Fortieth Meeting, January 8, 1896.

In the assembly Hall, Cosmos Club.
About 90 members and guests were present
President S. F. Emmons in the chair.

The minutes of the preceding meeting were read and approved.

Communications. — Regular Program.

1. R. T. Hill. The Isthmus of Panama.

2. C. D. Walcott. Recent and ancient markings on the seashore.

3. C. D. Walcott. Sand dunes on the Rhode Island coast.

4. G. H. Eldridge. The occurrence of Uintaite.

The first three papers were illustrated by lantern slides.

At 10 o'clock the Society adjourned.

T. W. Stanton
Secretary

Forty first Meeting, January 22, 1896
In the assembly hall of the Cosmos Club.
37 persons were present.
President Emmons in the Chair.

The minutes of the last meeting were read and approved.

The election of two members was announced.

The auditing Committee appointed at the 39th meeting reported that the accounts of the Treasurer had been examined and found correct.

There being no informal communications the regular program was then taken up as follows:
1. Arthur Keith. The Crystalline Groups of the Appalachians.
Discussion by Messrs. Cross, Turner and Walcott.

2. C. R. Van Hise. The Relations of Primary and Secondary Structures in Rocks.
The introductory portion of the paper was presented.
Discussion by Mr. Becker.

At 10 o'clock the Society adjourned.

T. W. Stanton
Secretary.

Forty second Meeting. January 29, 1896.
In the assembly hall, Cosmos Club.
40 members and guests present.
Vice President J. S. Diller in the Chair.

The minutes of the last meeting were read and approved.

Communications:
C. R. Van Hise. The Relations of Primary and Secondary Structures in Rocks. (Continued from the last meeting).
In the discussion of this paper remarks were made by Messrs. Turner, Diller, Willis, Walcott, McGee and Keith.

At 10 o'clock adjourned.

T. W. Stanton
Secretary.

Forty third Meeting, February 12, 1896.
In the assembly hall of Cosmos Club.
30 persons present.
President Emmons in the Chair.

The Minutes of the preceding meeting were read and approved.

Announcement of two elections to membership were made.

Informal Communications:
G. K. Gilbert exhibited specimens of balls composed of clay and gravel found in the bed of a creek in Colorado. They resembled concretions but their formation was attributed to the rolling by the stream of balls of clay over loose gravel. The subject was discussed by Messrs. Diller and Merrill.

Regular Program:
1. J. A. Taff. The structure of the Elk Garden Coal-field. Discussion by Messrs. Willis and Gilbert.

2. Geo. P. Merrill. The Disintegration and Decomposition of Diabase at Medford, Mass. Discussion by Messrs. Whitney, Gilbert, Lindgren and Leverett.

3. T. Wayland Vaughan. Notes on the Geology of the San Carlos Coal-field, Trans-Pecos, Texas.

4. E. C. E. Lord. Volcanic Rocks of the San Carlos Coal-field.

At 10 P.M. the Society adjourned.

T. W. Stanton
Secretary.

Forty fourth Meeting, February 26, 1896

In the Assembly Hall of Cosmos Club.

34 members and guests were present.

Vice President Whitman Cross in the Chair.

The minutes of the last meeting were read and approved.

The secretary announced an election to membership.

Informal Communications:

1. W J McGee exhibited a new geological map of New York compiled by Prof. James Hall and himself, and spoke briefly of the data used in its compilation.

2. G.F. Becker spoke of the determination of feldspars under the microscope by the methods of Michel-Levy. He stated that these methods had been found satisfactory in studying the eruptive rocks of Alaska.

Regular Program:

1. N. H. Darton. - Notes on the Black Hills.
   Discussion by Messrs. Cross and Campbell.

2. F. W. Crosby (introduced by Mr. Cross). The sea mills of Cephalonia.
   As an appendix to this paper a note by Prof. W. O. Crosby offering an explanation of the sea mills was read.
   Discussion by Cleveland Abbe, Jr.

3. H. W. Fairbanks. Stratigraphic position of the beds at Olate's Springs, California. (Read by W. Lindgren).

At 10 o'clock the Society adjourned.

T. W. Stanton
Secretary.

Forty fifth Meeting, March 11th, 1896.
In the assembly hall of Cosmos Club,
President Emmons in the Chair.
28 persons present.

The minutes of the preceding meeting were read and approved.

Communications.
There being no informal communications the Regular program was taken up, as follows.

1. David White. Thickness and Equivalence of some basal Coal Measure Sections along the eastern Margin of the Appalachian Basin.

2. M. R. Campbell. Lithologic Variations in the Pottsville Series from New River to Big Stone Gap.
Messrs. Willis and Emmons took part in the discussion of these two papers.

3. Bailey Willis. Evidences of ancient Shores.
Discussion by Messrs. Campbell, Keith, Darton, Diller and Leverett.

at 9:55 the Society adjourned.

T. W. Stanton
Secretary.

Forty sixth Meeting, March 25, 1896.
In assembly hall of Cosmos Club.
President Emmons in the Chair.
43 persons present.

The minutes of the 45th meeting were read and approved.

Informal communications:

1. G. K. Gilbert spoke of some effects of wind action in eastern Colorado and exhibited a stone that had been used in the foundation of a house and that showed very deep carving and cutting that was attributed to wind action.

2. The same speaker called attention to another rock specimen from Colorado showing a very irregular surface resembling vermicular carving. Small pebbles from Arizona with surface similarly marked but on a much smaller scale were also exhibited. No explanation of the phenomenon was offered.

Regular Program.

1. G. P. Merrill. The occurrence of free gold in granite.
Discussion by Messrs Emmons and Purington.

2. Whitman Cross. The Diorite of Oplin Loop and its inclusions, with suggestions as to the origin of certain Gneisses.
Discussion by Messrs. Iddings, Turner, Purington and Lindgren.

3. H. W. Turner. Archean Gneiss in the Sierra Nevada.
Remarks by Messrs. Lindgren, Sternberg, Iddings and Merrill.

4. J. Stanley Brown. The Pribilof Islands as evidence of Epeirogenic movements.

At 10 o'clock the Society adjourned.

T. W. Stanton
Secretary.

Forty seventh Meeting, April 8th, 1896

In the assembly-hall of Cosmos Club.
Vice-President Diller in the chair
40 persons present.

The minutes of the preceding meeting were read and approved

Communications.

The evening was devoted to the discussion of the subject The application of Stratigraphy and Paleontology in determining the subdivisions of geological time.

As an example of one phase of the subject special attention was called to the difficulties that have arisen in determining the boundary between Cretaceous and Eocene in the non-marine formations of the Rocky Mountain region. The historical statement and the general stratigraphy of the formations involved were presented by Whitman Cross. The fossil plants of the Laramie, Denver and Fort Union were compared by F. H. Knowlton. The evidence from the molluscan faunas of the same formations was discussed by T. W. Stanton and a paper on the vertebrate faunas by Prof. W. B. Scott was read by Whitman Cross.

The conditions affecting the distribution of living plants were discussed by F. V. Coville (on invitation) and the present distribution of land vertebrates was discussed by C. Hart Merriam.

R. T. Hill spoke of the advancement in our knowledge of the Lower Cretaceous during recent years and suggested that the supposed Jurassic fresh-water beds of the Rocky mountains may be Cretaceous.

In the general discussion remarks were made by Messrs. Willis and Diller.

On motion of G. K. Gilbert the session was prolonged beyond the usual hour for adjournment in order to receive an informal communication by Geo. M. Sternberg on some vertebrate fossils from a Quaternary basin in the state of Washington, north of Snake River. Bones of the horse, camel, elephant and other animals were exhibited.

At 10:10 P.M. the society adjourned.

T. W. Stanton
Secretary

Forty eighth Meeting, April 22d, 1896.

In the assembly hall of Cosmos Club.
President Emmons in the Chair.
28 persons present.

The minutes of the preceding meeting were read and approved.

An election to active membership was announced.

Informal Communications.

1. Waldemar Lindgren presented some statistics on the increase of temperature with depth in some of the deep mines of California. The rate of increase was found to be 1°F in 122 ft. and 1°F in 107 ft. The subject was discussed by Messrs. Gilbert and Parington.

2. J. S. Diller exhibited specimens of beeswax found on the Pacific Coast in Washington and described its mode of occurrence. It is believed to have come from a shipwrecked cargo. Mr. Merrill took part in the discussion.

Regular Program.

1. G. K. Gilbert. A new Laccolite Locality in Eastern Colorado.

2. Whitman Cross. The Rocks of a new Laccolite Locality in Eastern Colorado.

3. M. R. Campbell. The Origin of some Mountain Scarps. Discussion by Messrs. Hayes, Gilbert, Lindgren and Darton

At 9:55 P. M. the Society adjourned

T. W. Stanton,
Secretary.

Forty ninth Meeting, May 13, 1896.

In the assembly hall of Cosmos Club.
President Emmons in the chair.
33 persons present.

The Minutes of the 48th meeting were read and approved.

An Election to Membership was announced.

Communications. Regular Program.

1. T. W. Stanton. The Faunal Relations of the Eocene and the Upper Cretaceous on the Pacific Coast.
Remarks by Mr. Diller.

2. J. S. Diller. The Structure and Age of the Cascade Range.
Discussion by Messrs. Turner, Smith, Weed and Emmons.

3. Willard D. Johnson. An early Date for Glaciation in the Sierra Nevada.
Discussion by Messrs. Lindgren and Chatard.

At 10:40 P.M. The Society adjourned.

T. W. Stanton,
Secretary.

Fiftieth Meeting, May 27, 1896
In the assembly hall of Cosmos Club.
President Emmons in the chair.
37 persons present.

The Minutes of the 49th meeting were read and approved.

The President announced that a contribution to the Pasteur Memorial Fund had been obtained by subscription from the members of the Society.

An election to corresponding membership was announced.

Informal Communications.
J. S. Diller exhibited a new form of tube for the separation of minerals by means of heavy liquids. It is a modification of Smith's apparatus.

Regular Program.
1. Mr. Milton Whitney. The structure and texture of soils (with lantern illustrations).
2. Mr. R. T. Hill. Spanish American Topographic Nomenclature (with lantern illustrations).
Discussed by T. Wayland Vaughan.
On motion of Mr. Cross, seconded by Mr. Diller the meeting was prolonged beyond the usual hour of adjournment in order to receive the third paper of the program
3. Mr. David White. Flora of the Lower Coal Measures of Missouri.

At 10:15 P.M. the Society adjourned.

T. W. Stanton
Secretary.

Fifty first Meeting, November 11, 1896.

In the assembly hall of Cosmos Club.
President Emmons in the Chair.
26 persons present.

The minutes of the 50th Meeting were read and approved.

Communications. Regular program.

1. J. E. Spurr. Preliminary remarks on a reconnaissance in Alaska.
   Discussion by Messrs. Walcott and Hayes.

2. S. F. Emmons. Notes on some Black Hills Mines.
   Remarks were made by Messrs. Hayes and Lindgren.

3. Arthur Keith. Notes on the structure of the Cranberry District.

At 10:15 P.M. the Society adjourned

T. W. Stanton
Secretary

Fifty second Meeting, November 25, 1896.
In the assembly hall of Cosmos Club.
President Emmons in the chair.
34 persons present.

The minutes of the preceding meeting were read and approved.

An election to membership was announced by the secretary.

Communications. Regular Program
1. Discussion of paper by Mr. Arthur Keith, "Notes on the Structure of the Cranberry District," which was read at the last meeting; The Discussion was opened by Mr. Keith and participated in by Messrs. Hayes, Stose and Willis.
2. G. F. Becker. Some queries on rock differentiation.
Discussed by Messrs. Cross, Merrill, Diller and Emmons.

At 10 o'clock the Society adjourned.

F. W. Stanton, Secy.

Fifty third Meeting, December 9, 1896.

In the assembly hall of Cosmos Club.
President Emmons in the Chair.
35 persons present.

The Minutes of the 52d meeting were read and approved.

An election to membership was announced.

The President appointed Messrs. Turner, Campbell and Lindgren as an auditing committee to examine the accounts of the Treasurer.

Informal Communications.

1. Arthur Keith exhibited sections and spoke of the general Relations of the Cambrian Formations of Tennessee and the Appalachian Region.
The subject was discussed by Mr. Campbell.

2. W. Lindgren reported the occurrence of a basic hydrous phosphate of iron, probably Dufrenite, in the Potomac Formation near Anacostia and exhibited a specimen of the mineral.
Remarks were made by Messrs. McGee and Merrill.

Regular Program:

1. Whitman Cross. Large Land-slides in Colorado.
Discussion by Messrs. Gilbert, Keith, Turner, and McGee.

2. W J McGee. The Formation of Arkose.
Remarks were made by Mr. Campbell.

3. Waldemar Lindgren. The Nevada City special Folio.
Discussed by Messrs. Emmons and Becker.

At 10 o'clock the Society adjourned.

T. W. Stanton
Secretary.

Fifty fourth Meeting, December 16, 1896.

In the assembly hall of Cosmos Club.
President Emmons in the Chair.
30 persons present.

At this special meeting the retiring President, S.F. Emmons delivered the annual address his subject being "The Geology of Early Government Explorations"

T.W. Stanton
Secretary.

Fifty fifth Meeting, December 23, 1896.

Fourth Annual Meeting, in the Assembly Hall, Cosmos Club.
President Emmons in the Chair
22 Members present.

Before the business of the Annual Meeting one half hour was given to the presentation of Informal Communications as follows:

1. J. S. Diller. Exhibited and described a hornblende-basalt from California.
2. T. W. Stanton. Bee burrows in Laramie sandstone of Wyoming.
3. G. K. Gilbert. On the occurrence of cliffs of gypsum in Colo.
4. R. T. Hill. A peculiar occurrence of underground water near San Antonio, Texas.

The minutes of the third annual Meeting were then read.

The Annual Report of the Secretaries for 1896 was read and accepted.

The Annual Report of the Treasurer was read.
The Auditing Committee, consisting of Messrs. Turner, Campbell and Lindgren, appointed at the 53d Meeting, reported that the Treasurer's accounts had been examined and found correct.

On motion of Mr. Gilbert the reading of the list of Members entitled to vote was dispensed with.

The Society then proceeded to vote for officers for 1897 and elected the following board:

President: Arnold Hague.
Vice Presidents: J. S. Diller, Whitman Cross.
Treasurer: M. R. Campbell.
Secretaries: C. W. Hayes, T. W. Stanton.
Members-at-large of the Council: S. F. Emmons, G. K. Gilbert, R. T. Hill, G. P. Merrill, C. D. Walcott.

The rough minutes of the annual meeting were read.

At 9:40 the Society adjourned.

T. W. Stanton
Secretary.