ASAPH ALLEN,	*Assistant in Ornithology.*
WILLIAM JAMES,	*Assistant in Physiology and Comp. Anat.*
WALTER FAXON,	*Assistant in Zoölogical Laboratory.*
RICHARD BLISS, Jr.,	*In charge of Ichthyological Department.*
S. W. GARMAN,	*In charge of Reptiles.*
J. H. BLAKE,	*In charge of Alcoholic Mollusca.*
PAULUS ROETTER,	*Artist.*

[E.]

TRUSTEES OF THE MUSEUM OF COMPARATIVE ZOÖLOGY,

1876.

THE GOVERNOR OF THE COMMONWEALTH,
ALEXANDER H. RICE.

THE LIEUTENANT-GOVERNOR,
HORATIO G. KNIGHT.

THE PRESIDENT OF THE SENATE,
GEORGE B. LORING.

THE SPEAKER OF THE HOUSE,
JOHN D. LONG.

THE SECRETARY OF THE BOARD OF EDUCATION,
JOSEPH WHITE.

THE CHIEF JUSTICE OF THE SUPREME JUDICIAL COURT,
HORACE GRAY.

THEODORE LYMAN. ALEXANDER AGASSIZ.

NATHANIEL THAYER. L. F. POURTALÈS.
MARTIN BRIMMER. ROBERT W. HOOPER.
QUINCY A. SHAW. ABBOTT LAWRENCE.
WILLIAM GRAY, JR.

[F.]

EXPLANATION OF THE PLANS.

PLATE I. View of the wing, now partly built, together with its proposed addition and the corner-piece joining it to the main building. In the sketch here given, the main building is seen extending to the southern limit of the central segment. The view is taken facing the north-west corner of the Museum.

PLATE II. Shows the general ground-plan of the whole building; the darkly shaded portion is completed; the dotted part forms the proposed addition. Adjoining the general plan is a cross-section of the building on the line A B.

The basement will contain, as at present, rooms mainly devoted to the storage of alcoholic specimens and the work-rooms for the more bulky alcoholic collections. It contains, also, a room for plaster-casts and general work, —three rooms for the use of the anatomical and physiological departments, the boiler-room, coal-bin, and proper accommodations for aquaria, both marine and fresh-water, as well as suitable quarters for live-stock.

PLATE III. Shows the plan of the first story and first story gallery, the latter, except in two cases, the synthetic and lecture rooms opening into the rooms below, having for the sake of greater economy of space been floored over so as to gain very conveniently situated work-rooms for the entomological, the geological, and palæontological departments, as well as central rooms for a general library and a Curator's room.

The first story immediately under the gallery floor contains exhibition-rooms and work-rooms for the geological and palæontological department, so as to retain the heavy material near the bottom of the building. The synthetic room, giving a general synopsis of the arrangement of the Museum, is placed on this floor opposite the main entrance of the wing.

In the corner-piece we find, in addition to the hall and lecture-room, four smaller rooms for the use of advanced students and professors.

PLATE IV. Shows the disposition of the main floor of exhibition rooms, partly for systematic and partly for faunal collections. These rooms, all having a gallery, occupy the whole of the second story. The central space of the large hall in the corner-piece is destined to receive casts or originals of the larger fossil vertebrates.

The attic story has no gallery; it contains in the wing three exhibition rooms for the anatomical and physiological departments, and six work-rooms for the general use of the assistants of the Museum, to be distributed according to our needs. The corner-piece is entirely devoted to rooms destined for the teaching done in the different branches of natural history at the Museum.

Owing to the facility with which any section of the proposed building can be added without interfering with the existing conditions of things, additional room can always be provided when needed for any department or branch thereof, as rapidly as it outgrows the quarters assigned to it.

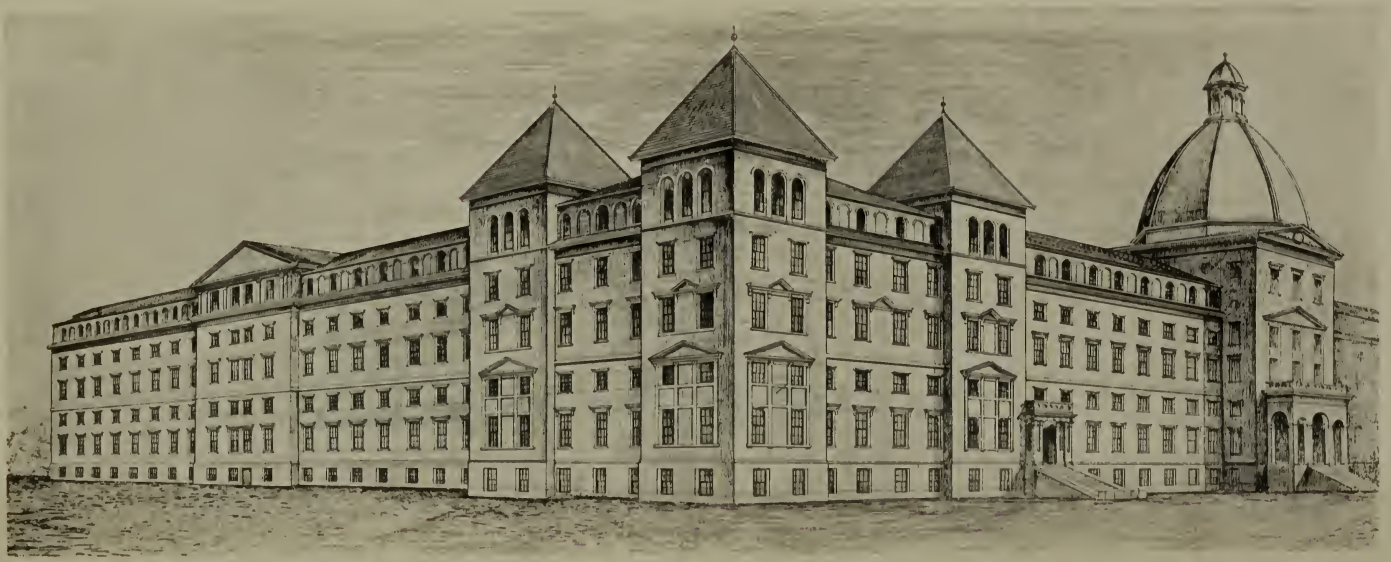
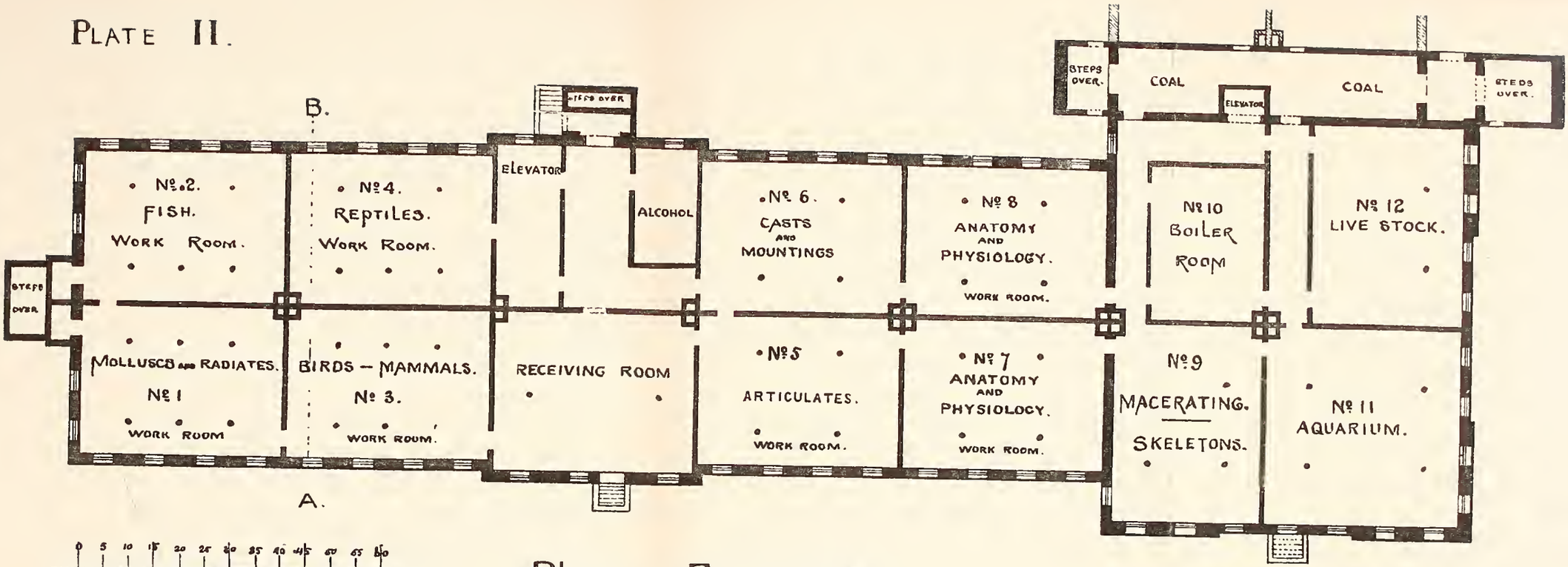
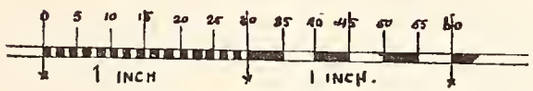


Plate I.

PLATE II.

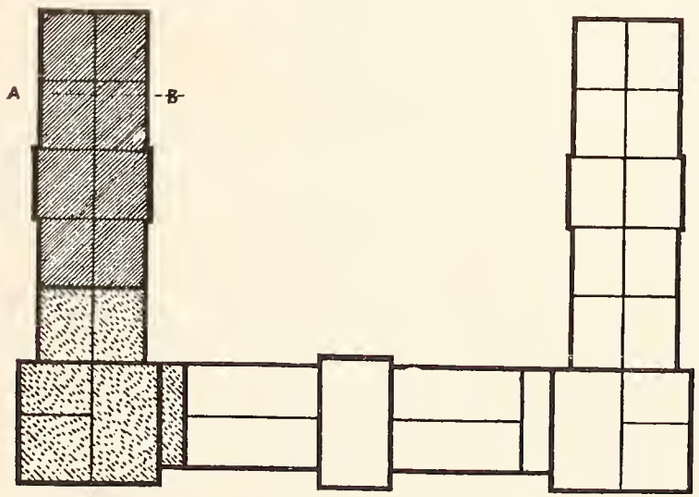




SCALE OF FEET.

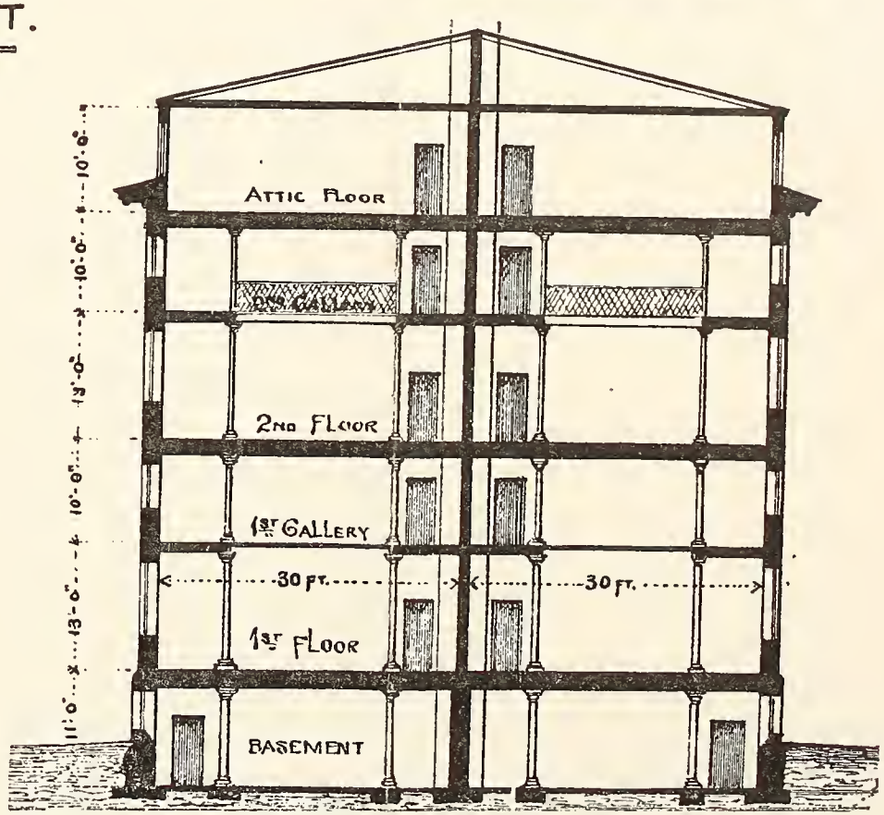
PLAN OF BASEMENT.

SCALE, 30 FT. TO AN INCH.



GENERAL PLAN.

SCALE, 120 FT. TO AN INCH.



CROSS SECTION, AT A ···· B

SCALE, 20 FT. TO AN INCH.

ROBERT H. GLACK, ARCHT.,
BOSTON.

PLAN OF FIRST STORY

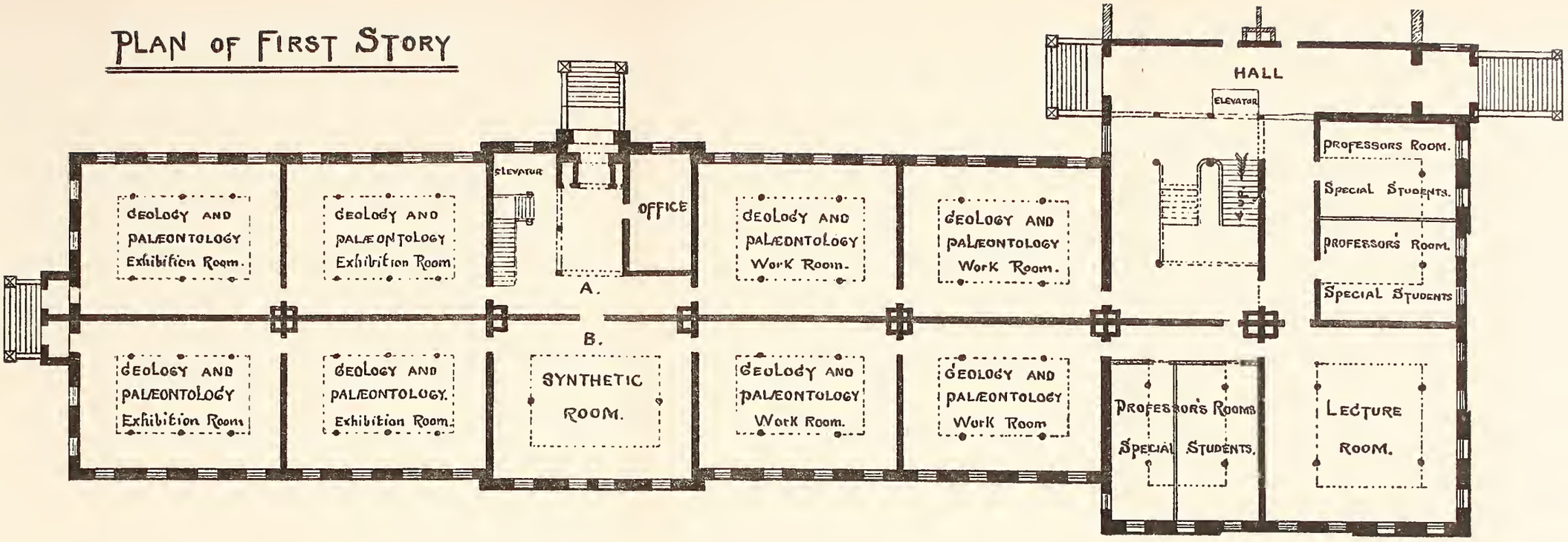
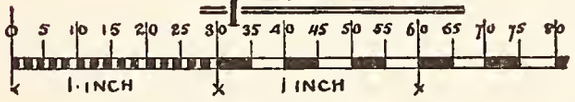
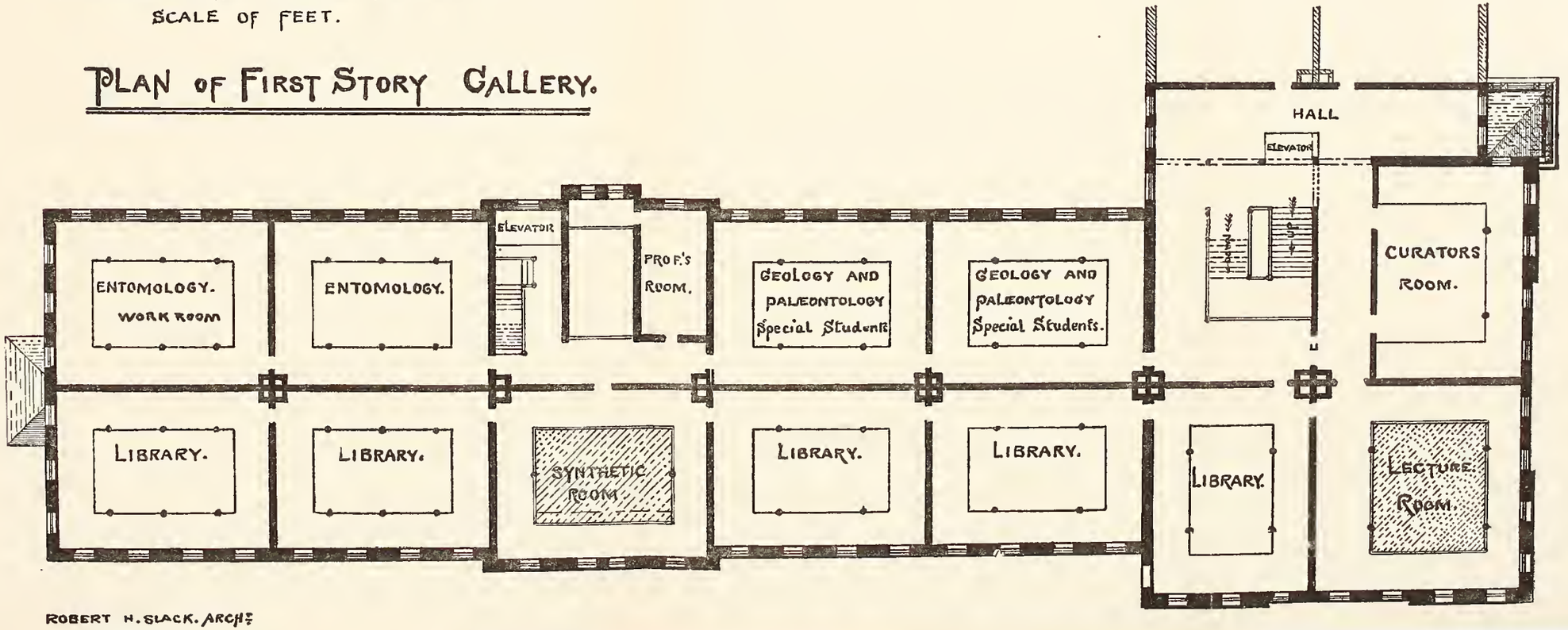


PLATE III



SCALE OF FEET.

PLAN OF FIRST STORY GALLERY.



ROBERT H. SLACK. ARCHT
BOSTON.

Second Story and Gallery.

Exhibition Rooms.

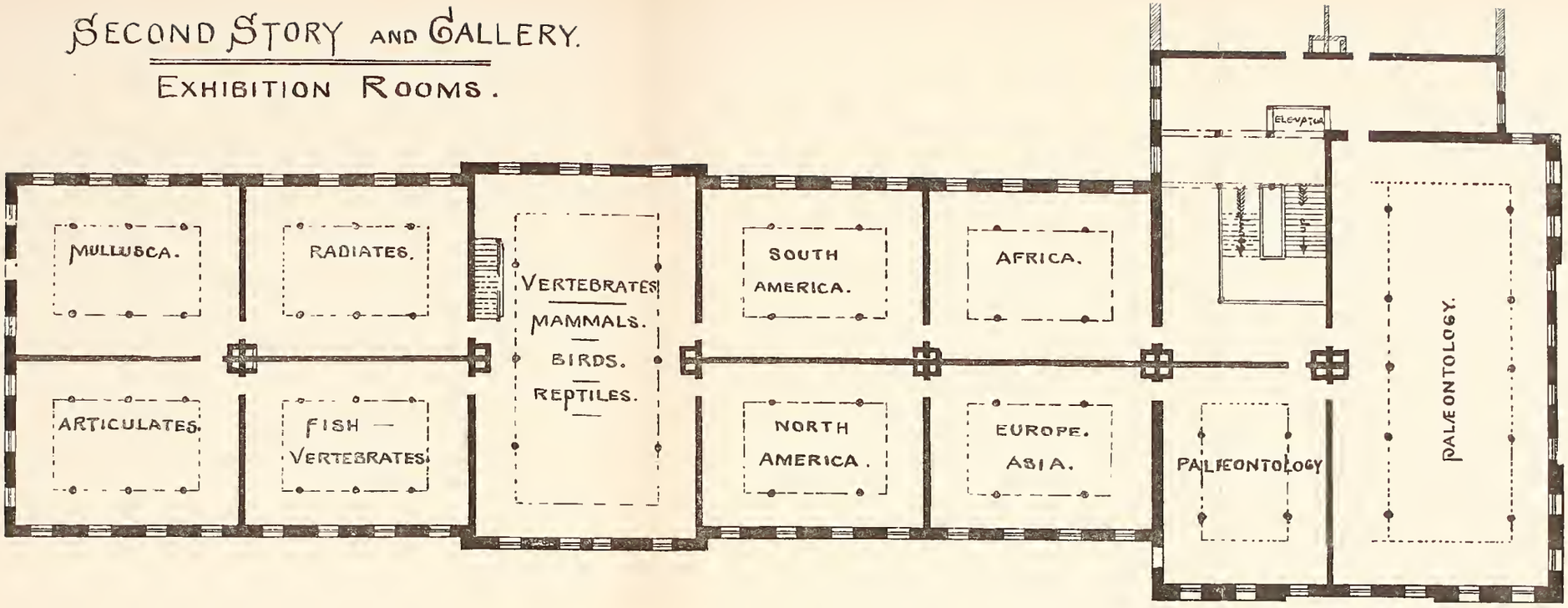


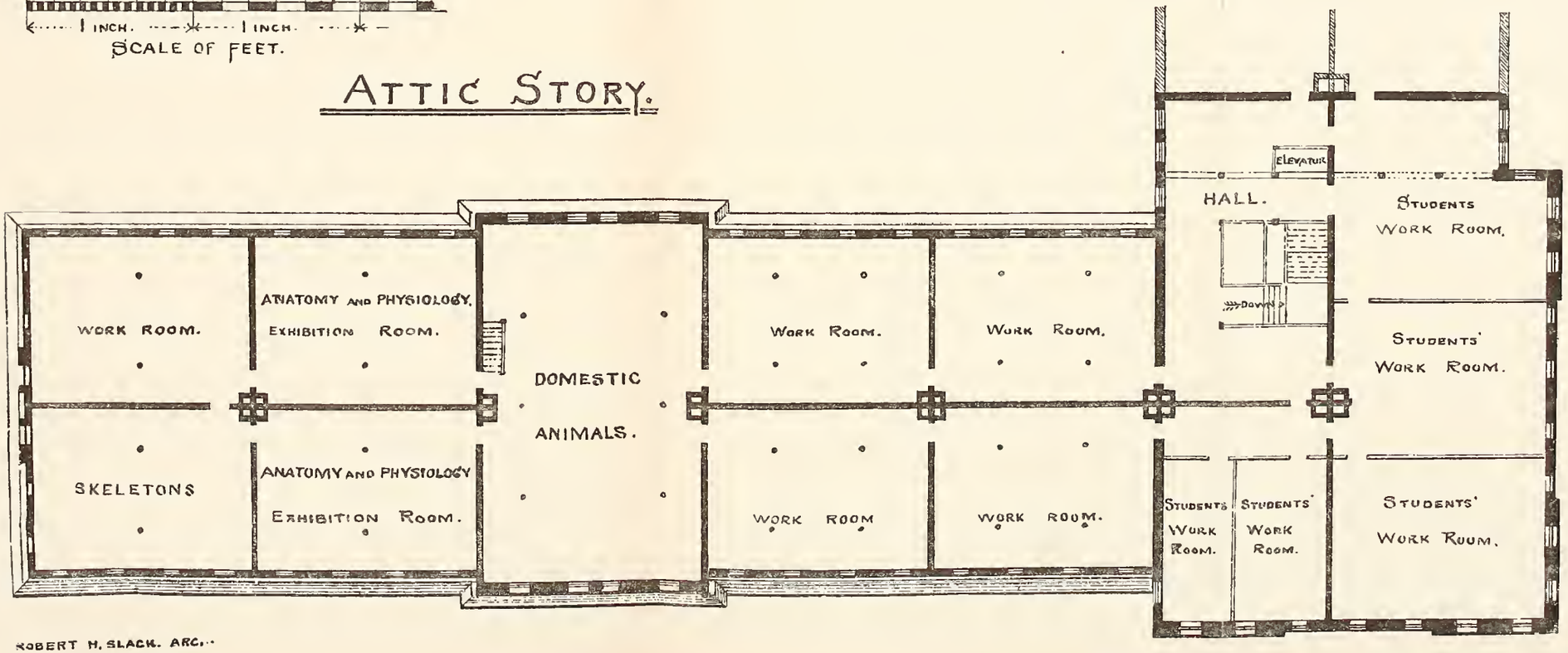
Plate IV.

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

1 inch. 1 inch.

Scale of Feet.

Attic Story.



Robert H. Slack. Arc.
Boston.