# PROCEEDINGS.

## REPORT OF THE SECRETARY.

### MINUTES OF THE FIELD MEETING OF 1892.

*Held at Ripon and Green Lake, June 2d and 3d.*

On Thursday evening, June 2d, at 8 o'clock, the members assembled in Ripon College Chapel. After a brief word of welcome from Rev. Rufus C. Flagg, President of Ripon College, Professor C. R. Barnes delivered an address on "Asa Gray," which was listened to with much interest.

On Friday morning a session of the Academy was held in the biological lecture room of the college. In the temporary absence of the presiding officer, Vice-President A. H. Tolman, Mr. Reuben G. Thwaites was called to the chair. In view of the fact that the minutes of the last meeting had been printed in volume VIII of the Transactions, their reading at this time was dispensed with. The Secretary read a letter from Professor F. B. Power, Vice-President of the Department of Letters, resigning his office because of removal to Passaic, N. J. On motion of Professor Barnes, the resignation was accepted. It was then moved that the name of Professor Power be placed on the list of corresponding members of the Academy. Carried. This action made it necessary to elect a vice-president to succeed Professor Power. Professor J. J. Blaisdell of Beloit was nominated for this office, and was unanimously elected. The *pro tempore* presiding officer nominated Professors Marsh, Hillyer and Chandler a committee on new members, and instructed them to report at the evening session.

The librarian then reported the success of the plan of the library committee to increase the efficiency of the library, by

arranging and cataloging the books, and by adding to the list of exchanges. The names of some fifty new exchanges were read.

The librarian then recommended to the Academy that the books now unbound in the library be bound as soon as practicable. It was moved that the library committee be authorized to expend money in binding the books. Carried. The librarian then outlined a plan of distribution of books so that members non-resident in Madison might have some of the benefits of the library. The library committee was requested to arrange the details of this plan and report later.

Professor Hillyer moved a vote of thanks to the secretary and librarian for the efficient manner in which he had improved the library. The chairman desired to include in the motion the careful editing of volume VIII of the Transactions. After remarks by Dr. Loomis the motion was unanimously carried. The secretary was given authority to allow as much as ten dollars for the illustrations of a paper when the contribution was of sufficient value to warrant it. A larger amount than this might be allowed by the committee on publication.

Vice-President Tolman then took the chair, and the scientific program was begun by the reading of the following papers:

On the Flora of Madison and Vicinity, a Preliminary Paper on the Flora of Dane County, Wisconsin, by R. H. True and L. S. Cheney.

This paper was read by Mr. Cheney and was discussed by Mrs. C. T. Tracy, Messrs. Chandler, Thwaites, Barnes and the author present.

The Effect of Temperature Changes on Magnets, a Preliminary Notice, by H. B. Loomis.

This paper was discussed by Professors Chandler, Tolman and Barnes.

The session then adjourned till evening.

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Despite the continuous rainy weather, thirteen took the train for Dartford at 11:20 A. M., and arriving there, omnibuses car-

ried them to the Sherwood Forest Hotel on Green Lake. The afternoon was given up to an excursion by steamboat around the lake, the rainy weather having but little apparent effect upon the spirits of the party.

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At 7:45 P. M., the members of the Academy reassembled in the large reception room of the Sherwood Forest Hotel, Vice-President Tolman occupying the chair.

The chairman of the committee on nominations of new members, Professor Marsh, nominated in behalf of the committee the following persons, who were thereupon elected:

| | | | |
|---|---|---|---|
| Rev. Rufus C. Flagg, | Ripon. | A. H. Sanford, | Madison |
| Mrs. C. T. Tracy, | " | G. W. Moorehouse, | " |
| Rev. Edward H. Merrill, | " | L. S. Cheney, | " |
| Miss S. E. Cushman, | " | R. H. True, | " |
| Rev. H. S. Richardson, | " | A. H. Hollister, | " |
| Prof. N. S. Fuller, | " | A. H. Garrett, | " |
| Rev. E. G. Updike, | Madison. | James R. Stuart, | " |
| Rev. C. E. Hall, | " | Prof. W. G. Sired, | " |
| Rev. H. C. McDougal, | " | Prof. F. A. Parker, | " |
| Louis Kahlenberg, | " | | |

An interesting address was then delivered by Mr. Reuben G. Thwaites, on "Village Life in Old England."

The following papers on the scientific program of the meeting were then read:

On Variable Stars, by S. D. Townley.

This paper was read by title.

Electrolysis of Organic Compounds, by H. W. Hillyer.

This paper was discussed by Professors Loomis, Barnes and the author.

English Surnames, by A. H. Tolman.

This interesting paper was discussed at length by a number of members.

Notes on a Trip to the Lipari Islands during the Late Eruption of Volcano, by Wm. H. Hobbs.

This paper closed the literary program.

Professor Barnes stated that the American Association for the Advancement of Science was looking towards Madison as a place in which to hold its annual meeting of 1893. He moved that the council be authorized to extend a most cordial invitation to the Association to meet in Madison. Carried.*

A vote of thanks was then given to Professors Marsh and Tolman, the committee on arrangements for the meeting, for the trouble they had taken to make the meeting a success.

The weather continuing to be unpromising, the trip planned for Saturday was abandoned, and the meeting adjourned *sine die*.

WM. H. HOBBS,
*Secrerary.*

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## MINUTES OF THE TWENTY-THIRD ANNUAL MEETING,

*Held at Madison, December 29th and 30th, 1892.*

### SESSIONS OF THURSDAY, DECEMBER 29.

The meeting was called to order in the rooms of the Academy at the Capitol by the president, Professor George W. Peckham, of Milwaukee. The president introduced President Charles Kendall Adams, of the University of Wisconsin, who delivered a short address of welcome. This was followed by the reading of the minutes of the Ripon meeting. The secretary then announced that the Academy had lost by death during the year just ended, the following members of the Academy:

Dr. A. L. Chapin, ex-president of Beloit College. A life member and past president of the Academy.

Dr. P. R. Hoy, of Racine. An active member and past president of the Academy.

Dr. J. S. Newberry, Columbia College, New York. A corresponding member of the Academy.

Hon. Edward D. Holton, of Milwaukee. An active member.

Remarks were then made by Dr. J. D. Butler, eulogizing Dr. Hoy. Remarks of a like nature having reference to Dr. Chapin,

*This invitation was extended to the association at the Rochester meeting in 1892.—*Sec.*

which were to have been made at this time by Professor Blaisdell of Beloit, were postponed, on account of his absence, till Friday.

The secretary then announced the following removals from the state:

Ex-President T. C. Chamberlain, to the University of Chicago, Chicago.

Dr. C. F. Hodge, to Clark University, Worcester.

Professor L. M. Hoskins, to the Leland Stanford, Jr.. University, Palo Alto, Cal.

Mr. Frank Leverett, U. S. Geol. Survey, to Denmark, Iowa.

Mr. George E. Luther, to Grand Rapids, Mich.

Professor F. B. Power, to Passaic, N. J.

Professor R. D. Salisbury, to the University of Chicago, Chicago.

Mr. S. D. Townley, to the Lick Observatory, Mt. Hamilton, Cal.

These removals included two members of the council, Professors Power and Salisbury. A successor to Professor Power was elected at the Ripon meeting. A successor to Professor Salisbury was to be chosen at this meeting.

The secretary then offered his resignation of the curatorship of the cabinet. on account of his duties as secretary and librarian. The resignation was accepted.

The secretary then announced the favorable interpretation put by Secretary of State Cunningham upon the law regarding the printing of the Transactions, so that the cost of illustrations should be borne by the state.

The president then appointed Professors Barnes, Eckels and Butler a committee to nominate, first, a vice-president of the department of letters to succeed Professor Salisbury, and, second, a custodian to succeed the secretary.

The treasurer's report was then read. (This report is printed immediately following these minutes.) The president appointed Professors Birge and Haskins and General Delaplaine a committee to audit the treasurer's account, and to nominate new members.

The library committee then made a report urging that the state legislature be memorialized at its next session, for the

construction of a building for the accommodation of the libraries of the State Historical Society and the Academy, and recommending that the library of the University of Wisconsin be accommodated in the same building. (This report is printed in these proceedings immediately following the treasurer's report.) The report was unanimously adopted, and the Council of the Academy was made a committee to co-operate with the secretary of the State Historical Society to bring this matter before the legislature.

The treasurer then offered the following resolution, which was adopted:

*Resolved*, That the secretary and treasurer be instructed to strike from the list of active members of the Academy, the names of all who are in arrears in the payment of their annual dues, except in such cases as they know of reasons why, in their judgment, it is advisable to retain them for a while longer.

The following communication was then read:

MADISON, WIS., Dec. 23, 1892.

*Wisconsin Academy of Sciences, Etc.*

SIRS:—It is doubtless known to you that at the disposal of the fossils collected by the Wisconsin Geological Survey, two distinct collections were given to the Wisconsin Academy. These were, first, a collection of type specimens, from which the descriptions of new species published in the reports of that survey were prepared; and, second, a collection of the characteristic and common old species then known. The second collection was one of the twelve equal divisions into which the material other than types were separated, the other eleven being given to the principal educational institutions of the state, including the State University. The value of the first of these collections is purely scientific, and was rightly placed in charge of the Academy for safe keeping and for reference. The second collection has chiefly an educational value, as is illustrated by the use to which the other similar collections was put. It is well known that the State University lost its entire collection of Wisconsin fossils a few years since by the fire which destroyed Science Hall.

In view of these facts, and further, since both the Academy's collections have been placed in the University Museum for safe keeping, it would seem to be a fitting act for the Academy to donate to the University its educational collection, which will replace the one which the University lost by fire. I make this suggestion because I happen to be familiar with the facts, the collections of the State Geological Survey having passed through my hands in their distribution in 1879. Respectfully,

IRA M. BUELL.

On motion of Professor Birge the Academy voted that the custodian be allowed to distribute the general collection of fossils with the collections of the University of Wisconsin, but so labelled as to indicate that they are the property of the Academy. The collection of type specimens is to be kept separate from the others, and not to be included in the general university collection.

The secretary then called the attention of the Academy to the fact that the list of corresponding members doubtless contains many errors, and that while the constitution calls for both honorary and corresponding members, they are not so classed in the proceedings. Attention was also called by both the secretary and Professor Birge to a number of clauses in the constitution of the Academy, which have lost their force, and it was moved by the latter that the president and secretary be constituted a committee with power to add to their number, to revise the list of corresponding members, and to prepare a revised draft of the constitution for adoption at a future meeting. Carried.

The advisability of holding a field meeting in the summer of 1893 was discussed, and the matter left in the hands of the council.*

The following papers of the program were then read:

Interpretations of the Ordinance of 1787, by Albert H. Sanford.

Elements Composing the Population of Wisconsin, by H. J. Desmond, Milwaukee.

Force, by Simeon Mills, Madison.

Road Building, by John Nader, Madison.

The Transmission of Power by Compressed Air, by C. H. Hile, Madison.

The meeting then adjourned till 2:30 P. M.

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*The council decided not to call a meeting, owing to the meeting of the American Association for the Advancement of Science, which was to be held in Madison in August, 1893.—*Sec.*

The Academy reconvened at 2:30 P. M., when the following papers were read:

On the Geology of the Waterloo Quartzite Area, by I. M. Buell, Beloit.

Notes on Early Lead Mining in Wisconsin, by R. G. Thwaites, Madison.

The Progress of Geological Investigations and Surveys of the State of Wisconsin, Particularly of the Lead Region—An Historical Review and Bibliography. (Read by abstract.)

Notes on the Structure of the Ore Deposits of Southwestern Wisconsin, by W. P. Blake, Shullsburg.

Volcanite, a New Type of Andesitic Lava, by Wm. H. Hobbs and Louis Kahlenberg, Madison.

The Food of Green Plants, by C. R. Barnes, Madison.

The Academy then adjourned till evening.

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The members of the Academy reassembled at 7:30 P. M., when the following papers were read:

A Comparative Study of the Lung, by W. S. Miller, Madison.

On New and Rare Cladocera. (Read by Title.)

On Weissman's Theory of Heredity, by E. A. Birge, Madison.

The Academy then adjourned till the following day.

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SESSIONS OF FRIDAY, DECEMBER 30.

The Academy met at 9 o'clock. In the absence of the president, Vice-President Blaisdell occupied the chair.

It was voted that the medal presented to the Academy by the Wyoming Geological and Historical Society of Wilkesbarre, Pa., be deposited in the collections of the State Historical Society.

In behalf of the committee on new members, Dr. Haskins made the following nominations:

For active membership:—

President Charles Kendall Adams, Madison.
Prof. C. H. Chapman, State Normal School, Milwaukee.
Prof. D. C. Jackson, Madison.
Prof. Richard T. Ely, Madison.
Mr. W. P. Blake, F. G. S. A., Shullsburg.
Dr. W. S. Miller, Madison.
Prof. E. B. Skinner, Madison.
Prof. F. G. Hubbard, Madison.
Prof. W. A. Scott, Madison.
Mr. David Kinley, Madison.
Prof. W. D. Parker, Madison.
E. A. Brown, M. D., Madison.
Mr. Willard Hodge, Chippewa Falls.
Miss Hattie B. Merrill, Milwaukee.
J. J. Davis, M. D., Racine.

For honorary membership:—

Prof. T. C. Chamberlin, University of Chicago, Chicago, Ill.
Prof. Alexander Agassiz, Museum of Comparative Zoology, Cambridge, Mass.

For corresponding membership:—

Robt. T. Litton, F. G. S., Honorary Secretary Geological Society of Australasia, 45 Queen St., Melbourne, Victoria.
Dr. C. F. Hodge, Clark University, Worcester, Mass.
Prof. L. M. Hoskins, Stanford University, Palo Alto, Cal.
Mr. Frank Leverett, F. G. S. A., 4103 Grand Boulevard, Chicago, Ill.
Mr. S. D. Townley, A. M., Lick Observatory, Mt. Hamilton, Cal.
Prof. R. D. Salisbury, University of Chicago, Chicago, Ill.
Mr. George E. Luther, Grand Rapids, Mich.

The secretary was instructed to cast the ballot for the above members.

On behalf of the committee to audit the treasurer's account, Dr. Haskins read a report in which it was stated that the vouchers had been examined and found to be correct. (This report is printed after the treasurer's report.)

The following papers were then read:

A New Method of Making Topographic Models, by F. H. King, Madison.

A Special application of Stadia Measurements, by C. H. Chandler, Ripon.

Notes on Sulphur Hexiodide, by Edward Kremers, Madison. (Read by Title.)

On a Possible Meaning of *Su* in the Rig Veda, by H. C. Tolman, Madison.

Index Antiphonteus. (Read by Title.)

The Case of Address in Plato, by F. L. Van Cleef, Madison.

Some Observations on the Modern Greek of the New Testament, by Paul S. Reinsch, Madison.

On the Structure and Systematic Position of *Bunops Scutifrons*, by Hattibel Merrill. (Read by title.)

Phases of Witticism, by J. D. Butler, Madison.

Some Suggestions Regarding the Methods of Psychological Study, by J. J. Blaisdell. Beloit.

Professor Blaisdell's remarks eulogizing the late Dr. A. L. Chapin, which had been postponed on Thursday, were then given.

The Academy then adjourned till afternoon.

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The members reassembled at 2.30 P. M., and listened to the following papers:

Some Conditions of Success in Social Reform: by David Kinley, Madison.

On the Earliest Form of Roman Satire, by G. L. Hendrickson, Madison.

The Constitutional and Legal Aspects of Repudiation, by W. A. Scott, Madison.

Professor Barnes on behalf of the committee on nomination of officers, nominated Professor C. R. Van Hise of Madison as vice-president of the department of sciences, and Mr. I. M. Buell of Beloit as curator of the collection of fossils. The secretary was instructed to cast the ballot of the Academy for these officers.

Professor Barnes then made the following motion:

*Moved*, That the council of the Academy be empowered to take such action as may be necessary in connection with the meeting of the American Association for the Advancement of Science, which is to be held in Madison, and that they be authorized to appropriate from the funds of the Academy such sums, not exceeding one hundred dollars, as they may deem wise toward defraying the expenses of said meeting.

This motion was carried.*

The program of the meeting being finished the Academy then adjourned, *sine die*.

WM. H. HOBBS.
*Secretary.*

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*On March 24th, 1893, the council authorized the treasurer to pay out of the funds of the Academy, to Mr. J. J. Suhr, the local treasurer of the Madison meeting A. A. A. S., the sum of one hundred dollars.—*Sec.*

# TREASURER'S REPORT.

MADISON, WIS., December, 1892.

*The Wisconsin Academy of Sciences, Arts and Letters,*

GENTLEMEN: The following is a statement of the financial transactions of the Academy during the past year, viz.:

| | | |
|---|---|---|
| Balance on hand as per last statement | | $1,017 51 |
| Received for interest on permanent fund | | 40 00 |
| Received from members for initiation fees and annual dues | | 104 00 |
| Received for set of Transactions sent to London Eng. | | 4 47 |
| | | $1,165 95 |

The disbursements upon the order of the president and secretary have been as follows, viz.:

| | | | |
|---|---|---|---|
| 1891. | | | |
| Dec. 29, | T. A. Nelson for lettering on cases... | No. 1 | $2 00 |
| | Prof W. H. Hobbs, for postage and express..... | No. 2 | 3 35 |
| | L. S. Cheney for work in library..... | No. 3 | 10 08 |
| | Democrat Printing Co. for printing programs..... | No. 4 | 3 35 |
| 1892. | | | |
| Jan. 6. | Carl Schmit for locks, etc.,..... | No. 5 | 10 85 |
| Feb 1. | Lord & Thomas for reproduction from diagram ..... | No. 6 | 5 56 |
| | A. Zeese & Co. for cuts ..... | No. 7 | 2 90 |
| | Prof. W. H. Hobbs for postage, express, etc.,..... | No. 8 | 18 85 |
| | Geo. E. Luther for writing, etc.,..... | No. 9 | 1 80 |
| | Silbernagel & Dean for Atlas Case... | No. 10 | 7 00 |
| March | State Journal Printing Co. for printing (circulars, stamped envelops, etc.)..... | No. 11 | 34 50 |
| April 13, | L. S. Cheney, work in library, etc.,... | No. 12 | 14 40 |
| | W. M. Brennan, work in library..... | No. 13 | 10 20 |
| 23, | A. Zeese & Co. for engravings ..... | No. 14 | 9 22 |
| | State Journal Printing Co. for printing (circulars and postal cards).. | No. 15 | 15 50 |
| May 3, | A Zeese & Co. for half-tone portrait | No. 16 | 10 00 |
| | W. J. Park & Sons, for labels, etc.,... | No. 17 | 8 08 |

| | | | | |
|---|---|---|---|---|
| | State Journal Printing Co. for printing slips | No. 18 | 1 75 | |
| | Prof. W. H. Hobbs for postage, express, etc., | No. 19 | 24 00 | |
| May 26. | A. Zeese & Co. for diagrams | No. 20 | 18 31 | |
| | W. M. Brennan, for cataloging library | No. 21 | 4 20 | |
| 27, | U. P. James, for Geology of Ohio | No. 22 | 1 58 | |
| June 11, | A. J. Smith for sending out Transactions | No. 23 | 10 80 | |
| | Prof. W. H. Hobbs for cartage, express, etc., | No. 24 | 4 58 | |
| | State Journal Printing Co. for printing (programs, cards, etc.) | No. 25 | 6 75 | |
| | G. Grimm for cartage | No. 25½ | 1 50 | |
| | Rev. S. D. Peet for cuts for Transactions | No. 26 | 5 00 | |
| Aug. 1, | Delos Kinsman for card cataloging in library | No. 27 | 12 33 | |
| 8, | Chi. St. Paul, Railway for freight | No. 28 | 9 39 | |
| 16, | State Journal Printing Co. for printing (programs) | No. 29 | 1 75 | |
| Oct. 22, | Am. Ex., Co. expressage | No. 30 | 1 65 | |
| Nov. 16, | N. B. Carr, case for cards | No. 31 | 1 50 | |
| | State Journal Printing Co. for printing (stationary) | No. 32 | 6 00 | |
| | Democrat Printing Co. for printing | No. 33 | 22 50 | |
| Dec. 8. | F. H. Crane, for cataloging in library | No. 34 | 24 00 | $325 13 |
| | | | | $840 85 |

Balance on hand December 1892, eight hundred and forty and eighty-five one-hundreths dollars.

Respectfully submitted,

SAMUEL D. HASTINGS,

*Treasurer.*

The committee to whom was referred the report of the Treasurer have examined the vouchers and find the report correct. They recommend that it be received and adopted.

At the request of the Librarian it is stated the expenditures of the year were increased so far beyond the usual amount by the printing and postage necessary on securing additions to the list of exchanges, and gifts of pamphlets to the Academy.

Respectfully submitted,

E. A. BIRGE,

C. H. HASKINS,

December 29, 1892. *Committee.*

# REPORT OF THE LIBRARY COMMITTEE.

*Presented at the Annual Meeting of the Academy, December 29th 1892.*

MADISON, WIS., December 29th, 1892.

*The Wisconsin Academy of Sciences, Arts and Letters,*

*Gentlemen:* The binding and cataloging of the books of the Academy, which will soon be completed, makes it important that a more suitable place be found for the storing of these books. The present location of the books in the cases of the academy room is undesirable for a number of reasons, most important of which are the unsafe condition of the building, the ready access of dirt and fallen plaster to the shelves and the difficulty of providing proper protection from theft. It is impossible to keep from the books the finely disintegrated plaster which is constantly falling from the walls. The free access of the public to the rooms, owing to the use of it for other purposes than those of the Academy, renders the proper protection of the books a very difficult matter. During the past year the glass fronts of cases have been frequently broken and one case has been forcibly opened by cutting the wood away from the bolt. The cataloging of the books has shown that in the past many have been lost or stolen. Moreover the space available is already crowded, while the library is growing through its numerous exchanges and through the completion of its existing series of journals.

In view of the facts above stated, we earnestly recommend that an appeal be made to the legislature at its next session, for the erection of a building to accommodate the libraries of the State Historical Society and the Academy. If these two libraries and the library of the State University, which is greatly in need of new quarters, were under one roof, it would

be greatly to the advantage of those who make use of any or all of these libraries and it would make the collections thus properly housed a just cause for state pride.

Respectfully submitted,

WM. H. HOBBS,
G. L. HENDRICKSON,
G. C. COMSTOCK.
*Library Committee.*

# REPORT OF THE LIBRARIAN.

MADISON, WIS., September 1st, 1893.

*Wisconsin Academy of Sciences, Arts and Letters*

*Gentlemen:* The following report is for the years 1890–93, the term during which I have served as Librarian of the Academy. It includes the matter contained in my abstracted report, which was read at the annual meeting of 1892, and accordingly that report is not printed.

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## GROWTH OF THE LIBRARY.

*Additions to the List of Corresponding Societies:*—Additions of standard scientific societies to the permanent exchange list of the Academy have been diligently sought. In February, 1892, a circular was printed and sent to a selected list of societies, whose publications were desired in exchange. Many societies were appealed to through the medium of a personal letter. When the eighth volume of the Transactions was issued, a considerable number of copies was sent out to societies not included

in our list, as samples and in each was inserted a printed slip to indicate that an exchange of publications was desired. As a result of these efforts about one hundred and seventy societies have been added to our list of regular correspondents. In nearly every instance there has been correspondence definitely arranging the exchange. In a few cases in which no communication has been received from the secretary of a society arranging the exchange, a generous shipment of publications has been interpreted to indicate that one is desired. With few exceptions the exchanges are of a most satisfactory character and will be the means of greatly strengthening the library.

The list of these societies is given below arranged according to place of issue. A number of them were included in the list of Corresponding Societies, which was printed in the appendix of the eighth volume of the Transactions, an asterisk there indicating that they were recent accessions to that list.

Amherst (Massachusetts) Agricultural Experiment Station, Publications.

Antwerp (Belgium) Societe Royale de Geographique. Bulletin.

Ann Arbor (Michigan) Engineering Society of the University of Michigan. "The Technic."

Augsburg (Germany) Naturhistorischer Verein fur Schwaben u. Neuberg in Augsburg. Berichte.

Austin (Texas) Geological Survey of Texas. Publications.

—— Texas Academy of Science. Transactions.

Belfast (Ireland) Belfast Nat. History and Philosophical Society. Reports and Proceedings.

Bergamo (Italy) Ateneo di Scienze, Letter e eArti in Bergamo. Atti.

Berlin (Germany) Zeitschrift fur Instrumentenkunde. (Dr. A. Westphal, Redacteur, Joichimsthalerstr. 35).

—— Deutsche Geologische Gesellschaft. Zeitschrift.

—— Apotheker Zeitung (Organ des Deutschen Apotheker-Vereins).

—— Zeitschrift f. Praktische Geologie. (Edited by Dr. Max Krahmann, Wetzlar, Rheinprovinz).

—— Arbeiten aus dem Kaiserlichen Gesundheitsamte.

—— Gesellschaft fur Erdkunde zu Berlin. Verhandlungen und Zeitschrift.

Berne (Switzerland) Schweizerische Entomologische Gesellschaft.

Bone (Algiers) Academie d' Hippone. Bulletin.

Bonn (Germany) Naturhistorischer Verein d. preuss. Rheinlande, Westfalens u. d. R. B. Osnabruck. Verhandlungen.

Bordeaux (France) Societe Linneenne de Bordeaux. Proces–Verbaux.

Boston (Mass.) (Mass. Institute of Technology.) Technology Quarterly, Abstracts of Proceedings of Society of Arts.

Breslau (Germany) Verein fur schlesische Insektenkunde zu Breslau. Zeitschrift.

—— Zeitschrift fur Entomologie.

Brussels (Belgium) Societe Belge de Microscopie, Bulletin.

Brussels and Liege (Belgium) Melanges Geologiques par G. Dewalque.

Budapest (Hungary) Termeszetrajzi Fuzetek. (A periodical devoted to Botany, Zoology, Mineralogy and Geology. Edited by the Hungarian National Museum at Budapest.)

—— Hungarian Geological Society. (Foldtani Kozlony.) Journal.

—— Societe Hongroise de Geographie. Publications.

Cairo (Egypt) Institut Egyptien. Bulletin.

Calcutta (India) Asiatic Society of Bengal. Journal.

Cardiff (Wales) Cardiff Naturalists Society. Report and Transactions.

Cassel (Germany) Realschule. Program.

—— Verein f. Naturkunde.

Champaign (Illinois) The Technograph. (Published by the University of Illinois).

Chapel Hill (North Carolina) State Geological Survey. Publications.

Cherbourg (France) Societe Nationale des Sciences Naturelles et Mathematiques de Cherbourg. Memoires.

Chicago (Illinois) Association of Engineering Societies. Journal.

Chur (Switzerland) Naturforschende Gesellschaft Graubundens. Jahresbericht.

Coimbra (Portugal) Sociedade Brotereana. Bolitim.

Colorado Springs (Colorado) Colorado College Studies. Papers read before the Colorado College Scientific Society.

Des Moines (Iowa) Geological Survey of Iowa. Publications.

Donai (France) Union Geographique du Nord de la France. Bulletin.

Donaueschingen (Germany) Verein fur Geschichte u. Naturgeschichte der Baar zu Donaueschingen.

Dresden (Germany) Konigliches Mineralogisches Museum. Mitth., Fuhrer, etc.

Edinburgh (Scotland) Geological Society of Edinburgh. Transactions.

Ekatherinebourg (Russia) Societe Ouralienne d' Amateurs des Sciences Naturelles a Ekatherinebourg. Bulletin.

Erlangen (Germany) Physikalisch-Medicinische Societat in Erlangen. Sitzungsberichte.

Frankfurt a. O. (Germany) Naturwissenschaftlicher Verein des Reg. Bez. Frankfurt. Monatl. Mitth. a. d. gesamm. Geb. d. Naturwissenschaften. (Herausgegeben von Dr. Ernst Huth.)

—— Societatum Litteræ. (Herausgegeben von Dr. Ernst Huth.)

Geneva (Switzerland) Societe de Physique et d' Histoire naturelle de Geneve.

—— Societe de Geographie de Geneve. Journal.

Gera (Germany) Gesellschaft von Freunden d. Naturwissenschaften in Gera. Verhandlungen and Jahresberichte.

Glasgow (Scotland) Geological Society of Glasgow. Transactions.

—— Natural History Society of Glasgow. Proceedings and Transactions.

Granville (Ohio) Scientific Laboratories of Denison University. (W. G. Tight, Editor) Bulletin.

—— The Journal of Comparative Neurology. (C. L. Herrick, Editor.)

Greifswald (Germany) Geographische Gesellschaft zu Griefswald. Jahresbericht.

Haarlem (Holland) Koloniaal Museum to Haarlem. Bulletin.

Hamburg (Germany) Verein fur Naturwissenschaftliche Unterhaltung in Hamburg. Verhandlungen.

—— Naturwissensch. Verein in Hamburg. Abh. a. d. Gebiete d. Naturwissenschaften.

Helsingfors (Finland) Commission Geologique de la Finlande. Carte Geologique de Finlande.

Hermannstadt (Hungary) Siebenburgischer Verein fur Naturwissenschaften in Hermannstadt. Verh. u. Mitth.

Indianapolis (Indiana) Geological Survey of Indiana. Publications.

Innsbruck (Austria) Naturwissensch.-Medicinisch. Verein in Innsbruck.

Iowa City (Iowa) Iowa State University Natural History Laboratories. Bulletin.

Ithaca (New York) Cornell University. Scientific Bulletin, Library Bulletin, Occasional Publications.

Jefferson City (Missouri) Geological Survey of Missouri. Publications.

Jena (Germany) Universitats-Bibliothek. (Dr. K. K. Muller, Oberbibliotheker) Dissertations and other Publications.

Baden (Germany) Badischer Botanischer Verein. Mittheilungen.

Kassel (Germany) Verein f. Naturkunde zu Kassel. Bericht.

Kew (England) Royal Gardens, Hooker's Icones Plantarum.

Kiel (Germany) Mineralogisches Institut der Universitat Kiel. (Prof. Johannes Lehmann, Editor.) Mittheilungen.

—— Naturwissenschaftlicher Verein fur Schleswig-Holstein. Schriften.

Kolozsvart (Hungary) Ertesito. Sitzungsbericht der Medicinisch-naturwissenschaftlichen Sectionen des Siebenburgischen Museumvereins. I. Medicinische Abtheilung. II. Naturwissenschaftliche Abtheilung. (In the Zend language with abstracts in German.)

Konigsberg (Germany) University of Konigsberg. Dissertations.

—— Physikalisch-Okonomische Gesellschaft zu Konigsberg. Schriften.

—— Preussischer Botanischer Verein in Konigsberg.

Lansing (Michigan) Geological Survey of Michigan. Publications.

Lawrence (Kansas) University of Kansas. University Quarterly.

Leeds (England) Leeds Geological Association. Transactions.

Leipa (Austria) Nordbohmisches Excursions-Club. Mittheilungen.

Leipzig (Germany) Naturforschende Gesellschaft zu Leipzig. Sitzungsberichte.

—— Zeitschrift d. Naturwissenschaft.

Lille (France) Societe Geologique du Nord. Memoires.

Lincoln (Nebraska) University of Nebraska. University Studies.

Lisbon (Portugal) Commissao dos Trabalhos Geologicos de Portugal. Communicacoes.

Liverpool (England) Liverpool Geological Society. Proceedings.

Loben (Austria) Frederich Katzer, K. K. Berg Akademie, Loben, Styria, Austria.

London (England) Geological Society. Abstracts of Proceedings.

—— Annals of British Geology (Edited by J. F. Blake) Journal.

—— Society of Arts. (Secretary, John St., Adelphi, London W. C.) Journal.

—— British Museum (Natural History) (Cromwell Road, London, S. W.) Natural History Publications.

—— Queckett Microscopical Society. Journal.

Lunaburg (Germany) Naturwissenschaftlicher Verein fur das Furstenthum Luneburg, Jahreshefte.

Lyon (France) Societe Botanique de Lyon. Bulletin.

Magdeburg (Germany) Naturwissenschaftlicher Verein fur Magdeburg. Jahresberichte und Abhandlungen.

Manchester (England) Manchester Geographical Society. Journal.

—— Manchester Geological Society. Journal.

Marburg (Germany) Gesellschaft zur Beforderung der gesammt. Naturw. zu Marburg.

—— Konigliche Universitats-bibliothek. Dissertations.

Melbourne (Victoria) Royal Society of Victoria.

—— Geological Society of Australasia. Transactions.

Milan (Italy) Societa d'Esplorazione Commerciale in Africa.

Minneapolis (Minn.) University of Minnesota. Bulletin.

Montgomery (Alabama) Geological Survey of Alabama. Publications.

Montreal (Canada) Royal Society of Canada. Proceedings and Transactions.

Munich (Germany) Bayerische botanische Gesellschaft zur Erforschung der heimischen Flora. Berichte.

Munster (Germany) Westfalischer Provinzial-Verein fur Wissenchaft und Kunst. Jahresbericht.

Naples (Italy) Societa di Naturalisti in Napoli. (L Savastano, President.)

New Haven (Connecticut) Connecticut Academy of Arts and Sciences. Transactions.

New York (N. Y.) New York Academy of Science. Transactions and Annals.

—— Columbia College. (School of Mines Quarterly.)

—— American Geographical Society. Journal.

—— The "Auk," a Quarterly Journal devoted Exclusively to Ornithology (L. S. Foster, publisher.)

Odessa (Russia) Club Alpin de Crimee. (M. le. Prof. Kamienski, Secy.) Publications.

Padua (Italy) Societa Veneto Trentino di Scienze Naturali Residenti in Padua. Atti.

—— Revista di Mineralogia e Cristallografia Italiana.

Paris (France) Prefecture de la Seine. Annuaire Statistique de la Ville de Paris.

—— Feuille des Jeunes Naturalistes. (Adrian Dollfus, 35 rue Pierre Charron.)

Philadelphia (Pa.) The American Naturalist.

—— Franklin Institute. Journal.

Portland (Maine) Portland Society of Natural History.

Poughkeepsie (N. Y.) Vassar Brother's Institute and its Scientific Section. Transactions.

Quebec (Canada) Geographical Society of Quebec. Transactions.

Riga (Russia) Rigascher Garten-Bau Verein. Jahresbericht.

—— Naturforscher Verein. Korrespondenzblatt.

Rome (Italy) British and American Archeological Society of Rome. Journal.

—— Rassegna delle Scienze Geologiche in Italia. (Edited by M. Cermenati and A. Telleni.)

Rostock (Germany) Verein der Freunde der Naturgeschichte in Andreasberg. (Prof, E. Geinitz, Secy.) Archiv.

Rotterdam (Holland) Societe Batave de Philosophie Experimentale de Rotterdam.

Rouen (France) Societe normandie de Geographie. Bulletin.

Saint Petersburg (Russia) Russisch-Kaiserliche Mineralogische Gesellschaft. Verhandlungen. Materialien zur Geologie Russlands.

San Francisco (California) Astronomical Society of the Pacific. Publications.

Santiago (Chili) Societe Scientifique du Chile. Actes.

Schaffhausen (Switzerland) Schweizerische Entomologische Gesellschaft. (Editor, Dr. G. Stierlin, Schaffhausen.) Bulletin.

Shanghai (China) China Branch of the Royal Asiatic Society. Journal.

Springfield (Illinois) Geological Survey of Illinois. Publications.

Stavanger (Norway) Stavanger Museum. Aarsberetning.

Stockholm (Sweden) Kongl. Svenska Vetenskabs-Akademiens Tradgard Bergielund. Acta Horti Bergiani.

Strassburg (Germany) University of Strassburg. Dissertations.

—— Commission fur die Geologische Landesuntersuchung von Elsass-Lothringen. Mittheilungen.

Sydney (New South Wales) University of Sydney. Calendar.

—— Royal Society. Journal and Proceedings.

—— New South Wales Government Board for International Exchanges. Publications.

Throndhjem (Norway) Det Kongelige Norske Videnskabernes Selskabs. Skrifter.

Tokio (Japan) Deutsche Gesellschaft f. Natur-und Volkerkunde Ostasiens. Mittheilungen. (Formerly Yokohama.)

—— Tokio Geographical Society. Journal.

Topeka (Kansas) Kansas State Historical Society. Historical Collections.

Toulouse (France) Societe francaise de Botanique. Revue de Botanique (Bulletin Mensuel de la Societe). (Address M. le. Secretaire general de la Societe francaise de Botanique, 19, rue Ninan. Toulouse).

Trieste (Austria) Osservatorio Marittimo di Trieste. Rapporto Annuale.

Tubingen (Germany) Verein f. Geschichte u. Naturgeschichte der Baar u. d. angrenz. Landesthiele in Donaueschingen. Schriften.

Tucson (Arizona) School of Mines. Publications.

Vienna (Austria) K. K. Universitats-Bibliothek. Publications.

—— K. K. Geologische Reichsanstalt. (Dr. D. Stur, Director.) Jahrbuch und Verhandlungen.

—— Allgemeine osterr. Chemiker und Techniker Zeitung. (Hans Urban, Redacteur Wien XVIII, 2.)

—— Wiener Illustrirte Garten Zeitung (Organ d. K. K. Gartenbau Gesellschaft.)

Washington (D. C.) U. S. Coast and Geodetic Survey. Publications.

—— National Academy. Memoirs.

—— Philosophical Society of Washington. Bulletin.

—— National Geographical Society. Magazine.

Waterville (Maine) Library of Colby University.

Weimar (Germany) Thuringischer botanische Verein. Mittheilungen.

Wellington (New Zealand) Colonial Museum and Geological Survey.

—— New Zealand Institute. Transactions and Proceedings.

Wernigerode (Germany) Naturwissenschaftlicher Verein des Harzes zu Wernigerode. Schriften.

Worcester (Massachusetts) American Antiquarian Society. Transactions.

—— Worcester Society of Antiquity. Proceedings.

Wurzburg (Germany) K. K. Universitats-Bibliothek. Dissertations.

Zurich (Switzerland) Schweizerische Botanische Gesellschaft. (Prof. J. Jaeggi, Bot. Garten in Zurich, Switz). Berichte.

Zurich-Hottingen (Switzerland) International Entomological Society. (Fritz Ruhl, Zurich-Hottingen.)

*Additions to Existing Sets of Journals:* In February, 1892, with the approval of the library committee, a circular letter form was printed, which could be filled out and sent to socie-

ties of whose publications our set was incomplete. This circular when filled out stated the volumes desired, and the volumes of the Transactions which could be sent in exchange. When an exchange of publications had been recently begun with a society, earlier volumes of the society's publications were requested in exchange for a more or less complete set of the Academy's Transactions. A large number of these circulars have been sent out, and many have met with favorable responses, but in nearly every case the sets of the more important journals have been secured through personal correspondence with the secretary of the society. The result has been very satisfactory, the aggregate value of the books obtained in this way amounting to several hundred dollars. Many of the sets received, which have been nominally exchanges, so far exceed in value the return we were able to make, that they must be considered gifts to the Academy. Instances of this are the following important journals, which are selected from the list given below: Hooker's Icones Plantarum, Zeitschrift der Deutschen Geologischen Gesellschaft, Jahrbuch und Verhandlungen der K. K. Geologischen Reichsanstalt, Verhandlungen der Kaiserlichen Mineralogischen Gesellschaft (St. Petersburg), Bulletins and Memoirs of the Museum of Comparative Zoology, and Proceedings of the American Association for the Advancement of Science. Most of the mentioned volumes are not to be found in any other library in the state.

The following is a list of the more important volumes received:—

Massachusetts Institute of Technology—Proceedings of the Society of Arts, Years 19–23, 25–29. Technology Quarterly, Vols. I–IV (except No. 1 of Vol. I.)

"The Auk" (Quarterly Journal of Ornithology), Vols. VI–IX.

American Antiquarian Society—Transactions, Vols. I, III–VII. Partial Index of Proceedings, by Stephen Salisbury, Jr. Catalog of Collections.

American Geographical Society—Journal, Vols. VIII–XXIII.

National Geographical Society—Magazine, Vols. I–III.

State of Maine—Geology of Maine, 2d and 3d Annual Re-

ports. Maine Board of Agriculture, embracing also the Reports on the Scientific Survey, 6th and 7th Reports (1861 and 1862).

Philosophical Society of Washington—Bulletin, Vols. I–XI (complete).

Gesellschaft v. Freunden d. Naturwissenschaften in Gera—Verhandl., Vols. II–III. Jahresber., 7–9, 11–13, 16–35.

Naturwissenschaftlicher Verein in Magdeburg—Jahresber. u. Abhandl., 1885–1891.

Hooker's Icones Plantarum—Vols. XI–XX; XXI, 1–3; XXII.

Museum of Comparative Zoology—Bulletin, Vols. I, VI, VII, 2–11; VIII, XI, XII, XX, 8. Illustrated Catalog (included in Memoirs), Nos. 1–3, 5, 6. Memoirs, Vols. V, 2; VI, 1, i–ii, 2; VII, 2, ii–iii; VIII, 3; IX, 1–2; X, 1, 3.

Princeton College—Contributions from the E. M. Museum of Geology and Archæology, Bulletins 1 and 3, and Vol. I, No. 1, of Memoirs.

Portland Society of Natural History—Proceedings, Vol. I, 1–2 (1862 and 1869). Proceedings, Sessions of 1880–1881, 11th, 13th, 14th and 16th meetings. Proceedings, Sessions of 1881–1882, 1st, 3rd, 8th, 10th and 11th meetings. Proceedings, Sessions of 1888–1889, 9th meeting. Journal, Vol. I, No. 1 (1864). The Portland Catalog of Maine Plants. (1868).

Harvard University Library—Bibliographical Contributions, Nos. 8, 12, 17, 19, 22, 26, 29, 30, 33–44.

Revista di Mineralogia e Cristalografia Italiana, Vols. VI–X.

Geological Survey of Texas—Annual Reports I–II.

Manchester Geographical Society—Journal, Vols. I–III; IV, 7–10; V, 1–6, 10–12.

Katzer's Geologie v. Bohmen.

Geological Society of Glasgow—Transactions, Vols. VII, VIII.

Deutsche Geologische Gesellschaft—Zeitschrift, Vols. XXIV–XLIII. (Complete since 1872.)

K. K. Naturhistorischen Hofmuseum—Annalen, Vols. III, 4; IV, 1, 4; VI, 3, 4.

Geological Society of London—Abstracts of Proceedings, 1885–1892.

Comitato Geologico d'Italia—Bolletino, Vols. I–V.

Leeds Geological Association—Transactions, 1886–1892.

Commission fur die Geologische Landesuntersuchung von Elsass-Lothringen—Mitth., Vols. I–III, IV 1.

Liverpool Geological Association—Transactions (Journal), Vols. II, IV–VI, IX–XII.

Comite Geologique de la Russie—Memoires, Vols. II, 2, 3; III 1, 2, 4; IV 2; V 1, 5; VIII 1, 2; IX 1; X 1; XI 1, 2; XIII 1. Bulletin, Vols. IV 8–10; V 1–8; VII 6–10; VIII–XI.—Bibliotheque Geologique, 3, 4, 5, 6,.

United States Geological Survey—Annual Reports, VIII 2. Bulletins 1, 30, 31, 33, 37–41, 53. Mineral Resources, 1885.

K. K. Geologische Reichsanstalt—Jahrbuch, Vols. XXXVI–XLII (1886–1892). Verhandlungen, 1886–1892.

Societe Geologique du Nord—Memoires, Vols. I–III.

Kaiserliche Mineralogische Gesellschaft (St. Petersburg)—Verhandlungen, Vols. X–XXIX and Register.

American Association for the Advancement of Science—Proceedings, Vols. I–XXIV, XXX, XXXII, XXXIV, XXXV. (Completing our series).

National Academy of Sciences—Memoirs, Vols. I, II, III, IV 1, 2.

Naturforschende Gesellschaft in Berne—Mittheilungen, 1870–1872, 1882, Nos. 1040–1056; 1883, Nos. 1057–1063.

Worcester Society of Antiquity—Proceedings, Foundation to 1877; also 1878, 1879–1882, 1884–1890. Constitution and By-Laws. Papers, Nos. 4, 8, 22, 25.

Naturforschende Gesellschaft in Emden—Jahresber. 57–65, 67, 69. Kleine Schriften, V, VI, VII, IX–XIII. Festschrift herausgegeben in Veranlassung der Jubelfeier ihres 50-jahrigen Bestehens am 29ten December, 1864. Die Gewitter des Jahres 1855.

Association of Engineering Societies—Journals, Vols. I, 5–12; II–VI, VII, 1–6, 9–12; VIII–XI.

United States National Museum—Bulletins 11, 13, 14, 17, 18, 20–32, 34, 37. Proceedings (several volumes).

Nova Scotian Institute of Natural Science—Vols. II, pt. 4; IV, 4; V, 1, 2, 4; VI, 1–4; VII, 1–2.

Real Academia de la Historia—Boletin, Vols. I, pts. 1–4; II,

4; V, 1–4; VI, 5–6; VIII, 1, 3, 5; IX, 4, 6; X, 1; XI, 1–3; XII, 1–6; XIV, 5–6; XV, 1–3; XIX, 4; XXI, 6.

Norwegian North Atlantic Expedition—Crustacea II Sars; Buccinidæ, Friele; Mollusca II, Friele; Holothuroidea, Danielssen and Koren; Annelida, Hansen; Fishes, Collett.

Nordbohmisches Excursionsclub—Mittheilungen, Vols. XII–XV, 1889–1892.

Revue de Botanique, Vols. III–VII.

Academie des Sciences, Belles Lettres et Arts de Lyon—Memoires: Classe des Sciences, Vols. XXX–XXXI, 1889–1892; Classe des Lettres, Vols. XXVII–XXVIII, 1890–1892; 3d Series, Sciences et Lettres, Vol. I, 1893.

Prefecture de la Seine—Annuaire Statistique de la Ville de Paris, Annees VII–VIII. Catalogue de la Bibliotheque Administrative (Section Etrangere).

Cincinnati Society of Natural History—Journal, Vols. XII, 1–3; XIV, 2.

Zeitschrift fur Entomologie—Neue Folge, Hefts 1–17, 1870–1892.

War Department—Report of Secretary, 1876, I, II, 1–3; 1877, I, II, 1; 1878, I, II, 1–3; 1879, I, II, 1–3, III; 1880, I, II, 1–3; 1881, I, II, 1–3, III.

John Hopkins University—Circulars; many back numbers.

The Canadian Record of Science—Vols. I–III, Nos. 1, 3, 5–8; IV, 1–2, 4–8; V, 1–5.

Feuille des Jeunes Naturalistes—Annees 7–10. 2d Series, Vols. I–II. 3d Series, Vol. I.

Bulletin de la Societe Ouralienne d'Amateurs des Sciences Naturelles—Vols. IV–VII, VIII, 1; X–XII.

The following were received from the library of the University of Wisconsin, being duplicates exchanged for duplicates in the Academy library:

Geological Survey of Ohio—Geology, Vols. I and II; Paleontology, Vols. I and II; Maps, 1873; First Annual Report.

Geological Survey of New Jersey—Vols. I; II, pts. 1 and 2.

Geological Survey of Indiana—Maps and Colored Section, 1869; Vols. for 1870, 1872, 1873; Maps, 1872.

The volumes in the following list have been obtained from the secretary of the State Agricultural Society. On examining these books it was noticed that in a number of cases they filled lacunæ in our own series. It is thus probable that, in those cases at least, they have been sent to the State Agricultural Society through error. The secretary of the society has, therefore, turned over the volumes to the Academy so that they may supplement our sets and be accessible for use. With his permission the librarian has communicated with the societies concerned, requesting that hereafter the journals be addressed to the Academy, and not to the Agricultural Society.

K. Akademie v. Wissenschaften, Wien. Sitzungber.* (Math. Naturw. Classe.) Abth. I, Vols. XCI, 5; XCII, 3–5; XCVIII, 8–10; C, 1–7. Abth. II, Vols. XCI, 3–5; XCIII, 1–3; XCV, 3; XCVI, 2–5. Abth. IIa, Vols. XCII, XCIII, 4–10; XCIX, C, 1–7 Abth. IIb, Vols. XCVIII, 4–10; XCIX, C, 1–7. Abth, III, Vols. XCI, 3–5; XCII, XCV, 1–5; XCVI, XCVIII, 5 10; XCIX, C, 1–7.

R. Instituto Lombardo di Scienze e Lettere—Rendiconti, 2d Series, Vols. XV, XVI, XIX, XXII–XXIV. Memorie, Classe di Sci. Math. e Natur., Vols. XVI, 2–3; XVII, 1.

Archives Neerlandaises des Sciences Exactes et Naturelles, Vols. XVII, 2; XX, 1; XXV, 1; XXVII, 1–2.

Ofversigt Finska Vetenskaps-Societetens Forhandlingar, Vols. XXII–XXIV.

Proceedings Manchester Philosophical Society, Vols. XXI, XXII, XXV, XXVI.

Acta Societ. Scient. Fennicæ, Vol. XVII.

Finlands Natur och Folk, 43, 50, 51.

Memoires Acad. Caen, 1892.

Verhandlungen Naturf. Gesellsch. Basel, Th. VIII, Hft. 1.

Accad. Gioenia di Scienze Naturali in Catania—Atti, 3d Se-

*A complete set of the Sitzungberichte of the Vienna Academy (Math. Naturw. Classe) does not exist in Madison, and I believe not in Wisconsin. The University has an incomplete set, extending to the sixtieth volume, but this also has many lacunæ. These facts have been set before Professor Suess, the general secretary of the Vienna Academy, with the request that the gaps in both series be filled, so that between the two libraries a complete set may be found in Madison.

ries, Vol. XX; 4th Series, Vols. IV–V. Bulletino Mensile, 1892, fasc. 26–31.

Nova Acta R. Societatis Scientiarum Upsaliensis—3d Series, Vols. XIII, 2; XIV, 1.

Jahresber. d. Schles. Gesellsch. f. Vaterland. Cultur, Vols. LXIII, LXV, LXVII–LXIX (with Erganzungsbande).

American Museum Natural History—Bulletin, Vol. III, No. 1. Ann. Rep., etc., 1892.

Tijdschrift Nederl. Maatsch. Nijverheid, 1883, 1885.

Bulletin Societe d'Agriculture, Sciences et Arts de la Sarthe, Vols. XXXI, 3–4; XXXII, 4; XXXIII, 2, 4; XXXIV, 1.

Koninklijke Akademie van Wetenschappen, Amsterdam—Verslagen en Mededeelingen. Afd. Natuurkunde, 2d Series, Vol. XVIII; 3d Series, Vols. V–VII. Afd. Letterkunde, 2d Series, Vol. XII; 3d Series, Vols. V–VII. Verhandelingen—Afd. Natuurkunde, Vols. XXVI, XXXVIII. Afd. Letterkunde, Vols. XVIII, XIX. Jahrboeck, 1882, 1888–1890.

Atti Fondazione Scientifica Cagnola (Milan), Vols. VII, IX, X.

Die Optischen Anomalien der Krystalle (6 plates), by Reinhard Brauns.

Exploration Internationales des Regions Polaires, 1882–83 et 1883–84. Expedition Polaire Finlandaise, Vol. I.

There is much more that can be done in the direction of filling out our series of journals. A glance at the catalog (in appendix to this volume) will show that a complete series of books is still the exception to the rule. Many sets still incomplete in our library have been filled as far as is possible, but the filling of others has not been attempted.

*Gifts of Scientific Papers by Individuals:*—Early in 1892 the Library Committee issued a circular asking scientific workers to generously donate brochures of their personal publications to the library of the Academy. It was thought that in this way a valuable addition might be made to the Academy Library, in which most scientific men would be glad to bear the small part asked of them. It was promised that the gifts should be promptly acknowledged by mail and also in the librarian's re-

port. This circular has been sent out somewhat widely as regards territory, but it has been confined pretty largely to geologists, mineralogists and botanists. Circulars were sent first to these workers because the necessary lists were ready at hand, and perhaps also because the papers of the first two classes of workers have the greatest interest to the librarian personally. The circulars would have found wider distribution but for the fact that the time that the librarian could devote to his duties was soon absorbed by the work of cataloging and binding the books of the Library. Yet as a result of the limited distribution of the circulars and within something more than a year, the papers of the following long list have been received at the library. They have been duly acknowledged by mail and cataloged. It will be noted that geological brochures largely predominate.

ACKNOWLEDGMENT OF BROCHURES.

Ackermann, Karl. Repertorium der landeskundlichen Literatur fur den Koniglich-Preussischen Regierungsbezirk Kassel. With Nachtrage 1, 2 and 3.

—— Bestimmung der erdmagnetischen Inklination von Kassel.

Adler, Cyrus. Progress of Oriental Science in America during 1888.

—— Report on the Section of Oriental Antiquities in the U. S. National Museum, 1888.

Allen, J. A. The North American Species of the Genus Colaptes, considered with Special Reference to the Relationships of C. auratus and C. cafer.

Arthur, J. C. Report on Botanical Work in Minnesota for the year 1886.

Atkinson, Geo. F. Ordema of the Tomato.

—— Method for obtaining pure Culture of Pammel's Fungus of Texas Root Rot of Cotton.

—— Carnation Diseases.

—— Some Cercosporae from Alabama.

—— The Genus Frankia in the United States.

—— An Automatic Device for Rolling Culture Tubes of Nutrient Agar Agar.

—— Some Diseases of Cotton.

—— Monograph of the Lemancaceæ of the United States.

Averill, C. K. List of Birds found in the Vicinity of Bridgeport, Conn.

Backstrom, Helge. Ueber den Dahllit, ein neues Mineral von Odegarden, Bamle, Norwegen.

—— Beitrage zur Kenntniss der islandischen Liparite.

—— Uber Fremde Gesteinseinschlusse in Einigen Skandinavischen Diabasen.

—— Uber Angeschwemmte Bimsteine und Schlacken der Nordeuropaischen Kusten.

—— Om kvartskakelagren vid Guda, Norge.

—— Beitrage zur Kenntniss der Thermelektricitat der Krystalle.

—— Elektrisches und thermisches Leitungsvermogen des Eisenglanzes.

Balg, G. H. Braune's Gothic Grammar (translated by Balg).

—— First Germanic Bible (edited by Balg).

—— Glossary of Gothic Language.

Ballon, S. M. The Eye of the Storm.

Baltzer, A. Glacialgeologisches v. der Sudseite der Alpen.

Barrois, C. Memoire sur la Distribution des Graptolites en France.

—— Faune du Calcaire d'Erbray. Lille, 1889.

Beecher, C. E. The Development of a Paleozoic Poriferous Coral.

—— Symmetrical Cell Development in the Favositidae.

Bell, R. The Nickel and Copper Deposits of Sudbury District, Canada. (Presented by Geo. H. Williams.)

Billet, A. Contribution a L'etude de la Morphologie et de Developpement des Bactereacees.

Branner, J. C. The Relations of the State and National Geological Surveys to Each Other and to the Geologists of the Country.

Brigham, A. P. The Geology of Oneida County.

—— A Chapter in Glacial History with Illustrative Notes from Central New York.

—— Rivers and the Evolution of Geographic Forms.

Broadhead, Prof. G. C. Preliminary Report on Coal by Arthur Winslow, State Geol.

—— A Description of the Lower Carboniferous Crinoids from Missouri by S. A. Miller.

—— A Bibliography of the Geology of Missouri by F. A. Sampson.

Brooks W. K. Salpa in its Relation to the Evolution of Life.

Brown, Nathan Clifford. A Catalogue of the Birds known to occur in the Vicinity of Portland, Me.

Carbaugh, Harvey C. A Course of Instruction for Non-commissioned Officers.

Chapman, C. H. An Elementary Course in Theory of Equations.

Cheney, L. S. and True, R. H. On the Flora of Madison and Vicinity. A Preliminary Paper on the Flora of Dane County, Wisconsin.

Clark, W. B. The Surface Configuration of Maryland.

Clarke, F. W. Note on the Constitution of Ptilolite and Mordenite.

Claypole, E. W. On the Structure of the American Pteraspidian, Palæaspis with Remarks on the Family.

—— The Head of Dinichthys.

Cohen, E. Lava vom Camerun Gebirge.

—— Das Obere Weilerthal und das Zunachst Angrenzende Gebirge.

—— Ueber die Trennung v. Thonerde, Eisenoxyd u. Titansaure.

—— Goldfuhrende Conglomerate in Sud-Afrika.

—— Ueber den Granat der sudafrikanischen Diamantfelder und uber den Chromgehalt der Pyrope.

—— Ueber Jadeit v. Thibet.

—— Ueber Speckstein, Pseudophit und dichten Muscovit aus Sud-Afrika.

—— Titaneisen v. den Diamantfeldern in Sud-Afrika.

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Wahnschaffe, F. Bemerkungen zu dem Funde eines Geschiebes mit Pentamerus borealis bei Havelberg.
—— Die Bedeutung des Baltischen Hohenruckens fur die Eiszeit.
—— (with Lossen, K. A.) Beitrage zur Beurtheilung der Frage nach einer einstigen Vergletcherung des Brocken-Gebietes.
—— Die Susswasser-Fauna und Susswasser-Diatomeen-Flora im Unteren Diluvium der Umgegend von Rathenow.
—— Mittheilungen uber das Alluvium der Rathenower Gegend.
—— Ueber zwei conchylienfuhrende Lossablagerungen nordlich vom Harz.

—— Beitrag zur Lossfrage.

—— Zur Frage der Oberflachengestaltung im Gebiete der baltischen Seenplatte.

—— (with Salisbury, R. D.) Neue Beobachtungen uber Quartarbildungen der Magdeburger Borde.

Walcott, C. D. Second Contribution to the Studies on the Cambrian Faunas of North America.

—— Correlation Papers—Cambrian.

—— Preliminary Notes on the Discovery of a Vertebrate Fauna in Silurian (Ordovician) Strata.

—— The Value of the Term "Hudson River Group" in Geologic Nomenclature.

—— The Utica Slate and Related Formations; Fossils of the Utica Slate and Metamorphoses of Triarthrus Becki.

—— The Permian and other Paleozoic Groups of the Kanab Valley, Arizona.

—— Preliminary Notice of the Discovery of the Remains of the Natatory and Branchial Appendages of Trilobites.

—— Notes on Some Sections of Trilobites, from the Trenton Limestone, and Descriptions of New Species of Fossils.

—— The Trilobite; New and Old Evidence Relating to its Organization.

—— Description of a New Genus of the Order Eurypterida from the Utica Slate.

—— Paleozoic Notes; New Genus of Cambrian Trilobites, Mesonacis.

—— Classification of the Cambrian System of North America.

—— Note on the Genus Archeocyathus of Billings.

—— The Taconic System.

—— Cambrian Age of the Roofing Slates of Granville, Washington Co., New York.

—— Fauna of the "Upper Taconic" of Emmons, in Washington County, New York.

—— Discovery of Fossils in the Lower Taconic of Emmons.

—— The Taconic System of Emmons, and the Use of the Name Taconic in Geologic Nomenclature.

—— Cambrian Fossils from Mount Stephens, Northwest Territory of Canada.

—— Paleontologic Notes.

—— Notes on Paleozoic Rocks of Central Texas.

—— Notes on some Paleozoic Pteropods.

—— Stratigraphic Position of the Olenellus Fauna in North America and Europe.

—— Description of New Forms of Upper Cambrian Fossils.

—— A Reveiw of Dr. R. W. Ells's Second Report on the Geology of a Portion of the Province of Quebec; with additional Notes on the "Quebec Group."

—— Study of a Line of Displacement in the Grand Canon of the Colorado in Northern Arizona.

Warner, Dr. A. G. Report of the Superintendent of Charities for the District of Columbia for Year ending June 30, 1891, by G. F. Pope, Supt.

Weinschenk, E. Beitrage zur Mineralsynthese. (Presented by Dr. E. Cohen.)

Weiss, J. E. Die Bayerische Botanische Gesellschaft zur Erforschung der heimischen Flora und ihre Organization.

Whitney, J. D. (with M. E. Wadsworth.) The Azoic System and its Proposed Subdivisions.

Whitney, S. H. The Early History of the Kennebec Valley.

Williams, G. H. Contributions to the Geology of the "Cortlandt Series" near Peekskill, N. Y.

—— Anglesite, Cerussite and Sulphur from the Mountain View Lead Mine near Union Bridge, Carroll County, Md.

—— Cause of the Apparently Perfect Cleavage in American Sphene (Titanite.)

—— On the Serpentine (Peridotite) Occuring in the Onondaga Salt-Group at Syracuse, N. Y.

—— The Geology of Fernando de Noronha.

—— On a new Petrographical Microscope of American Manufacture.

—— The Non-feldspathic Intrusive Rocks of Maryland and the Course of their Alteration.

—— On the Possibility of Hemihedrism in the Monoclinic Crystal System, with Especial Reference to the Hemihedrism of Pyroxene.

—— Colestin von Mineral County, West Va.

—— On the Hornblende of St. Lawrence County, N. Y., and its Gliding Planes.

—— On a new Plan Proposed for future Work upon the Geological Map of the Baltimore Region.

—— Syllabus of Lectures on Optical Crystallography.

—— Some Modern Aspects of Geology.

—— Geological and Petrographical Observations in Southern and Western Norway.

—— Note on the Eruptive Origin of the Syracuse Serpentine.

—— The Gabbros and Diorites of the "Cortlandt Series."

—— On the Paramorphosis of Pyroxene to Hornblende in Rocks.

—— A Summary of Progress in Mineralogy and Petrography in 1885.

—— On a Remarkable Crystal of Pyrite from Baltimore County, Md.

—— Note on some Remarkable Crystals of Pyroxene from Orange County, N. Y.

—— Geology of Baltimore and its Vicinity.

—— Notes on some Eruptive Rocks from Alaska.

—— (and Burton, W. M.) On the Crystal Form of Metallic Zinc.

—— (and Gill, A. C.) Contributions to the Mineralogy of Maryland.

Winslow, Arthur. The Geology and Mineral Products of Missouri.

—— Notes on the Cambrian in Missouri and the Classification of the Ozark Series.

—— The Missouri Coal Measures and the Conditions of their Deposition.

—— The Mapping of Missouri.

—— Coal Deposits of Missouri from field Work Prosecuted during the Years 1890 and 1891.

Wulfing, E. A. Untersuchung eines Nephelinsyenits aus dem mittleren Transvaal, Sud-Afrika. (Presented by Dr. E. Cohen.)

Yates, Dr. Lorenzo C. Charm Stones—The so-called Plummets or Sinkers of California.

—— Third Biennial Report of the California State Board of Forestry for the years 1889 and 1890.

—— Bulletin of the Santa Barbara Society of Natural History.

—— Channel Islands; Stray Notes on the Geology of the Channel Islands; The Mollusca of the Channel Islands and Insular Floras.

Zuccarelli, Angelo. Per un Gabinetto-Scuola di Antropologia Criminale Gianbattista della Porta da Fondarsi nell'Insegnamento Libero di Napoli.

—— Da Deficienti ad Idioti, Studio Medico-Legale. I.

—— A Divorzio e Scienza Antropologica Conferenza pronunziata il 5 Febbraio 1893 a vantaggio del Gabinetto-Scuola di Antropologia Criminale da Fondarsi nell'Insegnamento Libero di Napoli.

The librarian would like to emphasize to members of the Academy the importance of adding to the library in this manner. Many of us are specialists and find it difficult to get access to all books of reference which we need. There are prominent workers in different parts of the world who are engaged in the study of subjects related to those that most interest us. If we can then secure brochures of their publications, generally much scattered as to place of publication, we thereby obtain in the most convenient form and with little expense, that portion of a library of which we stand much in need. It is hoped that future librarians of the Academy will give a circular like the one already sent out, as wide a circulation among other classes of scientists as it has been given among geologists.

### COPIES OF THE ACADEMY'S TRANSACTIONS ISSUED.

The eighth volume of the Transactions, which came from the printer in the summer of 1892, was sent out at once to all members of the Academy, and to the libraries of all the corresponding societies. An additional number of copies, estimated at about two hundred, was distributed as samples to societies not on our exchange list, with a view to initiating an exchange of publications with them. As required by law, one hundred copies were deposited in the library of the State Historical

Society, and a like number in the libraries of the State University and the State Agricultural Society.

TABLE SHOWING THE NUMBER OF BACK VOLUMES OF TRANSACTIONS DISTRIBUTED IN THE YEARS 1891—3.

| Where Sent. | Volume. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | Totals. |
| Members of the Academy | 3 | 15 | 16 | 16 | 17 | 17 | 17 | 101 |
| Wisconsin Colleges and Incorporated Academies | 0 | 7 | 16 | 16 | 13 | 16 | 14 | 82 |
| Libraries in the United States and Canada | 8 | 20 | 31 | 28 | 31 | 35 | 37 | 190 |
| Foreign Libraries (Through the Smithonian Inst.) | 10 | 22 | 47 | 52 | 50 | 54 | 52 | 287 |
| University of Wisconsin | 0 | 20 | 30 | 0 | 40 | 75 | 0 | 165 |
| Totals | 21 | 84 | 140 | 112 | 151 | 197 | 120 | 825 |

The back volumes of the Transactions, with the exception of volume I, have been extensively utilized in securing exchanges with foreign scientific societies. Only a limited number of copies of volume II being still in the possession of the academy, that volume has not been so generally distributed as the others. The libraries of the colleges and incorporated academies of the state are entitled to receive the publications of the Academy (See list on page ix of volume VIII of the Transactions) and their sets of the Transactions have been made as complete as possible. Mr. Wm. M. Smith, the librarian of the University of Wisconsin, has informed me that the volumes of the

Transactions have not always in the past been deposited in that library as provided for by law. To make good so far as possible this oversight, copies as follows have been sent to the library of the university and Mr. Smith has expressed himself as satisfied with the arrangement: volumes II, twenty copies; III, thirty copies; V, forty copies; and VI, seventy-five copies.

Recently elected members of the Acadamy have been furnished sets of the Transactions as nearly complete as the supply would warrant. As provided in the statutes, express charges on volumes sent out are paid by the state. Packages for foreign distribution are delivered through the agencies of the Smithsonian Institution.

## CATALOG OF THE LIBRARY.

In 1878 a catalog of the books in the Academy library was made by the then librarian, Mr. W. A. Germain, and printed in the Proceedings (Transactions, Volume IV., pp. 281--289). An indication of the growth of the library since that time is the fact that there were but eighty exchanges, and the catalog was easily brought within eight pages of text. Again in 1881 a catalog was made by Mr. Julius Nelson, acting for Dr. E. A. Birge. This catalog was printed in the Proceedings (Transactions, Volume V, pp. 335--358.) It covers twenty-two pages of text and was probably complete for that time. I do not know that any later attempts have been made to supplement this catalog. Since 1881 the library has increased much in size as is shown by the dimensions of the new catalog which is printed in the appendix of this volume. The catalog of 1881 has been of comparatively little service because it tells only *what* is to be found in the library, and not *where* it is to be found. It has in consequence been necessary to search the entire collection to find any volume that might be desired. With the growth of the library this difficulty has increased, and accessions have generally become separated from the series to which they belong. When the present librarian took charge of the library, the books were in this condition and it was found necessary to begin the work anew and to take everything from

the cases and reclassify. The cases being emptied were thoroughly cleaned and the books dusted. The cases were then numbered, the shelves lettered and the locks repaired. In replacing the books on the shelves after their arrangement in series, an attempt was made to place related series together. On account of the necessity of economizing space it was not always possible to do this, but in general the distribution has been as follows:

General works (Such as journals of scientific societies), 1–12, 19, 25, 30, 31.

Works treating the field of letters, 27.

| | |
|---|---|
| Agriculture, 28, 29. | Geography, 13. |
| Anthropology, 25, 26. | Geology, 13-18. |
| Archeology, 25, 26. | Mathematics, 21. |
| Astronomy, 20, 21. | Medicine, 29. |
| Bibliography, 23. | Meteorology, 21. |
| Botany, 22, | Statistics, 23, 24. |
| Engineering, 20. | Zoology, 22. |

In the fall of 1881, the librarian received authority to engage clerical assistance to begin the cataloging of the library. The plan that seemed best adapted to the library in its present form was a shelf catalogue making use of cards. Mr. L. S. Cheney, then fellow in the University of Wisconsin and the librarian's assistant, was engaged to begin the work. The task was soon found to be much more arduous than had been supposed, owing to the careless manner in which the early volumes had been bound. In numerous instances, parts of several volumes had been bound as one volume, the missing portions being scattered under other covers. Title pages and indices were frequently missing but as frequently bound in the middle of the volume. Books had thus to be examined page by page and a "carving process" applied to the bound copies before anything like order was brought out of chaos. Authority was given at the next annual meeting to continue the work and several students of the University have at different times assisted the librarian as Mr. Cheney did at first. The card catalog which has finally been completed and from which the printed catalog

in the appendix of this volume has been made, has cost for clerical assistance a little more than seventy-five dollars. The librarian has given his own time in good measure to the work or the expense would have been considerable.

The catalog includes, first, a complete list of the series of journals, arranged alphabetically according to the city from which they are issued. Reference is in each instance made to the case and shelf where the book is to be found. Works of a special character follow grouped under their proper subjects; as, Agriculture, Anthropology, etc., the sequence of the subjects being alphabetical. Under each subject, E. G., Geology, are to be found, first, all journals and other serials which treat geological topics alone. (These journals are also entered in the general list of journals at the beginning of the catalog.) Following the serials under any subject are the non-serial works, whether books or pamphlets, arranged alphabetically according to author. Each book is located by case and shelf, but this is unnecessary in the case of pamphlets, since all pamphlets treating a given subject are arranged together on the shelves. The location is given in the catalog once for all for a given subject at the beginning. The arrangement of the pamphlets on the shelves, as in the catalog, is alphabetical, those with one initial letter being separated from their neighbors by stiff boards. This method has its defects and is only temporary, but if ordinary care is exercised in handling the pamphlets, the method will suffice for present needs. The idea throughout has been to have the catalog flexible, so that it can easily be modified if needed when the library is larger, without requiring the work that is just finished to be repeated.

### BINDING OF BOOKS IN THE LIBRARY.

At the Ripon Field Meeting in 1892, the librarian recommended to the Academy the binding of the unbound books then in the library. It was then voted to give authority to the library committee (The librarian and Professors Hendrickson and Comstock) to expend money in binding the books. In view of the fact that the books of the library vary considerably

n value, it was decided by the committee to suit the binding to the book in each case. The more valuable books were then to be bound in half morocco, while others were to be bound in sheep or roan. Many it was thought best not to bind. Discretion in this regard was left with the librarian. The binding was given by the committee to the Madison Book Bindery, G. Grimm, at the following prices:

| Size. | Kind of Binding. | Price per Volume. |
|---|---|---|
| 5½x7½ | ½ Morocco | 60c. |
| 5½x7½ | ½ Roan or Buffing | 50c. |
| 5½x7½ | ½ Sprinkled Sheep | 50c. |
| 6½x9 | ½ Morocco | 70c. |
| 6½x9 | ½ Roan or Buffing | 60c. |
| 6½x9 | ½ Sprinkled Sheep | 65c. |
| 9x13 | ½ Morocco | 90c. |
| 9x13 | ½ Roan or Buffing | 75c. |
| 9x13 | ½ Sprinkled Sheep | 85c. |

This work was begun in the fall of 1892, and up to the present (September 1st, 1893) the number of books bound and returned to the shelves of the library is 513, of which 160 are bound in half morocco, 69 in half sprinkled sheep and 284 either in half roan or buffing. The bills paid for this binding by the treasurer amount to $349.25, which makes the average cost per volume 68 cents. There are now in process of binding at the Madison bindery, 221 volumes, and at Park's bindery 125 volumes (same terms as Madison bindery.) These should be bound and on the shelves of the library before the next (24th) annual meeting of the Academy. When these are ready 859 volumes will have been bound. Most of the unbound volumes still in the library cases—excluding some issues of series which have been received at the library within two years—either do not seem to warrant a binding or they have come to the library somewhat stoutly bound in paper or boards (often sewed), and in *whole volumes* with the designation of the volume printed on the back. Many of the latter volumes are quite

valuable and it may be advisable to bind them—a matter which should be settled by the Academy. A die consisting of the words "Wisconsin Academy of Sciences" enclosed in a lozenge has been prepared, and is now used in the marking of all covers. It was found to be impossible to include the whole name of the Academy without either making the lozenge too large or the letters too small.

A record of all books sent to and returned from the bindery has been kept by the librarian, and at least one other member of the library committee has looked over the books bound before the payment of bills.

### PLAN OF TEMPORARY DISTRIBUTION OF BOOKS TO MEMBERS.

It is thought that with the issuing of an adequate catalog of the library, members both in Madison and elsewhere will wish to make use of the library for purposes of reference. I anticipate that some of the members at the University of Wisconsin in particular, will desire to use the books extensively. No provisions have yet been made for the issuing of books, and while the books remain in their present location, an altogether adequate provision can not easily be made. The room should not be left open without an attendant, as we have already suffered too much from depredations. Nor should any but some officer who is responsible for the books be given free access to the shelves, as it would be an easy matter to introduce confusion into the library if volumes were not returned to their proper places. I would therefore suggest that the librarian be elected from the members resident in Madison, and that only he or his assistant have access to the shelves of the library. Members desiring the use of books should apply to the librarian, who would supply the volumes desired upon the signing of the proper receipt form. Any reasonable number of books might be taken at one time and kept for any reasonable length of time, so long as they were kept in frequent use. But should the librarian have reason to think the books were no longer in use and retained because of neglect, he might at his discretion call them in. If books issued to any member were

afterwards desired by another member, the one using them might be notified of the fact by the librarian, and would then be required to return them within two weeks from the date of issuing the notification. Detention of books beyond this time should be punished by a fine sufficiently large to insure prompt and safe return. Members non-resident in Madison could have the use of books on the same terms as residents, the books being forwarded to them by express and the charges paid by them. Persons other than members should in the discretion of the librarian, be allowed to consult the books at the library, but books should not be issued to them. These regulations are, I apprehend, all that would be necessary, but if it were found that others were desirable they might be added later.

The plan proposed to issue books to members on request would add somewhat to the work of the librarian or his assistant, and they should, I think, be paid according to the amount of time devoted to the library. The proper care of the library in its present condition is considerable, and the best results will be secured if a nominal compensation is given the librarian. This the academy is able to do.

### NEED OF BETTER QUARTERS FOR THE LIBRARY.

The Library committee in their report at the annual meeting of 1892, emphasized the necessity of securing better quarters for the books. Not only are the books unsafe and inaccessible in their present location, but they are liable to be considerably damaged by remaining where they are. The major part of the collection is now bound, and some of the more valuable books are nicely bound. As the cases have no backs, but rest against the rough plaster, it is impossible to keep from the books finely disintegrated plaster which shakes down from the walls. The books become covered with a considerable layer of this material, which is so gritty as to abrade the skin when the books are handled. On opening a book this material gets between the leaves and plates. Moreover the cases are already nearly filled (many are quite full) and the library is growing so fast through our exchanges that the cases will no longer be made to contain all the books.

A bill was presented in the last legislature providing ample quarters for this library, together with the libraries of the University of Wisconsin and the State Historical Society, in a building to be located on the university campus. It is very much to be regretted that this bill did not pass that body. Until such a bill is passed by a future legislature one can only call attention to the need without suggesting any immediate means of meeting it.

Respectfully submitted,

WM. H. HOBBS,
*Librarian.*

# REPORT OF THE CURATOR.

BELOIT, WIS., Sept. 6th, 1893.

*The Wisconsin Academy of Sciences, Arts and Letters,*

GENTLEMEN—The classification and labelling of the fossils has been begun and completed during the past year. This material consists wholly of the fossils contributed to the Academy by the Wisconsin Geological Survey.

Two collections from this source have been in the possession of the Academy, but for lack of room these have of late been kept in the geological museum of the University. The smaller and more valuable of these contains only the type fossils described and figured by Prof. Whitfield in the publications of that survey. The other is one of the twelve subordinate collections into which the remaining fossil material was divided after its classification at that time.

Only the first collection was of any especial value to the Academy, and last winter the other was loaned indefinitely to the University to replace a similar collection lost in the destruction of the old Science Hall by fire.

During the year these collections have been labelled, the first as a separate collection, the specimens bearing an Academy label, and occupying one of the cases in the geological museum at the University entirely apart from the other University collections.

The fossils of the second collection have been arranged with the University collections, but are distinguished from others by the name of the association placed on each label.

This has seemed to us to be the best disposal that could be made of this property of the association, as it renders the

specimens accessible to any who may wish to study the fossil fauna of our state, and at the same time makes it possible to reclaim the material if at any time in the future the Academy hould posses a suitable place for its occupancy.

Very respectfully yours,

IRA M. BUELL.

# REPORT OF THE COMMITTEE APPOINTED TO REVISE THE CONSTITUTION.

*Wisconsin Academy of Sciences, Arts and Letters,*

GENTLEMEN—At the 23rd annual meeting of the Academy, the president and secretary were made a committee to prepare a revised draft of the constitution for adoption at a subsequent meeting. In September 1893 the committee added to its members the treasurer and Dr. E. A. Birge. The constitution which they offer for the Academy's consideration to replace the one now in force is as follows:

## CONSTITUTION OF THE WISCONSIN ACADEMY OF SCIENCES, ARTS AND LETTERS.

### ARTICLE I.—NAME AND LOCATION.

This association shall be known as the Wisconsin Academy of Sciences, Arts and Letters, and shall be located at the city of Madison.

### ARTICLE II.—OBJECT.

The object of the Academy shall be the promotion of sciences, arts and letters in the state of Wisconsin. Among the special objects shall be the publication of scientific papers and the formation of a library.

### ARTICLE III.—MEMBERSHIP.

The Academy shall include four classes of members, viz: life members, honorary members, corresponding members and active members.

1. Life members shall be elected on account of special services rendered the Academy. Life membership in the Academy

may also be obtained by the payment of one hundred dollars and election by the Academy. Life members shall be allowed to vote and to hold office.

2. Honorary members shall be elected by the Academy, and shall be men who have rendered conspicuous services to science.

3. Corresponding members shall be elected from those who have been active members of the Academy, but have removed from the state. By special vote of the Academy men of attainments in science or letters may be elected corresponding members. They shall have no vote in the meetings of the Academy.

4. Active members shall be elected by the Academy and shall enter upon membership on the payment of an initiation fee of two dollars and the annual assessment of one dollar. The annual assessment shall be remitted for the president, secretary and librarian during their terms of office.

### ARTICLE IV.—OFFICERS.

The officers of the Academy shall be a president, a vice-president for each of the three departments of sciences, arts and letters, a secretary, a treasurer, a librarian and a custodian. These officers shall be chosen by ballot by the Academy at an annual meeting and shall hold office for three years. Their duties shall be those usually performed by officers thus named in scientific societies. It shall be one of the duties of the president to prepare an address which shall be delivered before the Academy at the annual meeting at which his term of office expires.

### ARTICLE V.—COUNCIL.

The council of the Academy shall be entrusted with the management of its affairs during the intervals between regular meetings, and shall consist of the president, the three vice-presidents, the secretary, the treasurer and the past presidents who retain their residence in Wisconsin. Three members of the council shall constitute a quorum for the transaction of

business, provided the secretary and one of the presiding officers be included in the number.

### ARTICLE VI.—COMMITTEES.

The standing committees of the Academy shall be a committee on publication, a library committee, and a committee on the nomination of members. These committees shall be elected at the annual meeting of the Academy in the same manner as the other officers of the Academy and shall hold office for the same term.

1. The committee on publication shall consist of the president and secretary and a third member elected by the Academy. They shall determine the matter which shall be printed in the publications of the Academy. They may at their discretion refer papers of a doubtful character to specialists for their opinion as to scientific value and relevancy.
2. The library committee shall consist of three members and shall include the librarian.
3. The committee on nomination of members shall consist of five members, one of whom shall be the secretary of the Academy.

### ARTICLE VII.—MEETINGS.

The annual meeting of the Academy shall be held in Madison between Christmas and New Year. Summer field meetings will be held at such times and places as the Academy or the council shall decide. Special meetings may be called by the council.

### ARTICLE VIII.—PUBLICATIONS.

The regular publication of the Academy shall be known as its Transactions, and shall include scientific papers, a record of its proceedings and any other matter pertaining to the Academy. This shall be printed by the state as provided in the statutes of Wisconsin. All members of the Academy shall receive gratis the current issues of its Transactions.

ARTICLE IX.—AMENDMENTS.

Amendments to this constitutions may be made at any annual meeting by a vote of three-fourths of all the members present, *provided*, that the amendment has been proposed by five members, and that notice has been sent to all the members, at least three months before the meeting.

Respectfully submitted,

GEO. W. PECKHAM,
WM. H. HOBBS,
SAML. D. HASTINGS,
E. A. BIRGE.