BIBLIOGRAPHY AND INDEX

OF

NORTH AMERICAN GEOLOGY, PALEONTOLOGY, PETROLOGY, AND MINERALOGY

FOR

THE YEARS 1901–1905, INCLUSIVE

BY

FRED BOUGHTON WEEKS

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By Fred Boughton Weeks.

INTRODUCTION.

This bulletin is a combination of the bibliographies published each year from 1901 to 1904, inclusive. These have appeared as Bulletins Nos. 203, 221, 240, and 271. With these the bibliography of the literature for the year 1905 has been combined. The papers have been arranged alphabetically by authors' names and the entries numbered consecutively under each author. In addition to the full title of the paper and an abbreviated reference to the publication in which it appears a brief statement of the contents is given when the title of the paper is not fully explanatory.

The index, in which reference to the bibliography is made by author and number of paper, is preceded by a key to its arrangement, showing the subject headings used and their subdivisions.

Mr. J. M. Nickles, who has assisted for the last three years in the preparation of these bibliographies, has performed similar services in the preparation of this bulletin. Its completeness and accuracy are largely due to his industry and attention to details.
LIST OF PUBLICATIONS EXAMINED.

Alabama Geological Survey: Index to Mineral Resources of Alabama, 1904; Bulletin nos. 7 and 8; Revised Map of the Southeastern Part of the Cahaba Coal Field, 1905. Montgomery, Ala.


American Association for the Advancement of Science: Proceedings, vols. 50-54.


American Institute of Mining Engineers: Transactions, vols. 30-35; Bimonthly Bulletin, nos. 1-6, 1905. New York, N. Y.


American Museum of Natural History: Bulletin, vol. 11, pt. 4; vol. 14; vol. 15, pt. 1; vol. 16; vol. 17; vol. 18, pts. 1 and 2; vols. 19-21; Journal, vols. 3-5; Memoirs; vol. 1, pts. 7 and 8. New York, N. Y.


Appalachia: vol. 9, nos. 3 and 4; vol. 10; vol. 11, no. 1. Boston, Mass.

Apteryx: vol. 1, nos. 1 and 2. Providence, R. I.


Canadian Institute: Transactions, vol. 7 and vol. 8, pt. 1. Toronto, Canada.

Canadian Mining Institute: Journal, vols. 4-7. Ottawa, Canada.

LIST OF PUBLICATIONS EXAMINED.

Canadian Record of Science: vol. 8, no. 5—vol. 9, no. 4. Montreal, Canada.
Centralblatt für Mineralogie, Geologie und Palaeontologie: 1902-1905. Stuttgart, Germany.
Colorado, University of: Studies, vols. 1, 2, and 3 no. 1. Boulder, Colo.
Columbia University, Geological Department: Contributions, nos. 81-106. New York, N. Y.
Greene (George K.), Contribution to Indiana Paleontology, pts. 6-20. New Albany, Ind.
Harvard College, Museum of Comparative Zoology: Bulletin, vol. 33, no. 7; vol. 36, nos. 7 and 8; vol. 37, no. 3; vol. 38, nos. 2-8; vol. 39, nos. 1-9; vol. 40, nos. 2-7; vol. 41, no. 1; vol. 42, nos. 1-4; vol. 43, nos. 1-3; vol. 44; vol. 45, nos. 1-4; vol. 46, nos. 1-10; vol. 47; vol. 48, no. 1; vol. 49, nos. 1 and 2; Memoirs, vol. 25, no. 2; vol. 26, nos. 4 and 5; vol. 30, nos. 1 and 2; vols. 31 and 32. Cambridge, Mass.
Illinois State Laboratory of Natural History: Bulletin, vol. 5, article 12; vol. 6, articles 1 and 2; vol. 7, articles 1-5. Urbana, Ill.
Indiana Academy of Sciences: Proceedings, 1900-1902. Indianapolis, Ind.
Indiana, Department of Geology and Natural Resources: Annual Report, 25th-29th. Indianapolis, Ind.
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Iowa State University, Laboratory of Natural History: Bulletin, vol. 5, nos. 2–4. Iowa City, Iowa.

Johns Hopkins University: Circulars, nos. 149–165; 1904 and 1905; the George Huntington Williams Memorial Lectures, vol. 1. Baltimore, Md.


Kansas University Quarterly: vol. 9, no. 4; vol. 10, nos. 1–3; Science Bulletin, vols. 1–3, no. 6. Lawrence, Kans.


Louisiana State Experiment Stations: Geology and Agriculture, pts. 1–4 and 6. Baton Rouge, La.


McGill University, Department of Geology: Papers, nos. 15 and 16. Montreal, Canada.


Maryland Geological Survey: Eocene; Miocene; Garrett County; Cecil County; and vols. 4 and 5. Baltimore, Md.

Mazama: vol. 1–2, no. 4. Portland, Oreg.


Mexico, Secretaria de Fomento: Boletin, 2d época, año 3, 4, 5 nos. 1–5, IV. Mexico, D. F., Mexico.


Mines and Minerals: vol. 21, no. 6–vol. 26, no. 5. Scranton, Pa., and Denver, Colo.


LIST OF PUBLICATIONS EXAMINED.

Neues Jahrbuch für Mineralogie, Geologie, und Paleontologie, 1901–1905; Beilage Band, 14–21. Berlin, Germany.
New Jersey Geological Survey: Annual Reports, 1900–1904; Final Reports, vols. 5 and 6; Report on Paleontology, vol. 3. Trenton, N. J.
New York Botanical Garden: Bulletin, vol. 2 (nos. 6–8); vol. 3 (nos. 9–11); vol. 4, (no. 12); Contributions, nos. 1–73. New York, N. Y.
North Carolina Geological Survey: Biennial Reports, 1901–2, 1903–4; Economic Papers, nos. 6–9; Bulletin no. 19; vol. 1. Raleigh, N. C.
Ohio Geological Survey: Fourth series, Bulletins, nos. 1, 2, 3, and 7. Columbus, Ohio.
Ohio State Academy of Science: Annual Reports, 1st–13th; Special Papers, nos. 1–10 (Proceedings, vols. 1–4). Columbus, Ohio.
St. Louis Academy of Science: Transactions, vols. 11–15, no. 6. St. Louis, Mo.
San Diego Society of Natural History: vol. 1, no. 1. San Diego, Cal.
School of Mines Quarterly: vols. 22, no. 2–27, no. 1. New York, N. Y.
Smithsonian Institution: Annual Reports, 1899–1904; Contributions to Knowledge, nos. 1373, 1413, 1438, 1459; Miscellaneous Collections, 40, 41, 44–49. Washington, D. C.
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Société Géologique de Belgique: Annals, t. 27-32. Liege, Belgium.


South Dakota School of Mines: Bulletin, nos. 5-7. Rapid City, S. Dak.


Texas Academy of Science: Transactions, vols. 4 and 5. Austin, Tex.


United States Department of Agriculture: Field Operations of the Bureau of Soils:
Reports, 1st-5th. Washington, D. C.

United States Geological Survey: Annual Reports, 21st-26th; Monographs, 41-48; Professional Papers, nos. 1-43; Bulletins, nos. 177-273, 276; Geologic Atlas of the United States, folios, nos. 60, 70-131, 133, 134; Water-Supply and Irrigation Papers, nos. 41-149, 151, 152; Mineral Resources, 1901-1904. Washington, D. C.


Wisconsin Geological and Natural History Survey: Bulletins, nos. 6-14; Biennial Reports of the Commissioners, 1st-4th. Madison, Wis.


Wyoming University, School of Mines: The Sweetwater Mining District, 1901; Petroleum Series, Bulletins, nos. 4-7. Laramie, Wyo.


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A.

Abbe (Cleveland, jr.).
1. The physiographic features of Maryland.
2. The physiography of Garrett County [Maryland].
   Describes the topographic and drainage features of the county, and discusses its physio-
   graphic history.
3. Die Fall-Linie der südöstlichen Vereinigten Staaten.
   Vierteljahrsheften fur den geographischen Unterricht (Herausgegeben von Prof. Dr. Heide-
   rich), Wien, Jahrg. 2, pp. 204-216, 2 pis., 1903.
   Describes the position, and discusses the geologic, topographic, geographic, and historic sig-
   nificance of the fall line in the Atlantic coastal plain.
4. Earthquake records from Agana, island of Guam, 1892-1903.
   Terrestrial Magnetism, vol. 9, pp. 81-85, 1904.

Abercrombie (W. R.).
1. The Copper River country, Alaska.
   Includes observations on the general geology, and the occurrence of copper and gold ores in
   Alaska.

Adams (Charles C.).
1. Baseleveling and its faunal significance, with illustrations from southeastern
   United States.
   Describes the process of baseleveling and its influence on the distribution of faunas. Includes
   a bibliography.
2. Post-Glacial origin and migrations of the life of the northeastern United States.

Adams (Frank Dawson).
1. George M. Dawson.
   Gives an account of his life and work.
2. Experimental work on flow of rocks.
   95-96, 1901.
   Gives an account of his life and work.
4. [In discussion of "The origin of ore-deposits."]
5. Haliburton and Bancroft areas, Ontario.
   Describes the author's field work in this region.
Adams (Frank Dawson)—Continued.

   Includes a list of publications compiled by H. M. Ami.

7. The Monteregean Hills—a Canadian petrographical province.
   Jour. Geol., vol. 11, pp. 288-282, 7 figs., 1903; McGill Univ., Dept. Geol., Papers, no. 14, 1903;
   Describes the geographic extent, character, structure, and origin of the elevations in the Province of Quebec for which the term Monteregean Hills is proposed, and the occurrence, characters, chemical composition, and classification of the rocks composing Mount Johnson.

8. On a new nepheline rock from the Province of Ontario, Canada.
   Describes the occurrence, characters, and composition.

   Sets forth lines of investigations of igneous and metamorphic rocks.

10. The artesian and other deep wells on the island of Montreal.
    Includes an account of the geology of the region around Montreal, Canada.

Adams (Frank Dawson) and LeRoy (Osmond E.).

1. An experimental investigation into the flow of marble.
   vol. 27, p. 316, 1901.

2. An experimental investigation into the flow of marble.
   Gives a summary of the authors' investigations.

Adams (Frank Dawson), Ami (H. M.) and Adams (F. D.).

1. Synoptical table of geological formations about Montreal, Canada.
   See Ami (H. M.) and Adams (F. D.), 1.

Adams (George Irving).

1. The Carboniferous and Permian age of the Red Beds of eastern Oklahoma from stratigraphic evidence.
   Describes the extension of these beds from Kansas into Oklahoma and discusses the evidence as to their age.

2. Oil and gas fields of the western interior and northern Texas Coal Measures, and of the Upper Cretaceous and Tertiary of the Western Gulf Coast.
   Describes the general geology of the oil and gas fields of Kansas and Indian Territory, and the developments of the various localities. Describes the stratigraphy of the Texas oil fields and their developments.

3. Physiography and geology of the Ozark region.
   Describes physiographic features, and character and occurrence of igneous rocks and pre-Cambrian, Cambrian, Ordovician, Silurian, Devonian, and Carboniferous strata, and the geologic structure of the region.

4. Geology and water resources of the Patrick and Goshen Hole quadrangles in eastern Wyoming and western Nebraska.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 70, 50 pp., 11 pis., 4 figs., 1902.
   Describes geologic structure and physiographic features.
Adams (George Irving)—Continued.

5. Physiographic divisions of Kansas.
   Describes the characteristics of the several physiographic divisions of the region.

6. Stratigraphic relations of the Red Beds to the Carboniferous and Permian in northern Texas.

7. Lithologic phases of the Pennsylvanian and Permian of Kansas, Indian Territory, and Oklahoma.

8. Note on a Tertiary terrane new in Kansas geology.
   Am. Geol., vol. 29, pp. 301-303, 1 fig., 1902.
   Describes the occurrence and character of the beds.

   Defines the divisions and describes their topographic and geologic features.

10. Principles controlling the geologic deposition of the hydrocarbons.

11. Stratigraphic relations of the Red Beds to the Carboniferous and Permian in northern Texas.
    Describes occurrence, stratigraphy, and lithologic characters of the Red Beds of Texas, Oklahoma, Indian Territory, and Kansas, and discusses their relationships.

12. Zinc and lead deposits of northern Arkansas.
    Gives a brief account of the position, history of development, and geologic structure of the field, and describes the occurrence, character, and source of the ores.


14. Geology, technology, and statistics of gypsum.
    Includes a short discussion of the origin and geologic age of gypsum deposits in general.

15. Zinc and lead deposits of northern Arkansas.
    Describes physiographic features briefly, the occurrence and character of Ordovician, Devonian, and Carboniferous formations, the geological history and structure, and the occurrence and origin of the zinc and lead ore deposits of this region.

16. The Rabbit Hole sulphur mines near Humboldt House, Nev.
    General geology and occurrence and origin of the sulphur.

17. Summary of the water supply of the Ozark region in northern Arkansas.

Adams (George Irving) and Ulrich (E. O.).

1. Fayetteville folio, Arkansas-Missouri.
   Describes the physiography, the occurrence, character, and relations of Ordovician, Devonian, and Carboniferous sedimentary strata, the history of the physical changes, and the economic resources.

Adams (George Irving), Girty (George H.), and White (David).

1. Stratigraphy and paleontology of the upper Carboniferous rocks of the Kansas section.
   U. S. Geol. Surv., Bull. no. 211, 123 pp., 4 pls., 10 figs., 1903.
   Comprises a review of previous work upon the stratigraphy, and a description in detail of the geologic formations, including definition and synonymy, character and extent, and faunal lists of the upper Carboniferous strata of Kansas and northern Indian Territory, by George I. Adams; a discussion and tabulation of the invertebrate fossils, by George H. Girty, and an annotated list of the fossil plants, by David White.
Adams (George Irving), Haworth (Erasmus), and Crane (W. R.).
   U. S. Geol. Surv., Bull. no. 238, 83 pp., 11 pls. and 13 figs., 1904.
   Describes the general character and areal geology of the area, the character, occurrence, and
   relations of the Carboniferous formations, the geologic structure of the field, and in detail
   the occurrence, character, and origin of the natural gas and petroleum, and their utilization
   in the manufacture of cement, brick, and zinc spelter.

Adams (Thomas K.).
1. Lower productive Coal Measures of the bituminous regions of Pennsylvania; the
   importance of a knowledge of their characteristic features.
   Describes the geology of the Coal Measures of the bituminous coal regions of Pennsylvania.

Aguilar y Santillán (Rafael).
1. Bibliography of Mexican geology and mining.

Aguilera (José G.).
1. Distribución geográfica y geológica de los criaderos minerales de la República
   Mexicana.
   Acad. de Ciencias exactas, físicas, y naturales, México, 57 pp., 1901.
   Describes the occurrence of various mineral products in Mexico.
2. Sobre las condiciones tectónicas de la República Mexicana.
   México, Oficina Tip. de la Secretaria de Fomento, 34 pp., 1901.
   Gives a general account of the geologic structure of Mexico.
3. The geographical and geological distribution of the mineral deposits of Mexico.
   Describes the occurrence of mineral deposits.
4. [The great Bacubirito meteorite of Mexico.]
   Am. Geol., vol. 33, p. 267, 1904.
   Gives data in regard to the Bacubirito meteorite.
5. Reseña del desarrollo de la geología en México.
   Reviews in chronologic order the investigations upon the geology of Mexico.

Aiken (P. B.).
1. The mines of Santa Eulalia, Mexico.
   Describes briefly the general geology and the occurrence of the silver-lead ores.

Alcalá (Maximino).
1. Criaderos de petróleo de Pichucalco, Estado de Chiapas. [México].
   Describes the occurrence, geologic relations, and character of petroleum from this locality.

Alden (William C.).
   Describes geographic and topographic features, the general geologic relations, the occurrence
   and character of strata of Cambrian, Silurian, Devonian, and Quaternary age, and the eco-
   nomic resources, chiefly building stones.
2. The stone industry in the vicinity of Chicago, Ill.
   Describes the occurrence and utilization of limestone, sand, and gravel in the vicinity of
   Chicago, Ill.
3. The Delavan lobe of the Lake Michigan glacier of the Wisconsin stage of glacia-
   tion and associated phenomena.
   Describes the character, occurrence, and relations of various glacial deposits and associated
   phenomena, and the physiographic changes and succession of events during the period of
   glaciación in the area investigated.
Alden (William C)—Continued.
4. The drumlins of southeastern Wisconsin.
   Describes the distribution, arrangement, relations to morainal and other glacial features,
   form, structure, composition, and origin of the drumlins in southeastern Wisconsin.

Alden (William C.), Fuller (Myron L.) and.
   See Fuller (M. L.) and Alden (W. C.), 1.
   See Fuller (M. L.) and Alden (W. C.), 2.

Alderson (Matt W.).
1. Genesis of ore deposits.

Aldrich (Truman H.).
1. A Texas oil well fossil.
   Nautilus, vol. 15, p. 74, 2 fgs., 1901.
2. New species of Tertiary fossils from Alabama, Mississippi, and Florida.
4. Two new species of Eocene fossils from the lignitic of Alabama.
5. A new oyster from the Eocene of Alabama.
   Nautilus, vol. 18, p. 61, 1 pl., 1904.

Aldrich (Truman H.), Smith (Eugene A.) and.
1. The Grand Gulf formation.
   See Smith (E. A.) and Aldrich (T. H.), 1.

Allen (E. T.), Day (A. L.) and.
1. The isomorphism and thermal properties of the feldspars.
   See Day (A. L.) and Allen (E. T.), 1.
2. The isomorphism and thermal properties of the feldspars. Part I. Thermal
   studies.
   See Day (A. L.) and Allen (E. T.), 2.

Allen (J. A.).
1. A fossil porcupine from Arizona.

Allen (O. B.) and Comstock (W. J.).
1. Bastnasite and tysonite from Colorado.
   Jour. Sci., vol. 19, pp. 390-393, 1880.)

Althouse (H. W.).
1. The Norton coals of the Big Sandy basin.
   Describes the location, topography, and general geology of the field, and the character, occurrence,
   and geologic relations of the coal seams.

Ami (Henry M.).
1. On the geology of the principal cities in eastern Canada.
   Describes the local geology in the vicinity of several cities.
2. Synopsis of the geology of Canada. (Being a summary of the principal terms
   employed in Canadian geological nomenclature.)
Ami (Henry M.)—Continued.

3. Paleontology and stratigraphy.

4. On a new or hitherto unrecognized geological formation in the Devonian system of Canada.
   Describes the lithologic and faunal characters of the Knoydart formation in Nova Scotia.

5. Addenda and corrigendum to "Progress of geological work in Canada during 1899."

6. The late George Mercer Dawson.
   Gives a sketch of his life and work.

7. Bibliography of Dr. George Mercer Dawson.

   Describes the lithologic and faunal characters of a Devonian formation.


10. Stratigraphical note.
    Contains brief notes on Devonian and Silurian subdivisions in Nova Scotia.

11. The Royal Society of Canada (twentieth meeting).
    Contains abstracts of papers read.

12. Notes on some of the Silurian and Devonian formations of eastern Canada, and their faunas and floras.

13. On the subdivisions of the Cambrian system in Canada.

14. A dual classification required in the nomenclature of the geological formations in different systems in Canada.

15. Brief biographical sketch of Elkanah Billings.
    Am. Geol., vol. 27, pp. 265-281, 1901.
    Gives a brief account of the life and work of Billings and a chronologic list of his publications.

16. Bibliography of Dr. George M. Dawson.
    Am. Geol., vol. 28, pp. 76-86, 1901.

17. Bibliography of E. Billings.
    Am. Geol., vol. 28, p. 132, 1901.
    Gives five additional references to the bibliography of Billings heretofore published.


20. Preliminary lists of the organic remains occurring in the various geological formations comprised in the map of the Ottawa district, including formations in the provinces of Quebec and Ontario, along the Ottawa River.
Ami (Henry M.)—Continued.

21. Lists of fossils obtained from the several formations along the Ottawa River pertaining to the report on Sheet no. 121, Quebec and Ontario (Grenville Sheet).

22. Artesian wells, paleontology, archaeology, bibliographies, etc.
   A report upon the work done by the author.

23. Field notes on the geology of the country about Chelsea, Quebec.
   Ottawa Nat., vol. 16, pp. 149–151, 1902.
   Contains notes on local geology.

24. Brief description of the map of the “Ottawa district.”

25. Annual report of the geological section of the Ottawa Field-Naturalists’ Club, for the year 1901–1902.
   Contains notes on the geology of the vicinity of Ottawa and a list of fossils from the Utica at Ottawa, Ontario.


27. Bibliography of Dr. George M. Dawson.

28. Description of tracks from the fine-grained siliceous mudstones of the Knoydart formation (Eo-Devonian) of Antigonish County, Nova Scotia.

29. On the possible occurrence of a coal area beneath the Neo-Carboniferous or Permian strata of Pictou County, Nova Scotia.
   Describes the geologic structure of this area.

30. The Union and Riversdale formations in Nova Scotia.
   Gives abstract of a paper read before the Geological Society of America with the title “The Meso-Carboniferous age of the Union and Riversdale formations in Nova Scotia.”

31. On the possible occurrence of a coal area beneath the Neo-Carboniferous or Permian strata of Pictou County, Nova Scotia.
   Describes the geologic structure of this area.


33. Esquisse géologique du Canada ou matériaux pour servir à la préparation d’un chronologie géologique pour le Canada.
   Gives a general résumé of the geology of Canada, describing the geographic distribution of the formations of Paleozoic, Mesozoic, Tertiary, and Quaternary age.

34. Bibliography of Canadian geology and paleontology for the year 1901.

35. Bibliography of Dr. George M. Dawson.

36. Paleontology and chronological geology.
   Gives a statement of the paleontological work of the year, discusses records of borings, and gives notes upon the geology of Victoria Cove, Quebec.
Ami (Henry M.)—Continued.
37. On the Upper Cambrian age of the Dictyonema slates of Angus Brook, New Canaan and Kentville, N. S. [Canada].
38. Sketch of the life and work of the late Dr. A. R. C. Selwyn, C. M. G., LL. D., F. R. S., F. G. S., etc., Director of the Geological Survey of Canada from 1869 to 1894.
   Am. Geol., vol. 31; pp. 1-21, 1 pl. (por.), 1903.
   Presents a list of the formations and gives their lithologic characters.
40. Meso-Carboniferous age of the Union and Riversdale formations, Nova Scotia.
   Contains additional data on the age and relations of these formations.
41. The first Eparchean formation.
42. Bibliography of Canadian geology and paleontology for the year 1902.
43. Memorial or sketch of the life of the late Dr. A. R. C. Selwyn, Director of the Geological Survey of Canada from 1869 to 1894.
   Includes a list of his published writings.
44. Bibliography of Canadian geology and paleontology for the year 1903.
45. The late Dr. A. R. C. Selwyn, C. M. G. His work in Canada.
   Gives an outline of Selwyn's work in Canada as director of the geological survey.
46. Preliminary list of the fossils collected by Prof. L. W. Bailey from various localities in the province of New Brunswick during 1904.
47. Notes on a collection of organic remains from the ferruginous and friable shales of Messenger Brook, Torbrook, near county line, Nova Scotia.
48. Description of a species of Bythotrephis from the shales along the Unihani River, Yukon district, Canada.
49. Preliminary lists of fossil organic remains from the Potsdam, Beekmantown (Cal- ciferous), Chazy, Black River, Trenton, Utica, and Pleistocene formations comprised within the Perth Sheet (no. 119) in eastern Ontario.

Ami (Henry M.) and Adams (Frank D.).
1. Synoptical table of geological formations about Montreal, Canada.

Ami (Henry M.), Penhallow (D. P.) and.
1. Determinations of fossil plants from various localities in British Columbia and the Northwest territories, with notes on the geological horizons indicated.
   See Penhallow (D. P.) and Ami (H. M.), 1.

Anderson (Frank M.).
1. The Neocene basins of the Klamath Mountains [California].
   Brief notes on the structural features of the range.
Anderson (Frank M.)—Continued.

2. The physiographic features of the Klamath Mountains.
   Jour. Geol., vol. 10, pp. 144-159, 1902.
   Describes the physiographic features, the general character of the Cretaceous and Tertiary sediments and of the volcanic rocks, and the development of the present drainage.

3. Cretaceous deposits of the Pacific coast.
   Discusses the occurrence, characters, correlation, and faunas of the Cretaceous deposits of the Pacific coast region, and describes a large number of species—many of them new.

4. Ore deposits of Shasta County [California].

5. Physiography and geology of the Siskiyou Range.

6. Stratigraphy of the southern Coast ranges of California.

7. A stratigraphic study in the Mount Diablo Range of California.
   Describes the character, occurrence, fossil content, and relations of Cretaceous and Tertiary strata, and gives systematic descriptions of new species of fossils.

Anderson (Netta C.).

1. A preliminary list of fossil mastodon and mammoth remains [in Illinois and Iowa].
   Augustana Library Publications, no. 5, pp. 3-43, 2 pls., 1905.

Anderson (Tempest).

1. Characteristics of recent volcanic eruptions.
   Describes phenomena exhibited in the eruptions of Soufrière and Mont Pelé.

2. Recent volcanic eruptions in the West Indies.
   Describes volcanic phenomena and physiographic changes produced by the eruptions of 1902 in St. Vincent and Martinique.

Anderson (Tempest) and Flett (John S.).

1. Preliminary report on the recent eruption of the Soufrière in St. Vincent, and of a visit to Mont Pelé, in Martinique.
   Describes physical features of St. Vincent in the vicinity of Soufrière, the eruptions of May and July, 1902, of Soufrière and Mont Pelé, their effects and the character of the ejected materials.

   Describes physiographic features and general geology of St. Vincent, the phenomena of the eruptions of the Soufrière of May, 1902, and geologic and physiographic changes resulting, and discusses and compares the eruption phenomena of the Soufrière and Montagne Pelée.

Andrews (C. L.).

1. Muir glacier [Alaska].
   Describes the appearance of the glacier in 1903. An appended note by G. K. Gilbert gives data in regard to the glacier.

Angermann (Ernesto).

1. Informe acerca de la fisiografía, geología e hidrología de los alrededores de La Paz, Baja California.
   Gives physiographic, geologic, and hydrologic observations upon the environs of La Paz in Lower California.
Angermann (Ernesto)—Continued.
2. Apuntes sobre el Paleozoico en Sonora [México].
   Gives observations upon the occurrence and character of the geologic formations of Sonora,
   particularly upon Paleozoic deposits.

3. El fierro meteórico de Bacubirito (Est. de Sinaloa).
   Observations upon size and occurrence of the meteorite of Bacubirito, Mexico.

4. Observaciones geologicas en una ascencion al Citlaltapetl (Pico de Orizaba) [Mexico].
   Gives observations upon the physiographic features and geology of the volcano Orizaba.

Argall (P. H.).
1. Pelée's obelisk.
   Discusses the formation of the obelisk in the crater of Mont Pelé.

Argall (Philip).
1. Notes on the Santa Eulalia mining district, Chihuahua, Mexico.
   Gives observations on the geology and the occurrence and character of the ore deposits.

2. The Santa Eulalia [Mexico] ore deposits.
   Describes the general geology, the igneous intrusions, the occurrence and character of the
   silver-lead ores, and discusses their origin.

Armstrong (L. K.).
   Gives notes upon the general geology of the region, and describes the occurrence and charac­
   ter of the coal beds, and the character of the coals.

Arnold (Delos) and (Ralph).
1. The marine Pliocene and Pleistocene stratigraphy of the coast of southern Calif­
   ornia.
   Describes the lithologic and faunal character of the strata and the Tertiary and Pleistocene
   history of the region. Discusses the relation of the Merced series with these beds.

Arnold (Ralph).
1. Bibliography of the literature referring to the geology of Washington.

2. The paleontology and stratigraphy of the marine Pliocene and Pleistocene of San
   Pedro, California.
   from the Hopkins Seaside Laboratory, 31, pp. 1-420, 37 pls., 1903.
   Describes the topography and the character and occurrence of Tertiary and Quaternary for­
   mations of California bordering the Pacific, and gives lists of fossils by formations showing
   geographical distribution and relations to existing faunas, and systematic descriptions of the
   genera and species. Includes descriptions of several new species of corals by T. Way­
   land Vaughan and of mollusks by W. H. Dall and Paul Bartsch.

3. Faunal relations of the Carrizo Creek beds of California.


5. Coal in Clallam County, Wash.
   Describes the geography and general geology of the region, and the occurrence and charac­
   ter of the coal.
Arnold (Ralph)—Continued.
6. Some crystalline rocks of the San Gabriel Mountains, near Pasadena, California.

Arnold (Ralph) and Strong (A. M.).
1. Some crystalline rocks of the San Gabriel Mountains, California.
   Describes the location, typography, and age of the San Gabriel Mountains, the general char-
   acter of the rocks, and in detail the occurrence, megascopic charac-
   ters, and constitution of plutonic and metamorphic rocks.

Arnold (Ralph), Haehl (H. L.) and.
1. The Miocene diabase of the Santa Cruz Mountains in San Mateo County, Cali-
   fornia.
   See Haehl (H. L.) and Arnold (Ralph), 1.

Arreola (José Maria).
1. The recent eruptions of Colima [Mexico].
   Jour. Geol., vol. 11, pp. 749-761, 8 figs., 1903.
   Gives a chronologic record of the activity of the volcano Colima and discusses volcanic
   phenomena.

Ashley (George Hall).
1. The eastern interior coal field.
   Describes extent, general geologic relations, stratigraphy and structure of the coal field occup-
   ying parts of Illinois, Indiana, and Kentucky, and the character and occurrence of the
c coal seams.

2. The geology of the Lower Carboniferous area of southern Indiana.
   Describes physiographic and drainage features, the stratigraphy, character, occurrence, and
   geologic relations of Lower Carboniferous formations and economic resources of this area.

3. The Cumberland Gap coal field of Kentucky and Tennessee.
   Describes location, stratigraphy, and geologic structure of the field, the character and geo-
   logic relations of the coal seams, and the mining developments.

4. The Cumberland Gap coal field.
   Mg. Mag., vol. 10, pp. 94-100, 1 pl., 5 figs., 1904.
   Describes the location and general geologic structure of the coal basin occupying parts of
   Kentucky and Tennessee, and the occurrence, character, and mining of the coals.

5. [Geologic structure of the region around Middlesboro, Ky.]


7. Coal in the Nicholas quadrangle, West Virginia.
   Describes the general geology, and the character and occurrence of the coals.

8. Water resources of the Nicholas quadrangle, West Virginia.

Ashley (George Hall), Blatchley (W. S.) and.
1. The lakes of northern Indiana and their associated marl deposits.
   See Blatchley (W. S.) and Ashley (G. H.), 1.

Ashley (George Hall), Fuller (Myron L.) and.
1. Recent work in the coal field of Indiana and Illinois.
   See Fuller (M. L.) and Ashley (G. H.), 1.

Askwith (W. R.).
1. The West Gore antimony deposits [Nova Scotia].
   Describes the character and occurrence of the ore body.
Atkin (Austin J. R.).
1. The genesis of the gold deposits of Baskerville (British Columbia) and the vicinity.
2. Some notes on the gold occurrences on Lightning Creek, British Columbia.
3. An occurrence of scheelite near Baskerville, British Columbia.

Atwood (Wallace W.).
1. Glaciation of San Francisco Mountain, Arizona.
   Jour. Geol., vol. 13, pp. 276-279, 1 fig., 1905.

Austin (W. L.).
1. Some tellurium veins in La Plata Mountains [Colorado].
   Describes the occurrence and character of the veins, and the character of the country rock.
2. Some New Mexico copper deposits.
   Describes the occurrence and discusses the origin of the ore deposits.
3. The ore deposits of Cananea [Mexico].
   Describes the character and occurrence of the copper ore deposits.
4. [In discussion of paper by Walter Harvey Weed, "Ore deposits near igneous contacts."]
   Describes occurrences of some ore deposits and their bearing upon the paper discussed.
5. [In discussion of paper by Waldemar Lindgren, "The geological features of the gold production of North America."]
   Calls attention to the occurrence of a gold deposit of supposed Cambrian age in Colorado.

Babcock (E. J.).
   Describes the physiographic and geologic features and the character and occurrence of clay, coal, and water supply of the State.
2. Water resources of the Devils Lake region [North Dakota].
   Describes topography, geologic structure, and water supply of this region.

Babcock (E. N.) and Minor (Jessie).
1. The Graydon sandstone and its mineral waters.
   Describes the character and occurrence of the sandstone and discusses its origin and bearing upon the geologic history of the region. Describes mineral waters coming from the sandstone.

Bache (Franklin).
1. The Arkansas-Indian Territory coal field.
   Describes the location and extent of the field, the character and occurrence of the coal seams, and the mining developments.

Bacorn (H. C.).
1. A complicated fault system.
   Describes faulting at Gibbonsville, Idaho.
Bagg (Rufus M., jr.).
1. Eocene Protozoa.

2. The genesis of ore deposits in Boulder County, Colorado.

3. The veins of Boulder County, Colorado.
   Discusses the occurrence and the origin of the ore deposits.

4. Earthquakes in New Mexico.
   Am. Geol., vol. 34, pp. 102-104, 1904.

5. Secondary enrichment in the Santa Rita district [New Mexico].
   Describes character and occurrence of copper deposits.


7. Foraminifera collected from the bluffs at Santa Barbara, California.
   Describes the occurrence and gives a list of species identified.

8. The Sahuayacan district, Mexico.
   Contains notes upon the geology of the district.

9. Miocene Foraminifera from the Monterey shale of California.
   U. S. Geol. Surv., Bull. no. 268, 55 pp., 11 pls., 2 figs., 1905.
   Discusses the general relations of the Miocene foraminifera obtained from San Luis Obispo
   County, California, and the occurrence of existing representatives, and gives systematic
   descriptions. In an introductory note, J. C. Branner describes the geology of the Monterey
   shale bed from which the fossils were obtained.

Bailey (Edgar H. S.).
1. Special report on mineral waters [Kansas].

Bailey (Elbert W.), Rath (Charles M.), Grider (Richard L.).
1. A garnetiferous bed in Golden Gate Canyon, Jefferson County, Colorado.
   Describes the general geology of the region, and the occurrence of garnets.

Bailey (Frank).

Bailey (G. E.).
1. The desert dry lakes of California.
   Describes physiographic features and the occurrence and production of borax.

Bailey (J. Trowbridge).
1. The ore deposits of Contact, Nevada.
   Describes observations upon the geology of the region and discusses the occurrence and
   origin of the ore deposits.

Bailey (L. W.).
1. On some modes of occurrence of the mineral albertite.

2. On some geological correlations in New Brunswick.
   Paper read before the Royal Society of Canada.
Bailey (L. W.)—Continued.

3. On some geological correlations in New Brunswick.
   Discusses geologic age of formations previously referred to Cambro-Silurian in the light of
   new evidence.

4. On some modes of occurrence of the mineral albertite.
   Discusses geologic occurrence.

   Discusses geologic age of formations previously referred to Cambro-Silurian in the light of
   new evidence.

   Contains observations on the geology of the region.

7. Report upon the Carboniferous system of New Brunswick with special reference
   to workable coal.
   Describes the occurrence and extent of Carboniferous rocks in various geologic systems in New
   Brunswick, and the character and occurrence, and possible production of the coal beds, gives lists of
   fossils, and discusses the geologic horizon of certain beds.

8. New Brunswick caves.
   Discusses the origin of the various caves described and the geologic formations in which they
   occur.

   Describes the occurrence and extent of volcanic rocks in various geologic systems in Canada.

10. Fossil occurrences and certain economic minerals in New Brunswick.

Bain (H. Foster).

1. The origin of the Joplin ore deposits [Missouri].

2. Preliminary report on the lead and zinc deposits of the Ozark region. With an
   introduction by C. R. Van Hise and chapters on the physiography and geology
   by George I. Adams.
   Discusses relations of ore deposits to the circulation of underground waters and describes the
   character and occurrence of minerals and ore deposits in this region.

3. The western interior coal field.
   Describes the occurrence and extent of coal in various geologic systems in Canada.

   Jour. Geol., vol. 10, pp. 139-143, 1902.
   Discusses the subject of the point of view of the mining geologist.

5. [In discussion of “The origin of ore-deposits.”]

6. Fluorspar deposits of southern Illinois.
   Reviews history of the development of the fluorspar deposits, describes the geology of the
   district, and the character and occurrence of the fluorspar deposits, and discusses their origin.
Bain (H. Foster)—Continued.

7. [Geological nomenclature.]

8. Reported gold deposits of the Wichita Mountains [Oklahoma].
   58th Cong., 2d sess., Sen. Doc. no. 149, 10 pp., 1904.
   Describes the investigation of reputed gold deposits in Oklahoma. Includes a report on the
   assays by E. T. Allen.

9. Reported gold deposits of the Wichita Mountains.
   U. S. Geol. Surv., Bull. no. 225, pp. 120-122, 1904.
   Describes the general geology and the prospecting for gold.

10. Reported ore deposits of the Wichita Mountains.
    U. S. Geol. Surv., Professional Paper no. 81, pp. 82-93, 1904.

11. Lead and zinc deposits of Illinois.
    Describes the geology, character, occurrence, and origin of the lead and zinc ores.

12. Fluorspar deposits of the Kentucky-Illinois district. Grades of ore, geology of
    the district, and genesis of the ores.
    Describes the character, occurrence, geologic relations, genesis, and production of fluorspar
    deposits of southern Illinois and western Kentucky.

13. The zinc deposits of Missouri.
    Describes the general geology of the zinc districts of Missouri, with a generalized section of
    the Boone formation, the geological structure, and the character, occurrence, and origin of
    the zinc-ore deposits.

    U. S. Geol. Surv., Bull. no. 246, 56 pp., 5 pls., 3 figs., 1905.
    Describes topographic features of the region, the general geology, the character, occurrence,
    geologic relations, and origin of the zinc and lead ores, and the mining developments.

15. Portland-cement resources of Iowa.
    U. S. Geol. Surv., Bull. no. 243, pp. 147-165, 1 pl., 1905.
    Describes the geologic relations, distribution, and character of limestones in Iowa suitable
    for the manufacture of Portland cement.

16. Lead and zinc resources of the United States.
    Discusses the production and uses of lead and zinc and describes the character and occurrence
    of lead and zinc deposits in the United States.

17. Structural features of the Joplin district. Discussion of paper by C. E. Siebenthal.
    Econ. Geol., vol. 1, pp. 172-174, 1905.

18. The progress of economic geology in 1905.

19. The fluorspar deposits of southern Illinois.
    U. S. Geol. Surv., Bull. no. 255, 75 pp., 6 pls., 1 fig., 1905.
    Describes the physiography and general geology of the region, the character, occurrence, and
    relations of Devonian, Carboniferous, and Tertiary strata and igneous rocks, the geologic
    structure, and the occurrence, character, and origin of the fluorspar deposits.

Bain (H. Foster) and Ulrich (E. O.).

1. The copper deposits of Missouri.
   Describes the occurrence and geologic relations of copper ores in Missouri.

2. The copper deposits of Missouri.
   U. S. Geol. Surv., Bull. no. 267, 52 pp., 1 pl., 2 figs., 1906.
   Describes the character, occurrence, relations, and nomenclature of Cambrian and Ordovician
   formations of Missouri, and the occurrence and mining of the copper-ore deposits.
Bain (H. Foster), Eckel (E. C.) and.
1. Cement and cement materials of Iowa.
   See Eckel (E. C.) and Bain (H. F.), 1.

Bain (H. Foster), Van Hise (C. R.) and.
1. Lead and zinc deposits of the Mississippi Valley, U. S. A.
   See Van Hise (C. R.) and Bain (H. F.), 1.

Baker (Frank C.)
1. Pleistocene mollusks of White Pond, New Jersey.
   Gives a list of and notes upon the molluscan fauna of this locality.

Baker (M. B.)
1. On the occurrence and development of corundum in Ontario.

Ball (Sydney H.)
1. The deposition of the Carboniferous formations of the north slope of the Ozark uplift.
   Jour. Geol., vol. 12, pp. 335-343, 3 figs., 1904.
   Describes the occurrence and character of Carboniferous strata and the geologic history of their deposition.

Ball (Sydney H.) and Smith (A. F.)
1. The geology of Miller County [Missouri].
   Describes the physiography and drainage, the character, occurrence, geologic relations, and economic resources of Cambro-Ordovician and Carboniferous formations, including numerous sections of strata, and discusses the general geologic structure and the origin of chert and dolomite.

Ball (Sydney H.) and Smith (A. F.), Buckley (E. R.)
1. Glacial bowlders along the Osage River in Missouri.
   See Buckley (E. R.), Ball (S. H.), and Smith (A. F.), 1.

Bancroft (George J.)
1. The Yaqui River country of Sonora, Mexico.
   Contains observations on placer deposits of gold.

Bancroft (J. Austen)
1. Ice-borne sediments in Minas Basin, Nova Scotia.

Barber (William Burton)
1. On the lamprophyres and associated igneous rocks of the Rossland mining district, British Columbia.
   Am. Geol., vol. 33, pp. 333-347, 6 pls., 1904.

Barber (William B.), Nutter (Edward H.) and.
1. On some glauconite and associated schists in the Coast ranges of California.
   See Nutter (E. H.) and Barber (W. B.), 1.

Barbour (Carrie Adeline)
1. Some methods of collecting, preparing, and mounting fossils.
   Contains directions for collecting and preparing remains of fossil vertebrates.

2. Observations on the concretions of the Pierre shale.
   Describes the occurrences and character of the concretions.

Barbour (Erwin Hinckley)
1. The barites of Nebraska and the Bad Lands.
2. Chalcedony-lime nuts from the Bad Lands, Archihicoria siouxensis gen. et sp. nov.

3. Discovery of meteoric iron in Nebraska.
Describes occurrence of a meteorite near York, Nebraska.

4. The unpublished meteorites of Nebraska.
Describes new meteorites.

Gives an account of the work conducted by the State Geological Survey.

Describes the character and occurrence of the crystals and concretionary forms in the Tertiary strata of the Plains region.

7. Volcanic ash in Nebraska soils.
Describes character and occurrence of this substance.

Nebr. Geol. Surv., vol. 1. 258 pp., 13 pls., 166 figs., 1903.
Describes physiography, hydrography, drainage and water resources, stratigraphy and general geological relations of formations, with lists of fossils contained therein, mineral resources and economic products.

Science, new ser., vol. 18, pp. 504-505, 1903.

10. Memoir of Wilbur Clinton Knight.
Includes a list of his published writings.

Science, new ser., vol. 22, pp. 797-798, 1 fig., 1905.

Barbour (Erwin Hinckley) and Fisher (Cassius A.).
1. The geological bibliography of Nebraska.

Describes and figures material from South Dakota and Wyoming. Notes their stratigraphic range.

Barlow (Alfred Ernest).
1. Descriptions of rocks collected in 1900, by J. Mackintosh Bell, M. A., in Great Bear Lake district and thence to Great Slave Lake.

2. Microscopic examination of sections of rocks associated with the iron-ore deposits of the Kingston and Pembroke Railway district.

3. The Sudbury district [Ontario].
Describes observations chiefly of a petrological and mineralogical character made in this area.

4. On the nepheline rocks of Ice River, British Columbia.
Ottawa Nat., vol. 16, pp. 70-76, 1902.
Contains a brief discussion of magmatic differentiation and a description of the rock types of the hand specimens.
Barlow (Alfred Ernest)—Continued.

   Ottawa Nat., vol. 16, pp. 171-177, por., 1902.
   Gives a sketch of the life and work of Dr. Selwyn.

6. The Sudbury mining district [Ontario].
   Describes petrographic characters of rock types and discusses the occurrence, character, and
   origin of nickel and copper ore deposits.

7. The Temagami district [Ontario].
   Gives notes upon the geology of the region examined and the exploration for iron ores.

8. Report on the origin, geological relations, and composition of the nickel and copper
   deposits of the Sudbury mining district, Ontario, Canada.

9. A landslide on the Lievre River [Quebec].
   Ottawa Nat., vol. 18, pp. 181-190, 4 pls., 1905.

10. On corundum in Ontario and on surveys near Lake Temagami.

Barnett (V. H.).
1. Notice of the discovery of a new dike at Ithaca, N. Y.
   Describes the occurrence and character of a newly discovered dike at this locality.

Barney (W. G.).
1. The Silver Bell Mountains, Arizona.
   Describes the occurrence, character, and geologic relations of copper-ore deposits.

Barnum (George).
1. Heat and frost in the weathering of stone.
   Stone, vol. 25, pp. 222-228, 1 pl., 1902.
   Discusses the action of heat and frost in rock disintegration.

Baron (J. Francis Patch-Le).
1. Some geological notes in Honduras, Central America.
   Gives a general account of the geology of this country.

Barrell (Joseph).
1. Microscopical petrography of the Elkhorn mining district, Jefferson County,
   Montana.
   Gives an account of the petrographical characters of the various rock types of the Elkhorn
   mining district, Montana.

2. The physical effects of contact metamorphism.
   Discusses the decomposition of rocks, the changes of mass and volume through metamorphism
   and the results of escape of gases.

Barton (George H.).
1. Outline of elementary lithology.
   Boston, 112 pp., 1901. (Not seen.)

Bartow (Edward).
1. Water supplies of southeastern Kansas.

Bartow (Edward) and McCollum (Elmer V.).
1. Kansas petroleum.
   Gives notes on the character and composition of petroleum from Kansas and other oil fields.
Bartsch (Paul), Dall (W. H.) and.
1. A new Californian Bittium.
   See Dall (W. H.) and Bartsch (Paul), 1.

2. Synopsis of the genera, subgenera, and sections of the family Pyramidellidae.
   See Dall (W. H.) and Bartsch (P.), 2.

Bascom (Florence).
1. The geology of the crystalline rocks of Cecil County [Maryland].
   Discusses the character, composition, and distribution of the crystalline rocks of the county.
   A glossary of technical terms is added by E. B. Matthews.

2. Water resources of the Philadelphia district.
   Includes a short general account of the physiography and stratigraphy, and of the igneous and sedimentary rocks of the area.

   Describes the geography and general geology of the Piedmont district of Pennsylvania, the character, occurrence, and relations of pre-Cambrian, Cambrian, and Ordovician formations, and the petrologic characters and relations of the igneous rocks occurring in the area.

Baskerville (Charles).
1. Kunzite, a new gem.
   Science, new ser., vol. 18, pp. 303-304, 1903.
   Describes characters of the spodumene obtained from San Diego County, California, and gives to this gem the name of kunzite.

Baskerville (Charles) and Kunz (George F.).

Bassler (Ray S.).
1. The structural features of the bryozoan genus Homotrepa, with descriptions of species from the Cincinnatian Group.

2. Portland-cement resources of Virginia.
   U. S. Geol. Surv., Bull. no. 243, pp. 312-328, 1 pl., 1905.
   Describes the character, occurrence, and geologic relations of limestones and shales of Virginia suitable for the manufacture of Portland cement.

3. Cement materials of the valley of Virginia.
   U. S. Geol. Surv., Bull. no. 260, pp. 531-544, 2 figs., 1905.
   Describes the general geology of the region, and the occurrence, character, and location of limestones, shales, and marls suitable for the manufacture of cement.

4. The subdivisions of the Shenandoah limestone.

Bassler (R. S.), Ulrich (E. O.) and.
   See Ulrich (E. O.) and Bassler (R. S.), 1.

   See Ulrich (E. O.) and Bassler (R. S.), 2.

   See Ulrich (E. O.) and Bassler (R. S.), 3.

   See Ulrich (E. O.) and Bassler (R. S.), 4.
Bastin (E. S.).
1. Note on the baked clays and natural slags in eastern Wyoming.
   Describes the occurrence and character of certain strata which have been modified by the
   burning of underlying lignite seams.

Bateman (G. C.).
1. Notes on graphite, its occurrences, uses, and production.

Bather (F. A.).
1. The term Bradfordian.
   Calls attention to the fact that the term Bradfordian has been used for European Mesozoic
   rocks.

Bauer (Max).
1. Jadeit und Chloromelanite in Form prahistorischer Artefakte aus Guatemala.
   Describes the character and structure of jade and chloromelanite used by prehistoric people
   in Guatemala.

Baxter (Floras R.).
1. Petroleum: a class-room talk.
   Rochester, N. Y., Vacuum Oil Company [1905]. 47 pp., 12 figs.
   A general account of petroleum: the history of its discovery, geographic and geologic occur­
   rence, origin, chemical composition, production, and utilization.

Bayley (William Shirley).
1. The Menominee iron-bearing district of Michigan.
   Reviews the literature bearing on the subject, describes the physiography of the region, the
   character and occurrence of Archean, Algonkian, and Paleozoic rocks, and the occurrence,
   character, and mining of the iron ore, and gives an outline of the geologic history.
2. Notes on the wells, springs, and general water resources of Maine.
   Describes the underground water supply of Maine.

Beadle (H. M.).
1. Gold mining in eastern Oregon.
   Eng. & Mg. Jour., vol. 73, p. 136, 1902.

Beard (J. Carter).
1. Three characteristic types of American dinosaurs.
   Sci. Am., vol. 84, pp. 184-185, 1 fig., 1901.
2. Something about ancient American saurians.
   Describes their general characteristics.

Beasley (Walter L.).
1. Evolution of the horse.
   Sci. Am., vol. 88, pp. 451-462, illus., 1903
   Describes the discovery of a large skull of Triceratops, and the probable habits, size, appear­
   dance, etc., of the animal.

Beck (Richard).
1. [In discussion of "The origin of ore deposits."]
Beck (Richard)—Continued.
2. The nature of ore deposits. Translated and revised by Walter Harvey Weed.
Contains descriptions of American ore deposits.

Becke (F.).
Describes crystallographic features of an albite from Amelia, Virginia.

Becker (George F.).
1. Report on the geology of the Philippine Islands, followed by a version of "Ueber Tertiare fossilien von den Philippinen" (1895), by K. Martin.
Describes the character of the igneous rocks and the mineral resources. Includes a bibliography and a translation of a paper by K. Martin on the Tertiary fossils of the Philippines.
2. Construction of geophysical laboratory.
Carnegie Inst. of Wash., Yearb. no. 2, 1903, pp. 185-194, 1904.
3. Experiments on schistosity and slaty cleavage.
Describes experiments to determine the cause of cleavage and schistosity in rocks, and discusses the results obtained.
4. Present problems of geophysics.
Discusses systems of joints of simultaneous origin and how they were produced.
5. The isomorphism and thermal properties of the feldspars. Introduction.
Carnegie Inst. of Wash., Publ. no. 31, pp. 3-12, 1905.
6. Simultaneous joints.
Describes systems of joints of simultaneous origin and how they were produced.

Becker (George F.) and Day (Arthur L.).
1. The linear force of growing crystals.
Beecher (Charles Emerson).
1. Studies in evolution; mainly reprints of occasional papers selected from the publications of the laboratory of invertebrate paleontology, Peabody Museum, Yale University.
Contains discussions on the origin and significance of spines, structure and development of trilobites, studies in the development of the Brachiopoda, development of a Paleozoic poriferous coral, symmetrical cell development in the Favositidae, and development of the shell in the genus Tornoceras Hyatt.
2. Note on the Cambrian fossils of St. Francois County, Missouri.
Discusses the fossil evidence indicating that a considerable thickness of the rocks of this region are to be referred to the Cambrian.
3. Discovery of eurypterid remains in the Cambrian of Missouri.
Describes Strabops thatcheri n. gen. et sp.
4. The ventral integument of trilobites.
Describes the characters of the ventral integuments in Triarthrus which demonstrate that the conclusions of Jaekel in his study of Ptychoparia are erroneous.
BIBLIOGRAPHY OF NORTH AMERICAN GEOLOGY

Beecher (Charles Emerson)—Continued.

   Am. Geol., vol. 29, pp. 143-146, 1 fig., 1902.
   Describes Prestwichia randalli n. sp.

6. The reconstruction of a Cretaceous dinosaur, Claosaurus annectens Marsh.

7. The ventral integument of trilobites.
   Geol. Mag., dec. 4, vol. 9, pp. 152-162, 3 pls., 8 figs., 1902.
   Discusses the ventral integument and appendages of trilobites.

8. Revision of the Phyllocarida from the Chemung and Waverly groups of Pennsylvania.

   Reviews the history of the genus and type species and describes the type and other species.


Beede (Joshua W.).

1. Carboniferous invertebrates.

   Describes several new species.

3. The age of the Kansas-Oklahoma red beds.
   Am. Geol., vol. 28, pp. 46-47, 1901.
   Describes the occurrence of fossils recently found, indicating the Permian age of the beds.

4. New fossils from the upper Carboniferous of Kansas.

5. Variation of the spiralia in Seminula argentia (Shepard) Hall.

6. Coal Measures faunal studies, II. Fauna of the Shawnee formation (Haworth), the Wabaunsee formation (Prosser), the Cottonwood limestone.
   Describes geologic formations and gives lists of fossils from them.

7. Note on the variation of the spires in Seminula argentia (Shepard) Hall.

8. Invertebrate paleontology of the Red Beds [Oklahoma].
   Discusses the age of the Red Beds and describes fossils collected from them.

Beede (Joshua W.) and Rogers (Austin F.).

1. Coal Measures faunal studies, III. Lower Coal Measures.
   Describes the character and occurrence of lower Coal Measures formations and gives lists of fossils obtained from them.

Beede (Joshua W.) and Sellards (E. H.).

1. Stratigraphy of the eastern outcrop of the Kansas Permian.
   Describes the occurrence and character of Permian formations in Kansas, giving numerous detailed sections.

Beede (Joshua W.), Prosser (Charles S.) and.

1. Cottonwood Falls folio, Kansas.
   See Prosser (Charles S.) and Beede (J. W.), 1.
For the Years 1901-1905, Inclusive.

Beeler (Henry C.).
1. A brief review of the South Pass gold district, Fremont County, Wyoming. 12 pp., 1903. [Privately printed?]
Includes a brief account of the geology of the region.
A general account of the geology and mineral resources of Wyoming.

Beel (J. M.).
Gives a general account of the region of the Klondike, and more especially of the mineral resources, including the general geology, the occurrence of alluvial and vein gold-ore deposits, and the methods of mining.
2. Gites aurifères du Klondike (Yukon, Canada). Bull. trim. Soc. de l’Industrie Min., St. Etienne, 4° ser., t. 4, pp. 275-316, 3 pls. (maps), and 8 figs., 1905.
Describes the occurrence, geologic relations, and mining of gold deposits in the Klondike region.

Bell (J. Macintosh).
Includes observations on the occurrence, character, and geologic relations of pre-Cambrian, Paleozoic, and Pleistocene rocks and deposits, the physiographic features, and the economic resources.
Describes the physiography, stratigraphy; and petrography of the region examined and the occurrence, character, and relations of the deposits of iron ore.

Bell (Ralston).
Includes notes upon the geologic occurrence of copper.

Bell (Robert).
Contains notes on the physiographic features and ancient gneisses and limestones and Silurian strata of the region.
Reviews the operations of the year of the Geological Survey of Canada. Includes reports by officials of the survey.
Describes the character and occurrence of Laurentian and Huronian rocks in this region. Bull. 301-06—3
Bell (Robert)—Continued.
   Outlines the work of the Geological Survey of Canada for the year 1904. Includes the report of the special committee on the Lake Superior region.
9. The advantages of combining topographical with geological surveying in unexplored regions.

Bell (Robert).
2. Thunder Mountain and Mackay, Idaho.
   Describes the occurrence of gold and developments of the region.
3. The origin of the fine gold of Snake River.
   Eng. & Mg. Jour., vol. 73, pp. 143-144, 1902.
   Describes the occurrence of gold bearing terraces of a Tertiary lake.
4. The geology of Thunder Mountain and central Idaho.
   Eng. & Mg. Jour., vol. 73, pp. 791-793, 1902.
   Describes the general geology of the region.
5. Facts about Thunder Mountain [Idaho].
   Contains notes on the geologic structure of the region and sections of strata.

Bell (Robert N.).
1. Tin ledges in Alaska.
   Describes the discovery of ledges containing tin ore in the vicinity of Port Clarence, Alaska.
2. Tin in Alaska.
   Describes the occurrence of tin-ore deposits.
3. The mining industry of Idaho.
   Gives a brief account of the general geology of the state, and the occurrence and production of ores by counties.
4. Geology of Park City, Utah, district.
   Describes the general geology and the occurrence of lead-ore deposits.
5. The geology and mineral resources of Idaho.

Bell (W. T.).
1. The remarkable concretions of Ottawa County, Kansas.
   Describes the occurrence of concretionary masses of crystalline limestone, most of them in place.

Belowsky (Max).
FOR THE YEARS 1901-1905, INCLUSIVE. 35

Bendrat (T. A.).
1. The geology of Lincoln County, South Dakota, and adjacent portions.
   Describes the topography and drainage, the character and occurrence of Algonkian and Cre­
taceous strata and glacial deposits.

Bensley (B. Arthur).
1. On the identification of Meckelian and mylohyoid grooves in the jaws of Mesoz­
oic and recent mammalia.
   Toronto Univ. Studies, Biol. ser., no. 8, 9 pp., 1 pl., 1902.

Bergeat (Alfred).
1. Ein Rückblick auf die vulkanischen Ereignisse in Westindien im Mai 1902.
   Globus, Bd. 82, pp. 125-131, 1902.
   Reviews the volcanic eruptions in the West Indian Islands during 1902.
2. Die Produkte der letzten Eruption am Vulkan S. Maria in Guatemala (Oktober
   1902).
   Describes character and composition of material ejected by the volcano S. Maria.
3. Einige weitere Bemerkungen über die Produkte des Ausbruchs am Sta. Maria,
   Guatemala.
   Gives results of investigations upon the composition of ashes ejected by S. Maria, Guatemala.

Berger (W. F. B.).
1. Bauxite in Arkansas.
   Describes character and occurrence of bauxite, and the mining operations in Arkansas.

Berkey (Charles Peter).
1. A guide to The Dalles of the St. Croix for excursionists and students.
   Minneapolis, 40 pp., illus., 1898. (Private publication.)
   Describes the geologic history and structure of the region, physiographic and erosion features,
   and the character and occurrence of Cambrian strata and igneous rocks.
2. Sacred Heart "geyser spring" [Minnesota].
   Am. Geol., vol. 29, pp. 87-88, 1902.
   Am. Geol., vol. 29, pp. 171-177, 1902.
   Describes the occurrence of the Ordovician, Cretaceous, and glacial clays.
4. Mineral resources of the Uinta Mountains [Utah].
   Discusses the stratigraphy and geologic structure of the Uinta Mountains and their mineral
   resources.
5. A geological reconnaissance of the Uinta Reservation, southeastern Utah.
   Describes stratigraphic succession in this region.
   Jour. Geol., vol. 13, pp. 35-44, 1 fig., 1905.
   Describes the occurrence, character, and composition of clays of this vicinity, and discusses
   their origin, geologic relationships, and manner and time of deposition.
7. Economic geology of the Pembina region of North Dakota.
   Am. Geol., vol. 35, pp. 142-152, 4 figs., 1905.
   Describes the character and occurrence of Cretaceous strata in this region, and the occurrence
   and utilization of cement marls.
8. Stratigraphy of the Uinta Mountains.
   Discusses the occurrence, character, and relations of the formations of the Uinta Mountains
   of Utah, and the correlation of the Wasatch and Uinta sections.
Berkey (Charles Peter)—Continued.
9. [Paleogeography of St. Peter time.]
10. Interpretation of certain laminated clays, with their bearing upon estimates of
    geologic time.
11. The paleogeography of Mid-Ordovicic time.

Berry (Edward Wilber).
1. Notes on the phylogeny of Liriodendron.
2. Notes on sassafras.
3. The American species referred to Thinnfeldia.
4. New species of plants from the Matawan formation.
5. The flora of the Matawan formation (Crosswicks clays).
   Discusses occurrence and lithologic characters of the Matawan formation and its subdivisions
   in New Jersey, the character and relationships of the flora collected near Cliffwood, New
   Jersey, and gives detailed descriptions of the plants.
6. Aralia in American paleobotany.
   Discusses leaf characters in fossil species of Aralia.
7. Additions to the flora of the Matawan formation.
8. The Cretaceous exposure near Cliffwood, N. J.
   Am. Geol., vol. 34, pp. 253-260, 1 pl., 1904.
   Discusses the correlation of the Cretaceous clays at Cliffwood, N. J., in the light of the evi­
   dence of the fossil plants. Gives a table showing the geologic distribution of the fossil spe­
   cies from the Matawan.
9. Additions to the fossil flora from Cliffwood, New Jersey.
10. Fossil grasses and sedges.
    Discusses their geologic occurrence, and describes a new species of Carex.
11. A palm from the mid-Cretaceous.
    Torreya, vol. 5, pp. 30-33, 1 fig., 1905.
12. An old swamp bottom.
    Gives notes upon the fossil plants occurring in Cretaceous deposits in Monmouth County, N. J.
13. The ancestors of the big trees.

Beyer (S. W.).
1. Mineral production of Iowa in 1901.
   Includes a discussion of the occurrence and production of iron ore at Iron Hill, Allamakee
   County, Iowa.
FOR THE YEARS 1901-1905, INCLUSIVE.

Beyer (S. W.)—Continued.

2. Iowa's iron mine.

Eng. & Mg. Jour., vol. 73, pp. 275-276, 2 figs., 1902.

Describes the occurrence, character, and origin of the ore.


Beyer (S. W.) and Williams (I. A.).

1. Technology of clays.

Iowa Geol. Surv., vol. 14, pp. 29-318, 7 pls., 30 figs., 1904.

Discusses the classification, origin, and properties of clays, and manufacture of clay wares.

2. The geology of clays.


Describes in detail the occurrence, by counties, of clays in Iowa, and their geologic horizons.

Beyer (S. W.) and Young (L. E.).

1. Geology of Monroe County [Iowa].

Iowa Geol. Surv., vol. 13, pp. 355-422, 2 pls., 20 figs., 1903.

Describes topography and drainage, the character, occurrence, and geologic relations of Carboniferous strata and glacial deposits, the character and occurrence of coal seams, coal-mining operations in the county, and other economic resources.

Bibbins (Arthur B.).

1. Occurrence of zoisite and thulite near Baltimore [Maryland].


From notes by the late John W. Lee.

2. Stratigraphical position and general nature of the Maryland cycads.


3. The buried cypress forests of the upper Chesapeake.


Bibbins (Arthur B.), Clark (William B.) and.

1. Geology of the Potomac group in the middle Atlantic slope.

See Clark (W. B.) and Bibbins (A. B.), 1.

Biddle (H. C.).

1. The deposition of copper by solutions of ferrous salts.

Jour. Geol., vol. 9, pp. 430-436, 1901.

Describes certain chemical experiments which show that the conditions under which the oxidation of the ferrous salts may result in the deposition of copper are those which are found in the circulation of underground water.

Bilgram, Hugo.

1. Inclusions in quartz.


Billups (A. C.).

1. Fossil land shells of the old forest bed of the Ohio River.

Nautilus, vol. 16, pp. 50-52, 1902.

Describes the occurrence and gives a list of and notes upon the species identified.

Birge (E. A.).


Chiefly administrative, but contains notes on the geology of Wisconsin.


Wis. Geol. & Nat. Hist. Surv., 2d Bienn. Rept. of the Commissioners, pp. 7-86, 1901.

Chiefly administrative, but contains notes on the geology of Wisconsin.


Chiefly administrative, but contains notes on the geology of Wisconsin.
Birge (E. A.)—Continued.

   Chiefly administrative, but contains notes on the geology of Wisconsin.

Bishop (Irving P.).

1. Oil and gas in southwestern New York.
   Describes occurrence of oil, and gives sections at a number of localities.

2. Economic geology of western New York.
   Gives notes on the occurrence of economic products, particularly building stone, clays, salt, natural gas, and petroleum.

Bishop (S. E.).

1. Brevity of tuff-cone eruptions.
   Am. Geol., vol. 27, pp. 1-5, 1 pl., 1901.
   Discusses the origin and mode of formation of Diamond Head, Island of Oahu.

Blackwelder (Eliot), Salisbury (Rollin D.) and.

   See Salisbury (R. D.) and Blackwelder (Eliot), 1.

Blake (John Charles).

1. A mica-andesite of west Sugarloaf Mountain, Boulder County, Colorado.
   Describes occurrence, megascopic and microscopic characters, and composition.

2. Some relations of tetrahedral combinations to crystalline form.

Blake (William P.).

1. Some salient features in the geology of Arizona, with evidences of shallow seas in Paleozoic time.
   Describes the character and occurrence of ancient crystalline Paleozoic and Mesozoic rocks.

2. The evidences of shallow seas in Paleozoic time in southern Arizona.
   Contains notes on probable lower Paleozoic rocks of the region.

3. The caliche of southern Arizona.
   Describes the character and origin of the material.

4. The caliche of southern Arizona; an example of deposition by the vadose circulation.
   Describes the formation of the caliche, a calcareous formation, and gives its chemical composition and that of well waters.

5. The geology of the Galiuro Mountains, Arizona, and of the gold-bearing ledge known as Gold Mountain.
   Eng. & Mg. Jour., vol. 73, pp. 546-547, 5 figs., 1902.
   Describes the general geology of the region and the occurrence and origin of the gold ores.


7. Notes on the mines and minerals of Guanajuato, Mexico.

8. Tombstone and its mines; a report upon the past and present condition of the mines of Tombstone, Cochise County, Arizona, to the Development Company of America.
   New York, 1902. 83 pp., Illus.
   Describes the general geology of the region, the character and occurrence of the stratified rocks and geologic structure, and the occurrence of the ore deposits of precious metals, and discusses their origin.
Blake (William P.)—Continued.

   Gives notes upon and lists of species of diatoms obtained from deposits of diatomaceous earth in the valley of the San Pedro, Arizona.

10. Diatom-earth in Arizona.
    Describes occurrence and character of diatomaceous deposits, and discusses their origin and economic value.


12. Tombstone and its mines.
    Gives observations on the occurrence of ore deposits, and discusses the origin of certain manganese ores.

    Rept. of the governor of Ariz. to the Secretary of the Interior for the year ended June 30, 1903, pp. 126-135, 1903.
    Gives a general outline of the geology of Arizona.

    Describes character and occurrence of gypsum deposits in Arizona.

15. Superficial blackening and discoloration of rocks, especially in desert regions.
    Describes superficial blackening of rocks and discusses its origin.

16. Copper ore and garnet in association.
    Describes occurrences of copper ore and garnet in association, and discusses their origin.

17. Evidences of plication in the rocks of Cananea, Sonora [Arizona].

18. Iodobromite in Arizona.
    Describes the occurrence, characters, and composition.


Blakemore (William).

1. Pioneer work in the Crows Nest coal areas [Canada].
    Describes the occurrence of the coal in Cretaceous strata.

2. The iron ore deposits near Kitchener, B. C.

3. Graham Island coal [British Columbia].
    Describes the occurrence of workable coal beds.

Blasdale (Walter C.).

1. Contribution to the mineralogy of California.
    Univ. of Cal., Dept. of Geol., Bull., vol. 2, pp. 327-348, 1901.
    Describes material from the Berkeley Hills, Cal.

Blatchford (John).

1. The Postdam formation of Bald Mountain district [South Dakota].
    Describes the occurrence of the ore deposits.
Blatchford (John)—Continued.

2. The Bald Mountain district in the Black Hills. A description of the flat formation and some of the ore bodies found in connection with it.
   Describes the occurrence of gold-ore deposits.

Blatchley (W. S.).

1. Oolite and oolitic stone for Portland-cement manufacture.
   Describes the occurrence and characters of the materials in Indiana.

2. The petroleum industry in Indiana in 1900.
   Discusses the origin of petroleum oil and contains notes on its occurrence in Indiana.

3. The mineral waters of Indiana: their location, origin, and character.

4. On the petroleum industry in Indiana in 1901.

5. Gold and diamonds in Indiana.
   Describes glacial history in Indiana and discusses the occurrence of gold and diamonds in glacial drift deposits.

6. The petroleum industry in Indiana in 1903.
   Describes the geologic occurrence of petroleum and natural gas, the geologic structure of the oil fields of Indiana, and in detail the production of and exploration for oil by counties.

7. The lime industry in Indiana.

8. The clays and clay industries of Indiana.
   Includes notes on the geologic occurrence and character of clays in Indiana.

Blatchley (W. S.) and Ashley (George H.).

1. The lakes of northern Indiana and their associated marl deposits.
   Describes the characteristics and origin of these lakes and the occurrence, formation, and uses of the marl beds.

Blatchley (W. S.) and Sheak (W. H.).

1. Trenton rock petroleum.
   Discusses occurrence and origin of petroleum in Trenton rock.

Bleiningger (Albert Victor).

1. The manufacture of hydraulic cements.
   Ohio Geol. Surv., 4th ser., Bull. no 3, 391 pp., 81 figs., 1904.
   Includes a discussion of the occurrence and character of clays and other materials in Ohio suitable for the manufacture of cements.

Boehmer (Max).

1. Some practical suggestions concerning the genesis of ore deposits.

[Bogdanović (Karl Ivanović)].

1. [Sketch of Nome.]
   St. Petersburg, 116 pp., Illus., 1901. [Russian.]

Bøggild (O. B.).

1. On ilvaite from Siorarsuit at Julianehaab, Greenland.
   Meddelelser om Grønland, vol. 25, pp. 49-89, 32 figs., 1902; Copenhagen Univ., Min. and Geol. Mus., Cont. to Min., no. 1, 1902.
Böggild (O. B.)—Continued.
2. On some minerals from the nephelite-syenite at Julianehaab, Greenland (erikite and schizolite).
   Describes occurrence, constitution, crystallography, and properties of erikite, a new mineral, and schizolite from Greenland.

3. Samples of the sea-floor along the coast of east Greenland 74°70 N. L.
   Describes the kind and origin of the material deposited on the sea bottom east of Greenland.

4. The minerals from the basalt of east Greenland
   Describes occurrence and crystallographic and other characters.

5. Mineralogia Groenlandica.
   Min. & Geol. Mus. of the Univ., Copenhagen, Contr. to Min., no. 6 (Meddelelser om Groen­land, vol. 32), xix, 625 pp., 119 figs., 1905.
   Gives a full account of the minerals that have been found in Greenland, including a descrip­tion of each species. [In Danish.]

Böggild (O. B.) and Winther (Chr.).
1. On some minerals from the nephelite-syenite at Julianehaab, Greenland (epistolite, britholite, schizolite, and sieenstrupite), collected by G. Flink.

Bolton (L. L.).
1. Round Lake to Abitibi River [Ontario].
   Contains observations on the geography, geology, petrology, and resources of the region, traversed.

Boltwood (Bertram B.).
1. On the ultimate disintegration products of the radio-active elements.
   Includes notes on the occurrence and composition of various minerals in which radio-activity has been discovered.

Bond (Josiah).
1. Copper leaching at the American copper mine.
   Describes experiments made upon copper ores to determine methods of extracting copper.

Bonney (T. G.).
1. On a sodalite syenite (ditroite) from Ice River Valley, Canadian Rocky Mountains.
   Describes mode of occurrence and gives chemical analysis of this mineral.

2. The Canadian Rockies. Part II: On some rock specimens collected by E. Whymper, esq., F. R. S. E., in the Canadian Rocky Mountains.

3. Notes on specimens collected by Professor Collie, F. R. S., in the Canadian Rocky Mountains.
   Discusses occurrence and character of rock specimens from Canadian localities.

4. Note on rock specimens from the Canadian Rocky Mountains.

5. March dust from the Soufrière.
   Describes character of volcanic dust from an eruption of the Soufrière of St. Vincent.
Bordeaux (A.).
1. Les anciens chenaux aurifères de Californie.
Describes the occurrence, character, and origin of the auriferous gravels of the State.

Borgström (L. H.).
1. The Shelburne meteorite.

Boright (Sherman H.)
1. Notes on the geology of the northern portion of the Boisdale Hills anticline [Cape Breton Island].
Describes the location, geographic and topographic features, the general geology, and the character and occurrence of igneous rocks, and Cambrian and Carboniferous strata and economic resources of the region.

Böse (Emilio).
1. Sobre la independencia de los volcanes de grietas preexistentes.
Discusses origin of volcanoes.
2. Ein Profil durch den Ostabfall der Sierra Madre Oriental von Mexico.
Describes the character of the igneous and sedimentary rocks and the geologic structure of the region.
3. Breve noticia sobre el estado actual de volcán de Tacaná (Chiapas) [Mexico].
Describes the present condition of this volcano.
4. Sobre las regiones de temblores México.
Discusses regions in Mexico subject to earthquake movements.
5. Informe sobre el origen probable de los temblores de Zanatepec a fines de septiembre de 1902, y sobre el estado actual del volcán de Tacaná.
Discusses the probable origin of the earthquakes of Zanatepec of September, 1902, and the present condition of the volcano of Tacaná.
6. El área cubierta por la ceniza del volcán de Santa María, octubre 1902.
Describes the area covered by ashes ejected by the volcano of Santa María in October, 1902.
7. Reseña acerca de la geología de Chiapas y Tabasco.
Mex. Inst. Geol., Bol. no. 20, pp. 5-100, 9 pls., 1905.
Describes the geography and drainage, and the character, occurrence, and relations of Archean, Paleozoic, Mesozoic, and Cenozoic deposits, and of igneous rocks, and the geologic structure of the region.

Böse (Emilio) and Angermann (E.).
1. Informe sobre el temblor del 16 de enero de 1902 en el Estado de Guerrero [México].
Describes an earthquake occurring in January, 1902, in Guerrero, Mexico.

Böse (Emilio), Villarello (Juan de D.) and.
1. Criaderos de fierro de la hacienda de Vaquerias, en el estado de Hidalgo.
See Villarello (J. de D.) and Böse (E.), 1.

Boston Society of Natural History.
1. Memorial of Professor Alpheus Hyatt.
Contains remarks of various members at a meeting of the Society, February 5, 1902.
Boutwell (John Mason).
1. Progress report on the Park City mining district, Utah.
   U. S. Geol. Surv., Bull. no. 213, pp. 31-40, 1903.
   Contains a general account of the geology and ore deposits of the region.

2. Ore deposits of Bingham, Utah.
   U. S. Geol. Surv., Bull. no. 213, pp. 105-122, 1903.
   Describes the history of mining developments at this locality, the character and occurrence of sedimentary and igneous rocks, the geologic structure, and the occurrence and character of the ore deposits.

   U. S. Geol. Surv., Bull. no. 223, pp. 102-110, 1 pl., 1904.
   Describes character, occurrence, economic development, and geologic relations of gypsum deposits in Utah.

4. Progress report on the Park City mining district, Utah.
   Describes the character and occurrence of sedimentary, igneous, and metamorphic rocks in this area, the geologic structure, and the occurrence and mining of silver-lead ores.

5. Iron ores in the Uinta Mountains, Utah.
   U. S. Geol. Surv., Bull. no. 225, pp. 221-228, 1904.
   Describes the general geologic structure and stratigraphy of the region, and the occurrence and character of the iron-ore deposits.

6. Rock gypsum at Nephi, Utah.
   Describes the character, occurrence, and development of rock gypsum near Nephi, Utah.

7. Notes on the wells, springs, and general water resources of New Hampshire.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 102, pp. 56-72, 1904.

8. Progress report on Park City mining district, Utah.
   Describes the progress of the mining operations in this district and the occurrence of the ore bodies, producing chiefly gold and silver.

9. Vanadium and uranium in southeastern Utah.
   Describes the occurrence, geologic relations, and character of ore deposits yielding vanadium and uranium.

10. Ore deposits of Bingham, Utah.
    Describes the character, occurrence, and origin of the ores, of which copper is the principal one, and recent mining developments.

11. Oil and asphalt prospects in Salt Lake basin, Utah.
    Describes the general geography and geology, the prospecting for oil, and the occurrence and character of asphalt.

    Describes the history and development of the district, the character, occurrence, and genesis of the ores, chiefly gold, silver, and copper, and in detail the mines and mining operations.

13. Ore deposits of Bingham, Utah.

    Describes the general geology and the character and occurrence of the copper and lead ores and discusses their origin.

Bowman (H. L.).
1. On an occurrence of minerals at Haddam Neck, Connecticut, U. S. A.
   Min. Mag., vol. 18, pp. 97-121, 1 pl., 5 figs., 1902.
Bowman (Isaiah).
1. A typical case of stream capture in Michigan.
   Jour. Geol., vol. 12, pp. 326-334, 4 figs., 1904.
2. Deflection of the Mississippi.
   Describes changes in the channel of the Mississippi and discusses their cause.
3. Pre-Pleistocene deposits at Third Cliff, Massachusetts.

Bownocker (John Adams).
1. History of the Little Miami River [Ohio].
   Ohio State Acad. Sci., Special Papers, no. 3, pp. 32-45, 2 figs., map, 1900.
   Discusses drainage changes in the valley of the Little Miami River.
2. The Corning oil and gas field [Ohio].
3. The oil and gas producing rocks of Ohio.
   Jour. Geol., vol. 10, pp. 822-838, 1902; Univ. Bull., ser. 7, no. 3 (Geol. ser., no. 4), 1902.
   Describes the character and stratigraphic relations of these rocks and the occurrence of oil and gas.
4. The central Ohio natural gas fields.
   Describes location and area, history and development, geological structure of the natural gas fields and sections of the wells bored, and the production and composition of the gas.
5. The occurrence and exploitation of petroleum and natural gas in Ohio.
   Ohio Geol. Surv., 4th ser., Bull. no. 1, pp. 9-320, 6 pls., and 9 maps, 1903.
   Gives a detailed account of the oil and gas producing horizons of Ohio rocks, records of borings, history, development, and production of the various fields, including the stratigraphy and geologic structure.
6. The salt deposits of northeastern Ohio.
   Includes records of deep wells, and discusses the occurrence of beds of rock salt as revealed by deep borings.

Bowron (William M.).
1. The origin of Clinton red fossil-ore in Lookout Mountain, Alabama.

Boyer (C. S.).

Braden (William).
1. Certain conditions in veins and faults in Butte, Montana.
   Describes geological structure and ore deposition in this area.

Bradford (William).
1. Gold deposition by drainage.
   Eng. and Mg. Jour., vol. 78, pp. 554-555, 8 figs., 1904.
   Discusses the origin of gold ores.

Brady (Frank W.).
1. The white sands of New Mexico. A description of a remarkable formation of nearly pure gypsum sand.
Branner (John C.).
1. Origin of ripple marks:
   Jour. Geol., vol. 9, pp. 535-536, 1901.
   Suggests that the origin of large ripple marks may be found in the seaward extension of beach cusps.
2. The zinc and lead deposits of north Arkansas.
   Describes occurrence, mode of formation, and relations of bedded ores to the geologic structure of the region, and gives analyses of some of the ores.
3. [In discussion of paper by Eric Hedburg on "The Missouri and Arkansas zinc mines."]
4. Syllabus of a course of lectures on elementary geology. Ed. 2.
   369 pp., 25 pls., 109 figs., 1902.
5. A topographic feature of the hanging valleys of the Yosemite [California].
   Jour. Geol., vol. 11, pp. 547-553, 5 figs., 1903.
   Gives an explanation for the position of the falls.
   Describes topographic features and discusses their origin.
   Includes a list of papers written by the subject of the memoir.
8. Natural mounds or hog-wallows.
   Discusses the occurrence, character, and origin of these mounds.
9. The university training of engineers in economic geology.
Branner (John C.) and Newsom (John F.).
1. The phosphate rocks of Arkansas.
   Describes the character and geographic and geologic occurrence of phosphate rock in Arkansas.
Branson (E. B.).
1. Notes on some Carboniferous cochliodonts with descriptions of seven new species.
   Jour. Geol., vol. 13, pp. 20-34, 2 pls., 1905.
2. Structure and relationships of American Labyrinthodontidae.
Brauns (R.).
1. Asche des Vulkans Sta. Maria in Guatemala.
   Describes the composition of ashes ejected by St. Maria in Guatemala.
2. Ueber die Asche des Vulkans Sta. Maria in Guatemala.
   Centralbl. f. Min., p. 290, 1903.
   Discusses differences and their explanation in composition of volcanic ashes from St. Maria in Guatemala found by several investigators.
Breed (Robert S.).
   Describes the occurrence, the megascopic and microscopic characters, and the composition.
Breeze (Fred J.).
1. The valley of the lower Tippecanoe River [Indiana].
Breeze (Fred J.)—Continued.

2. Some topographic features in the lower Tippecanoe Valley [Indiana].
   Describes some physiographic features of the region.

Breger (C. L.), Kindle (Edward M.) and.

1. Paleontology of the Niagara of northern Indiana.
   Sée Kindle (Edward M.) and Breger (C. L.), 1.

Brent (Charles).

1. Notes on the gold ores of western Ontario.
   Gives notes on the geology of the region and the occurrence of gold ores.

Brewer (William H.).

1. John Wesley Powell.
   Gives a sketch of Major Powell's life and work.

Brewer (William M.).

1. Texada Island, British Columbia.
   Contains notes on the geology and ore bodies.

2. British Columbia iron and coal. A description of the various known deposits, their locations, qualities, and the extent of development.

3. Mining industry and mineral resources of British Columbia.

4. White Horse mining district, Yukon Territory.
   Describes the general geology of the region and the occurrence of copper and coal.

5. M’Kee Creek, Atlin mining division, British Columbia.
   Describes the placers of the region.

   Eng. & Mg. Jour., vol. 73, pp. 408-410, 1902.
   Describes the occurrence of coal in Vancouver Island.

7. The Crow's Nest Pass coal fields [Canada].
   Eng. and Mg. Jour., vol. 73, pp. 549-552, 2 figs., 1902.
   Describes the geology of the region and the occurrence of coal.

8. British Columbia, Boundary mining district, progress in mining and smelting.
   Eng. & Mg. Jour., vol. 73, pp. 617-623, 4 figs., 1902.
   Describes the general geology and the occurrence of the gold, silver, and copper ores.

   Eng. & Mg. Jour., vol. 73, pp. 757-758, 1902.
   Describes the geology and the development of the coal industry.

10. The rock-slide at Frank, Alberta Territory, Canada.
    Describes the landslide which occurred at Frank, in Alberta Territory, on April 29, 1903.

11. White Horse district, in Yukon Territory—history, geology, present conditions, and future prospects of the mining district.
    Describes the geology of the region and the occurrence of copper ore and coal deposits.

    Gives observations upon the geology and occurrences of ore deposits.
Brewer (William M.)—Continued.


Mg. & ScL Press, vol. 87, pp. 7-8, 2 figs., 1903.

Gives observations on the geology of the district and the occurrence of the copper ores.

14. Mineral resources of Vancouver Island.


Describes the general geology and the occurrence and character of ore bodies, mainly gold, copper-gold, and magnetite.

15. White Horse copper camp, Yukon Territory.


Describes the location, general geology, and occurrence of the copper ores.

16. Bornite ores of British Columbia and the Yukon Territory.


Discusses the occurrence, geologic relations, and origin of the bornite ores carrying gold, silver, and copper.

Brezina (Aristides).

1. The arrangement of collections of meteorites.


2. Ueber Meteoreisen von De Sotoville [Alabama].


Describes occurrence, characters, and composition.

Bridge (Norman).

1. Edward Claypole, the man.

Am. Geol., vol. 29, pp. 30-40, 1902.

2. Address at the presentation of the memorial bronze of Edward Waller Claypole.

Throop Polytechnic Institute, Pasadena, Cal., June 2, 1902. (Not seen.)

Bridgford (John).

1. Analysis of volcanic dust from La Soufrière.


Brigham (Albert Perry).


2. Students' laboratory manual of physical geography.


3. Early interpretations of the physiography of New York State.


Broadhead (G. C.).

1. Geological surveys [of Missouri].


Gives an historical account of the geological surveys of the State of Missouri and their official publications.

2. Mineralogy [of Missouri].


Gives a general account of the minerals and mineral products of Missouri.

3. The New Madrid earthquake.

Am. Geol., vol. 30, pp. 76-87, 1902.

Gives an account of earthquake shocks in the Mississippi Valley in 1811 and 1812.

4. Bituminous and asphalt rocks of the United States.

Am. Geol., vol. 32, pp. 59-60, 1903.
BROADHEAD (G. C.)—Continued.

5. Bitumen and oil rocks.
   A general account of the occurrence of bituminous rocks and the origin and utilization of
   bituminous products.

6. The loess.
   Am. Geol., vol. 33, pp. 393-394, 1904.
   Describes distribution and character of the loess along the Missouri River and discusses its
   origin.

7. Surface deposits of western Missouri and Kansas.
   Am. Geol., vol. 34, pp. 66-67, 1904.
   Describes the distribution of flint gravels in Missouri and Kansas.

8. The saccharoidal sandstone.
   Am. Geol., vol. 94, pp. 105-110, 1904.
   Describes the occurrence and character of the saccharoidal sandstone in Missouri.

BROCK (R. W.).

1. The Boundary Creek district, British Columbia.
   Describes the author's observations in this region.

2. The ore deposits of the Boundary Creek district, British Columbia.
   Describes the rocks of this area and the occurrence of ore bodies.

3. Preliminary report on the Boundary Creek district, British Columbia.
   Describes physiographic features, general geology, character, occurrence, and origin of
   igneous rocks, the occurrence and origin of the copper, gold, and silver ore deposits, and the
   mining operations.

4. Original native gold in igneous rocks.
   Describes occurrences of native gold in igneous rocks of British Columbia.

5. Poplar Creek and other camps of the Lardau district [British Columbia].
   Gives a general account of the geology of the district and the gold-ore deposits.

   Describes the occurrence, character, and geological relations of ore deposits of British Colum­
   bia in which platinum occurs.

7. The Lardau district, British Columbia.
   Describes the physiography, the Glacial and general geology, the geologic structure, the
   occurrence, character, and relations of stratified and eruptive rocks, and the occurrence
   and mining of gold deposits.

8. The Lardau mining district [British Columbia].
   Contains observations on the physiography, general geology, and occurrence of minerals of
   economic value.

BROCK (R. W.), McCONNELL (R. G.) and.

   See McConnell (R. G.) and Brock (R. W.), 1.

BROILI (Ferdinand).

1. Ein Beitrag zur Kenntniss von Diplocaulus Cope.

2. Permische Stegocephalen und Reptilien aus Texas.
   Gives systematic descriptions and discusses the relationships and classification of Stegocephala
   and reptiles from the Permain of Texas.
Broili (Ferdinand)—Continued.


4. Pelycosaurierreste von Texas.
   Describes remains of Pelycosaurs from the Permian of Texas.

Brooks (Alfred Hulse).

   Gives a brief description of occurrence in stream gravels.

   Describes the general geology of the region and the occurrence of the stream tin.

3. The coal resources of Alaska.
   Gives a general account of the Cretaceous and Tertiary geology of Alaska and discusses the character and occurrence of coals in these formations.

   Describes the physiographic and stratigraphic features of the region and the occurrence of gold and copper.

5. Geological reconnaissances in southeastern Alaska.
   Discusses the general stratigraphic relations, geologic history, and correlation of the beds of the region.


   Describes the occurrence of placer gold in different parts of Alaska.

   U. S. Geol. Surv., Bull. no. 213, pp. 92-93, 1903.

   Describes occurrence of gold and the mining developments.

10. The geography of Alaska, with an outline of the geomorphology.
    Describes the geography, physiographic features, and the geologic history.

    Administrative report.
    Reviews the Alaskan work of the U. S. Geological Survey during 1904.


Brooks (Alfred Hulse) and Collier (Arthur J.).

1. Glacial phenomena of the Seward Peninsula [Alaska].
   Bull. 301—06—4
Brooks (Alfred Hulse), assisted by Richardson (George B.) and Collier (Arthur J.).
1. A reconnaissance of the Cape Nome and adjacent gold fields of Seward Peninsula, Alaska, in 1900.
   U. S. Geol Surv. Reconnaissances in the Cape Nome and Norton Bay regions, Alaska, in 1900, 184 pp., 27 pls., 3 figs., 1901.
   Describes the physiography and the surficial, general, and economic geology of the region, and includes detailed descriptions of the various placers.

Brooks (Alfred Hulse), Schrader (F. C.) and.
1. Some notes on the Nome gold region of Alaska.
   See Schrader (F. C.) and Brooks (A. H.), 1.

Brower (Jacob V.).
1. Kakabikansing [Little Falls, Minnesota].
   Contains observations on the geology in the vicinity of Little Falls, Minn.

Brown (Arthur Erwin).
1. On some points in the phylogeny of the primates.

Brown (Barnum).
1. A new genus of ground sloth from the Pleistocene of Nebraska.

2. Stomach stones and food of plesiosaurs.
   Gives observations upon the occurrence of "stomach stones" in connection with the remains of plesiosaurs and their probable use by the animal.

3. Recent exploration of a Pleistocene fissure in northern Arkansas.
   Discusses the occurrence of vertebrate fossils.

Brown (Lucius P.).
1. The phosphate deposits of the Southern States.
   Describes the occurrence and geologic relations of phosphate deposits in various States of the South and the character and composition of the phosphates.

Brown (Robert Marshall).
1. The clays of the Boston Basin.
   Discusses the correlation of the clays of the region.

2. Gaspee Point [Rhode Island]: a type of cuspate foreland.
   Describes the formation and gives a catalogue of cuspate forelands.

3. The Mississippi River from Cape Girardeau to the head of the passes.
   Contains notes on the physiography of the region.


Brown (S. S.).
1. A bibliography of works upon the geology and natural resources of West Virginia, from 1764 to 1901.

Brown (Thomas C.).
1. A new lower Tertiary fauna from Chappaquiddick Island, Martha's Vineyard.
Brumell (H. P. H.).
1. Canadian graphite.
   Describes character and occurrence of graphite deposits in Canada.

Bruncken (Ernest).
1. Physiographical field notes in the town of Wauwatosa [Wisconsin].
   Describes glacial and lacustrine deposits and discusses the origin of a natural exposure of Niagara limestone.

Brunton (D. W.).
1. Geological mine maps and sections.

Brush (George J.).
1. On sussexite, a new borate from Mine Hill, Franklin Furnace, Sussex County, New Jersey.

2. On hortonolite, the chrysolite group.

3. On gahnite from Mine Hill, Franklin Furnace, New Jersey.

4. On the chemical composition of durangite.

Brush (George J.) and Dana (Edward S.).
1. On a new and remarkable mineral locality at Branchville, in Fairfax County, Connecticut; with a description of several new species occurring there. First paper.

2. Second Branchville paper.

3. Third Branchville paper.

4. Fourth Branchville paper—Spodumene and the results of its alteration.

5. Fifth Branchville paper, with analyses of several manganous phosphates by Horace L. Wells.

Bryan (William Alanson).
1. A monograph of Marcus Island.
   Bishop Mus., Honolulu, Occasional Papers, vol. 2, no. 1, pp. 77-139, 8 figs., 1904.
   Includes an account of the physical features, and the general geology and mode of formation of the island.
Buchan (J. S.).
1. Was Mount Royal an active volcano?
Discusses the geologic history of Mount Royal.

2. Some notes on Mount Royal [Quebec].
Describes the general physiography and geology of the region.

3. The Pleistocene of Montreal and the Ottawa Valley from a railway carriage.

Buckley (Ernest Robertson).
1. The clays and clay industries of Wisconsin.
Describes the composition, classification, and properties of clays and the occurrence and distribution of clay deposits in Wisconsin. Includes map of the State, showing the distribution of the various clay beds.

2. Ice ramparts.
Describes the expansion and contraction of ice and their resulting deformations.

3. Highway construction in Wisconsin.
Discusses occurrence and character of road-making materials.

4. Biennial report of the State geologist [of Missouri].
Administrative report for the year 1902. Includes an outline of the mineral resources of the State and an index to the publications of the Missouri Geological Survey.

5. Introduction [to the Geology of Miller County, Missouri].
Discusses the stratigraphy, correlation, etc., of geologic formations in Miller County, Missouri.

6. A system of keeping the records of a State geological survey.

7. Biennial report of the State geologist, transmitted by the Board of Managers of the Bureau of geology and mines to the Forty-third General Assembly [Missouri].
An administrative report. Includes notes on the occurrence of various mineral resources.

8. Introduction to the Geology of Moniteau County [Missouri].
Gives notes upon the occurrence of Paleozoic formations in Missouri, and discusses their nomenclature.

Buckley (E. R.) and Buehler (H. A.).
1. The quarrying industry of Missouri.
Gives an account of investigations upon the occurrence, geologic relations, qualities, and utilization of the building stones of Missouri. Includes a brief geological history of Missouri.

Buckley (E. R.), Ball (S. H.), and Smith (A. F.).
1. Glacial bowlders along the Osage River in Missouri.

Buckman (S. S.), Schuchert (C.) and.
1. The nomenclature of types in natural history.
See Schuchert (C.) and Buckman (S. S.), 1.

Buehler (H. A.), Buckley (E. R.) and.
1. The quarrying industry of Missouri.
See Buckley (E. R.) and Buehler (H. A.), 1,
Buffet (Edward P.).
1. Some glacial conditions and recent changes on Long Island [New York].
Describes physiographic features and the occurrence of drift bowlders.

Burchard (Ernest F.).
1. Lignites of the middle and upper Missouri Valley.
Describes prospecting for coal in northeastern Nebraska, the character and occurrence of lignite seams and the character of the lignite; also the occurrence and character of the lignite of North Dakota.
2. Geology of Dakota County, Nebraska, with special reference to the lignite deposits.
Describes the physiography and drainage features, the character and occurrence of Cretaceous and Quaternary deposits, the geologic history, the economic resources, and the occurrence and character of lignite not of workable quality.
Describes the development of the iron industry of Alabama, the distribution of the ore-bearing formations in the Brookwood quadrangle, and the character, occurrence, and relationships of the iron ores.

Burckhardt (Carlos).
1. Les masses éruptives intrusives et la formation des montagnes.
Discusses the part played by intrusives in the formation of mountains.

Burckhardt (Carlos) and Scalía (Salvador).
1. La fauna marine du Trias Supérieur de Zacatecas [Mexique].
Mexico, Inst. Geol., Bull. no. 21, 44 pp., 8 pls., 1905.

Bureau (Ed.).
1. Sur une collection de végétaux fossiles des États-Unis.
Gives a brief account of a collection of fossil Cretaceous plants from Kansas and Colorado.

Burgess (John D.).
1. Secondary enrichment.
2. Recent discoveries in Arizona.
Describes geologic structure in the region of the Santa Catalina Mountains, and the discovery of gold ores.

Burk (W. E.).
1. The fluor spar mines of western Kentucky and southern Illinois.
Min. Ind.: for 1900, pp. 292-295, 1901.
Describes the general geology of the region and the occurrence of the fluor spar deposits.
2. Asphalt rock in Kentucky.
Describes the occurrence and character of the rock producing asphalt.

Burns (David).
1. On the phenomena accompanying the volcanic eruptions in the West Indies.

Burr (Henry T.).
1. The structural relations of the amygdaloidal melaphyr in Brookline, Newton, and Brighton, Mass.
Discusses the evidence for the intrusive character of the melaphyr.
Burritt (Chas. H.).
1. The Coal Measures of the Philippines.
U. S. War Dept., Rept. of the U. S. Military Governor in the Philippines, 256 pp., 1901.
Describes the coal-mining industry of the Philippine Islands. Includes notes on the occurrence and geologic relations of coal deposits.

Burrows (John Shober).
1. The Barnesboro-Patton field of central Pennsylvania.
Describes location and stratigraphy of the field, the character and occurrence of the coal seams, composition and value of the coal, and the mining developments.

Burwash (E. M.).
1. The geology of Michipicoten Island.
Reviews previous geological work relating to the island, describes its geologic structure, and the character, occurrence, and relations of igneous and pre-Cambrian rocks, and their petrographic characters.

Bush (B. F.).
1. The coal fields of Missouri.

Bush (Lucy P.).
1. Note on the dates of publication of certain genera of fossil vertebrates.

Bushnell (D. L., jr.).
1. The small mounds of the United States.
Discusses the origin of various small mounds.

Butts (Charles).
1. Fossil faunas of the Olean quadrangle.
N. Y. State Mus., Bull. 69, pp. 990-995, 1903.
Gives lists of fossils, showing their distribution by zones in the Devonian and Carboniferous formations of this quadrangle.
2. Recent structural work in western Pennsylvania.
3. Coal mining along the southeastern margin of the Wilmore basin, Cambria County, Pa.
Describes the location and geologic structure of the field and the mining operations.
Describes physiographic features, the character, occurrence, and relations of Carboniferous strata, and particularly of the coal beds, the geologic structure and geologic and geographic history, and the economic resources, mainly coal, petroleum, and natural gas. The section on glacial gravels is contributed by Frank Leverett.
5. The Warrior coal basin in the Brookwood quadrangle, Alabama.
Describes the location, extent, stratigraphy, and structure of the field, and the character, occurrence, and mining of the coal.
Describes the geography and physiography, the occurrence, character, and relations of Carboniferous strata and Quaternary deposits, the geologic history, and the mineral resources, chiefly coal and natural gas.
Describes the physiography, the occurrence, character, and relations of Devonian and Carboniferous strata, the geologic structure and history of the area, and the economic resources chiefly coal.
Byers (Charles Alma).
1. A petrified forest covering thousands of acres.
   Describes the petrified forest near the Painted Desert, Arizona.

Byers (H. G.).
1. The water resources of Washington. Potable and mineral water.

Byrne (John).
1. Geography, history, production, fissure systems, distribution of ores, character of ores [of the Butte, Montana, mining district].
   Includes a brief account of the general geology of the vicinity of Butte, Montana, of the fissures and veins, and the occurrence of the ore deposits of silver and copper ores.

Byrne (P.).
1. Marble formations of the Cahaba River, Alabama.
   Eng. and Mg. Jour., vol. 72, p. 400, 1901.
   Describes the general character and distribution of the marble.
   Describes occurrence and character of marble in this region.

Caballero (Gustavo de J.).
1. Le cobalt au Mexique.
   Describes the occurrence and character of cobalt-bearing ore deposits in Mexico.
2. El vanadio de Charcas, E. de San Luis Potosi, México.
   Describes the occurrence and character of deposits containing vanadium in the state of San Luis Potosi, Mexico.

Cahill (Edward G.).
1. The method used in working the silver-lead mines of Santa Eulalia, Chihuahua, Mexico.
   Gives notes on the occurrence and geologic relations of the silver-lead ore deposits.

Calkins (Frank C.).
1. A contribution to the petrography of the John Day Basin.
   Gives a resume of the geology of the John Day Basin in Oregon, and describes the rocks occurring in the pre-Eocene, Eocene, and Miocene formations in this region.
2. Soils of the wheat lands of Washington.
   Discusses the origin of the soils.
   Describes the general geology and physiographic features, and discusses in detail the water resources of the area, particularly artesian water.

Calkins (Frank C.), Smith (George Otis) and.
1. A geological reconnaissance across the Cascade Range near the Forty-ninth Parallel.
   See Smith (George Otis) and Calkins (Frank C.), 1.

Calvin (Samuel).
1. Geology of Page County [Iowa].
   Iowa Geol. Surv., vol. 11, pp. 400-469, 10 figs. and map, 1901.
   Describes the physiography, the character and occurrence of the Carboniferous, Cretaceous and Pleistocene strata, and the occurrence of economic products.
Calvin (Samuel)—Continued.

2. Concerning the occurrence of gold and some other mineral products in Iowa.
   Describes the origin and occurrence of various minerals and notes some of the popular fallacies that are held concerning them.

3. The geology and geological resources of Iowa.
   Describes the stratigraphic geology and the occurrence of economic products of the State.

4. The geological formations of Iowa.
   Stone, vol. 25, pp. 118-124, 4 figs., 1902.
   Describes briefly the character and distribution of the geologic formations in the State.

5. Tenth annual report of the State geologist [Iowa].
   Gives a nomenclature of the divisions of the Glacial period and discusses the geologic occurrence of oil and gas.

6. Concrete examples from the topography of Howard County, Iowa.
   Am. Geol., vol. 30, pp. 375-381, 3 pl., 1902.
   Describes the topographic forms of the region and reviews its glacial history.

7. The geology and geological resources of Iowa—the formations and their economical values.

8. [In discussion of paper by T. C. Chamberlin on “The geologic relations of the human relics of Lansing, Kan.”]

9. Artesian wells in Iowa.
   Discusses the general conditions for artesian wells and the underground formations of Iowa as sources for artesian water.

10. Geology of Howard County [Iowa].
   Iowa Geol. Surv., vol. 13, pp. 21-79, 15 figs., 1903.
   Describes topography and drainage, the lithologic and faunal characteristics and occurrence of Devonian and Ordovician strata and their geologic relations, the surficial deposits, and the economic resources.

11. Geology of Chickasaw County [Iowa].
   Iowa Geol. Surv., vol. 13, pp. 297-292, 10 figs., 1903.
   Describes topography and drainage, the occurrence, character, and geologic relations of Devonian strata and Glacial deposits, and the economic resources.

12. Geology of Mitchell County [Iowa].
   Iowa Geol. Surv., vol. 13, pp. 293-338, 12 figs., 1903.
   Describes physiographic features, the character, occurrence, and geologic relations of Devonian strata and Glacial deposits, and the economic resources.

13. Physiography of Iowa.
   Iowa Weather and Crop Service, Ann. Rept. for 1902, Appendix, pp. 3-11, 1 pl., 1903.
   Describes topography and drainage. Includes an account of the distribution of the drift deposits and their relation to physiographic features.

14. Twelfth annual report of the State geologist [Iowa].
   Iowa Geol. Surv., vol. 14, pp. 1-6, 3 pls. (maps), 1904.

15. The Aftonian gravels and their relations to the drift sheets in the region about Afton Junction and Thayer [Iowa].

Campbell (C. M.).

1. Mining in the Rossland district [British Columbia].
   Contains notes on the rocks of this area.
Campbell (H. D.).
1. The Cambro-Ordovician limestones of the middle portion of the Valley of Virginia.
   Names and describes Cambrian and Ordovician formations in the Valley of Virginia.

Campbell (H. D.) and Howe (James Lewis).
1. A new (?) meteoric iron from Augusta Co., Virginia.

Campbell (John T.).
1. Evidence of a local subsidence in the interior [Indiana].
   Jour. Geol., vol. 9, pp. 437-438, 1901.
   Difference in levelings made in 1883 and in 1901 show a subsidence in Parke County, Indiana.

Campbell (Marius R.).
1. Hypothesis to account for the extra-Glacial abandoned valleys of the Ohio Basin.
   Discusses their formation as due to formation and persistence of local ice dams.
   2. Charleston folio, West Virginia.
   Describes the geographic and topographic features of the region, the stratigraphy, the character and occurrence of the Carboniferous and Pleistocene strata, the geologic structure, and the mineral resources of the quadrangle.
   3. Recent geological work in western Pennsylvania.
   Eng. & Mg. Jour., vol. 73, p. 245, 1902.
   Abstract of paper read before the Geological Society of Washington.
   4. Reconnaissance of the borax deposits of Death Valley and Mohave Desert [California].
   Describes topography and geology of the region and occurrence of borax deposits.
   5. Raleigh folio, West Virginia.
   Describes geographic and topographic features, general geologic relations, the character and occurrence of Carboniferous formations and coal beds.
   Describes geographic and topographic features, general geologic relations, character and occurrence of Devonian and Carboniferous strata, Quaternary deposits, and the mineral resources, chiefly coal.
   7. Recent geological work in Pennsylvania.
   Describes geographic, physiographic, and geologic relations to Appalachian province, surface features and drainage, physiographic history, geologic structure, character and occurrence of the Carboniferous strata and Quaternary deposits, character and occurrence of the coal beds and other economic resources. The section on natural gas is contributed by Myron L. Fuller.
   Describes physiographic features of this region and discusses the mode and time of their origin.
   10. Variation and equivalence of the Charleston sandstone.
   Jour. Geol., vol. 11, pp. 459-468, 1903.
   Reviews the divergent views as to the correlation of the sandstone of West Virginia, which the writer named the Charleston sandstone, with the Mahoning sandstone of Pennsylvania, and presents additional evidence for the author's view as to their distinctness.
Campbell (Marius R.)—Continued.
11. Recent work in the bituminous coal field of Pennsylvania.
   Discusses the general structure and relations of the coal, natural gas, and oil bearing beds.
12. Borax deposits of eastern California.
   U. S. Geol. Surv., Bull. no. 213, pp. 401-405, 1903.
   Describes the occurrence and utilization of borax deposits in this area.
   Geol., vol. 31, pp. 311-312, 1903.
15. Conglomerate dikes in southern Arizona.
   Describes the general geologic structure of the region, the occurrence and character of the
   dike, and the source of its material.
16. The Deer Creek coal field, Arizona.
   Describes location, stratigraphy, and geologic structure of the field, the character and occurrence
   of coal seams, and the composition and value of the coal.
17. The Meadow Branch coal field of West Virginia.
   Describes location of the field, the stratigraphy and geologic structure, the character and occurrence
   of the coal beds, the quality of the coal and the mining developments. Includes a short report by David White on the fossil plants.
   Describes physiographic features, the general geologic structure and history of the area, the
   character and occurrence of Devonian and Carboniferous strata and Quaternary deposit
   and the mineral resources, chiefly coal.
   Discusses the origin of the present physiographic features of this region.
20. Hypothesis to account for the transformation of vegetable matter into the
   different grades of coal.
   Econ. Geol., vol. 1, pp. 26-38, 1905.
21. The classification of coals.
Campbell (Marius R.) and White (David).
1. The bituminous coal field of Pennsylvania.
   See White (David) and Campbell (M. R.), 1.
Campbell (Marius R.), White (David), and Haseltine (Robert M.).
1. The northern Appalachian coal field.
   See White (David), Campbell (M. R.), and Haseltine (R. M.), 1.
Camseyell (Charles).
1. The region southwest of Fort Smith, Slave River, N. W. T.
   Contains observations on the geology of the region examined.
2. Country around the headwaters of the Severn River.
   Includes observations on the geology of the region examined.
Capilla (Alberto).
1. Los yacimientos de fierro de “Tatitå-la,” Cantón de Jalapa, E. de Vera Cruz
   Describes the character and occurrence of iron-ore deposits in the state of Vera Cruz, Mexico.
Capps (S. R.) and Leffingwell (E. D. K.).
1. Pleistocene geology of the Sawatch Range, near Leadville, Colo.
Jour. Geol., vol. 12, pp. 608-706, 2 figs., 1904.
Discusses the extent in this region of the ice during the Glacial epoch, and describes the drift deposits, terraces, and drainage changes.

Caracristi (C. F. Z.).
1. The trans-Pecos sulphur field. A report on their economic geology and value.
Bloomington, Illinois [1905]. 44 pp., 7 pls. [Private publication.]
Gives notes on the occurrence and geology of the sulphur deposits in El Paso County, Texas.

Carlyle (E. J.).
1. The Pioneer iron mine, Ely, Minn.
Includes some account of the general geology of the region, and of the character, occurrence, and geologic relations of the iron-ore deposits.

Carmody (F. A.).
1. Jefferson County [Nebraska].
Describes topography and drainage and stratigraphic and economic geology.

Carney (Frank).
1. A type case in diversion of drainage.
Jour. Geol., vol. 2, pp. 115-124, 7 figs., 1903.
Discusses physiographic features and drainage changes in Cortland and Tompkins counties, New York.

Am. Geol., vol. 33, pp. 196-198, 1904.
Discusses criticisms of Professor Fairchild upon the writer's paper, "A type case in diversion of drainage."

Carpenter (Franklin R.).
1. The new geology and vein formation.
Discusses ore formation from the standpoint of the planetesimal hypothesis.

2. Vein formation and the new geology.

Carter (O. S. C.).
1. Artesian wells as a water supply for Philadelphia.

2. Anthracite coal near Perkiomen Creek [Pennsylvania].

3. Drilling for oil and natural gas in the vicinity of Philadelphia.

4. A ferruginized tree.

5. The arid district between the Rio Grande and the Pacific traversed by the engineers of the Mexican Boundary Commission in 1892-94.
Contains notes on the physiography of the region.

6. The petrified forests and Painted Desert of Arizona.
Gives observations upon the physiography and geology of the region.

Carter (W. E. H.).
1. The mines of Ontario.
Includes observations on the occurrence in Ontario of deposits of gold, silver, copper, nickel, iron, lead, and zinc ores, corundum, graphite, mica, and other minerals.
Case (E. C.).
   Md. Geol. Surv., Eocene, pp. 95-98, 2 pls., 1901.

2. Paleontological notes.
   Describes Lysorophus tricarinatus and an undetermined Pelycosaurian.

3. On some vertebrate fossils from the Permian beds of Oklahoma.

4. The osteology of Embolophorus dollovianus, Cope, with an attempted restoration.
   Jour. Geol., vol. 11, pp. 1-28, 23 figs., 1903.

5. New or little-known vertebrates from the Permian of Texas.
   Jour. Geol., vol. 11, pp. 394-402, 10 figs., 1903.

6. The structure and relationships of the American Pelycosauria.

7. The osteology of the skull of the pelycosaurian genus, Dimetrodon.
   Jour. Geol., vol. 12, pp. 304-311, 6 figs., 1904.

8. On the structure of the fore foot of Dimetrodon.
   Jour. Geol., vol. 12, pp. 312-315, 3 figs., 1904.

   Md. Geol. Surv., Miocene, pp. 3-70, 18 pls., 1904.

10. A remarkably preserved specimen of a pelycosaur collected during the last summer in Texas.

11. The morphology of the skull of the pelycosaurian genus Dimetrodon.

12. The osteology of the Diadectidae and their relations to the Chelydosauria.


15. Characters of the Chelydosauria.

Casey (Thomas L.).
1. The Jackson outcrops on Red River [Louisiana].
   Describes outcrops and discusses the fauna obtained, describing two new species.

2. On the probable age of the Alabama white limestone.
   Discusses the geologic age and relations of the Alabama white limestone, Jackson and Vicksburg stages and other Tertiary formations in the light of evidence of their fossils.

   Nautilus, vol. 16, pp. 18-19, fig., 1902.


5. Notes on the Pleurotomidæ, with description of some new genera and species.

6. The mutation theory.
   Calls attention to the support which Tertiary mollusca, particularly from Mississippi deposits, give to the mutation theory.
Catherinet (Jules).

Catlett (Charles).


Chalmers (Robert).


Chamberlin (Rollin T.).

Chamberlin (Thomas C.).
Chamberlin (Thomas C.)—Continued.

2. On a possible function of disruptive approach in the formation of meteorites, comets, and nebulae.
   Jour. Geol., vol. 9, pp. 369-392, 1 pl., 1901.
   Discusses the possibility of mass disruption without collision and the probable effects.

3. Report on some studies relative to primal questions in geology.

4. On Lord Kelvin's address on the age of the earth as an abode fitted for life.

5. The geologic relations of the human relics of Lansing, Kansas.
   Discusses certain phases of fluvial action and their bearing on the phenomena at this locality.
   Describes the character of the river deposits and presents the author's interpretations.

6. Distribution of the internal heat of the earth.

7. Has the rate of rotation of the earth changed appreciably during geological history?

8. The criteria requisite for the reference of relics to a glacial age.
   Jour. Geol., vol. 11, pp. 64-85, 1 fig., 1903.

9. Distribution of the internal heat of the earth.
   Brief note on the character of the paper.

10. Has the rate of rotation of the earth changed appreciably during geological history?
    Brief note on the theory of a high rate of terrestrial rotation in early geologic times.

11. The origin of ocean basins on the planetesimal hypothesis.

12. [The geological survey of the Lake Superior region.]
    Jour. Geol., vol. 12, pp. 276-277, 1904.
    Reviews the work and publications of the U. S. Geological Survey upon the Lake Superior
    ore-bearing series.

13. Fundamental problems of geology.
    Discusses lines of research upon fundamental problems of geology.


15. Fundamental problems of geology.

Chamberlin (Thomas C.) and Salisbury (Rollin D.).


Chance (H. M.).

   Describes the peculiar occurrence of gold in the nearly horizontal Cambrian sandstones and
   shales in the vicinity of Deadwood.

2. The iron mines of Hartville, Wyoming.
   Describes the occurrence and character of the ore bodies and gives detailed descriptions of
   the mine workings.
Chaney (L. W.).

Chapman (Robert H.).
1. Our northern Rockies.
   Contains physiographic notes on the Rocky Mountains in Montana.

2. The value of topographic maps.

Charles (H. W.).
1. Dakota sandstone in Washington County [Kansas].
   Describes its general characteristics in this county.

2. The value of topographic maps.

Chatard (T. M.) and Whitehead (Cabell).
   Describes the chemical studies made of these gold and silver ores.

Chazal (Philip E.).
1. The century in phosphates and fertilizers. A sketch of the South Carolina phosphate industry.
   Charleston, S. C., 71 pp., 1904.
   Includes an account of the occurrence, geologic relations, character, origin, and economic development of the phosphate deposits of South Carolina.

Chester (Albert H.).
1. Mineralogical notes and explorations.
   Describes the occurrence and chemical composition of several minerals.

Chibas (Eduardo J.).
1. Manganese mining in Cuba.
   Abstract of report on the manganese mines near Santiago.

Christy (S. B.).
1. Biographical notice of Joseph LeConte.

Church (John A.).
1. The Tombstone, Arizona, mining district.
   Am. Inst. Mg. Engrs., Trans., v.33, pp. 3-37, 12 figs., 1903.
   Describes the character and occurrence of sedimentary strata, the geologic structure, the character and occurrence of eruptive rocks, and the position and relations of the ore bodies of gold, silver, and manganese.

2. [In discussion of paper by Walter P. Jenney, "The chemistry of ore-deposition."]
   Discusses occurrences of ore deposits and their bearing upon the subject of the paper under discussion.

3. Enrichment in veins.

Cilley (Frank H.).
   Discusses briefly the application of the theory to the study of the inner condition of the earth.
1. **Vorkommen und Gewinnung von Asbest in Canada.**

   Zeitsch. f. prak. Geol., Jg. 11, pp. 123-131, 3 figs., 1903.

   Describes occurrence and character of asbestos deposits in Quebec and the mining developments.

2. **Mica deposits.**


   Describes the occurrence and character of mica and phlogopite deposits in Canada and elsewhere and their economic development in Canada.

3. **Asbestos: its occurrence, exploitation, and uses.**

   Can., Dept. of the Interior, Mines Branch, Ottawa, 1905. 169 pp., 38 figs., 1 map, and 2 charts.

4. **Mica: its occurrence, exploitation and uses.**

   Can., Dept. of the Interior, Mines Branch, Ottawa, 1905. 148 pp., 1 pl., 38 figs., and 1 map.

**Clapp (Frederick G.).**

1. **Geological history of the Charles River [Massachusetts].**


   Describes the various stages of the river’s development and their causes, its relation to the geologic structure and the Tertiary and Glacial history of the region.

2. **Relations of gravel deposits in the northern part of Glacial Lake Charles, Massachusetts.**

   Jour. Geol., vol. 12, pp. 198-214, 3 figs., 1904.

   Describes sand plains, gravel, and other Glacial deposits in the valley of the Charles River in Massachusetts, and discusses their characteristics and formations, the disappearance of the Glacial ice, and connected events.

3. **Water resources of the Curwensville, Patton, Ebensburg, and Barnesboro quadrangles, Pennsylvania.**

   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 110, pp. 159-163, 1905.

4. **Limestones of southwestern Pennsylvania.**

   U. S. Geol. Surv., Bull. no. 249, 52 pp., 7 pls., 1905.

   Describes the character, occurrence, and geologic relations of limestones of southwestern Pennsylvania, with especial reference to their availability for the manufacture of cement.

**Clapp (Frederick G.), Fuller (M. L.) and.**

1. **Marl-loess of the lower Wabash Valley.**

   See Fuller (M. L.) and Clapp (F. G.), 1.

2. **Patoka folio, Indiana-Illinois.**

   See Fuller (Myron L.) and Clapp (Frederick G.), 2.

**Clark (P. Edwin), Van Ingen (Gilbert) and.**

1. **Disturbed fossiliferous rocks in the vicinity of Rondout, N. Y.**

   See Van Ingen (Gilbert) and Clark (P. E.), 1.

**Clark (W. Blair).**

1. **Drainage modifications in Knox, Licking, and Coshocton counties [Ohio].**


   Discusses modifications produced in the drainage of this area by the ice of the Glacial period.

**Clark (William).**

1. **Some new points on the fin attachment of Dinichthys and Cladodus.**


**Clark (William Bullock).**

1. **Maryland Geological Survey, volume four.**

   Baltimore, The Johns Hopkins Press, 1902. 504 pp., 69 pls., 54 figs.

2. **Reports on Cecil County [Maryland].**

Clark (William Bullock) — Continued.
3. Reports on Garrett County [Maryland].
5. The Matawan formation of Maryland, Delaware, and New Jersey, and its relations to overlying and underlying formations.
   Includes a table showing correlation of Atlantic coast Cretaceous formations with Cretaceous formations of Europe.
6. The Miocene deposits of Maryland. Introduction and general stratigraphic relations.
7. Systematic paleontology of the Miocene deposits of Maryland: Echinodermata.
8. Origin, distribution and uses of coal.
   Gives a general account of the use, origin, occurrence, and production of coal, and the extent, character of the coal, etc., of the Appalachian coal field.
Clark (William Bullock) and Bibbins (A.).
1. Geology of the Potomac group in the middle Atlantic slope.
   Describes the character, occurrence and distribution of the divisions of the Potomac group, the interpretation of these deposits and the surface configuration of the crystalline floor and of the Potomac group. Discusses the age of these deposits.
2. The Potomac group in Maryland.
Clark (William Bullock) and Martin (George Curtis).
1. The Eocene deposits of Maryland.
   Md. Geol. Surv., Eocene, pp. 21-92, 14 pls., 1901.
   Describes the general stratigraphic relations, distribution, characters, origin of the materials, and the stratigraphic and paleontologic characteristics of the Eocene strata. Discusses their correlation.
2. Eocene Mollusca.
3. Eocene Molluscoidea (Brachiopoda).
   Md. Geol. Surv., Eocene, pp. 203-205, 1 pl., 1901.
4. Eocene Echinodermata.
5. Correlation of the Coal Measures of Maryland.
   Describes the subdivisions of the Coal Measures group in Maryland and discusses their correlation with the Coal Measures of other portions of the Appalachian province.
6. Correlation of the formations and members [of the Maryland coal district].
Clark (Wm. Bullock), Martin (George C.) and Rutledge (J. J.).
1. Distribution and character of the Maryland coal beds.
Clarke (C. H.).
1. Notes on the Michipicoten gold-belt.
   Describes the occurrence of gold ores and the mining developments.
   Bull. 301—06—5
Clarke (Frank Wigglesworth).


3. The composition of glauconite and greenalite.

4. Analyses of rocks from the laboratory of the United States Geological Survey.
   U. S. Geol. Surv., Bull. no. 228, 375 pp., 1904.
   Note.—The analyses of rocks have not been listed in the index of this bibliography.

5. A pseudo-serpentine from Stevens County, Washington.
   Describes the occurrence and discusses the chemical composition.

Clarke (Frank Wigglesworth) and Steiger (George).

1. The action of ammonium chloride upon silicates.
   U. S. Geol. Surv., Bull. no. 207, 57 pp., 1902.

2. On "Californite."
   Discusses the chemical composition.

Clarke (John M.).

1. The Oriskany fauna of Becraft Mountain, Columbia County, N. Y.
   See Clarke (J. M.), no. 971, in U. S. Geological Survey Bulletin, no. 188.

2. Limestones of central and western New York interbedded with bituminous shales of the Marcellus stage, with notes on the nature and origin of their faunas.
   N. Y. State Mus., Bull. no. 49, pp. 115-138, 1 pl., 2 figs., 1901.

   N. Y. State Mus., Bull. no. 49, pp. 182-198, 1 pl., 7 figs., 1901.
   Reviews the literature regarding these forms and describes three new species.

   N. Y. State Mus., Bull. no. 49, pp. 199-203, 1 pl., 1901.

5. Report of the State paleontologist, 1901 [N. Y.].
   N. Y. State Mus., Bull. no. 52, pp. 419-450, 1902.
   Contains brief discussion of the results of the studies of the Cambrian, Silurian, and Devonian rocks and fauna of the State in 1901.

   N. Y. State Mus., Bull. no. 52, pp. 457-460, 1902.
   Contains an account of his life and work.

7. Paleontologic results of the areal survey of the Olean quadrangle [N. Y.].
   N. Y. State Mus., Bull. no. 52, pp. 524-528, 1902.
   Discusses the paleontologic aspect of the faunas of the Devonian-Carboniferous beds of the region.

   N. Y. State Mus., Bull. no. 52, pp. 606-610, 4 pls., 2 figs., 1902.

9. [Note on the occurrence and relations of the fauna.] [In Luther (D. D.), Stratigraphic value of the Portage sandstone. N. Y.].
   N. Y. State Mus., Bull. no. 52, pp. 630-631, 1 fig., 1902.

10. The indigene and alien faunas of the New York Devonic.
    N. Y. State Mus., Bull. no. 52, pp. 664-672, 1902.
    Discusses the influence of the supposed barriers in the Devonian seas upon the migrations and distribution of the faunas of that period.


N. Y. State Mus., Bull. no. 69, pp. 851-891, 1903.
Gives a review of the work of the office of the State paleontologist of New York for 1901-2.

N. Y. State Mus., Bull. no. 69, pp. 921-933, 2 pls., 1903.
Describes occurrences of mastodon remains in the State of New York.

N. Y. State Mus., Bull. no. 69, pp. 996-999, 1903.
Discusses the discrepancy of results obtained by stratigraphic and paleontologic work in the Olean quadrangle of New York and the geologic position of the Cattaraugus beds.

17. Torsion of the lamellibranch shell, an illustration of Noetling's law.
N. Y. State Mus., Bull. no. 69, pp. 1229-1233, 7 figs., 1903.

N. Y. State Mus., Bull. no. 69, pp. 1234-1238, 2 pls., 1903.

N. Y. State Mus., Mem. 6, pp. 199-454, 26 pls., 16 figs., 1903.
Discusses conditions of sedimentation and the distribution of land and water prevailing in the area of western New York in later Devonian times, and the stratigraphy of the Portage and character of the fauna, and gives systematic descriptions of the species and tabules of distribution and comparison with faunas of other regions.

N. Y. State Mus., Handbook 19, 28 pp., 1903.
Discusses the nomenclature and classification of the New York series of geologic formations.
Includes a table showing the geologic position and geographic distribution of formations in the State of New York.


Am. Geol., vol. 34, pp. 1-13, 1 pl. (por.), 1904.
Includes a chronologic list of Beecher's published papers, prepared by Lucy P. Bush.

23. With regard to Portage crinoids.
A short note in regard to nomenclature.

24. Prof. James Hall and the Troost manuscript.

N. Y. State Mus., Bull. no. 80, pp. 3-133, 3 pls., 1905.
Reviews the scientific and office work, and publications of the office of the State paleontologist for the year beginning October 1, 1902. Appendices contain list of accessions, new entries of fossil localities, and type specimens of Paleozoic fossils, Supplement I.

N. Y. State Mus., Bull. no. 80, pp. 134-171, 9 pls., 13 figs., 1545.
Describes the physiography and general geology of the locality, and in detail its geological structure and the character and occurrence of the fossil faunas, with faunal lists, contained in the rocks of Perce and vicinity, on the coast of Gaspé, Province of Quebec.

27. Ithaca fauna of central New York.
N. Y. State Mus., Bull. no. 82, pp. 55-70, 1905.
Gives general observations upon the fauna, a list of localities from which collections have been made, and lists of the species with their localities.
Clarke (John M.)—Continued.
28. Report of the director, 1904, with the 24th report of the State geologist and the report of the State paleontologist, 1904.
Includes various geologic data and contains Supplement 2 to the list of type specimens of Paleozoic fossils in the New York State Museum.

Clarke (John M.) and Luther (D. Dana).
1. Stratigraphic and paleontologic map of Canandaigua and Naples quadrangles [New York].
N. Y. State Mus., Bull. no. 63, 76 pp., geol. map, 1904.
Describes in detail the occurrence and the lithologic and faunal characters of the Silurian and Devonian formations included in the area of the map, and gives lists of the fossils of the several formations.

2. Geology of the Watkins and Elmira quadrangles [New York], accompanied by a geologic map.
N. Y. State Mus., Bull. no. 81, pp. 3-29, and map, 1905.
Describes the occurrence, character, development, relations, and fossil contents of the Devonian formations represented on the geologic map of this area.

3. Geologic map of the Tully quadrangle [New York].
N. Y. State Mus., Bull. 82, pp. 35-52, and map, 1905.
Describes the occurrence, character, development, relations, and fossil contents of the Devonian and Silurian formations represented in this area.

Clarke (John M.) and Ruedemann (Rudolf).
N. Y. State Mus., Mem. 5, 195 pp., 21 pis., 1903.
Describes stratigraphy, occurrence, and geologic relations of the Guelph formation in New York, gives systematic descriptions of the fauna, and discusses the conditions of life and sedimentation during the prevalence of the Guelph fauna, and its distribution.

2. Catalogue of type specimens of Paleozoic fossils in New York State Museum.
N. Y. State Mus., Bull. 65, 847 pp., 1903.

Clarke (John M.), Ruedemann (R.), and Luther (D. D.).
1. Contact lines of Upper Siluric formations on the Brockport and Medina quadrangles, N. Y.
N. Y. State Mus., Bull. no. 52, pp. 517-523, 1902.
Describes outcrops of these beds at various localities.

Claypole (Edward W.).
1. On an unrecognized coal-horizon in northeastern Ohio.
Discusses stratigraphic position of coal seams in the vicinity of Massillon, Ohio.

2. On the Salina group in northeastern Ohio.

3. Notes on petroleum in California.
Am. Geol., vol. 27, pp. 150-159, 1901.
Describes the physiographic features of the oil areas, the general geology, and the source of the oil and gas.

4. The Sierra Madre near Pasadena [California].
Contains notes on the Tertiary strata and igneous rocks of the region.

5. The Devonian era in the Ohio basin.
Discusses occurrence, lithologic, stratigraphic, and faunal features of Devonian formations in the Ohio basin, geographic and hypsographic conditions prevailing in Devonian times, and geologic and geographic distribution of the invertebrate and vertebrate faunas, and describes briefly species of Cladodus and Monocladodus.

Clearman (Harriet M.).
1. A geological situation in the lava flow, with reference to the vegetation.
Includes observations upon the lava beds of Idaho.
Cleland (Herdman Fitzgerald).
1. The landslides of Mt. Graylock and Briggsville, Mass.
   Jour. Geol., vol. 10, pp. 513-517, 2 figs., 1902.
   Describes the occurrence of recent landslips.

   U. S. Geol. Surv., Bull. no. 206, 112 pp., 5 pls., 3 figs., 1903.
   Describes the general geology of the Cayuga Lake region in New York and the history, correlation, and facinal zones of the Hamilton formation in this region, and gives a classified list of species found, with notes on their occurrence, general observations and conclusions, and a table showing vertical distribution and relative abundance of Hamilton species.

3. Further notes on the Calciferous (Beekmantown) formation of the Mohawk Valley, with descriptions of new species.
   Am. Pal., Bull. 18, pp. 31-50, 4 pls., 1903.
   Describes character, occurrence, and fossil contents of Calciferous strata in the Mohawk Valley, and gives detailed descriptions of the new species of fossils.

4. The formation of natural bridges.

Clements (J. Morgan).
1. Ellipsoidal structure in the pre-Cambrian basic and intermediate rocks of the Lake Superior region.

2. Vermilion district of Minnesota.
   Describes stratigraphy and geological structure of this region and discusses the origin of the ores.

3. The Vermilion iron-bearing district of Minnesota.
   Reviews the literature regarding the district, describes its physiography, the character, occurrence, and relations of the Archean, Huronian, and Keweenawan rocks and drift, and the occurrence, character, and origin of the ore deposits.

4. Ellipsoidal structure in pre-Cambrian rocks of Lake Superior region.

5. Vermilion district of Minnesota.
   Gives a brief outline of the geology.


Clements (J. Morgan), Van Hise (C. R.) and.
1. The Vermilion iron-bearing district.
   See Van Hise (C. R.) and Clements (J. M.), 1.

Clendenin (W. W.).
1. A preliminary report upon the Florida parishes of east Louisiana and the bluff, prairie, and hill lands of southwest Louisiana.
   La. State Experiment Stations, Geol. & Agric., pt. 3, pp. 159-206 [1896].
   Describes topographic, drainage and geologic features, soils, and other economic resources of this area.

2. A preliminary report upon the bluff and Mississippi alluvial lands of Louisiana.
   La. State Experiment Stations, Geol. & Agric., pt. 4, pp. 257-290 [1897].
   Describes physiographic features and soils of this area.

Clere (M.).
1. The Moctezuma district, Mexico.
   Contains notes on the geology of the district, and the occurrence of the silver and gold ore deposits.
70 BIBLIOGRAPHY OF NORTH AMERICAN GEOLOGY

Cobb (Collier).
1. Origin of the sandhill topography of the Carolinas.

2. Recent changes in the North Carolina coast, with special reference to Hatteras Island.

3. A new Palaeotrochis locality, with some notes on the nature of Palaeotrochis.

4. The forms of sand-dunes as influenced by neighboring forests.

Cockerell (T. D. A.).


3. Two Carboniferous genera.
   Calls attention to two generic names that are preoccupied.

Cohen (E.).
   Describes the character and constitution of this meteorite.

2. Das Meteoreisen von Forsyth Co., Georgia, Vereinigte Staaten.
   Describes the occurrence, characters, and constitution of this meteorite from Forsyth County, Georgia.

3. Über das Meteoreisen von Cincinnati, Vereinigte Staaten.
   Describes the characters and constitution of this meteorite.

4. Meteoreisen-Studien. XI.
   Describes meteorites from Illinois Gulch, Mont.; Hammond, Wis.; Cacaria, Mex.; Mesquital, Mex.; Murphy, N. C.; Saint Francois County, Mo.; Cosby's Creek, Tenn.; Canyon Diablo, Ariz.; Kendall County, Tex., and Mount Joy, Pa.

5. Die Meteoreisen von Ranchito und Casas Grandes [Mexico].
   Describes occurrence, characters, and composition of meteorites from Mexico.

6. Die Meteoreisen von Nenntmannsdorf und Persimmon Creek; Unterscheidung von Cohenit und Schreibersit.
   Mittheilungen des Naturwissenschaftlichen Vereins für Neu-Vorpommern und Rügen zu Greifswald, Jahrg. 35, 4 pp., 1903.
   Describes occurrence and characters of a meteorite found in North Carolina.

   Mittheilungen des Naturwissenschaftlichen Vereins für Neu-Vorpommern und Rügen zu Greifswald, Jahrg. 35, 4 pp., 1903.
   Describes occurrence and characters of a meteorite from Pennsylvania.

   Mittheilungen des Naturwissenschaftlichen Vereins für Neu-Vorpommern und Rügen zu Greifswald, Jahrg. 34, 5 pp., 1902.
   Describes occurrence, characters, and composition of meteorites from Mexico and Texas.

Colburn (E. A.).
1. A peculiar ore deposit.
   Describes the occurrence, character, and geologic relations of ore bodies.
Cole (A. D.).
1. Clarence L. Herrick.

Cole (Leon J.).
1. The delta of the St. Clair River.

Coleman (Arthur P.).
1. Glacial and inter-Glacial beds near Toronto [Canada].
Jour. Geol., vol. 9, pp. 285-310, 2 figs., 1901.
Describes the glacial history, the variations in climate and their effect on the then existing faunas and floras, and the glacial deposits of the region.

Describes the marine deposits, shell gravels, and beaches of the region.

3. The Vermilion River placers [Ontario].
Describes the character and distribution of the placers.

Describes the character and occurrence of the iron-ore bodies of various localities, and the petrographic characters of some of the associated rocks. Discusses the origin of some of the ores and includes notes on the Pleistocene geology.

5. Sea beaches of eastern Ontario.
Contains notes on the Leda clay and Saxicava sand, and describes the character and occurrence of the beach sands and gravels and their faunas.

6. The classification of the Archaean.
Reviews the work upon the Archean and the differences of interpretation, and compares and discusses the different schemes of classification proposed.

7. Types of iron-bearing rocks in Ontario.

8. Nepheline and other syenites near Port Coldwell, Ontario.
Describes the megascopic and microscopic characters of these rocks.

9. The duration of the Toronto inter-Glacial period.
Am. Geol., vol. 29, pp. 71-80, 1902.
Reviews a recent paper by Upham and discusses the evidences indicating the duration of this period.

10. The Huronian question.
Am. Geol., vol. 29, pp. 327-334, 1902.
Discusses the relations of the Huronian rocks and the views of various geologists regarding these questions.

11. Rock basins of Helen mine, Michipicoten, Canada.
Describes the topography and the occurrence and origin of the rock basins.

Describes geographic and geologic distribution of the iron-bearing rocks and the stratigraphic position of the ores.

13. Syenites near Port Coldwell [Ontario].
Describes the occurrence and lithologic characters of these rocks.

Describes topography and geology of the region, the occurrence of ore bodies and mining operations, and discusses the character, occurrence, and origin of the ore deposits.
Coleman (Arthur P.)—Continued.

15. Types of iron-bearing rocks in Ontario.

16. Iroquois beach in Ontario.
   Describes location and character of the beach in Ontario of Lake Iroquois and discusses the levels and tilting of the beach, the outlet of the lake, and its geological and time relationships.

17. The Iroquois beach in Ontario.

18. The northern nickel range [Ontario].
   Describes the topography, general geology, and the occurrence, character, and geological relations of nickel and iron-ore deposits.

19. The Sudbury nickel-bearing eruptive.

20. Geology of the Sudbury district [Ontario].

21. Theories of world building.
   Discusses the nebular and planetesimal hypotheses.

22. Glacial lakes and Pleistocene changes in the St. Lawrence Valley.

Coleman (Arthur P.) and Willmott (A. B.).

1. The Michipicoten iron region [Ontario].
   Describes the topography, gives a classification of the Huronian rocks, discusses the geology and formation of the iron ores, and describes the petrology of this region.

2. The Michipicoten iron ranges [Ontario].
   Toronto Univ. Studies, Geol. ser., no. 2, 47 pp., 2 maps, 1902.

Colles (George Wetmore).

1. Mica and the mica industry.
   Describes the characters of micas and discusses the age and origin of pegmatite dikes, the origin of the mica, and the origin and relations of the Canadian mica deposits.

Collie (George Lucius).

1. Wisconsin shore of Lake Superior.
   Describes the general geology of the region, the shore formations and beach phenomena, and the characters of the wave erosion and its topography.

2. Physiography of Wisconsin.

   Describes position, character, stratigraphy, and fauna of Ordovician formations in Center County, Pennsylvania, and describes some new species of Ordovician fossils.

Collier (Arthur J.).

1. A reconnaissance of the northwestern portion of Seward Peninsula, Alaska.
   Describes the geology and physiography of this region and gives notes on the petrology and the occurrence of gold and tin.

2. The coal resources of the Yukon, Alaska.
   U. S. Geol. Surv., Bull. no. 218, 71 pp., 6 pls., 3 figs., 1903.
   Describes the general geology and the occurrence and character of the coal deposits.
Collier (Arthur J.)—Continued.

3. The Glenn Creek gold mining district, Alaska.
   Describes placer deposits and developments in this region.

   Describes the occurrence of coal and gives notes on the character of the coals and the mining developments.

5. Tin in the York region, Alaska.
   Eng. & Mg. Jour., vol. 76, pp. 999-1000, illus., 1903.
   Describes the occurrence of deposits of tin ore.

   Discusses the geologic age of the coal-bearing formations.

   Describes the general geology, and occurrence and character of stream and lode tin deposits.

8. The tin deposits of the York region, Alaska.
   U. S. Geol. Surv., Bull. no. 229, 61 pp., 6 pis., 5 figs., 1904.
   Describes the general geology, the character and occurrence of sedimentary rocks of Silurian age and igneous rocks, and the character and occurrence in detail of tin-ore deposits and the mining operations. Gives a résumé of the occurrence of tin in the United States and other parts of the world.

   Am. Geol., vol. 34, pp. 401-402, 1904.
   Gives a brief account of the situation and geologic age of the coal fields, and the occurrence and character of the coal beds.

10. Auriferous quartz veins on Unalaska Island [Alaska].
    Describes the occurrence of lode and placer tin deposits.

11. Recent development of Alaskan tin deposits.
    U. S. Geol. Surv., Bull. no. 229, pp. 120-127, 1 fig., 1905.
    Describes the occurrence of gold-bearing quartz veins.

12. Coal fields of the Cape Lisburne region [Alaska].
    Describes the general geology, the character and occurrence of Paleozoic and Mesozoic formations, the geology, topography, and extent of the Mesozoic and Paleozoic coal fields of this region, and the character of the coals.

Collier (Arthur J.), Brooks (Alfred H.) and.

1. Glacial phenomena of the Seward Peninsula [Alaska].
   See Brooks (A. H.) and Collier (A. J.), 1.

Collins (Arthur L.).

1. [In discussion of "The origin of ore-deposits."]

Collins (G. E.).

1. Vein structure at the Reynolds mine, Georgia.
   Discusses the vein phenomena in the auriferous crystalline rocks of the region.

Collins (Henry F.).

1. Notes on the wollastonite rock mass and its associated minerals of the Santa Fe mine, State of Chiapas, Mexico.
   Describes occurrence, origin, and crystallographic features of a rock mass of wollastonite.

Colton (Geo. H.).

1. A possible cause of osars.
Combes (Paul).
1. Exploration de l’île d’Anticosti.
Paris, Joseph André et Cie., 1896. 46 pp. and map.
Contains a brief account of the geology of the island of Anticosti.

Comstock (Frank M.).
Am. Geol., vol. 32, pp. 12-14, 3 figs., 1903.
2. Ancient lake beaches on the islands in Georgian Bay.
Am. Geol., vol. 33, pp. 312-318, 2 pls., 1 fig., 1904.
Describes the occurrence and character of elevated beaches.

Comstock (Theodore B.).
1. The geology and vein phenomena of Arizona.
Gives a general description of the mineral regions. Discusses the orographic disturbances and their effects on ore deposition, and describes the stratigraphic succession in the state.
2. Edward Claypole, the scientist.
Am. Geol., vol. 29, pp. 1-23, 1 pl., 1902.
Includes a list of publications.
4. Superficial blackening and discoloration of rocks, especially in desert regions.
Discusses the occurrence of these features and their explanation.

Comstock (W. J.), Alien (O. D.) and.
1. Bastna’site and tysonite from Colorado.
See Alien (O. D.) and Comstock (W. J.), 1.

Concannon (Michael).
1. Relation [regarding the discovery of the Lansing, Kansas, skeleton].
Details the circumstances of the finding of the fossil human remains near Lansing, Kansas.

Condra (George Evart).
1. New Bryozoa from the Coal Measures of Nebraska.
Am. Geol., vol. 30, pp. 337-359, 8 pls., 1902.
2. The Coal Measure bryozoa of Nebraska.
Reviews literature bearing on the subject, gives list of Coal Measure bryozoa in the United States, table of geographic distribution in Nebraska, and systematic descriptions of genera and species.
3. On Rhombopora lepidodendroides Meek.
Am. Geol., vol. 31, pp. 22-24, 2 pls., 1903.
Describes characters and occurrence in the Permian of Nebraska.
4. An old Platte channel [Nebraska].
Am. Geol., vol. 31, pp. 361-369, 2 figs., 1903.
Describes situation, stratigraphic and physiographic features of the valley to which the name Todd Valley is given, and the evidences of its containing a buried channel formerly occupied by the Platte River.
5. Stratigraphic delineation of the Benton and Niobrara formations of Nebraska.
FOR THE YEARS 1901-1905, INCLUSIVE.

Cook (Alfred N.).
1. A new deposit of fuller's earth.
   Describes the chemical composition of a specimen of fuller's earth from the Black Hills of South Dakota.

Cook (Edward H.).
1. La Mina Santa Francisca, Mexico.
   Mg. Mag., vol. 11, pp. 424-429, 5 figs., 1905.
   Gives notes on the geology of the region and the character and occurrence of the ores carrying principally silver.

Cooper (A. S.).
1. The origin and occurrence of petroleum in California.
   Min. Ind. for 1901, pp. 505-509, fig. 1, 1901.
   Describes the occurrence and character of the oil.

Cooper (J. C.).
1. Oxygen in its relation to mineralogy.

Cooper (W. F.).
1. Notes on the wells, springs, and general water resources of lower Michigan.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 102, pp. 489-512, 1904.
   Discusses the water resources of the area. Includes records of wells and borings.
3. The coal formation of Bay County [Michigan].

Corkill (E. T.).
1. Notes on the occurrences, production, and uses of mica.
   Describes the occurrence and mining of mica in India, the United States, and Canada, particularly the occurrence and geologic relations of deposits in Quebec and Ontario.
2. Petroleum and natural gas [in Ontario].
   Reviews the various theories of the origin of petroleum and natural gas, and describes the occurrence and geologic horizon of petroleum and natural gas in Ontario, including numerous records of borings.

Corless (C. V.).
1. The Coal Creek colliery of the Crows Nest Pass Coal Co. [Canada].
   Gives a general description of the geologic occurrence of the coal.
   Describes the geology and occurrence of ore bodies of this area.

Cornwall (H. B.).
1. Occurrence of greenockite on calcite from Joplin, Missouri.

Cros (Frederic).
1. The buried valley of Wyoming [Pennsylvania].
   Describes the position, formation, and filling of a pre-Glacial valley at Wyoming.

Coste (Eugene).
1. Volcanic origin of natural gas and petroleum.
   Abstract from paper read before the Can. Mg. Inst., March, 1903.
Coste (Eugene)—Continued.

2. Volcanic origin of natural gas and petroleum.
   Can. Mg. Inst., Jour., vol. 6, pp. 73-123, 1904.
   Gives a full presentation of facts confirmatory of the theory of the volcanic origin of natural gas and petroleum.

3. The volcanic origin of oil.

4. Volcanic origin of oil.
   Discusses volcanic origin of oil with particular reference to the Texas-Louisiana oil district.

Courtis (W. M.).
1. [In discussion of paper by G. O. Smith and Bailey Willis on "The Clealum iron ores, Washington."]
   Gives additional analyses of these ores.

Cowan (John L.).
1. The arsenic mines at Brinton, Virginia.
   Describes the occurrence of arsenic ores at Brinton, Virginia, and their economic development.

Cowles (Henry C.).
1. The relation between baseleveling and plant distribution.

2. The influence of underlying rocks on the character of the vegetation.

Cragin (Francis Whittemore).
1. A study of some teleosts from the Russell substage of the Platte Cretaceous series.

2. Paleontology of the Malone Jurassic formation of Texas.
   Discusses the occurrence and geologic horizon of Jurassic fossils in the Malone Mountains region of Texas and gives systematic descriptions of the species.

Crane (W. R.).
1. Kansas coal mining.
   Eng. and Mg. Jour., vol. 72, pp. 748-752, 7 figs., 1901.
   Describes the distribution and characters of the coal-bearing strata.

2. The Kansas coal mines of the Missouri Valley.
   Contains notes on the geologic occurrence of the coal seams.

3. Asphalt refining. Methods employed in the Tar Springs Asphalt Co.'s refinery, near Comanche, Ind. T.
   Contains observations on the character and occurrence of asphalt deposits.

4. Coal fields of Kansas. Recent discoveries and developments in the Cretaceous formation in the northern central portion of the State.
   Describes the occurrence of a workable coal seam and gives a section of the strata penetrated by a shaft.

5. Coal mining in the Indian Territory—the southwestern field.
   Describes the character and occurrence of the coal seams and the methods of mining.

6. The Pratt coal mines in Alabama.
   Describes the occurrence of coal and the geologic structure of the coal fields.
Crane (W. R.)—Continued.

7. Coal mining in Arkansas.

Contains notes on the occurrence and character of coal beds in western Arkansas.

Crane (W. R.), Adams (George I.), Haworth (Erasmus), and.


See Adams (George I.), Haworth (Erasmus), and Crane (W. R.), 1.

Crawford (J.).

1. Earthquakes in Nicaragua.

*Am. Geol., vol. 29, p. 328, 1902.

2. Volcanoes and earthquakes in Nicaragua.

*Am. Geol., vol. 29, p. 395, 1902.

3. List of the most important volcanic eruptions and earthquakes in western Nicaragua within historic time.


4. Additions to the list of Nicaragua volcanic eruptions in historic time.


Crevecoeur (F. F.).

1. List of fossil plants collected in the vicinity of Onaga, Kans.

Describes the stratigraphy and occurrence of fossils at this locality.

Crider (A. F.).

1. Cement resources of northeast Mississippi.


2. Volcanoes and earthquakes in Nicaragua.

*Am. Geol., vol. 29, p. 395, 1902.

3. List of the most important volcanic eruptions and earthquakes in western Nicaragua within historic time.


4. Additions to the list of Nicaragua volcanic eruptions in historic time.


Criscle (A. F.), Eckel (E. C.) and.

1. Geology and cement resources of the Tombigbee River district, Mississippi-Alabama.

See Eckel (E. C.) and Crider (A. F.), 1.

Crook (Alja Robinson).

1. The mineralogy of the Chicago area.

Discusses the occurrence and composition of the minerals of this area.

2. Missouri lead and zinc regions visited by the Geological Society of America.

Describes the occurrence of ore deposits.


Describes the occurrence, relations to surrounding rocks, and character of molybdenite ore at Crown Point, Washington.

Crosby (William O.).

1. The tripolite deposits of Fitzgerald Lake, near St. John, New Brunswick

Describes the character and origin of the deposit.


Describes the character, occurrence, and origin of the hematite ores of the region.

3. The origin of eskers.

Describes the characteristics of eskers, discusses the hypotheses as to their origin, and reviews the evidence that has been heretofore presented.
Crosby (William O.)—Continued.

4. Origin and relations of the auriferous veins of Algoma [western Ontario].
   Tech. Quart., vol. 15, pp. 161-180, 8 figs., 1902.
   Presents the author's observations in the region, reviews Dr. Coleman's conclusions, and
discusses the origin of these auriferous veins.

   Describes the character of the glacial gravels and gives the results of penetration tests.

   Describes certain geographic and physiographic features and discusses their origin.

7. A study of the geology of the Charles River estuary and Boston Harbor, with
   special reference to the building of the proposed dam across the tidal portion of
   the river.
   Tech. Quart., vol. 16, pp. 64-92, 1903.
   Describes the geologic formations of the vicinity, the bedded rock and glacial deposits, and
   the processes and conditions of sedimentation prevailing now and in the recent past.

8. Structure and composition of the delta plains formed during the Clinton stage in
   the Glacial lake of the Nashua Valley.
   Tech. Quart., vol. 16, pp. 240-254, 9 figs., map, 1903.

9. Notes on the wells, springs, and general water resources of Rhode Island.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 102, pp. 119-123, 1904.

10. Memoir of Alpheus Hyatt.
   Includes a list of papers published by the subject of the memoir.

11. Structure and composition of the delta plains formed during the Clinton stage in
    the Glacial lake of the Nashua Valley. [Continuation.]
    Describes the structure and process of building of Glacial delta plains and the character and
    occurrence of various Glacial deposits, and discusses their origin.

12. Geology of the Weston aqueduct of the Metropolitan waterworks in Southboro,
    Framingham, Wayland, and Weston, Massachusetts.
    Describes the character and occurrence of the rocks in the tunnels of the Weston aqueduct
    and discusses their geologic relations and their age.

13. Water supply from the delta type of sand plain.
    Includes an account of the formation and structural features of sand plains.

    Gives a brief account of the general geology and the water supply considered by areas.

15. Genetic and structural relations of the igneous rocks of the lower Neponset Valley,
    Massachusetts.
    Describes the occurrence and history of the basal complex of this region, the occurrence and
    relations of Cambrian strata, and the occurrence, geologic relations, age, and petrographic
    characters of the gneissic rocks forming the batholite.

16. The limestone-granite contact deposits of Washington camp, Arizona.
    Tech. Quart., vol. 18, pp. 171-190, 1905; Am. Inst. Mgr. Engrs., Bi-Mo. Bull. no. 6, pp. 1217-1238,
    1905.
    Describes the general geology, the character, occurrence, and origin of the ore deposits, yielding
    chiefly copper, and the metamorphism of the contact rocks.

Crosby (William O.) and La Forge (Lawrence).

1. Notes on the wells, springs, and general water resources of Massachusetts.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 102, pp. 94-117, 1904.
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Crosby (William O.) and Loughlin (G. F.):
1. A descriptive catalogue of the building stones of Boston and vicinity.
   Describes the geologic and geographic occurrence, character, and use in Boston of various building stones.

Cross (Charles Mortimer):
1. The underground water circulation.
   Ores and Metals, vol. 13, no. 15, pp. 21, 37-38; no. 16, p. 22, 1904.
   Discusses ore deposition by circulating waters.

Cross (Whitman):
1. Outline of geology. (Silverton quadrangle, Colorado.)
   Describes the general characteristics of the sedimentary and igneous rocks and the structure of the region.

2. Geologic formations versus lithologic individuals.
   Jour. Geol., vol. 10, pp. 232-244, 1902.
   Reviews papers by Willis and Eckel and discusses geological formations as divisions of rock masses which should be discriminated through the consideration of all the geologic data which each contains.

3. The development of systematic petrography in the nineteenth century.
   Reviews the development of the science of petrography and gives the author's summary of some of the defects of the modern classifications of igneous rocks and of the status of systematic petrography at the close of the nineteenth century.


5. A new Devonian formation in Colorado.
   Describes character, occurrence, and geologic relations of Devonian strata in the San Juan region of Colorado.

   Jour. Geol., vol. 12, pp. 510-523, 1 fig., 1904.
   Describes the occurrence and character of a trachyte rock from the Island of Hawaii, gives chemical analyses of this and allied rocks and its norm, and discusses its bearing upon the geologic history of the island, and the general significance of the occurrence.

7. Geography and general geology of the Rico quadrangle [Colorado].
   Describes the physical features, the occurrence, character, and relations of metamorphic and igneous rocks and of Algonkian, Cambrian, Devonian, Carboniferous, Jurassic, and Cretaceous strata, and the geologic structure and history of the area.

Cross (Whitman) and Howe (Ernest):
   Gives an outline sketch of the physical history and general geology, describes the occurrence, character, and relations of Archean, Algonkian, Cambrian, Devonian, Carboniferous, and Tertiary rocks, of Quaternary deposits, and of eruptive rocks, and the physiography and geologic history and structure, and discusses in detail the petrology of the quadrangle.

2. Red Beds of southwestern Colorado and their correlation.
   Discusses the occurrence, character, and relations of strata, collectively called Red Beds, in southwestern Colorado, their subdivisions and correlation with Red Beds elsewhere.

3. Topography and general geology of the Needle Mountains quadrangle [Colorado].
   Describes the physiographic features, the occurrence, character, and relations of metamorphic and igneous rocks and of Algonkian, Cambrian, Devonian, Carboniferous, and Tertiary strata, and the geologic structure and history of the area.

Cross (Whitman), Iddings (Joseph P.), Pirsson (Louis V.), and Washington (Henry S.).

1. A quantitative chemico-mineralogical classification and nomenclature of igneous rocks.
   Jour. Geol., vol. 10, pp. 555-690, 1902.
   Gives a general summary of the new system and describes the classification and nomenclature proposed. Includes chemical analyses and tables of alferic minerals and the rocks in which they occur.

2. Quantitative classification of igneous rocks based on chemical and mineral characters, with a systematic nomenclature.
   University of Chicago Press, 286 pp., 1903.
   A review of the development of systematic petrography in the nineteenth century, by Whitman Cross, is followed by a discussion of the principles of classification of igneous rocks and an exposition of the new system of classification and nomenclature proposed by the authors and methods of calculation for determining the position of a rock in their system of classification.

Cross (Whitman), assisted by Arthur Coe Spencer.

1. General geology, La Plata-folio, Colorado.
   Describes the geographic and physiographic features, the character and occurrence of the Jurassic, Cretaceous, Eocene, and Pleistocene strata and igneous rocks, and the geological structure. Includes a statement of the general geologic problems of the region.

Crowther (Henry M.).

1. The copper deposits of the Beaver River Range, Utah.
   Describes the geologic structure and the occurrence of the ores.

Culbert (M. T.).

1. The iron belt west of Hutton [Ontario].
   Gives observations upon the geology of the region traversed and the occurrence of iron ores.

Cumings (Edgar Roscoe).

1. The use of Bedford as a forinational name.
   Proposes the name Salem limestone for the Bedford limestone, the latter having been preoccupied.

2. Orthothetes minutus, n. sp. from the Salem limestone of Harrodsburg, Indiana.
   Am. Geol., vol. 27, pp. 147-149, 1 pl., 1901.
   Describes the section at various localities with notes on the faunas.

3. Some developmental stages of Orthothetes minutus n. sp.

4. Lower Silurian system of eastern Montgomery County, New York.
   N. Y. State Mus., Bull., no. 34 [also in 54th Ann. Rept., vol. 1], pp. 418-468, 4 pls., 1 fig., 5 cross sections, geol. map, 1902.

5. A revision of the Bryozoan genera Dekayia, Dekayella, and Heterotrypa of the Cincinnati group.
   Am. Geol., vol. 29, pp. 197-218, 4 pls., 1902.
   Reviews the literature on these genera and describes new species.
Cumings (Edgar Roscoe)—Continued.

8. The morphogenesis of Platystrophia; a study of the evolution of a Paleozoic brachiopod.
   

   
   Describes development stages in recent bryozoa and in the fossil genera Fenestella, Unitrypa, and Polyopora.

   

   

Cumings (Edgar R.) and Mauck (A. V.).

1. A quantitative study of variation in the fossil brachiopod Platystrophia lynx.
   

Cumings (Edgar E.), Prosser (Charles S.) and...

1. The Waverly formations of central Ohio.
   
   See Prosser (Charles S.) and Cumings (Edgar R.), 1.

Cumings (William N.).

1. The Hostotipaquillo district, Jalisco [Mexico].
   
   Contains notes on the geology of the district.

Currie (P. W.).

1. On the ancient drainage at Niagara Falls.
   
   Describes the course of the pre-Glacial river and discusses its mode of formation.

Curtis (George Carroll).

   
   Jour. Geol., vol. 11, pp. 199-215, 12 figs., 1903.
   Describes phenomena connected with volcanic eruptions of 1902 in the West Indies and discusses the character and cause of the eruptions within stream valleys.

2. Note on the West Indian eruptions of 1902.
   
   Am. Geol., vol. 31, pp. 40-43, 1903.
   Describes and gives an explanation of eruptions in stream beds.

   
   Am. Geol., vol. 32, pp. 178-182, 2 figs., 1908.

4. Evidence of recent differential movement along the New England coast.
   

Cushing (H. P.).

1. Origin and age of an Adirondack augite andesite.
   
   Brief description of character and occurrence.

2. Geology of Rand Hill and vicinity, Clinton County [New York].
   
   Describes the geologic history of the region, and the pre-Cambrian and Paleozoic rocks.

3. Recent geologic work in Franklin and St. Lawrence counties [New York].
   
   Discusses topography, geologic structure, and petrology of the area.

4. Pre-Cambrian outlier at Little Falls, Herkimer County [New York].
   
   Describes exposures and microscopic and chemical characters of rocks.

5. The derivation of the rock name "anorthosite."
   
   Am. Geol., vol. 29, pp. 190-191, 1902.
   Discusses the use of the name.

Bull. 301—06—0
Cushing (H. P.)—Continued.

6. Accessions to the library [of the Geological Society of America] from June, 1901, to June, 1902.

7. Petrography and age of the Northumberland rock.
   Describes the petrologic characters and discusses the correlation of the igneous rock discovered near Schuylerville, New York.

8. Memoir of Peter Neff.

9. Geology of the vicinity of Little Falls, Herkimer County [New York].
   Describes the petrologic characters and discusses the correlation of the igneous rock discovered near Schuylerville, New York.

10. Geology of the southern Adirondack region.
    N. Y. State Mus., Bull. 77, pp. 271-453, 18 pls., 9 figs., 1905.
    Describes the geologic history of the region; the character, occurrence, and geologic relations of pre-Cambrian igneous and metamorphosed rocks of Cambrian and Ordovician sedimentary deposits, and of Paleozoic igneous rocks; and the geologic structure.

Cushman (Joseph A.).

   Am. Geol., vol. 33, pp. 154-156, 1 pl., 1904.

2. Pleistocene foraminifera from Panama.
   Am. Geol., vol. 33, pp. 265-266, 1904.
   Describes occurrence and gives a list of species identified, with notes as to the occurrence of living forms of the same species.

   Am. Geol., vol. 34, pp. 169-174, 1904.
   Gives a section of the strata and a table showing the occurrence of the fossils in the various beds, and discusses the relations of these faunas.

   Am. Geol., vol. 34, pp. 293-296, 3 figs., 1904.

5. Notes on fossils obtained at Sankaty Head, Nantucket, in July, 1905.

6. Fossil crabs of the Gay Head Miocene.
   Discusses the occurrence of fossil crabs at this locality, and gives descriptions of two species.

D.

Dale (T. Nelson).

1. Structural details in the Green mountain region [Vermont] and in eastern New York (Second paper).
   U. S. Geol. Surv., Bull. no. 199, 22 pp., 4 pls., 8 figs., 1902.
   Discusses geologic phenomena presented in this area.

2. The slate industry at Slatington, Pa., and Martinsburg, W. Va.
   Discusses the character and occurrence of the slates at these localities.

3. The geology of the north end of the Taconic Range.
   Discusses the areal distribution and structural relations of Cambrian and Ordovician formations in the area, and gives an explanation of these facts.

4. Note on Arkansas roofing slates:
   Discusses the occurrence and megascopic and microscopic characters.
Dale (T. Nelson)—Continued.

5. Geology of the Hudson Valley between the Hoosic and the Kinderhook.
   U. S. Geol. Surv., Bull. no. 242, 68 pp., 3 pls., and 17 figs., 1904.
   Describes the occurrence, general and petrographical characters, and geologic structure and
   relations of lower Cambrian, Ordovician, and Silurian strata, and the general geologic
   structure and history of this region.

6. Note on the geological relations of the Brandon lignite deposit.


8. Slate investigations during 1904.
   Describes the occurrence and quarrying of slate in Maine, Vermont, Pennsylvania, Maryland,
   Virginia, and West Virginia.

   U. S. Geol. Surv., Bull. no. 272, 52 pp., 14 pls., 3 figs., 1905.
   Reviews papers giving descriptions of the physiography of the region occupied by the Taconic
   Mountains in western New England, describes in detail the physical characters of the
   underlying rocks and the various physiographic features, and discusses the origin of the
   latter and their relations to the underlying rocks.

Dall (William Healey).

1. The structure of Diamond Head, Oahu.
   Am. Geol., vol. 27, pp. 386-387, 1901.

2. The morphology of the hinge teeth of bivalves.

3. A gigantic fossil Lucina.
   Describes Lucina megamericis from Jamaica.


5. Alpheus Hyatt.
   Gives a sketch of the life and work of Professor Hyatt.

   Discusses the age of this formation.

7. On the true nature of Tamiosoma.
   Science, new ser., vol. 15, pp. 5-7, 1902.

8. Contributions to the Tertiary fauna of Florida, with especial reference to the silex
   beds of Tampa and the Pliocene beds of the Caloosahatchie River, including a
   complete revision of the generic groups treated of and their American Tertiary
   species. Part VI. Concluding the work.
   Gives systematic descriptions of the fauna, including emendatory notes upon the previous
   parts of the work, and describes the geologic history of the region, and the character,
   occurrence, and faunal features of the several Tertiary formations.

   Discusses stratigraphic position and geologic age of the Grand Gulf formation.

10. Neozoic invertebrate fossils. A report on collections made by the [Harriman
     Alaska] expedition.
    Gives systematic descriptions of Eocene fossils from Alaska Peninsula and of Miocene fossils
    from the Shumagin Islands, and a list of Pleistocene fossils from Douglas Island, and
    describes the localities from which fossils were obtained.
Dall (William Healey)—Continued.

   A note in regard to the explanation of certain geologic formations on the Island of Oahu.

   Nautilus, vol. 18, pp. 9-10, 1904.

   Includes observations on Tertiary forms.

14. The relations of the Miocene of Maryland to that of other regions and to the recent fauna.

15. Fossils of the Bahama Islands, with a list of the nonmarine mollusks.
   Discusses the occurrence and relations of the fossil land shells, gives systematic descriptions of a number of forms and a list of all known forms, and discusses the character of the marine fossil fauna and that of the "salt pans."


17. [The time element in stratigraphy and correlation.]

Dall (William Healey) and Bartsch (Paul).

1. A new Californian Bittium.

2. Synopsis of the genera, subgenera, and sections of the family Pyramidellidae.
   Includes a description of a new species from the Oligocene of Florida.

Daly (Reginald Aldworth).

1. The physiography of Acadia.
   Describes the characteristics of the several plateau and lowland areas and their origin.

2. Notes on oceanography.
   Discusses phenomena of marine currents and river deflection.

3. The geology of the northeast coast of Labrador.
   Gives an account of geologic and topographic observations made along the coast of Labrador.

4. The geology of the region adjoining the western part of the International Boundary.
   Describes the author's observations in the southern part of British Columbia.

   Gives observations on the geology of Labrador.

6. Geology of the western part of the international boundary (49th parallel).
   Describes physiographic features and general geology of the region.

7. The geology of Ascutney Mountain, Vermont.
   U. S. Geol. Surv., Bull. no. 209, 122 pp., 7 pls., 1 fig., 1903.
   Describes physiography and general geology, and the character and occurrence of metamorphic and eruptive rocks, and discusses their origin.
Daly (Reginald Aldworth)—Continued.

8. The mechanics of igneous intrusion.
   Discusses origin of igneous rocks.

9. Variolitic pillow lava from Newfoundland.
   Am. Geol., vol. 32, pp. 65-78, 2 pls., 3 figs., 1903.
   Describes occurrence and character of pillow lava and discusses origin of variolite and pillow structure.


11. The secondary origin of certain granites.

12. The classification of igneous intrusive bodies.

13. Geology of the western part of the international boundary (49th parallel).

    Science, new ser., vol. 22, pp. 91-93, 1905.

Dana (Edward S.).


Dana (Edward S.), Brush (George J.) and.

1. On a new and remarkable mineral deposit at Branchville, in Fairfield County, Connecticut; with a description of several new species occurring there. First paper.
   See Brush (G. J.) and Dana (E. S.), 1.

2. Second Branchville paper.
   See Brush (G. J.) and Dana (E. S.), 2.

3. Third Branchville paper.
   See Brush (G. J.) and Dana (E. S.), 3.

4. Fourth Branchville paper—spodumene and the results of its alteration.
   See Brush (G. J.) and Dana (E. S.), 4.

5. Fifth Branchville paper; with analyses of several manganic phosphates, by Horace T. Wells.
   See Brush (G. J.) and Dana (E. S.), 5.

Daniels (L. E.).

1. Notes on the semi-fossil shells of Posey County, Indiana.
   Gives a list of mollusca obtained from alluvial marl deposits.

Darton (Nelson Horatio).

1. Preliminary description of the geology and water resources of the southern half of the Black Hills and adjoining regions in South Dakota and Wyoming.
   Describes the character and occurrence of the Cambrian, Carboniferous, Jurassic, Cretaceous, Tertiary, and Pleistocene strata, the water and mineral resources, and the soils.

2. Comparison of stratigraphy of the Black Hills with that of the front range of the Rocky Mountains.


4. Stratigraphy of the Big Horn Mountains.
BIBLIOGRAPHY OF NORTH AMERICAN GEOLOGY

Darton (Nelson Horatio)—Continued.

   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 57, 60 pp., 1902.

   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 61, 67 pp., 1902.

   Describes the geographic and topographic features, the general geologic relations, and the character and occurrence of Cretaceous, Tertiary, and Quaternary strata, and discusses the soils and underground waters.

8. Oelrichs folio, South Dakota-Nebraska.
   Describes geographic and topographic features, the general geologic relations and history, the characters and occurrence of Carboniferous, Jurassic, Cretaceous, Tertiary and Quaternary strata, and the economic resources.

9. Preliminary report on the geology and water resources of Nebraska west of the one hundred and third meridian.
   This is a reprint of the paper with the above title in the Nineteenth Annual Report of the Director of the U. S. Geological Survey, Part IV, 1899, with a few corrections in some of the maps and a few minor changes in statements regarding geology.

10. Camp Clarke folio, Nebraska.
   Describes geography, topographic features and drainage, general geologic relations, and character and occurrence of formations of Tertiary age; gives a brief geologic history of the central Great Plains region, and discusses the supplies of underground waters and irrigation.

11. Scotts Bluff folio, Nebraska.
   Describes geography, topography and drainage, general geologic relations, and character and occurrence of Tertiary and Quaternary formations; gives a brief geologic history of the central Great Plains region, and discusses underground waters and irrigation.

12. Some relations of Tertiary formations of the northern Great Plains.

13. Comparison of stratigraphy of the Big Horn Mountains, Black Hills, and Rocky Mountain front range.

   Describes physiographic features, the geologic history and structure, the occurrence, character, and stratigraphic relations of Carboniferous, Triassic (?), Jurassic, and Cretaceous strata and Quaternary deposits, and the economic resources, artesian water, coal, petroleum, gypsum, etc.

15. Gypsum deposits in South Dakota.
   U. S. Geol. Surv., Bull. no. 223, pp. 76-78, 1 pl., 2 figs., 1904.
   Describes character, occurrence, and economic development of gypsum deposits in the Black Hills region.

16. Comparison of the stratigraphy of the Black Hills, Bighorn Mountains, and Rocky Mountain front range.
   Describes in detail the occurrence, character, etc., of geologic formations of Cambrian, Ordovician, Carboniferous, Triassic, Jurassic, and Cretaceous age, and discusses their relations and correlations.

17. New York City folio, New York-New Jersey.
   See Merrill (F. J. H.) and others. 1.
FOR THE YEARS 1901-1905, INCLUSIVE.

18. Preliminary report on the geology and underground water resources of the central Great Plains.
   Describes the occurrence, character, and relations of Archean, Algonkian, Cambrian, Ordovician, Carboniferous, Triassic, Jurassic, Cretaceous strata and Tertiary deposits, the geologic history of the central Great Plains region, and the underground waters and other economic resources of the area.

19. The Zuni salt lake [Arizona].
   Jour. Geol., vol. 13, pp. 185-193, 5 figs., 1905.
   Describes the situation and physiographic features, and the origin and history of the lake.

   Describes the character, occurrence, and geologic relations of coal beds, and the mining operations.

   Describes the occurrence of salt deposits in west central New Mexico.

   Describes briefly the general geology, the water-bearing horizons, and the water supplies.

23. Age of the Monument Creek formation.
   Gives an account of additional evidence for the Oligocene age of the Monument Creek formation.

   Science, new ser., vol. 22, p. 120, 1905.

   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 149, 175 pp., 1905.

   Describes the geography, the occurrence, character, and relations of Algonkian, Cambrian, Ordovician, Carboniferous, Triassic (?), Jurassic, Cretaceous, Tertiary, and Quaternary formations and of igneous rocks, the geologic structure and history, and the economic resources of the area.

27. Structure of the Great Plains and the mountains on their western margin.

Darton (Nelson H.) and Fuller (Myron L.).
1. Underground waters of eastern United States: Maryland.
   Describes briefly the general geology and water-bearing horizons of the State, and particularly those of the Baltimore district.

   Describes briefly the general geology and the water-bearing horizons and prospects.

   Describes the general geology and the water horizons.

Darton (Nelson H.) and Keith (Arthur).
   Describes geographic and topographic features, the character and occurrence of Archean rocks and of the Cretaceous, Eocene, Neocene, and Pleistocene strata, the general structure of the Piedmont and Coastal plain regions, and mineral resources of the area.
Darton (Nelson H.) and O'Harra (C. C.).
   Describes the geography, the occurrence, character, and relations of Cambrian, Ordovician,
   Carboniferous, Triassic (?), Jurassic, Cretaceous, Tertiary, and Quaternary formations and
   of igneous rocks, the geologic history, and the economic products.

Darton (Nelson H.) and Smith (W. S. Tangier).
1. Edgemont folio, South Dakota-Nebraska.
   Describes the geography, topography, and drainage, the geologic history and structure of
   the area, the occurrence, character, and relations of Carboniferous, Triassic, Jurassic, Cre­
   taceous, and Tertiary sedimentary strata, and the soils and water resources.

Davidson (George).
1. The glaciers of Alaska that are shown on Russian charts or mentioned in older
   narratives.

Davis (C. Abbott).
1. Check-list of the minerals of Rhode Island.
   Roger Williams Park Mus., Providence, R. I., Bull. no. 8, 12 pp., 1905. The Apteryx, vol. 1,
   pp. 59-72, 1905.
2. A second contribution to the natural history of marl.
3. A contribution to the natural history of marl.
   Discusses sources and theories of formation, character, and composition of marl, and the rôle
   of Chara in marl formation.

Davis (R. O. E.).
1. Analysis of kunzite.

Davis (William Morris).
1. An excursion to the Grand Canyon of the Colorado.
   new ser., vol. 13, p. 125, 1901.
   Describes the denudation and displacements of the region and discusses the origin of the
   drainage system.
2. Peneplains of central France and Brittany.
   Discusses the theory of peneplains.
   Discusses the formation of these terraces.
4. Current notes on physiography.
   Contains notes on the Dalles of the Wisconsin and the islands of southern California.
5. Current notes on physiography.
6. Current notes on physiography.
   Contains abstracts of papers by I. C. Russell on the geology of the Cascade Mountains and by
   W. T. Lee on the glacier of Mt. Arapahoe.
7. Current notes on physiography.
   Contains abstract of paper by Abbe on the physiography of Allegany County, Maryland.
FOR THE YEARS 1901-1905, INCLUSIVE.

Davis (William Morris)—Continued.
8. Current notes on physiography.
Contains abstract of paper by Ganong on the physiography of New Brunswick.

9. Current notes on physiography.
Contains brief abstract of paper by Lindgren, describing the Snake River canyon.

10. Current notes on physiography.

11. Current notes on physiography.
Contains abstracts of second folio of the Topographic atlas of the United States and of paper by Lee on the debris-covered mesa of Boulder, Colorado.

12. Current notes on physiography.
Contains abstracts of the third folio of the Topographic atlas of the United States by R. T. Hill and of a paper by Crosby on the Nashua Valley, Massachusetts.

13. Current notes on physiography.
Gives an abstract of paper by Jones on the Tallulah gorge in Georgia.

Reviews recently published folios of the Geologic atlas of the United States.

15. Current notes on physiography.
Gives an abstract of a paper by Matthes on the glacial sculpture of the Big Horn Mountains.

Gives an abstract of paper by Shattuck on the Pleistocene problem of the North Atlantic Coastal plain.

17. Current notes on physiography.
Reviews paper by Spurr on the structure of the Basin ranges.

18. Current notes on physiography.
Contains remarks on glacial lakes in Minnesota, esker lakes in Indiana and the Ontario coast.

19. Current notes on physiography.
Refers to dikes as topographic features, the character of the plain of St. Lawrence Valley and the question of peneplains.

20. Current notes on physiography.
Reviews papers by Johnson on the High Plains and by Low on the south shore of Hudson Strait.

Reviews Hobbs's paper on the River system of Connecticut and Dowling and Tyrrell on Lake Winnipeg.

22. The geographical cycle.

23. La peneplaine.
See no. 1387 in U. S. Geol. Surv., Bull. no. 188.
Davis (William Morris)—Continued.

24. The drainage of cuestas.
   Cites some American physiographic features in illustration.

   Describes geologic and physiographic features of the Grand Canyon of the Colorado.

26. Baselevel, grade, and peneplain.
   Jour. Geol., vol. 10, pp. 77-109, 1902.
   Discusses the use of these words and the meanings that have been given them.

27. Field work in physical geography.
   Discusses the differences between geography and geology.

28. The terraces of the Westfield River, Massachusetts.
   Describes the local features of these terraces and discusses their origin.

   Discusses the formation of river terraces.

30. Current notes on physiography.
   Science, new ser., vol. 15, pp. 74-75, 1902.
   Contains an abstract of the Washington folio of the U. S. Geological Survey.

31. The walls of the Colorado Canyon.

32. The effect of the shore line on waves.

33. Current notes on physiography.
   Contains an abstract of a paper by Hershey on the ‘Geology of the central portion of the Isthmus of Panama.’

34. Current notes on physiography.
   Contains abstracts of papers by Collie on the physiography of Wisconsin.

35. Current notes on physiography.
   Discusses a paper by Newsom on ‘Drainage of southern Indiana,’ and gives an abstract of paper by Jaggar, ‘The laccoliths of the Black Hills.’

36. Current notes on physiography.
   Gives an abstract of paper by Marbut on ‘The evolution of the northern part of the lowlands of southeastern Missouri.’

37. Current notes on physiography.
   Gives an abstract of a paper by J. E. Todd on the ‘Hydrographic history of South Dakota.’

38. Current notes on physiography.
   Gives an abstract of Daly’s report on ‘The geology of the northeast coast of Labrador.’

   Gives an outline of Fairchild’s work on the ‘Pleistocene geology of western New York.’

40. Current notes on physiography.
   Discusses the physiographic divisions of Kansas.

41. Current notes on physiography.
   Contains a discussion of abandoned channels of the Monongahela.
42. Current notes on physiography.
   Discusses overthrust mountains of northern Montana.

43. Current notes on physiography.
   Contains observations on the physiography of the southern Appalachian region.

44. Current notes on physiography.
   Science, new ser., vol. 17, pp. 672-673, 1903.
   Discusses physiographic features of the Snake River lava plains in Idaho.

45. An excursion to the plateau province of Utah and Arizona.
   Describes physiographic features of this region.

46. The mountain ranges of the Great Basin.
   Discusses the explanations offered for the formation of the mountain ranges of the Great Basin, describes observations made, and reaches the conclusion that the Basin ranges are examples of dissected fault-block mountains.

47. The development of river meanders.

48. The stream contest along the Blue Ridge.
   Describes physiographic features and stream capture in the Blue Ridge region of North Carolina.

49. Effect of shore line on waves.

50. Walls of the Colorado Canyon.
   Contains brief notes.

51. The fresh-water Tertiaries at Green River, Wyoming.

52. Block mountains of the Basin Range province.
   Discusses the mode of their origin.

53. The relations of the earth sciences in view of their progress in the nineteenth century.
   Jour. Geol., vol. 12, pp. 669-687, 1904.


55. The geographical cycle in an arid climate.

56. Complications of the geographical cycle.

57. Bearing of physiography upon Suess's theories.

58. Glaciation of the Sawatch Range, Colorado.
   Discusses various physiographic features and their origin through glacial erosion.

59. The Wasatch, Canyon, and House ranges, Utah.
   Discusses the structure, physiographic features, and mode of formation of these mountains.
Davis (William Morris)—Continued.

60. Leveling without baseleveling.
Discusses the formation of level plains without baseleveling.

61. [The Colorado Canyon.]

Davison (Charles).
1. A study of recent earthquakes.
Includes an account of the Charleston earthquake.

Davison (J. M.).
1. Internal structure of cliftonite.
Describes occurrence and crystallographic characters.

Dawson (George M.).
2. Geological record of the Rocky Mountain region in Canada.
Gives an account of the physiographic features and a table of geologic formations of the region. Describes the character and occurrence of the rocks of the subdivisions of the Archean, Paleozoic, Mesozoic, and Cenozoic eras.
Contains portion of address delivered before the Geological Society of America.
5. Summary report on the operations of the Geological Survey for the year 1899 by the Director.

Day (Arthur L.).
1. The study of minerals in the laboratory.
Describes experiments upon the melting-point determinations of feldspars.

Day (Arthur L.) and Allen (E. T.).
1. The isomorphism and thermal properties of the feldspars.
2. The isomorphism and thermal properties of the feldspars. Part I, Thermal study.
Carnegie Inst. of Wash., Publ. no. 31, pp. 13-75, 24 figs., 1905.

Day (Arthur L.) and Shepherd (E. S.).
1. The phase-rule and conceptions of igneous magmas. Discussion of paper by Mr. T. T. Read.
Econ. Geol., vol. 1, pp. 286-299, 1905.

Day (Arthur L.), Becker (G. F.) and...
1. The linear force of growing crystals.
See Becker (G. F.) and Day (A. L.), 1.

Day (David T.).
Describes the geographic distribution of platinum and its occurrence on the Pacific coast.
2. Experiments on the diffusion of crude petroleum through fuller's earth.
Day (David T.)—Continued.

3. [In discussion of paper by George I. Adams, "Principles controlling the geologic deposition of the hydrocarbons.”].
   Discusses passage of petroleum through fuller's earth, and its bearing upon the subject of Mr. Adams's paper.

   Occurrence and character of a gypsum deposit near Panasoffkee, Florida.

   Contains:
   Alumirnum and bauxite, pp. 267-271.
   Antimony, by Edward W. Parker, pp. 291-297.
   Coal, by Edward W. Parker, pp. 321-326.
   Coke, by Edward W. Parker, pp. 321-326.
   Gold and silver, pp. 119-127.
   Iron ores, by John Birkhbine, pp. 31-67.
   Manganese ores, by John Birkbine, pp. 129-162.
   Nickel and cobalt, pp. 259-280.
   Quicksilver, by Edward W. Parker, pp. 273-283.
   Tungsten, molybdenum, uranium, and vanadium, by Joseph Hyde Pratt, pp. 299-318.
   Zinc, by Charles Kirchhoff, pp. 249-266.

   Contains:
   Abrasive materials, pp. 463-479.
   Asbestos, by Edward W. Parker, pp. 561-564.
   Asphaltum and bituminous rock, by Edward W. Parker, pp. 319-322.
   Barytes, by Edward W. Parker, pp. 587-588.
   Cement:
   Clay, pp. 361-364.
   Clay and clay products at the Paris Exposition of 1900, by Heinrich Ries, pp. 365-392.
   Feldspar and quartz, by Heinrich Ries, pp. 583-596.
   Fluorspar, by Edward W. Parker, pp. 569-569.
   Fuller's earth, pp. 589-592.
   Graphite, pp. 565-568.
   Gypsum, by Edward W. Parker, pp. 522-530.
   Mica, pp. 555-558.
   Mineral paints, by Edward W. Parker, pp. 569-586.
   Natural gas, by F. H. Oliphant, pp. 293-318.
   Phosphate rock, by Edward W. Parker, pp. 481-502.
   Precious stones, by George F. Kunz, pp. 419-462.
   Salt, by Edward W. Parker, pp. 511-554.
   Soapstone, by Edward W. Parker, pp. 413-418.
   Stone, pp. 333-360.
   Sulphur and pyrite, by Edward W. Parker, pp. 503-522.

   Contains:
   Aluminum and bauxite, by Joseph Hyde Pratt, pp. 229-231.
   Antimony, by Joseph Hyde Pratt, pp. 251-255.
Day (David T.)—Continued.


Asphaltum and bituminous rocks, by Edward W. Parker, pp. 653-666.
Barytes, by Edward W. Parker, pp. 891-892.

Cement:
- Slag cement in Alabama, by Edwin C. Eckel, pp. 747-748.

Chromite, or chrome iron ore, pp. 897-898.

- Slag cement in Alabama, by Edwin C. Eckel, pp. 747-748.

Flint and feldspar, p. 816.

Fluorspar, by Edward W. Parker, pp. 877-890.


Graphite, by Joseph Hyde Pratt, pp. 875-877.

Gypsum, by Edward W. Parker, pp. 827-833.


Iron and steel at the close of the nineteenth century, by James M. Swank, pp. 99-104.

Lead, by Charles Kirchhoff, pp. 191-211.

Lithium, pp. 239-243.

Manganese ores, by John Birkinbine, pp. 115-140.

Mica, by Edward W. Parker, pp. 349-856.

Mineral paints, by Edward W. Parker, pp. 879-890.


Nickel and cobalt, pp. 245-249.

Phosphate rock, by Edward W. Parker, pp. 803-814.

Precious stones, by George F. Kunz, pp. 749-778.

Salt, by Edward W. Parker, pp. 835-847.

Stone, pp. 661-692.

Sulphur and pyrite, by Edward W. Parker, pp. 815-826.


Tungsten, molybdenum, uranium, and vanadium, by Joseph Hyde Pratt, pp. 257-265.


Contains:

- Antimony, by Joseph Struthers, pp. 251-256.
- Arsenic, by Joseph Struthers, pp. 257-258.
- Asphaltum and bituminous rocks, by Joseph Struthers, pp. 633-640.
- Barytes, by Joseph Hyde Pratt, pp. 915-919
- Bonax, by Joseph Struthers, pp. 869-872.
- Bromine, by Joseph Struthers, pp. 867-868.
- Cement, pp. 721-728.
- Chromite or chrome iron ore, by Joseph Hyde Pratt, pp. 941-948.
- Coal, by Edward W. Parker, pp. 279-449.
- Coke, by Edward W. Parker, pp. 451-523.
- Flint and feldspar, by Heinrich Ries, pp. 935-939.
- Fluorspar and cryolite, by Joseph Hyde Pratt, pp. 879-885.
- Fuller's earth, pp. 921-964.
Day (David T.)—Continued.


Graphite, by Joseph Struthers, pp. 897-900.
Gypsum, by Joseph Struthers, pp. 843-851.
Iron ores, by John Birkinbine, pp. 43-72.
Lithium, by Joseph Hyde Pratt, pp. 229-240.
Magnesite, by Joseph Struthers, pp. 959-960.
Manganese ores, by John Birkinbine, pp. 127-155.
Mica, by Joseph Hyde Pratt, pp. 872-878.
Mineral paints, by Joseph Struthers, pp. 901-914.
Mineral waters, pp. 951-966.
Natural gas, by F. H. Oliphant, pp. 613-632.
Ores of economic importance, by Edmund O. Hovey, pp. 967-973.
Pétroleum, by F. H. Oliphant, pp. 525-611.
Phosphate rock, by Joseph Struthers, pp. 811-822.
Platinum, by Joseph Struthers, pp. 221-228.
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Quicksilver, by Joseph Struthers, pp. 233-238.
Salt, by Joseph Struthers, pp. 853-865.
Sulphur and pyrite, by Joseph Struthers, pp. 829-842.
Talc and soapstone, by Joseph Hyde Pratt, pp. 773-780.
Titanium ores, by W. O. Snelling, pp. 271-278.
Tungsten, molybdenum, uranium, and vanadium, by Joseph Hyde Pratt, pp. 261-270.


Contains:

Aluminum and bauxite, by Joseph Struthers, pp. 911-960.
Anhydrite, by Joseph Struthers, pp. 271-277.
Arsenic, by Joseph Struthers, pp. 279-282.
Asbestos, by Joseph Hyde Pratt, pp. 901-904.
Asphaltum and bituminous rock, by Joseph Struthers, pp. 657-664.
Barytes, by Joseph Hyde Pratt, pp. 945-948.
Bismuth, by Joseph Struthers, pp. 283-284.
Borax, by Joseph Struthers, pp. 891-896.
Bromine, by Joseph Struthers, pp. 897-898.
Cement-in foreign countries, pp. 777-778.
Chromite, or chromic iron ore, by Joseph Hyde Pratt, pp. 967-968.
Coal, by Edward W. Parker, pp. 289-447.
Coke, by Edward W. Parker, pp. 449-515.
Copper, by Charles Kirchhoff, pp. 163-205.
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Fluorspar and cryolite, by Joseph Hyde Pratt, pp. 899-902.
Gas, coke, tar, and ammonia at gas works and in retort coke ovens, by Edward W. Parker, pp. 517-533.
Graphite, by Joseph Struthers, pp. 974-989.
Iron ores, by John Birkinbine, pp. 41-73.
Iron. General statistics of iron and steel, iron ore, and coal, to the year 1901, inclusive, for five leading iron and steel producing countries, by James M. Swank, pp. 101-122.
Magnesite, by Joseph Struthers, pp. 953-984.
Manganese ores, by John Birkinbine, pp. 123-161.
Day (David T.)—Continued.


Mica, by J. A. Holmes, pp. 985-991.
Mineral waters, pp. 999-1002.
Monazite, by Joseph Hyde Pratt, pp. 1003-1006.
Nickel and cobalt, by Joseph Hyde Pratt, pp. 263-270.
Phosphate rock, by Joseph Struthers, pp. 915-920.
Platinum, by Joseph Struthers, pp. 239-243.
Platinum in the Rambler mine, Wyoming, by J. F. Kemp, pp. 244-250.
Precious stones, by George F. Kunz, pp. 813-865.
Quicksilver, by Joseph Struthers, pp. 231-238.
Salt, by Joseph Struthers, pp. 921-932.
Stone, pp. 655-701.
Sulphur and pyrite, by Joseph Struthers, pp. 933-943.
Talc and soapstone, by Joseph Hyde Pratt, pp. 867-872.


Contains:

Aluminum and bauxite, by Joseph Struthers, pp. 265-279.
Antimony, by Joseph Struthers, pp. 317-326.
Arsenic, by Joseph Struthers, pp. 327-334.
Asphaltum and bituminous rock, by Edmund Otis Hovey, pp. 745-754.
Barytes, by Joseph Hyde Pratt, pp. 1089-1094.
Borax, by Charles G. Yale, pp. 1017-1028.
Cement in foreign countries, pp. 900-903.
Coal, by Edward W. Parker, pp. 551-558.
Coke, by Edward W. Parker, pp. 539-606.
Copper, by Charles Kirchhoff, pp. 201-229.
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Fluorspar and cryolite, by Joseph Hyde Pratt, pp. 1029-1032.
Gas, coke, tar, and ammonia at gas works and in retort coke ovens, by Edward W. Parker, pp. 609-634.
Gold and silver, pp. 157-159.
Gypsum and gypsum products, pp. 1033-1045.
Iron ores, by John Birkinbine, pp. 41-73.
Magnesite, by Charles G. Yale, pp. 1131-1135.
Manganese ores, by John Birkinbine, pp. 129-156.
Mineral waters, pp. 1137-1162.
Natural gas, by F. H. Oliphant, pp. 719-746.
Phosphate rock, by Edmund O. Hovey, pp. 1047-1058.
Platinum, pp. 311-312.
Precious stones, by George F. Kunz, pp. 911-977.
Quick silver, pp. 281-284.
Salt, by Edmund O. Hovey, pp. 1059-1067.
Stone, pp. 755-789.
Sulphur and pyrite, by Joseph Hyde Pratt, pp. 1073-1087.
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Zinc, by Charles Kirchhoff, pp. 265-266.
Day (David T.)—Continued.


Contains:

- Antimony, by Edmund Otis Hovey, pp. 363-309.
- Arsenic, by Edmund Otis Hovey, pp. 371-374.
- Asphaltum and bituminous rock, by Edmund Otis Hovey, pp. 789-799.
- Barytes, by Joseph Hyde Pratt, pp. 1095-1102.
- Bismuth, by Edmund Otis Hovey, pp. 375-376.
- Borax, by Charles G. Yale, pp. 1017-1028.
- Bromine, by Frederick J. H. Merrill, pp. 1029-1030.
- Cement, pp. 909-939.
- Coal, by Edward W. Parker, pp. 381-577.
- Coke, by Edward W. Parker, pp. 579-648.
- Copper, by Charles Kirchhoff, pp. 221-257.
- Flint and feldspar, by Heinrich Hies, pp. 1143-1145.
- Fluorspar and cryolite, by Joseph Hyde Pratt, pp. 1031-1036.
- Fuller's earth, pp. 1121-1123.
- Gas, coke, tar, and ammonia at gas works and in retort coke ovens, by Edward W. Parker, pp. 649-674.
- Glass sand and other sand, by A. T. Coons, pp. 1147-1155.
- Gold and silver, by Waldemar Lindgren and others, pp. 141-220.
- Graphite, by Joseph Hyde Pratt, pp. 1157-1167.
- Gypsum and gypsum products, by George Perry Grimsley, pp. 1037-1052.
- Iron ores, by John Birkinbine, pp. 37-68.
- Magnesite, by Charles G. Yale, pp. 1109-1174.
- Manganese ores, by John Birkinbine, pp. 113-140.
- Mineral waters, pp. 1185-1208.
- Monazite, zircon, gadolinite, and columbite, by Joseph Hyde Pratt, pp. 1209-1227.
- Phosphate rock, by Edmund Otis Hovey, pp. 1053-1064.
- Precious stones, by George F. Kunz, pp. 941-987.
- Quicksilver, pp. 295-299.
- Salt, by Edmund Otis Hovey, pp. 1065-1077.
- Steel and iron hardening metals, by Joseph Hyde Pratt, pp. 301-358.
- Stone, pp. 801-841.

Dean (Bashford).

1. On two new Arthrodires from the Cleveland shale of Ohio

N. Y. Acad. Sci., Mem., vol. 2, pp. 86-100, 6 pls., 2 figs., 1901.

2. On the characters of Mylostoma Newberry.


3. Further notes on the relationships of the Arthrognathi.


Discusses the position of the Arthrognathi and the systematic arrangement and nomenclature of the structures.

4. Historical evidence as to the origin of the paired limbs of vertebrates.


Describes the evidence of paleontology on the subject.

Bull. 301—06——7
Dean (Bashford)—Continued.

5. Biometric evidence in the problem of the paired limbs of the vertebrates.
   Discusses studies of the development of paired limbs.

6. The preservation of muscle-fibres in sharks of the Cleveland shale.
   Discusses the processes by which the delicate structures are preserved.

   Science, new ser., vol. 16, pp. 701-703, 1902.
   Contains critical notes on nomenclature and paleontology.

8. The early development of sharks from a comparative standpoint.

Deckert (Emil).

   A general discussion of the occurrences of earthquakes in North America with reference to their morphological relationships.

2. Martinique und sein Vulkanismus.
   Petermanns Mittheilungen, Band 48, pp. 133-136, 1 pl. (map), 1902.
   Gives a description of Martinique and the volcanic eruption of Mont Pelé.

De Cou (Ralph E.), Downer (R. H.) and.

1. A description of the working mines of Ouray County, Colorado.
   See Downer (R. H.) and De Cou (R. E.), 1.

Demaret (Léon).

1. Les principaux gisements de minerais de zinc des États-Unis d’Amérique.
   Revue universelle des Mines [Liége and Paris], 4e sér., t. 6, pp. 221-256, 6 pls., 1904.
   Describes the principal deposits of zinc ore in the United States, including observations on the character, occurrence, geologic relations, origin, etc.

2. Les principaux gisements des minerais de mercure du monde.
   Annales des Mines de Belgique, t. 9, 80 pp., 3 pls., 28 figs., 1904.
   Gives an account of the deposits of quicksilver ores in the world, their occurrence, geologic relations, production, etc. In the United States deposits in California, Oregon, and Texas are considered.

Denis (Theo.).

1. The coal fields of Canada.

Denis (Theo.), Ingall (E. D.) and.

1. Geology of the country around Bruce mines [Ontario].
   See Ingall (E. D.) and Denis (T.), 1.

Dennis (W. B.)

1. A borax mine in southern Oregon.
   Eng. & Mg. Jour., vol. 73, pp. 581-582, 2 figs., 1902.
   Contains brief description of the deposit.

2. The quicksilver deposits of Oregon.
   Describes the occurrence, character, and geologic relations of the quicksilver-ore deposits of Oregon and the mining developments.

Dern (George H.).

1. The geology of Mercur [Utah]. A history of the region. Description of the ores and their peculiar formations. How they were deposited.
   Describes the general geology, the occurrence and character of the gold and silver ledges, and discusses the origin of the ores.
Derr (Homer Munro).
1. A method of petrographic analysis based upon chromatic interference with thin sections of doubly-refracting crystals in parallel polarized light. Thesis presented to the Faculty of Philosophy of the University of Pennsylvania in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

The Randall Morgan Laboratory of Physics, 1903. 21 pp., 2 pls., 4 figs.

Dickinson (Harold T.).
1. Quarries of bluestone and other sandstones in the upper Devonian of New York State.

N. Y. State Museum, Bull. no. 61, 112 pp., 20 pls., 1903.
Describes the character, occurrence, and quarrying.

Dickson (Charles William).
1. Note on the condition of nickel in nickeliferous pyrrhotite from Sudbury [Ontario].

Eng. & Mg. Jour., vol. 73, p. 660, 1902.
Contains notes on the concentration of some of these ores.

2. The concentration of barium in limestone.

School of Mines Quart., vol. 23, pp. 366-370, 1902.

3. Note on the condition of platinum in the nickel-copper ores from Sudbury [Ontario].

Describes occurrence and crystallographic characters.

4. The ore deposits of Sudbury, Ontario.

Contains a discussion of the origin of the Sudbury nickeliferous ores. Includes a bibliography of the subject.

5. The distribution of the platinum metals in other sources than placers.

Describes the various occurrences of platinum.

Diehl (O. C.).
1. Gypsum.

Describes the occurrence of gypsum in Michigan and Utah.

Diller (Joseph Silas).
1. The Klamath Mountains.

Describes briefly the geologic history of the Klamath Mountains region.

2. The geology of Crater Lake.

Mazama, vol. 1, no. 2, pp. 161-170, 4 pls., 1897.
Describes geologic structure and history of Crater Lake on Mount Mazama, Oregon.

3. Geomorphogeny of the Klamath Mountains [California-Oregon].


Describes the topographic features, the character, and the occurrence of the Cretaceous, Eocene, Neocene, and Pleistocene deposits and igneous rocks, and the occurrence of coal and gold.

5. The copper region of northern California.

Describes the occurrence of auriferous quartz veins and copper deposits of the region.

6. Copper in northern California.

Discusses the geologic occurrence of copper ores.
   Describes the microscopic characters of these specimens.

8. The wreck of Mt. Mazama [Oregon].
   Science, new ser., vol. 15, pp. 203-211, 1902.
   Sketches the geologic history and formation of the Cascade Range, describes the formation and wrecking of Mt. Mazama, and discusses the evidences for the manner of its wrecking.


10. Topographic development of the Klamath Mountains.
    A supplement contains notes on the geologic age of some of the rocks of the Klamath Mountains.

11. Port Orford folio, Oregon.
    Describes topography, geologic history, character, and occurrence of pre-Cretaceous, Cretaceous, Tertiary, and surficial deposits and igneous rocks, coal, gold, and platinum minerals.

12. Klamath Mountains section, California.
    Describes general distribution and structural relations of Paleozoic, Mesozoic, and Cenozoic formations of the Klamath Mountains and occurrence and characters of eruptive rocks. Contains reports on fossils by Charles Schuchert, George H. Girty, Wm. M. Fontaine, David White, F. H. Knowlton, T. W. Stanton, and W. H. Dall.

13. Copper deposits of the Redding region, California.
    Describes sedimentary and igneous rocks of the region and their geologic relations and character and occurrence of the ore deposits.

    Describes character and occurrence of iron ores in this area.

15. Limestone of the Redding district, California.

16. Mining and mineral resources in the Redding quadrangle, California, in 1903.
    Describes the occurrence and character of deposits of gold, silver, copper, chromite, and iron ores.

17. The composition and structure of the Klamath Mountains.

18. The Bragdon formation.
    Describes the lithological characters, stratigraphy, and relations of the Bragdon formation of Shasta and Trinity counties, California, and presents evidence to show its Carboniferous age.

19. Mineral resources of the Indian Valley region, California.
    Describes the development and general geology of the field, the geology of the gold mines, and the occurrence and mining of auriferous gravels.

20. So-called “iron ore” near Portland, Oreg.
    Describes the chemical investigation of a so-called “iron ore” from near Portland, Oreg.

    Describes the occurrence and composition of an Eocene coal near Portland, Oreg.
FOR THE YEARS 1901-1905, INCLUSIVE. 101

Diller (Joseph Silas) and Patton (Horace Bushnell).
1. The geology and petrography of Crater Lake National Park [Oregon].
   Describes the physiographic and dynamic geology of the region and the occurrence and charac­
   ters of the igneous rocks.

Diller (Joseph Silas) and Steiger (George).
1. Volcanic dust and sand from St. Vincent caught at sea and the Barbados.
   Describes the characters and composition of this material.

Divers (Edward).
1. Suggested nature of the phenomena of the eruption of Mount Pelée on July 9.
   Observed by the Royal Society Commission.
   Discusses the phenomena and their explanation.

Dixon (J. D.), Nolan (A. W.) and.
1. Geology of St. Helen's Island [Quebec].
   See Nolan (A. W.) and Dixon (J. D.), 1.

Dodge (Richard E.).
1. Landslides of Echo and Vermillion cliffs.

2. An interesting landslide in the Chaco Cañon, New Mexico.

3. Arroyo formation.

   See Merrill (F. J. H.) and others, 1.

Dominian (Leon).
   Describes briefly the geologic structure and history of the region, and discusses the genesis of
   the gold and silver ores.

2. The Goldfield district, Nevada.
   Discusses the general geology, and the character and occurrence of veins containing gold-ore
   deposits.

Dominian (Leon), Smith (E. Percy) and.
1. Notes on a trip to White Oaks, New Mexico.
   See Smith (E. Percy) and Dominian (Leon), 1.

Donald (J. T.).
1. The limestone of the Philipsburg Railway and Coal Company.
   Eng. & Mg. Jour., vol. 73, p. 657, 1902.
   Describes the occurrence and chemical composition of the limestones.

2. The composition of some Canadian limestones.
   Gives chemical analyses and notes on the economic uses of these limestones.

Douglas (James).
1. Record of borings in the Sulphur Spring Valley, Arizona; and of agricultural
   experiments in the same locality.
   Gives record of well boring in the valley to the depth of 765 feet.
Douglass (Earl).
1. The Neocene lake beds of western Montana and descriptions of some new vertebrates from the Loup Fork.
   Mont. Univ., Missoula, Mont., 27 pp., 4 pls., 1899. (Published by the University.)
2. New species of Merycochoerus in Montana. Part II.
   Describes material from Tertiary beds.
   Describes the lithologic and faunal characters of the beds exposed along the Musselsheen River, and discusses the problem of the transition from the Mesozoic to Cenozoic time.
   Describes the characters of the strata and of the fossil mammals collected.
   Science, new ser., vol. 15, pp. 31-32, 1902.
   Discusses the occurrence of the fossils and the character and origin of the beds in which they are found.
6. The discovery of Torrejon mammals in Montana.
7. Astropecten? montanus—a new star-fish from the Fort Benton; and some geological notes.
   Carnegie Mus., Ann., vol. 2, pp. 5-8, 1 fig., 1903.
8. New vertebrates from the Montana Tertiary.
   A brief account of the stratigraphy of the formations from which the fossils were obtained precedes detailed generic and specific descriptions.
   Describes the remains of fossil mammalia from the White River beds of Montana.
10. Some notes on the geology of southwestern Montana.
    Describes the occurrence, character, and relations of Archean, Algonkian, Cambrian, Devonian, and Carboniferous strata, and gives lists of fossils obtained.
    Contains notes on the geology of the region.

Dowlen (Walton E.).
1. The Turtle Mountain rock slide [Alberta, Canada].
   Describes a rock slide and the geologic conditions which produced it.

Dowling (D. B.).
1. Report on the geology of the west shore and islands of Lake Winnipeg.
   Describes the physiography, the character, occurrence, and faunas of the Ordovician strata and the glacial phenomena of the region.
2. The physical geography of the Red River Valley [Canada].
   Ottawa Nat.; vol. 15, pp. 115-120, 2 pls., 1901.
   Describes the physiographic history of the region.
3. The west side of James Bay.
   Describes the author's observations in this area.
4. Eastern Assiniboia and southern Manitoba.
   Describes observations upon the geology and economic resources of the region examined.
Dowling (D. B.)—Continued.
5. Notes to accompany a contoured plan of the lower slope of Turtle Mountain, Manitoba.
   Gives geologic notes on the occurrence of coal.
6. Report on geological explorations in Athabaska, Saskatchewan, and Keewatin districts, including Moose Lake and the route from Cumberland Lake to the Churchill River, and the upper parts of Burntwood and Grass rivers.
   Can. Geol. Surv., Ann. Rept., new ser., vol. 13, 44 pp., 2 pls., and map, 1903. (Published separately, 1902.)
   Gives observations upon the occurrence and character of Laurentian, Huronian, Cambro-Silurian, Silurian, and Pleistocene deposits and the economic resources, and upon physiographic and geologic features of the region examined.
7. On the coal basins in the Rocky Mountains, Sheep Creek and Cascade troughs northward to the Panther River.
   Describes the character and occurrence of the coal beds in eastern Assinibola, and in detail the stratigraphy of the region.
10. The stratigraphy of the Cascade coal basin.
11. The Cascade and Costigan coal basins and their continuation northward [Alberta].
   Gives observations on the geology, and the occurrence and relations of the coal deposits.

Downer (R. H.).
1. Ore deposits of the American-Nettie mine, Ouray, Colo.
   Describes the character and occurrence of the ore bodies.

Downer (R. H.) and De Cou (Ralph E.).
1. A description of the working mines of Ouray County, Colorado.
   Includes observations on the geology and on the character, occurrence, and origin of the ore bodies.

Drake (Frank V.).
1. Mineral resources and mining in Oregon.

Drake (N. F.), Lindgren (Waldemar) and.
1. Nampa folio, Idaho—Oregon.
   See Lindgren (Waldemar) and Drake (N. F.), 1.
2. Silver City folio, Idaho.
   See Lindgren (Waldemar) and Drake (N. F.), 2.

Draper (Marshall D.).
1. The district of Goldfield, Nevada.
   Gives observations upon the general geology and the occurrence of the gold-ore deposits.

Dresser (John A.).
1. On the physical geography of a northern section of the Appalachian Mountain system.
Dresser (John A.)—Continued.

2. A hornblende lamprophyre dike at Richmond, P. Q.
   Describes the occurrence of the dike and the characters of the dike rock.

3. A preliminary note on an amygdaloidal trap rock in the eastern townships of the Province of Quebec.
   Describes the megascopic and microscopic characters of the rock.

4. On the petrography of Mt. Orford.
   Am. Geol., vol. 27, pp. 14-21, 1901.
   Describes occurrence and character of diabase, gabbro-diorite, serpentine, and ophtialcite, and gives a summary of the geologic history of the region.

5. On the petrography of Shefford Mountain [Quebec].
   Am. Geol., vol. 28, pp. 204-213, 1 pl., 1901.
   Describes petrographic characters of essexite, nordmarkite, and pulaskite, and discusses their relations.

6. A petrographical contribution to the geology of the eastern townships of the Province of Quebec.
   Describes the pre-Cambrian igneous rocks that are regarded as similar to the volcanics of South Mountain, Pa.

7. On the copper-bearing volcanic rocks in the eastern townships of the Province of Quebec.

8. Petrography of Shefford and Brome Mountains [Canada].
   Describes petrologic and other observations.

   Can. Geol. Surv., Ann. Rept., new ser., vol. 13, 35 pp., 6 pls., 1 fig. and 1 map, 1903. (Published separately, 1902.)
   Describes the geology, and the occurrence, relations, and composition of the igneous rocks.

10. An investigation of the copper-bearing rocks of the eastern townships, Province of Quebec.
    Discusses the occurrence, geologic position, and character of copper-ore deposits.

11. Geology of Brome Mountain, one of the Monteregian Hills.
    Describes the position and physiographic origin of the Monteregian Hills, and in detail the petrography of Brome Mountain.

12. A new area of copper-bearing rocks in the eastern townships of the Province of Quebec.
    Describes the occurrence and geologic relations.

13. The copper-bearing rocks of the eastern townships, Quebec.
    Describes investigations upon copper-producing areas in Quebec.

14. The bed-rock of the Gilbert River gold fields, Quebec.
    Discusses the source of the placer gold of this region.

15. The copper-bearing rocks of the Sherbrooke district, P. Q.
    Includes observations on the geology of the region, and the occurrence of minerals of economic importance.

Drevermann (Fr.).
   Discusses morphological characters of various Devonian brachiopods.

Dreyer (Charles Redway).
1. Certain peculiar eskers and esker lakes of northeastern Indiana.
   Discusses glacial phenomena of the region.
2. Lessons in physical geography.
3. The use of the word "geest" in geology.
   Discusses nomenclature of surficial deposits and suggests the use of the term "mantle rock."
   Discusses physiographic features and glacial deposits, particularly moraines, of this region,
   and discusses their interpretation.

Duerden (J. E.).
1. Aggregated colonies in Madreporarian corals.
   Discusses the process of fixation and development of larvae of the West Indian coral Siderastrea radians.
2. Boring algae as agents in the disintegration of corals.
   Reviews the literature and discusses the chemical and physical processes by which the disintegration is effected.
3. Relationships of the Rugosa (Tetracoralla) to the living Zoanthese.
4. The morphology of the Madreporaria.
5. The development of septa in the Paleozoic corals.
7. The morphology of the Madreporaria.
8. The morphology of the Madreporaria. V. Septal sequence.
9. Recent results on the morphology and development of coral polyps.
10. The antiquity of the zoanthid actinians.
11. The development and relationships of the Rugosa (Tetracoralla).
12. The morphology of the Madreporaria. VI. The fossula in rugose corals.

Duffield (M. S.).
1. The Cumberland Plateau coal field [Tennessee].
   Describes the geology of this area and gives a geological section of the Cumberland Plateau.
Dumble (Edwin T.).
1. Physical geography, geology, and resources of Texas.
   Includes a brief account of the geologic history and structure of the State, and describes geographic and physiographic features and mineral resources.

2. Geology of the Beaumont oil field.
   Houston Post, 5 pp., 1901. (Private publication.)
   Describes geologic structure of the region and discusses the geologic horizon of the oil.

3. The iron ores of east Texas.
   Houston Post, 4 pp., 1901. (Private publication.)
   Describes the occurrence of iron ores in eastern Texas and processes necessary for their development.

   Texas Acad. Sci., Trans., vol. 4, p. 81, 1901.
   Gives brief description of the character of the beds.

5. Occurrence of oyster shells in volcanic deposits in Sonora, Mexico.
   Texas Acad. Sci., Trans., vol. 4, p. 82, 1901.
   Gives brief description of occurrence.

6. The iron ores of east Texas.
   Contains brief notes on the character of the ores.

   Describes the occurrence of Cenozoic, Mesozoic, and Paleozoic strata of Cochise County, Arizona, and gives a general section of the rocks.

8. [In discussion of paper by A. F. Lucas "The great oil-well near Beaumont, Texas.”]

   Describes the occurrence and gives a list of fossils.

10. The Tertiary of the Sabine River.
    Discusses the correlation of Tertiary formations in Texas and Louisiana.

11. The red sandstone of the Diabolo Mountains, Texas.
    Discusses the stratigraphic position of this formation.

12. Cretaceous and later rocks of Presidio and Brewster counties [Texas].
    Describes the geologic structure of this region and gives sections of the strata.

    Describes the topography, and the character, occurrence, and geologic relations of formations of Tertiary and Pleistocene age in southwestern Texas.

Duryee (Edward).
1. Cement investigations in Arizona.

Dutton (Clarence Edward).
1. Earthquakes in the light of the new seismology.
   New York, G. F. Putnam’s Sons, 314 pp., 10 pls., 63 figs., 1904.
   A general treatise upon earthquakes, their nature, causes, etc. The Charleston and other American earthquakes are considered.
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Dwight (W. B.).
1. Fort Cassin beds in the Calciferous limestone of Dutchess County, New York.
   Contains notes on the fauna of these beds.

Dyar (W. W.).
1. The colossal bridges of Utah. A recent discovery of natural wonders.
   Century Mag., vol. 68, pp. 505-511, 1904.

Eakle (Arthur S.).
1. Mineralogical notes, with chemical analyses by W. T. Schaller.
   Univ. of Cal., Dept. of Geol., Bull., vol. 2, pp. 315-336, 1 pl., 1901.
   Describes pectolite, zircon crystals, esmeraldaite, coquimbite, and altaite crystals.

2. Colemanite from southern California.
   Describes the crystals and the method of measurement with the two-circle goniometer.

3. Note on the identity of palacheite and botryogen.
   Describes composition, characters, and occurrence.

4. Palacheite.
   Describes occurrence, crystallographic characters, and physical and chemical properties of
   this mineral discovered near Knoxville, California.

5. Mineral tables for the determination of minerals by their physical properties.
   New York, John Wiley & Sons, 73 pp., 1904.

6. Phosphorescent sphalerite.
   Describes the occurrence and characteristics of a sphalerite from Mariposa County, California,
   and its property of phosphorescence.

Eakle (A. S.) and Sharwood (W. J.).
1. Luminescent zinc-blende.
   Describes occurrence in Mariposa County, California, composition, and physical qualities.

Easter (S. E.).
1. Jade.
   Describes characters, occurrences, and uses.

Eastman (Charles R.).

2. On Campodus, Edestus, Helicoprion, Acanthodes, and other Permo-Carboniferous
   sharks.

3. On Campyloprion, a new form of Edestus-like dentition.
   Geol. Mag., dec. 1v, vol. 9, pp. 148-162, 1 pl. and 1 fig., 1902.

   Jour. Geol., vol. 10, pp. 535-541, 6 figs., 1902.
   Describes two species of Acanthodes and one each of Cacacanthus and Eloniichthys, and gives
   a list of the vertebrates found at this locality.

5. On the genus Periopristis, St. John.
   Geol. Mag., dec. 1v, vol. 9, pp. 388-391, 2 figs., 1902.

6. Some Carboniferous cebracions and acanthodian sharks.
Eastman (Charles R.)—Continued.

7. Phylogeny of the cestraciont group of sharks.

   Contains notes on Dinichthys pustulosus and Edestus and Cochliodus.

9. Notice of interesting new forms of Carboniferous fish remains.
   Describes material from the Carboniferous of the Mississippi Valley.

10. Carboniferous fishes from the central Western States.
    A short account of the stratigraphy of the Upper Carboniferous of Kansas and Nebraska precedes the systematic descriptions.

11. A peculiar modification amongst Permian dipnoans.


    279-289, 1 pl., 1903.
    A critical discussion based upon new material lately discovered.

    Includes a description of Rhynchodus pertenuis n. sp.

15. A recent paleontological induction.
    Discusses the association of pebbles with the remains of plesiosaurs.

    Describes the occurrence and character of fish remains from Devonian strata in the San Juan region of Colorado, and gives a systematic description of a new form.

17. Fossil plumage.

    Md. Geol. Surv., Miocene, pp. 71-93, 5 pls., 1904.

19. A brief general account of fossil fishes.

20. The Triassic fishes of New Jersey.

21. Fossil avian remains from Armissan [France].
    Includes a list showing geological distribution of gallinaceous birds.

22. The literature of Edestus.
    Discusses the relationships of Edestus and gives a list of papers dealing with Edestus and related forms.

Eastman (Charles R.) and Barbour (Erwin H.).

1. Synopsis of the Missourian and Permo-Carboniferous fish fauna of Kansas and Nebraska.

Easton (S. A.).

1. Notes on Tonopah, Nevada.
   Eng. & Mg. Jour., vol. 73, p. 697, 1902.
   Contains notes on the geology of the region and the occurrence of the gold ores.
Eaton (George F.).
1. Notes on the collection of Triassic fishes at Yale.
   Gives descriptions and figures of some of the material.
2. The characters of Pteranodon.
3. Characters of Pteranodon (second paper).
4. Obituary—John Bell Hatcher.

Eavenson (H. N.).
1. The Connellsville region. Its mineral resources—the extent of territory—the methods of mining and amount of output.

Eckel (Edwin C.).
1. The formation as the basis for geologic mapping.
   Jour. Geol., vol. 9, pp. 709-717, 1901.
   Discusses the problems involved and the application of the proposed system.
2. The emery deposits of Westchester County, New York.
   Min. Ind. for 1900, pp. 13-17, 1901.
   Describes briefly the character and occurrence of the deposits.
3. A recently discovered extension of the Tennessee white phosphate fields.
   Briefly describes occurrence in Decatur County.
   Describes the development of the industry and the character and occurrence of the raw materials, and discusses the processes of manufacture employed.
5. Chapters on the cement industry in New York.
   N. Y. State Mus., Bull. no. 44, pp. 849-955, 17 pls., map in pocket, 1901.
   Describes character of materials and processes of manufacture of cement in New York.
6. The quarry industry in southeastern New York.
7. The classification of the crystalline cements.
   Am. Geol., vol. 29, pp. 146-154, 1902.
8. The preparation of a geologic map.
   Jour. Geol., vol. 10, pp. 50-56, 1902.
9. Summaries of the literature of structural materials. I.
   Jour. Geol., vol. 10, pp. 442-449, 1902.
10. Summaries of the literature of structural materials. II.
11. Summaries of the literature of structural materials. III.
    Jour. Geol., vol. 11, pp. 86-92, 1903.
12. Summaries of the literature of economic geology.
    Jour. Geol., vol. 11, pp. 716-719, 1903.
13. The materials and manufacture of Portland cement.
    Describes character of materials required and processes of manufacture with particular reference to the industry in Alabama.
Eckel (Edwin C.)—Continued.

15. The Dahlonega gold district of Georgia.
   
   Describes the general geology of the region, and the character and occurrence of the ore deposits.

   
   Gives a general account of the geology of the region and the character and occurrence of gold and pyrite deposits.

17. Utilization of iron and steel slags.
   
   U. S. Geol. Surv., Bull. no. 213, pp. 221-231, 1903.

   
   Describes occurrence, character, and utilization of clay deposits in this region.

   
   Describes briefly the stratigraphy and geologic structure of the region, and the occurrence of salt and gypsum deposits and their development.

20. The white phosphates of Decatur County, Tenn.
   
   Describes occurrence of phosphate deposits in this area.

21. Dahlonega mining district, Georgia.
   
   Gives observations upon the geology of the region.

   
   Describes economic development and geologic relations of the gypsum deposits in the Salina group.

   
   U. S. Geol. Surv., Bull. no. 223, pp. 36-37, 1 pl., 1 fig., 1904.
   Describes economic development and geologic relations of gypsum beds occurring in Carboniferous strata.

24. The slate deposits of California and Utah.
   
   Describes the occurrence and character of slate deposits in Eldorado County, California, and near Provo, Utah.

   
   Describes location and general geology of the district, the stratigraphic position and character of the cement rock, methods of manufacturing, and character of the product.

26. The salt industry in Utah and California.
   
   Describes character and source of materials used and methods of manufacture employed.

27. On a California roofing slate of igneous origin.
   
   Describes occurrence and character of slate deposits in California and discusses their origin.

   
   Jour. Geol., vol. 12, pp. 25-29, 1904.

29. The nonmetallic mineral products of the United States.
   
   Mg. Mag., vol. 10, pp. 167-174, 1 pl., 1904.
   Contains notes on the occurrence of nonmetallic mineral products.

   
   Describes the general geology of the region and the character and occurrence of the iron ores and discusses their origin.
Eckel (Edwin C.)—Continued.

31. The materials and manufacture of Portland cement.
   Ala. Geol. Surv., Bull. no. 8, pp. 1-59, 1904.
   Includes a discussion of the origin and general characters of limestone and other raw materials used in cement manufacture.

32. Cements, limes, and plasters: their materials, manufacture, and properties.
   New York, John Wiley & Sons, 1905. 712 pp., 165 figs.
   Includes notes on the geologic distribution of cement materials.

33. The Clinton hematite.
   Describes the character, occurrence, and utilization of Clinton iron ores, particularly in the town of Clinton, New York.

34. Cement materials and industry of the United States.
   Describes the character and general occurrence of cement materials and their preparation, and in detail the occurrence, geologic relations, and character of limestones, shales, and marls in the various States.

35. Iron and manganese ores of the United States.
   Describes the production, character, and occurrence of iron and manganese ore deposits of the United States.

   Describes the geology of the region, the mining developments, and discusses the character and origin of the ores.

37. The iron ores of northeastern Texas.
   Describes the general geology, and the occurrence, composition, and origin of the ores.

38. The American cement industry.
   Describes the classification and production of cement, and the geologic relations, occurrence, and character of the raw materials in the United States.

   Describes the occurrence, composition, and geologic relations of cement-making rocks of New York.

40. Pyrite deposits of the western Adirondacks, New York
   Describes the occurrence and character of pyrite deposits, and the mining and milling of the ore.

Eckel (Edwin C.) and Bain (H. F.).

1. Cement and cement materials of Iowa.
   Describes the process of cement manufacture, and the geologic occurrence and character of cement materials in Iowa.

Eckel (Edwin C.) and Crider (A. F.).

1. Geology and cement resources of the Tombigbee River district, Mississippi-Alabama.
   Describes the occurrence and character of limestones and other materials in this region required in the manufacture of Portland cement.

Eckel (Edwin C.), Hayes (C. W.) and.

1. Iron ores of the Cartersville district, Georgia.
   See Hayes (C. W.) and Eckel (E. C.). 1.

2. Occurrence and development of ocher deposits in the Cartersville district, Georgia.
   See Hayes (C. W.) and Eckel (E. C.). 2.
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Eckel (E. C.), Johnson (L. C.) and.
1. Notes on wells, springs, and general water resources of Mississippi.
   See Johnson (L. C.) and Eckel (E. C.), 1.

Edman (J. A.).
1. Corundum in Montana.
   Brief notes on occurrence.

Edwards (Henry W.).
1. Notes on the geology of the Isthmus of Panama.
   Eng. & Mg. Jour., vol. 73, pp. 862-863, 1902.
   Contains general notes on the rocks of the region.

Edwards (J. Jep.).
1. Paleontology of Bartholomew County, Indiana, mammalian fossils.
   Discusses the occurrence of Quaternary mammalian remains.

Edwards (W. F.).
1. The new geology and vein formation. Discussion.
   Describes the history of the nebular hypothesis and discusses the relative merits of this and the planetesimal hypothesis.

Eggleston (Julius Wooster).
1. Some glacial remains near Woodstock, Conn.
   Describes local glacial features.

   2. Physiography—an outline of its scope and applications.
      Describes physiographic areas of the United States and various local physiographic features as illustrative of principles set forth in the paper.

Eisele (Martin A.).
   Gives chemical analyses of the water and a brief extract from W. H. Weed's report as to the source of the heat.

Eisen (Gustav.).
1. The earthquake and volcanic eruption in Guatemala in 1902.
   Describes the earthquake of April, 1902, and its effects, the volcanoes and their eruptions, more particularly that of Santa Maria of October 24, 1902, the character of the ejected material, and the physiographic changes produced.

Eldridge (George H.).
1. The asphalt and bituminous rock deposits of the United States.
   Describes the character and geologic occurrence of these materials in the United States.

   2. The petroleum industry of California.
      Eng. & Mg. Jour., vol. 73, p. 41, 1902.
      Describes the general developments in 1901.

      Describes classification, character, occurrence, origin, and distribution of asphalts and bituminous rocks of the United States.

   4. The petroleum fields of California.
      Describes briefly the location and extent of the oil fields and their topographic and geologic structure and production.
Elftman (A. H.).
1. The Highland range in Minnesota.
   Describes the geology of the range.

2. Keewatin and Laurentide ice sheets in Minnesota.
   Notes on the ice invasion.

Ellis (E. E.).
1. Zinc and lead mines near Dodgeville, Wis.
   Describes production, occurrence, and character of zinc and lead ores near Dodgeville, Wis.

Ellis (Mary).
1. Index to publications of the New York State Natural History Survey and New York State Museum, 1837-1902; also including other New York publications on related subjects.
   N. Y. State Mus., Bull. 66, 453 pp., 1903.
   Includes a list of the publications, an alphabetic author and subject index, and an index to descriptions of genera and species of fossils, compiled under the direction of John M. Clarke, State paleontologist.

Ells (R. Hugh).
1. Prince Edward and Hastings counties, Ontario.
   Gives notes upon the geology of these counties.

2. The physical features and geology of the Paleozoic basin between the Lower Ottawa and St. Lawrence rivers.
   Describes the character and occurrence of the Paleozoic rocks and the structure of the region.

3. The Carboniferous basin in New Brunswick.
   Discusses the geologic structure and location of coal seams in this area.

4. The Devonian of the Acadian provinces.
   Reviews previous geologic work on the Devonian strata of the region and discusses the problems involved.

5. Ancient channels of the Ottawa River [Canada].
   Ottawa Nat., vol. 15, pp. 17-30, 1 map, 1901.
   Describes glacial phenomena of the region.

   Describes the general character and distribution of the deposits.

7. Report on the geology and natural resources of the area included in the map of the city of Ottawa and vicinity.
   Describes geologic structure and formations and economic minerals of this area.

8. Report on the geology of Argenteuil, Ottawa, and part of Pontiac counties, Province of Quebec, and portions of Carleton, Russell, and Prescott counties, Province of Quebec.
   Bull. 301-06——8
BIBLIOGRAPHY OF NORTH AMERICAN GEOLOGY

Ells (R. W.)—Continued.

   Describes the author's observations in this area.

    Describes the character and occurrence of asbestos deposits in Canada, and the mining operations.


12. The oil fields of Gaspé [Quebec].
    Describes the geologic structure of the field, the conditions requisite for oil production, and the explorations for oil.

    Describes the occurrence and character of the oil shales.


15. Notes on some interesting rock-contacts in the Kingston district, Ontario.
    Describes observations upon the character, occurrence, and geologic relations of formations of Cambrian and Ordovician age in Quebec and Ontario.

16. The recent landslide on the Lièvre River, Province of Quebec.

    Gives notes upon the geology and economic mineral resources of this area.

18. Graphite in Canada.
    Describes the occurrence in Canada, particularly in Ontario, and the mining operations.

    Describes the occurrence of deposits of apatite in Ontario and Quebec, and the mining operations.

    Describes the occurrence, characters, and relations of sedimentary, igneous, and metamorphic rocks, and the occurrence of various ore deposits of economic importance.

    Describes the occurrence of mica in British Columbia, Ontario, and Quebec, and the mining operations.

22. On the ores of copper in Nova Scotia, New Brunswick, and Quebec.

23. Nicola coal-basin, B. C.
    Gives observations on the geology of the region and the occurrence, characters, and relations of Tertiary coal deposits.


25. Some interesting problems in New Brunswick geology.
    Discusses the occurrence and relations of various Paleozoic stratified rocks and rocks of volcanic origin in New Brunswick.
Elmore (C. J.).
1. A comparison of fossil diatoms from Nebraska with similar deposits at St. Joseph, Mo., and at Denver, Colo.
Gives lists of species identified from Tertiary deposits.

Elrod (Morton John).
1. The physiography of the Flathead Lake region [Montana].
Mont. Univ., Bull. no. 16 [17], pp. 197-203, illus., 1903.

Elrod (Moses N.).
1. Niagara group unconformities in Indiana.

Emerson (Benjamin Kendall).
1. Note on corundum and a graphitic essonite from Barkhamsted, Corin.
Describes the occurrence and characters of garnet and corundum.

2. Two cases of metamorphosis without crushing.
Am. Geol., vol. 30, pp. 73-76, 1902.
Describes an amygdaloidal amphibolite and a porphyritic mica schist.

3. Holyokeite, a purely feldspathic diabase from the Trias of Massachusetts.
Describes the mineralogic and chemical characters of the rocks.

4. Glacial cirques and rock-terraces on Mount Toby, Massachusetts.

5. A plumose diabase containing sideromelan and spherulites of caicide and blue quartz.

Harriman Alaska Expedition, vol. 4, pp. 11-56, 5 pls., 13 figs., 1904.
Describes the geology of points visited by the Harriman Alaska expedition, including the occurrence and character of igneous, metamorphic, and sedimentary rocks in Alaska, the petrographic characters of various rocks collected, and the age and correlation of fossil-bearing formations.

Describes the character and occurrence of this rock.

8. Notes on some rocks and minerals from north Greenland and Frobisher Bay.

9. Plumose diabase and palagonite from the Holyoke trap sheet.
Describes the character and occurrence of inclusions in and components of the trap of Holyoke, Mass., and gives an explanation of the formation of the holyokeite and palagonite and their inclusions.

Emerson (Benjamin K.) and Loomis (F. B.).
1. On Stegoumus longipes, a new reptile from the Triassic sandstones of the Connecticut Valley.

Emerson (Benjamin K.), Perry (Joseph H.) and.
1. The geology of Worcester, Massachusetts.
See Perry (J. H.) and Emerson (B. K.), 1.

Emerson (Harrington).
1. The coal resources of the Pacific.
Contains notes on the distribution of coal in this region.
Emerson (J. S.).
1. Some characteristics of Kau [Hawaii].
   Describes the physiography of the region and discusses the evidences regarding the source of certain eruptions.

Emerson (Philip).
1. Note on glacial topography in central New Hampshire.
   Describes physiographic features in central New Hampshire.

Emmens (Newton W.).
1. The Bingham mining camp [Utah].
   Mg. Mag., vol. 12, pp. 457-464, 5 figs., 1905.
   Includes brief notes on the geology, and the occurrence and character of the copper ores.

Emmons (N. H.).
1. The value of ores in Mexico.
   Mg. & Sci. Press., vol. 84, p. 102, 1902.

Emmons (Samuel Franklin).
1. The secondary enrichment of ore deposits.
   Discusses the process of the secondary enrichment of sulphide ore bodies by transference and reconcentration of the alteration products of the original vein materials by descending surface waters and the chemical reactions which take place. Describes the author’s observations in various mining districts and discusses their bearing on these problems.

2. Notes on two desert mines in southern Nevada and Utah.
   Contains abstract of paper read before the Geological Society of Washington.

3. The Delamar and the Horn-Silver mines; two types of ore-deposits in the deserts of Nevada and Utah.
   Describes topography and geologic structure of the region, characters of the ore and history and development of these mines.

4. [In discussion of “The origin of ore-deposits.”]

5. Clarence King.
   Includes an account of his life and work and a bibliography of his publications.

6. Tributes to Clarence King.
   Eng. & Mg. Jour., vol. 73, pp. 3-5, por., 1902.
   Gives an account of his life and work and a list of his publications.

7. The U. S. Geological Survey in its relation to the practical miner.
   Eng. & Mg. Jour., vol. 74, p. 43, 1902.

8. [Discussion of James W. Malcolmson’s paper on “The Sierra Mojado, Coahuila, Mexico, and its ore-deposits.”]
   Discusses the age of the beds, the structure of the mountains, and the distribution of the ores.

9. The Little Cottonwood granite body of the Wasatch Mountains.
   Discusses the geologic relations and age of this granitic mass.

10. Investigation of metalliferous ores.
    Describes the character and scope of the economic work of the U. S. Geological Survey, gives brief outlines of economic publications on metalliferous deposits by the Survey during 1901, and enumerates by geographic areas the work in hand.
Emmons (Samuel Franklin)—Continued.

   U. S. Geol. Surv., Bull. no. 213, pp. 94-97, 1903.
   Gives a brief account of the topography and geology of the Medicine Bow Range in Wyoming and the occurrence of platinum in the copper ores of the New Rambler mine.

12. [In discussion of paper by W. P. Jenney, "The mineral crest, or the hydrostatic level attained by the ore-depositing solutions in certain mining districts of the Great Salt Lake Basin."]

13. The drainage of the valley of Mexico.


15. Theories of ore deposition historically considered.
   Reviews in chronologic order the various theories held at different periods of time regarding the origin of ore deposits.

16. The Virginian mine.
   Gives observations upon the occurrence and geologic relations of the ore bodies of copper and galena.

17. Investigation of metalliferous ores.
   Gives a short summary statement respecting the economic publications of the preceding year relating to metalliferous ores and the field work carried on in this division.


   Reviews the publications of the U. S. Geological Survey during the year 1904 upon metalliferous ores, and the economic work in progress during the year.

   Discusses the occurrence of copper ores in foreign and American Red Beds of Permian and Triassic age, and their origin, and more particularly an occurrence in the Colorado Plateau region of Arizona.

21. The Cactus copper mine, Utah.
   Describes the location and history of the mine, the general geology, and the character and occurrence of the copper ores.

22. Economic geology of the Bingham mining district, Utah.
   Describes the general geology of the region, and the occurrence and character of Carboniferous sedimentary strata, and of igneous rocks.

Emmons (S. F.), Hayes (C. W.), geologists in charge.

1. Contributions to economic geology, 1902.
   U. S. Geol. Surv., Bull. no. 213, 449 pp., 1903.
   Contains reports by different members of the staff of the U. S. Geological Survey of the economic results of investigations made by the Geological Survey, and bibliographies of the subjects treated.

2. Contributions to economic geology, 1903.
Emmons (S. F.), Hayes (C. W.)—Continued.

3. Contributions to economic geology, 1904.

Emmons (S. F.), Hayes (C. W.) Continued.
3. Contributions to economic geology, 1904.

Includes papers by various members of the U. S. Geological Survey on economic resources which they have had under investigation. With each section is given a list of the Survey publications bearing upon the products treated in that section.

Emmons (S. F.), Irving (John Duer) and.

1. Economic resources of the northern Black Hills. Part II. Mining geology.

See Irving (John Duer) and Emmons (S. F.), 1.

Emmons (William H.).

1. The Neglected mine and Nearby properties, Durango quadrangle, Colorado.

Describes the general geology, the character and occurrence of ores containing gold and silver, and the mining operations.

Emmons (W. H.), Irving (J. D.) and.

1. Economic geology of the Needle Mountains quadrangle [Colorado].

See Irving (J. D.) and Emmons (W. H.), 1.

Evans (A. W.).

1. Jellico coal field.

Describes the occurrence, composition, and qualities of coals of the Jellico field in Kentucky and Tennessee.

Evans (H. F.).

1. Canadian geology.

Gives a general account of the geology of Canada.

2. The Adams Lake series, British Columbia.

Describes the occurrence of this formation and the strata associated with it, and discusses its geologic relations and age.

Evans (Herbert M.).

1. A new cestraciont spine from the lower Triassic of Idaho.


Evans (Nevil Norton).

1. Native arsenic from Montreal.


2. Chrysoberyl from Canada.

Describes the occurrence of chrysoberyl in the province of Quebec, and the method and results of a chemical examination thereof.

Eyerman (John).

1. Contributions to mineralogy.

Am. Geol., vol. 34, pp. 43-48, 1904.
Describes the occurrence, characters, and composition of some minerals from New Jersey and Pennsylvania.

F.

Fairbanks (Harold W.).

1. Notes on the geology of the Three Sisters, Oregon.

Brief notes on occurrence of volcanic rocks.

2. Pyramid Lake, Nevada.

Describes the geological history of the lake and adjacent region and the characteristics of the volcanic materials.

3. The physiography of California.

Fairbanks (Harold W.)—Continued.

   Describes physiographic changes which have taken place in this region.

5. The physiography of southern Arizona and New Mexico.

   U. S. Geol. Surv., Bull. no. 225, pp. 119-123, 1 pl., 1904.
   Describes character, occurrence, and geologic relations of the gypsum deposits of California.

7. San Luis folio, California.
   Describes topography and drainage, climate and vegetation, the character, occurrence, and relations of Jurassic (?), Cretaceous, and Tertiary sedimentary rocks and included igneous rocks, the geologic structure and history of the area, the development of the physiographic features, and the economic resources and soils.

Fairchild (Herman Le Roy).

1. Beach structure in Medina sandstone.
   Am. Geol., vol. 28, pp. 9-14, 3 pis., 1901.
   Discusses the evidences indicating the origin of the ripple marks in the Medina sandstone of New York.

   Discusses the occurrence and deformation of the Iroquois shore line and gives results of recent studies in the Syracuse-Oneida and Cattaraugus-Chautauqua districts.

   See Le Conte (Joseph), 4.

4. Latest and lowest pre-Iroquois channels between Syracuse and Rome.
   Describes the occurrence and formation of river channels formed during the Glacial period in central New York.

   Am. Geol., vol. 33, pp. 43-45, 1904.

6. Geology under the new hypothesis of earth origin.
   Am. Geol., vol. 33, pp. 94-116, 1904.
   Compares the sufficiency of the nebular and planetesimal hypotheses and discusses the explanation given by the latter of the origin of the atmosphere and ocean, volcanic phenomena, deposits of hydrocarbons, ores, salt, and gypsum, climate in geologic time, glaciation, crustal movements, and life on the earth.

7. Geology under the planetesimal hypothesis of earth origin.
   See preceding entry. Includes discussion by Edward H. Kraus, Willis T. Lee, Israel C. Russell, and Frederick W. Sadlehn.

8. Glacial waters from Oneida to Little Falls [New York].
   Describes the position and extent of waters along the ice front, and the drainage at different stages of the Glacial epoch in north central New York, as determined from the occurrence, character, etc., of Glacial deposits.


11. Ice erosion theory a fallacy.
    Discusses the character of glacial erosion and presents evidence to show that deep valleys and the finger lakes of New York could not have been produced by erosion.
Fairchild (Herman Le Roy)—Continued.


13. The local glacial features [of the vicinity of Syracuse, N. Y.].


Falconer (J. D.)

1. Volcanic dust from the West Indies.
   Brief note on the character of the dust from recent eruptions.

2. The evolution of the Antilles.
   Discusses the general geologic history of America and more particularly that of Central
   America and the West Indies.

Fall (Delos).

1. Marls and clays in Michigan.
   Discusses occurrence of materials in Michigan for making Portland cement.

   Discusses occurrence, composition, and character of marls and clays in Michigan with especial
   reference to their use in the manufacture of Portland cement.

Faribault (E. Rodolph).  

1. Nova Scotia gold fields.
   Describes observations in this area.

   Describes geologic investigations made in the gold-producing districts of Nova Scotia.

   Describes the occurrence and relations of the gold-ore deposits and the mining operations.


Farnsworth (P. J.).

1. When was the Mississippi River Valley formed?
   *Am. Geol.*, vol. 28, pp. 333-396, 1901.
   Discusses the geologic history of the region.

Farrington (Oliver Cummings).

1. On the nature of the metallic veins of the Farmington meteorite.

2. The structure of meteorites.
   *Jour. Geol.*, vol. 9, pp. 51-66, 6 figs., pp. 174-190, 5 figs., 1901.
   Describes the various structural features of meteorites and discusses their origin.

3. The constituents of meteorites.
   *Jour. Geol.*, vol. 9, pp. 533-408 and 522-582, 1901.
   Describes the character and occurrence of the mineral constituents of meteorites.

4. The pre-terrestrial history of meteorites.
   *Jour. Geol.*, vol. 9, pp. 625-632, 1901.
   Discusses the evidences indicating the probable structure of meteorites before reaching the
   earth.

5. Observations on Indiana caves.
Farrington (Oliver Cummings)—Continued.

   Describes meteorites from Kansas, Mexico, and Ohio.

   Gives an account of the discovery and characters of this meteorite.

8. The meteorites of northwestern Kansas.

   The alphabetic list of meteorites includes notes on the character and source of the specimens, some of which are figured.

10. An occurrence of free phosphorus in the Saline Township meteorite.


12. Gems and gem minerals.
    Chicago, A. W. Mumford, 1903. 229 pp., 16 pls., 61 figs.

13. Observations on the geology and geography of western Mexico, including an account of the Cerro Mercado.
    Describes physiographic features, climatic conditions, the general geology and silver-mining developments of this part of Mexico, and in detail the Cerro Mercado (Iron Mountain), particularly the occurrence and characters of the iron ore, minerals, and rocks.

14. The geographical distribution of meteorites.

15. The Rodeo meteorite.
    Describes the history, characters, and composition of this meteorite found in the State of Durango, Mexico.

Farrington (Oliver Cummings), Riggs (Elmer S.) and.

1. The Dinosaur beds of the Grand River Valley of Colorado.
   See Riggs (E. S.) and Farrington (O. C.), 1.

Fawns (Sydney).

1. Tin deposits of the world.
   Includes notes on the occurrence of tin deposits in the United States and Alaska.

Felix (J.).

1. Geologische Stätte vón der Südameriká.
   Geologische Reisezüge aus Nordamerika.
   Gives observations of a geological nature made during a tour through the United States and Canada, particularly upon the glaciers and topography of the Cascade Mountains.

Felix (Johannes) and Lenk (Hans).

1. Bemerkungen zur topographie und geologie von Mexico.
   Contains observations on the topography and geology of Mexico.

Fell (E. Nelson).

1. The Canadian Mining Institute.
   Eng. & Mg. Jour., vol. 73, p. 411, 1902.

Felbows (A. L.).

1. Water resources of the State of Colorado.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 74, 151 pp., 14 pls., 5 figs., 1902.
1. On the lakes of southeastern Wisconsin.
   Discusses the geology, physiography, and formation of lakes of this region.

2. Development of the profile of equilibrium of the subaqueous shore terrace.
   Jour. Geol., vol. 10, pp. 1-32, 10 figs., 1902.

3. The Arapahoe glacier in 1902 [Colorado].
   Jour. Geol., vol. 10, pp. 839-851, 8 figs., 1902.
   Describes the moraines and crevasses of this glacier.

4. The Boulder, Colo., oil field.
   Describes location, general geologic structure and development of the field, the character
   and occurrence of the oil-bearing strata, and the production of oil.

5. Structure of the Boulder oil field, Colorado, with records for the year 1903.
   Describes the location and geologic structure of the field and the occurrence and production
   of petroleum.

6. Effect of cliff erosion on form of contact surfaces.
   Discusses the relations of shore erosion and subsidence and the application to the contact of
   the Archean granite and Wyoming sandstone in the front range of the Rocky Mountains
   in northern Colorado.

7. Oil fields of the Texas-Louisiana coastal plain.
   Mg. Mag., vol. 11, pp. 313-322, 6 figs., 1905.
   Includes a short account of the geological structure of the oil fields.

8. Oil fields of the Texas-Louisiana gulf coast.
   Describes the location and condition of the various oil fields in this region, and discusses the
   prospecting for oil, the surface indications, and the structure and origin of the oil-producing
   mounds.

   Describes the location and structure of the field, the occurrence of the oil, and the economic
   developments.

    U. S. Geol. Surv., Bull. no. 265, 101 pp., 5 pls., 11 figs., 1905.
    Describes the physiography and drainage, the character, occurrence, and relations of Algon-
    kian, Triassic (?), Jurassic, and Cretaceous sedimentary rocks, and of intrusive rocks, the
    geologic history of the area, and the economic geology, particularly the occurrence of oil
    and gas.

Fernie (W. Blakemore).

1. The Frank disaster [Alberta].
   Discusses the cause of the landslide.

Finch (Grant E.).

1. A terrace formation in the Turkey River Valley, in Fayette County, Iowa.
   Describes the structure and formation of the bluffs.

2. Notes on the position of the individuals in a group of Nileus vigilans found at
   Elgin, Iowa.

Finch (John Wellington).

1. The circulation of underground aqueous solutions and the deposition of lode ores.
   pp. 22-24; no. 14, pp. 21-24, 1904.
   Discusses underground water and the formation of ore deposits.
Finch (John Wellington)—Continued.
2. State geological survey for Colorado.

Finlay (George Irving).
1. The granite of Barre, Vermont.
   Briefly describes megascopic and microscopic characters.
2. Preliminary report of field work in the town of Minerva, Essex County [New York].
   Describes geologic structure and petrology of this area.
3. The granite area of Barre, Vermont.
   Discusses topography, geology, and petrology of this area.
4. Igneous rocks of the Algonkian series.
   Describes characters and occurrence of igneous rocks of the Algonkian series in Lewis and Livingston ranges, Montana.
5. Geology of the San Pedro district, San Luis Potosi, Mexico.
   School of Mines Quart., vol. 25, pp. 60-69, illus., 1903; Columbia Univ., Dept. Geol., Contr., vol. 12, no. 108, 1904.
   Describes the general geology of the region, the character and occurrence of the rocks and ore deposits, chiefly gold, silver, and lead, and discusses the origin of the latter.
6. Geological observations along the northern boundary of Montana.
7. The geology of the nephelite syenite area at San José, Tamaulipas, Mexico.
8. The geology of the San José district, Tamaulipas, Mexico.
   Describes the topography and the general geologic structure of the region, the field relations of the igneous rocks, and in detail their petrographic characters.

Finlay (George I.) and Kemp (J. F.).
1. Nepheline syenite area of San José, Tamaulipas, Mexico.

Finlay (J. R.).
1. The mining industry of the Cœur d'Alenes, Idaho.
   Describes the geologic structure of the region, the occurrence and character of the veins and ore deposits, chiefly lead, and the mining operations.
2. Mining and milling in the Cœur d'Alene, Idaho.
   Describes the general geology of the region and the occurrence of ore bodies.
3. The mining industry of the Cœur d'Alene district, Idaho. The ore formation.
   The production and methods of operating.
   Abstract of paper read before the American Institute of Mining Engineers in 1902, together with comments by Arthur Lakes.

Fishback (P. J.).
1. Geological horizon of the petroleum in southeast Texas and southwest Louisiana.

Fisher (Cassius A.).
1. Comparative value of bluff and valley wash deposits as brick material.
Fisher (Cassius A.)—Continued.

2. Directory of the limestone quarries of Nebraska.

3. Discovery of the Laramie in Nebraska.
   Am. Geol., vol. 30, pp. 315-316, 1 pl., 1902.
   Describes occurrence and relations of the Laramie in southeastern Nebraska.

4. Coal fields of the White Mountain region, New Mexico.
   Describes the location of the field and the occurrence and character of the coals.

   Describes the physical properties, occurrence, and geological relations of bentonite, a variety of clay.

Fisher (Cassius A.), Barbour (Erwin H.) and.

1. A new form of calcite-sand crystal.
   See Barbour (E. H.) and Fisher (C. A.), 1.

2. The geological bibliography of Nebraska.
   See Barbour (E. H.) and Fisher (C. A.), 2.

Fisher (Cassius A.), Gould (C. N.) and.

1. The Dakota and Carboniferous clays of Nebraska.
   See Gould (C. N.) and Fisher (C. A.), 1.

Fisher (O.).

1. On rival theories of cosmogony.
   Discusses the meteoric and nebular theories as to the origin of the earth.

2. Mathematical notes to rival theories of cosmogony.
   Contains mathematical notes supplementary to the author’s previous paper.

Fitzhugh (G. D.).

   Describes the occurrence and composition of chalk suitable for the manufacture of cement.

Fletcher (Hugh).

   Discusses the age of the New Glasgow conglomerate.

2. Kings and Hants counties, Nova Scotia.
   Describes the author’s observations in this area.

3. Surveys and explorations in Richmond, Cape Breton, Kings, Cumberland, and other counties in Nova Scotia.
   Describes geologic work in the coal fields of Nova Scotia.

4. Limits of the workable coals of the Cumberland coal fields in Nova Scotia.
   Includes observations upon the geology of the region, and discusses the possibility of workable coal seams being found at certain points in the light of geological facts presented.

5. Northern part of Nova Scotia.
   Gives notes upon the geology and mineral resources of this area.
Fletcher (Hugh)—Continued.

6. The counties of Cumberland, Hants, Kings, and Annapolis, Nova Scotia.

Includes observations on the geology of the region examined, and the occurrence and relations of minerals of economic importance, especially deposits of iron ore.

Flett (John Smith).

1. Note on a preliminary examination of the ash that fell on Barbados after the eruption at St. Vincent [West Indies]. With a chemical analysis by Dr. William Pollard.


2. Preliminary report on the recent eruption of the Soufrière in St. Vincent, and of a visit to Mont Pelée, in Martinique.

See Anderson (Tempest) and Flett (J. S.), 1.

3. Preliminary report on the recent eruption of the Soufrière in St. Vincent, and of a visit to Mont Pelée, in Martinique.

See Anderson (Tempest) and Flett (J. S.), 2.

Flett (John Smith), Anderson (Tempest) and.

1. Report on the eruptions of the Soufrière, in St. Vincent, in 1902, and on a visit to Montagne Pelée, in Martinique.

See Anderson (Tempest) and Flett (J. S.), 3.

Flink (Gust.).

1. Berättelse om en mineralogisk resa i Syd.-Groenland sommaren 1897.

Describes minerals and rocks obtained from Greenland.

2. On the minerals from Narsarsuk on the firth of Tunugdljarfik in southern Greenland.

Describes character and occurrence of minerals in this area.

Flores (Teodoro).

1. Las criaderos argentíferos de “Providencia” y “San Juan de la Chica,” San Felipe (Estado de Guanajuato), [México].

Describes the occurrence, character, and relations of silver deposits.

Fluck (Frank).

1. Lower Coal Measures of central Pennsylvania.

Describes occurrence and character of coal seams of central Pennsylvania.

Fluker (W. H.).

1. Gold mining in McDuffie County, Georgia.

Eng. & M. Jour., vol. 78, pp. 725-726, 1902.
Contains general notes on the geology and gold ores of the county.

2. Gold mining in McDuffie County, Georgia.

Describes the occurrence of gold ore and the mining operations.

Flynn (Benjamin H.) and (Margaret S.).

1. The natural features and economic development of the Sandusky, Maumee, Muskingum, and Miami drainage areas in Ohio.

U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 91, 130 pp., 11 figs., 1904.
Includes a brief account of the topography and general geology of the areas considered.

Foerste (August F.).

1. Silurian and Devonian limestones of Tennessee and Kentucky.

Discusses the occurrence and lithologic character of the Ordovician, Silurian, and Devonian series in the southern portion of the Cincinnati anticline and discusses the evidences of unconformity. Gives lists of fossils from several formations at various points in the region.
Foerste (August F.)—Continued.
2. The Niagara group along the western side of the Cincinnati anticline.
3. The Cincinnati anticline in southern Kentucky.
   Am. Geol., vol. 30, pp. 359-369, 1 pl., 1902.
   Describes the relations of the Devonian, Silurian, and Ordovician formations along the Cin­
cinnati anticline.
4. Bearing of the Clinton and Osgood formations on the age of the Cincinnati anti­
cline.
5. Use of the terms Linden and Clifton limestones in Tennessee geology.
   Jour. Geol., vol. 11, pp. 29-45, 1 fig., 1903.
   Discusses the subdivisions of the Cincinnati group in Ohio, names and describes the subdivi­
sions in Tennessee, and gives localities of outcrops and notes on characteristic fossils.
7. Silurian and Devonian limestones of western Tennessee.
   Jour. Geol., vol. 11, pp. 554-588, 6 figs., pp. 679-715, 4 figs., 1903.
   Describes character, occurrence, and correlation of Silurian strata along the western side of
the Cincinnati geanticline in southern Indiana, Kentucky, and northern Tennessee, and of
Silurian and Devonian strata in the Tennessee River Valley, and discusses evidences for the age
of the Cincinnati geanticline and gives lists of fossils with brief descriptions of some
forms.
8. The Richmond Group along the western side of the Cincinnati anticline in Indi­
ana and Kentucky.
   Am. Geol., vol. 31, pp. 333-361, 3 pls., 1903.
   Discusses occurrence and lithologic, stratigraphic, and faunal features of the subdivisions of
the Cincinnati series, the decrease in thickness of the Richmond group in Indiana and Ken­
tucky, and conditions prevailing in the Cincinnati region in Ordovician times.
9. Variation in thickness of the subdivisions of the Ordovician of Indiana. With
noted on the range of certain fossils.
   Am. Geol., vol. 34, pp. 87-102, 1 pl., 1904.
10. The Ordovician-Silurian contact in the Ripley Island area of southern Indiana,
with notes on the age of the Cincinnati geanticline.
   Discusses the stratigraphic evidence for the time of formation of the Cincinnati geanticline,
the occurrence, character, and relations of Ordovician and Silurian formations in Ohio,
Indiana, and Kentucky, and gives observations upon the stratigraphic position of various
fossils, the relationships of Silurian faunas of Indiana with those of New York, and lists of
Niagara fossils of Indiana.
11. Description of the rocks formed in the different geological periods in Indiana:
Ordovician and Silurian.
12. The classification of the Ordovician rocks of Ohio and Indiana.
   Am. Geol., vol. 36, pp. 244-250, 1905.
   Gives notes upon the geographic distribution and geologic horizons of certain brachiopods
of the Arnheim and Waynesville beds of the upper Ordovician beds of Ohio, Indiana, and
Kentucky.
Fontaine (William M.).
1. The Jurassic flora of Douglas County, Oreg.
2. Report on collections from plant-bearing beds in the Jurassic, or forming the
transition to the lower Cretaceous.
Fontaine (William M.)—Continued.
3. Notes on some fossil plants from the Shasta group of California and Oregon.
4. Notes on some lower Cretaceous (Kootanie) plants from Montana.
5. Report on various collections of fossil plants from the older Potomac of Virginia and Maryland.

Foote (H. W.), Penfield (S. L.) and.
1. On bixbyite, a new mineral.
   See Penfield (S. L.) and Foote (H. W.), 1.
2. On clinohedrite, a new mineral from Franklin, N. J.
   See Penfield (S. L.) and Foote (H. W.), 2.

Foote (H. W.), Pratt (J. H.) and.
1. On wellsite, a new mineral.
   See Pratt (J. H.) and Foote (H. W.), 1.

Foote (W. M.).

Ford (Frederick L.).
1. The trap rock of the Connecticut Valley.
   Describes the character, occurrence, and geologic history of the trap rock in the vicinity of Hartford, Conn.

Ford (W. E.).
1. On the chemical composition of dumortierite.
2. Rickardite, a new mineral.
   Describes occurrence and chemical composition.
3. On the chemical composition of axinite.

Ford (W. E.), Penfield (S. L.) and.
1. On calavarite.
   See Penfield (S. L.) and Ford (W. E.), 1,

Forstner (William).
1. Genesis of ore deposits at the Royal mine, Hodson, Cal.
   Describes the occurrence and geologic relations of the ore bodies and discusses their origin.
2. The quicksilver deposits of California.

Forsyth (Alexander).
1. [In discussion of paper by J. D. Irving "Wolframite in the Black Hills of South Dakota."

Foster (Ernest Le Neve).
1. The Colorado Central lode, a paradox of the mining law.
   Includes some discussion of the occurrence of the ores.
Fowke (Gerard).
1. The preglacial drainage of Ohio—introduction.
   Ohio State Acad. Sci., Special Papers, no. 3, pp. 5-9, 1900.
   Reviews work previously done in deciphering preglacial drainage as an introduction to
papers following.

2. Preglacial drainage conditions in the vicinity of Cincinnati [Ohio].
   Ohio State Acad. Sci., Special Papers, no. 3, pp. 68-75, map, 1900.

Fowler (George L.).
1. The coals and coal-mining methods of the Pocahontas field.
   Describes the geologic occurrence, fuel value, and mining methods of the Pocahontas coal.

Fraas (E.).
1. [Origin of the Oligocene beds of the Bad Lands, South Dakota.]
   Contains quotation from letter to Professor Osborn.

2. Geologische Streifzüge durch die Prärien und Felsengebirge Nordamerikas.
   Württemberg, Jahreshefte des Vereins für vaterländische Naturkunde, Stuttgart, Jahrg. 58,
   pp. LXV-LXVIII, 1902.
   Contains observations on the Jurassic strata of Wyoming and their vertebrate fossils, and the
   Bad Lands of South Dakota.

Franke (Robert P.).
1. Geology of the Cochise mining district, Arizona.

Frazer (Persifor).
1. Alphabetical cross reference catalogue of all the publications of Edward Drinker
   Cope, from 1859 till his death in 1897.

   Gives a brief sketch of his life and a list of his publications.

   Am. Geol., vol. 27, pp. 335-342, 1901.

4. Sketch of Dr. Frenzel.
   Am. Geol., vol. 30, pp. 333-335, 1902.


7. J. Peter Lesley.
   Am. Geol., vol. 32, pp. 133-136, 1 pl. (por.), 1903.

8. History of the Caribbean Islands from a petrographic point of view. (Abstract.)
   Discusses briefly the petrology of Cuba and Anglesey and its bearing on the geologic history
   of the Antillean region.

9. Geogenesis and some of its bearings on economic geology.
   Reviews theories of the origin of the earth and discusses the planetesimal theory and the origin
   of the hydrocarbons.

    Am. Geol., vol. 35, pp. 263-266, 1 pl. (por.), 1905.
    Gives an account of his life.
FOR THE YEARS 1901-1905, INCLUSIVE.

Frech (Fritz).
1. Die geographische Verbreitung und Entwicklung des Cambrium.
   In discussing the geographic distribution and development of the Cambrian, includes the
   Cambrian of North America.

Frizell (Joseph P.).
1. Tidal scour in harbors, or the function of tidal basins with special reference to the
   Harbor of Boston.
   Contains notes on deposition in harbors and its removal by tidal scour.

Fuchs (Th.).
1. Ueber Parapsonema cryptophyza Clarke und deren Stellung im System.
   Discusses the systematic position of this Devonian fossil.

Fuller (H. T.).
1. Corundum and emery.
   Describes occurrence and character of deposits of corundum in Ontario, Canada.

Fuller (Myron L.).
1. Probable representatives of the pre-Wisconsin till in southeastern Massachusetts.
   Describes the occurrence and character of the till at various localities and the occurrence of
   possible interglacial rock disintegration.

2. Etching of quartz in the interior of conglomerates.
   Jour. Geol., vol. 10, pp. 815-821, 3 figs., 1902.
   Discusses the evidences as to the cause and the conditions during the etching.

3. The Gaines oil field of northern Pennsylvania.
   Describes location, topography, extent and development of the field, location, and productiv
   5eness of wells, character and geologic occurrence of oil-producing sands and the stratigraf
   hy and geologic structure of this area.


5. Asphalt, oil, and gas in southwestern Indiana.
   Describes occurrence and production of oil, natural gas, and asphalt in southwestern
   Indiana.

6. Probable pre-Kansan and Iowan deposits of Long Island, N. Y.
   Am. Geol., vol. 32, pp. 308-312, 1903.

   Discusses Glacial deposits and terraces in this region.

8. Ice-retreat in Glacial Lake Neponset and in southeastern Massachusetts.
   Jour. Geol., vol. 12, pp. 181-197, 4 figs., 1904.
   Describes occurrence and character of Glacial deposits in a part of eastern Massachusetts and
   discusses the disappearance and accompanying events of the Glacial ice.

   Describes the occurrence of natural gas in this field and gives the record of one of the
   borings.

10. Water supplies from wells in southern Louisiana.

11. Contributions to the hydrology of eastern United States, 1903. Introduction.
    U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 102, pp. 9-13, 1904.
    Bull. 301—06—9
Fuller (Myron L.)—Continued.

12. Organization of the Division of Hydrology and work of the eastern section.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 102, pp. 15-20, 1904.
   Outlines the work of the United States Geological Survey in the investigation of underground water resources.

13. Notes on the wells, springs, and general water resources of certain eastern and central states. Introduction.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 102, pp. 21-26, 1904.
   Describes the collection, preparation, and utilization of data relating to underground waters, as an introduction to a series of papers by different writers on the underground water resources of certain eastern and central states.

14. Notes on the wells, springs, and general water resources of Florida.

15. Experiments on the pollution of deep wells in Georgia.


17. Introduction to Contributions to the hydrology of eastern United States, 1904.
   Gives summaries of the reports comprised in the second of the series of "Contributions to the hydrology of eastern United States."

18. Triassic rocks of the Connecticut Valley as a source of water supply.
   Describes the water resources of the area. Includes an account of the geologic structure.

   Includes a brief account of the geography, topography, and geology.


21. Occurrence of underground waters.
   Describes the relations of rainfall, run-off, evaporation, and absorption, the occurrence of underground water and its recovery by wells.

   Gives a brief account of the geology and underground waters of the state.

   Describes briefly the general geology and the sources of water supply.

   Describes the underground water resources of the state.

   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 114, pp. 159-163, 1 fig., 1905.
   Describes briefly the topography, general geology, and underground waters of the state.

   Describes briefly the physiographic belts and their underground water resources.

27. Bibliographic review and index of papers relating to underground waters published by the United States Geological Survey, 1879-1904.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 120, 128 pp., 1905.

28. Audubon's account of the New Madrid earthquake.
 Fuller (Myron L.)—Continued.

   Describes the character, occurrence, and relations of Pleistocene and drift deposits on Fishers
   Island, and discusses their correlation with formations of other regions.


31. Hydrologic work in eastern United States and publications on ground waters.
   Describes briefly the work of the Division of Hydrology of the U. S. Geological Survey in
   eastern United States and the publications relating to underground waters.

32. Two unusual types of artesian flow.

33. Construction of so-called fountain and geyser springs.

34. A ground-water problem in southeastern Michigan.

35. Notes on certain large springs of the Ozark region, Missouri and Arkansas.

36. Objects, development, and results of the work of collecting well records and
   samples.

37. Failure of wells along the lower Huron River, Michigan, in 1904.
   Gives an account of the general geology and of the condition of the water supply of the region.

38. Some results of Geological Survey work in the location of underground waters.

39. Artesian flows from unconfined sandy strata.
   Discusses certain unusual conditions under which flowing wells occur.

40. Pleistocene history of Fishers Island, N. Y.

41. Cause and periods of earthquakes in the New Madrid area, Missouri and
   Arkansas.

 Fuller (Myron L.) and Alden (William C.).

   Describes topography and drainage, character and occurrence of Devonian, Carboniferous,
   and Quaternary deposits, the geologic structure and history, physiography and glacial
   history, economic products, and discovery and development of the Gaines oil field.

   Describes topography and drainage, character and occurrence of Devonian, Carboniferous,
   and Quaternary deposits, the geologic structure, geologic, physiographic, and glacial history
   and economic resources.

 Fuller (Myron L.) and Ashley (George H.).

1. Ditney folio, Indiana.
   Describes geographic and topographic features, general geologic relations, Carboniferous for­
   mations and Quaternary deposits, and economic resources, chiefly coal.
Fuller (Myron L.) and Ashley (George H.)—Continued.

2. Recent work in the coal field of Indiana and Illinois.
   Describes the character and occurrence of the coals in this area, and thickness and relations
   of the coal seams.

Fuller (Myron L.) and Clapp (Frederick G.).
1. Marl-loess of the lower Wabash Valley.
   Describes character and occurrence of loess deposits in this region and discusses evidences
   showing their origin.

   Describes topographic features, the general geologic relations, the character and occurrence
   of Carboniferous, Tertiary, and Quaternary formations, the geologic structure and history,
   the economic resources, coal, clay, and building stone, the soils, forest reserves, and water
   supply.

Fuller (Myron L.) and Veatch (A. C.).
1. Results of the resurvey of Long Island, New York.
   Discuss the occurrence of Cretaceous and Quaternary deposits and the source of the water of
   artesian wells.

Fuller (Myron L.), Darton (Nelson H.) and.
1. Underground waters of eastern United States: Maryland.
   See Darton (N. H.) and Fuller (M. L.), 1.

   See Darton (N. H.) and Fuller (M. L.), 2.

   See Darton (N. H.) and Fuller (M. L.), 3.

Fuller (Myron L.), Lines (E. F.), and Veatch (A. C.).
1. Record of deep well drilling for 1904.
   U. S. Geol. Surv., Bull. no. 264, 193 pp., 1905.

Fulton (Charles H.).
1. The cyanide process in the Black Hills of South Dakota.
   S. Dak. School of Mines, Bull. no. 5, pp. 1-77, 1 pl., 1902.

Furlong (Eustace L.).
1. An account of the preliminary excavations in a recently explored Quaternary
   cave in Shasta County, California.
   Describes occurrence of vertebrate remains and gives lists of forms identified.

2. Preptoceras, a new ungulate from the Samwel cave, California.

Furlong (Eustace L.), Sinclair (William J.) and.
1. Euceratherium, a new ungulate from the Quaternary caves of California.
   See Sinclair (William J.) and Furlong (E. L.), 1.

Furman (H. van F.).
   Describes character and occurrence of gold ores in southeastern Alaska.

G.

Gale (Hoyt S.).

Gallaher (John A.).
1. Preliminary report on the structural and economic geology of Missouri.
Gallaher (John A.)—Continued.
2. Geology of Missouri.
   A general account of the geology of the State of Missouri.

Gannett (Henry).
1. Profiles of rivers.
   U. S. Geol. Surv., Water-Supply and Irrigation Papers no. 44, 100 pp., 11 pls., 1901.
2. Geography of Alaska.
3. Lake Chelan and its glacier [Washington].
   Describes the formation of a gorge through glacial erosion.

Ganong (W. F.).
1. Notes on the natural history and physiography of New Brunswick.
2. Notes on the natural history and physiography of New Brunswick.
   Describes physiographic history of various rivers of New Brunswick.
   Describes various physiographic features, in sections, entitled: A measure of the rate of recession of the New Brunswick coast line; on the physiographic characteristics of the Renous River; on the physiographic characteristics of the Southwest Branch of the Little Southwest Miramichi River; on the physiographic characteristics of the Walkemik Basin; on geological boundaries in the Tunadook-Walkemik region.

Gardiner (J. Stanley).
1. The origin of coral reefs, as shown by the Maldives.

Garrey (G. H.), Spurr (J. E.) and.
1. Preliminary report on ore deposits in the Georgetown, Colo., mining district.
   See Spurr (J. E.) and Garrey (G. H.), 1.

Garrison (F. Lynwood).
1. The genesis of limonite ores in the Appalachians.
2. The iron ores of Shady Valley, Tennessee.
   Describes the geology and the occurrence, character, and relations of the iron-ore deposits.
3. Tin in the United States.
   Discusses the occurrence of tin deposits.
   Includes brief notes on the general geology of the island.

Gaudry (Albert).
   Notes the occurrence of Quaternary mammalian remains in Alaska.

Gautier (Armand).
   Discusses the constitution of gases from the fumerolles of Mont Pelée and the cause of volcanic phenomena.
Gay (Ware B.).
1. [In discussion of paper on "The Richmond coal-basin, Virginia," by J. B. Woodworth.]

Geikie (Archibald).
1. The founders of geology.
   Johns Hopkins Univ., George Huntington Williams Memorial lectures, vol. 1, 297 pp., 1901.

Gidley (J. W.).
1. Tooth characters and revision of the North American species of the genus Equus.
3. On two species of Platygonus from the Pliocene of Texas.
   Describes explorations in the Tertiary beds of northwestern Texas, and the character, occurrence, and fossil contents of Pleistocene, Pliocene, and Miocene formations.
5. Proper generic names of Miocene horses.

Gidley (J. W.), Matthew (W. D.) and.
1. New or little-known mammals from the Miocene of South Dakota. American Museum expedition of 1903.
   See Matthew (W. D.) and Gidley (J. W.), 1.

Gilbert (Grove Karl).
1. Physical history of Niagara River [New York].
2. On some joint veins.
   A sketch of his life and work.
4. John Wesley Powell: a memorial to an American explorer and scholar. Comprising articles by Mrs. M. D. Lincoln (Bessie Beach), Grove Karl Gilbert, Marcus Baker, and Paul Carus. Edited by Grove Karl Gilbert. (Reprinted from "The Open Court.")
   Chicago, The Open Court Publishing Company, 75 pp., 4 pls. (por.), 1903.
5. Powell as a geologist.
6. Proposed investigation of subterranean temperatures and gradients.
   Presents a proposition for a deep boring, and states results to be obtained thereby.
7. John Wesley Powell.
   Revised by the author from article published in Science, October 10, 1902. See no. 3 above.
   Contains brief note on joint structures in the House range, Utah.
9. A highly viscous eruption of rhyolite.
Gilbert (Grove Karl)—Continued.


   Discusses the statics of tidal glaciers and their bearing upon the origin of fiords.

   Describes the occurrence and characters of the glaciers and physiographic features of Alaska.

   Harriman Alaska Expedition, vol. 4, pp. 1-8, 1 pl., 1904.
   Describes briefly the itinerary of the Harriman Alaska expedition and the results obtained.

15. Regulation of nomenclature in the work of the U. S. Geological Survey.
   Am. Geol., vol. 33, pp. 138-142, 1904.

16. The mechanism of the Mont Pelée spine.
   Offers an explanation of the formation of the spine of Mont Pelée.

17. Domes and dome structure of the high Sierra.
   1905.
   Discusses dome structure and discusses its origin.

18. Variations of Sierra glaciers.

19. Systematic asymmetry of crest lines in the high Sierra of California.
   Discusses the relations of glaciers and physiographic features in the Sierra Nevada Mountains.

20. The sculpture of massive rocks.

   Carnegie Inst. of Wash., Yearb. no. 3, 1904, pp. 120, 209-260, 1905.

22. Value and feasibility of a determination of subterranean temperature gradient by means of a deep boring.

23. Undulations of certain layers of the Lockport limestone.

24. Terraces of the High Sierra, California.

25. Fault phenomena near Glen Echo, Md.

Gilbert (Grove Karl) and Brigham (Albert Perry).

1. An introduction to physical geography.

Gill (Theodore N.).

1. Origin of fresh-water faunas.

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Gillespie (P.).
   Includes notes on the occurrence of marls and clays in Ontario.

Gillette (Halbert Powers).
1. Osmosis as a factor in ore formation.

Gilot (H.).
   Discusses the chemical composition of volcanic ash from Martinique.

Gilmore (Charles W.).
1. Discovery of teeth in Baptanodon, an Ichthysosaurian from the Jurassic of Wyoming.
2. Discovery of dental grooves and teeth in the type of Baptanodon (Sauranodon) Marsh.
3. Osteology of Baptanodon (Marsh).
   Carnegie Mus., Mem., vol. 2, pp. 77-129, 6 pls., 26 figs., 1905.
4. The mounted skeleton of Triceratops prorsus.

Gilmore (Charles W.), Peterson (O. A.) and.
1. Elosaurus parvus; a new genus and species of the Sauropoda.
   See Peterson (O. A.) and Gilmore (C. W.), 1.

Gilpin (Edwin, jr.).
1. The minerals of Nova Scotia.
   Halifax, N. S., 1901. 78 pp.
   Describes the economic mineral resources of the province.
2. The building stones of Nova Scotia.

Giraud (J.).
1. Sur l'âge des formations volcaniques anciennes de la Martinique.
   Discusses the geologic age of volcanic formations on the island of Martinique.

Giraud (J.), Lacroix (A.), Rollet de l'Isle and.
1. Sur l'explosion de la Martinique.
   See Lacroix (A.), Rollet de l'Isle and Giraud (J.), 1.

Girty (George H.).
1. The Waverly group in northeastern Ohio.
   *Gives brief notes on the correlation and succession of the subdivisions.
2. The Upper Permian in western Texas.
   Describes the lithologic and faunal characters of the Carboniferous section examined by Shumard in 1855, and proposes the geographic term Guadalupian for the Permian strata of the region.
3. The Carboniferous formations and faunas of Colorado.
   Reviews in chronologic order the literature bearing upon the subject and includes a bibliography. *Gives a résumé of the literature upon the stratigraphic geology of the Carboniferous area of Colorado. Describes the character and occurrence of the Paleozoic formations, discusses the occurrence and correlation of the Carboniferous fossil faunas by geographic areas and localities, with lists of species, and gives systematic descriptions of the species.*
Girty (George H.)—Continued.
4. Tabulated list of invertebrate fossils from the Carboniferous section of Kansas.
   U. S. Geol. Surv., Bull. no. 211, pp. 73-83, 1903.
5. New molluscan genera from the Carboniferous.
   Gives lists of identified fossils with notes upon their occurrence and relations. Some of the more characteristic are figured.
7. The typical species and generic characters of Aviculipecten, McCoy.
   Am. Geol., vol. 33, pp. 291-296, 1 fig., 1904.
8. The type of Aviculipecten.
   Am. Geol., vol. 34, pp. 322-333, 1904.
10. Upper Paleozoic rocks in Ohio and northwestern Pennsylvania.
    Discusses the equivalency of certain Carboniferous formations.
11. The relations of some Carboniferous faunas.
    Discusses the relations and correlations of Carboniferous faunas and formations in the various parts of the United States to one another and to those of other parts of the world.
12. Paleontology of the Bingham mining district, Utah.
   Gives notes upon the occurrence and lists of fossils identified in collections there made.

Glenn (L. C.).
1. Devonian and Carbonic formations of southwestern New York, with stratigraphic map of the Olean quadrangle.
   N. Y. State Mus., Bull. 69, pp. 967-989, 2 pls., 1903.
   Describes occurrence, character, and geologic relations of Devonian and Carboniferous strata of this region and discusses the geologic age of the formations.
3. Notes on a new meteorite from Hendersonville, N. C., and on additional pieces of the Smithville, Tenn., fall.
4. Notes on the wells, springs, and general water resources of Tennessee.
5. Notes on the wells, springs, and general water resources of Kentucky.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 102, pp. 369-373, 1904.
7. The more common minerals of the region about Nashville [Tennessee].
   Discusses the general principles controlling occurrence of minerals, and describes the occurrence and character of minerals from central Tennessee.
   Am. Geol., vol. 35, pp. 72-94, 1 pl. (por.), 1905.
   Includes a discussion of Troost's reports as State geologist and a list of his published writings.
Glenn (L. C.)—Continued.
   Describes the general geology and the character, occurrence, and water-bearing resources of
   the various geologic formations of the State.

   Describes the underground water resources by physiographic provinces.

Goldschmidt (Victor).
1. From the borderland between crystallography and chemistry.

Goldschmidt (Victor) and Nicol (William).
1. New forms of sperrylite.
   Describes crystallographic characters.

Goldthwait (James Walter).
1. The sand plains of Glacial Lake Sudbury.
   Harvard Coll., Mus. Comp. Zool., Bull., vol. 42 (Geol. Ser., vol. 6, no. 6), pp. 263-301, 5 pls., 4
   figs., 1905.
   Describes an investigation upon the sand plains in the Sudbury Valley, Mass., discusses their
   relations, and the hypotheses offered to explain their differences in level, and gives a sketch
   of the probable history of Lake Sudbury.

Goldthwait (James Walter), Huntington (Ellsworth) and.
1. The hurricane fault in southwestern Utah.
   See Huntington (Ellsworth) and Goldthwait (J. W.), 1.

2. The hurricane fault in the Toquerville district, Utah.
   See Huntington (E.) and Goldthwait (J. W.), 2.

Goode (John Paul).
1. The piracy of the Yellowstone.
   See no. 2047 in U. S. Geol. Surv., Bull. no. 188.

Goodwin (J. C.).
1. Reformed copper ores.
   Discusses the occurrence and origin of copper-ore deposits.

Gordon (C. E.).
1. Early stages of some Paleozoic corals.

Gordon (Charles H.).
1. On the origin and classification of gneisses.

2. The Port Huron oil field [Michigan].
   Contains well records of this field and the adjoining region in Canada.

3. Wave-cutting on west shore of Lake Huron, Sanilac County, Mich.
   12, pp. 10-14, illus., 1902.
   Describes the recent encroachment of the lake upon the land.

4. On the paramorphic alteration of pyroxene to compact hornblende.
   Am. Geol., vol. 34, pp. 40-43, 1904.

5. On the pyroxenites of the Grenville series in Ottawa County, Canada.
   Jour. Geol., vol. 32, pp. 310-325, 5 figs., 1904.
   Describes the occurrence and characters of these rocks and discusses their origin and nomen­
   clature.
Gordon (Charles H.)—Continued.
6. The work of rivers.
   Northwest Jour. of Education, vol. 15, no. 7, pp. 3-6, 2 figs., 1904.
   Discusses erosion and sedimentation by running waters.

Gordon (Reginald).
1. Bones of a mastodon found.
   Describes the occurrence of remains of a mastodon near Newburgh, New York.

2. Tree trunks found with mastodon remains.
   Describes occurrence of remains of trunks of trees near Newburgh, New York.

Gorham (Frederic P.).
   The Apteryx, vol. 1, pp. 53-58, 2 pls., 1905; Roger Williams Park Museum, Providence, R. I.
   Bull. no. 9, 6 pp., 2 pls., 1905.
   Describes the occurrence of Cambrian strata at this locality and gives figures of fossils contained in them.

Gottschalk (A. L. M.).
1. Gold fields of eastern Nicaragua.
   Describes the occurrence and production of gold.

Gould (Charles Newton).
1. Notes on the fossils from the Kansas-Oklahoma Red Beds.
   Gives a description of the character of the Red Beds and of the evidences on which they have been assigned to the Permian. Refers to fossils recently found in the beds.

2. Notes on the geology of parts of the Seminole, Creek, Cherokee, and Osage Nations.
   This paper is a contribution to the Red Beds problem of the region, and indicates that the strata are of Permian and Carboniferous age.

3. Tertiary springs of western Kansas and Oklahoma.
   Describes the occurrence of those springs at the contact between the Tertiary and the underlying Cretaceous or Red Bed strata.

   Am. Geol., vol. 27, pp. 188-190, 1901.
   Describes the geologic features of the region and discusses the age of the beds.

5. The Dakota Cretaceous of Kansas and Nebraska.
   Gives a historical sketch of work on the Dakota group, describes its geographic distribution, character, occurrence, and relations, its economic products, and the general characteristics of its fauna and flora. Includes a bibliography.

6. On the southern extension of the Marion and Wellington formations.
   Describes their character and occurrence in Oklahoma.

7. The Oklahoma salt plains.
   Describes the geologic formations of the region and the occurrence and character of the salt plains.

8. Oklahoma limestones.
   Contains notes on the occurrence and character of the limestones.
Gould (Charles Newton)—Continued.

   Describes the drainage, the occurrence, character, and relations of igneous rocks and sedimentary rocks of Carboniferous, Cretaceous, and Tertiary age, including an extended and detailed account of the Red Beds in Oklahoma, and a historical review of investigations upon their stratigraphic position and geologic age in Texas, Kansas, and Oklahoma.

10. Oklahoma gypsum.
    Describes the occurrence, character, and utilization of the gypsum deposits in Oklahoma, and discusses their geologic relations and origin.

    Describes character, occurrence, economic development, and geologic relations of gypsum deposits occurring in Permian strata.

12. Geology of Jacobs Cavern, McDonald County, Missouri.

    Describes the physiography of the region, and the character and occurrence of igneous rocks, and of sedimentary rocks of Cambrian, Ordovician, and Carboniferous age.

14. Geology and water resources of Oklahoma.
    Describes the topography, the character, occurrence, and relations of Cambrian, Ordovician, Carboniferous, Cretaceous, Tertiary, and Quaternary deposits, and the water supply.

Gould (Charles Newton) and Fisher (Cassius A.).

1. The Dakota and Carboniferous clays of Nebraska.

Gowling (F. A.).

1. Notes on geology of Mineral Creek district, Pinal County, Arizona.
   Describes the stratigraphy of the region and the occurrence of the ore deposits.

Grabau (Amadeus W.).

1. Guide to the geology and paleontology of Niagara Falls and vicinity.
   Describes the physiography of the region, the character, occurrence, and distribution of the Silurian and Devonian strata, and the fossils of the Silurian rocks. Includes a bibliography

   Am. Geol., vol. 28, pp. 177-189, 1 pl., 1901.
   Gives a section of a well 1,250 feet in depth and describes the character and occurrence of the Devonian strata of the section exposed.

3. Recent contributions to the problem of Niagara.

4. Studies of gastropoda.
   Describes stages of development of gastropods.

5. Stratigraphy of the Traverse group of Michigan.
   Describes the character and occurrence of the subdivisions of this group and includes lists of fossils at various horizons and localities.

Grantau (Amadeus W.)—Continued.
7. Recent contributions to the problem of Niagara.
8. Notes on the development of the biserial arm in certain crinoids.
   N. Y. State Mus., Bull. 69, pp. 1030-1079, 13 figs., 1903; Columbia Univ., Contr. from Geol. Dept., vol. 11, no. 96, 1903.
   Reviews literature of the region and describes character, occurrence, and fauna of the Ordivician, Silurian, and Devonian strata of Bercraft Mountain.
   Describes coral reefs in the Devonian of Michigan and New York, in the Silurian of Wisconsin and Gotland, and in the Devonian and Carboniferous of Belgium, names and describes varieties of reef limestone, and gives a classification of limestones.
11. Studies of Gastropoda. II. Fulgur and Sycotypus.
   Am. Nat., vol. 37, pp. 515-539, 19 figs., 1903; Columbia Univ., Contr. from Geol. Dept., vol. 11, no. 95, 1903.
   Describes developmental stages, relationships, and phylogeny of Fulgur and Sycotypus.
12. Limestone regions of Michigan.
13. The phylogeny of the Fusidae.
15. On the classification of sedimentary rocks.
   Proposes a classification of sedimentary rocks and sets forth the principles upon which it is based.
   Includes descriptions of American Tertiary forms.
17. Physical characters and history of some New York formations.
   Discusses physiographic changes taking place in New York and other parts of the eastern half of the United States in Paleozoic time.
18. Evolution of some Devonian spirifers.
19. Types of sedimentary overlap.
Grantau (A. W.), Johnson (C. W.) and.
1. A new species of Clavilithes from the Eocene of Texas.
   See Johnson (C. W.) and Grantau (A. W.), 1.
Grantau (Amadeus W.), Kemp (J. F.) and.
   See Kemp (J. F.) and Grantau (A. W.), 1.
Grantau (Amadeus W.), Shimer (Henry W.) and.
1. Hamilton group of Thedford, Ontario.
   See Shimer (H. W.) and Grantau (A. W.), 1.
Granger (Walter), Osborn (Henry F.) and.
1. Fore and hind limbs of Sauropoda from the Bone Cabin quarry [Wyoming].
   See Osborn (H. F.) and Granger (W.), 1.
Grant (C. C.). Opening address.
1. Geological Section [Hamilton Scientific Association].
   Contains notes on fossils collected near Hamilton, Ontario.
2. Niagara Falls as an index of time.
3. Geological notes, etc.
   Hamilton Sci. Assoc., Jour. & Proc., no. 17, pp. 84-96, 1 fig., 1901.
   Discusses certain post-Glacial problems.
4. Opening address, geological section [Hamilton Scientific Association], for session 1901-1902.
   Contains notes on fossils collected near Hamilton, Ontario.
5. Coral reefs—modern and ancient.
   Notes the occurrence of fossil corals in Ontario.
   Contains notes on the occurrence of fossils near Hamilton, Ontario.
7. Geological notes.
   Contains notes on the occurrence of Ordovician and Silurian fossils.
8. The origin of petroleum.
9. Notes on past collecting season.
   Gives notes on the occurrence of Silurian fossils near Hamilton, Ontario.
10. Notes on the late collecting season.
    Contains notes on the occurrence of fossils near Hamilton, Ontario.

Grant (Ulysses Sherman).
   Wis. Geol. & Nat. Hist. Surv., Bull. no. 6 (2d edition), 83 pp., 13 pls., 1 fig., 1901.
   Contains the material of the first edition and the results of the field work of 1900 in the same region.
   Reviews previous investigations and discusses the contact phenomena and the character of the sedimentary rocks.
3. Lake Superior iron ore deposits.
   Am. Geol., vol. 29, pp. 47-51, 1902.
   Reviews recent literature on these ores.
   Gives a short summary of the stratigraphic, economic, physiographic, and Glacial geology of this region.
5. Preliminary report on the lead and zinc deposits of southwestern Wisconsin.
   Wis. Geol. & Nat. Hist. Surv., Bull. no. 9, 103 pp., 4 pls., 8 figs., 1903.
   Describes topography and general geology of the region, and the character, occurrence, and origin of the ore deposits.
6. Investigations on the Lake Superior iron ore deposits.
   Mg. Mag., vol. 10, pp. 175-183, 6 figs., 1904.
   Describes the general geology of the region, and the occurrence, geologic relations, character, and origin of the iron ore deposits.
Grant (Ulysses Sherman)—Continued.

7. A pre-Glacial peneplain in the driftless area.

8. Field work in the Wisconsin lead and zinc district.
   Describes briefly the method adopted in a combined topographic, geographic, and geologic survey in this region.

9. Structural relations of the Wisconsin zinc and lead deposits.
   Econ. Geol., vol. 1, pp. 233-242, 4 figs., 1905.
   Discusses the general and structural geology of the ore deposits, and discusses their origin.

10. Zinc and lead ores of southwestern Wisconsin.
   U. S. Geol. Surv., Bull. no. 260, pp. 304-310, 1905.
   Describes the general geology, and the character and occurrence of zinc and lead deposits.


Gratacap (L. P.).

1. Paleontological speculations.
   Am. Geol., vol. 27, pp. 75-100, 1901.
   Discusses the life history and development of various fossil forms.

2. Paleontological speculations. II.
   Discusses biological crises.

   Contains notes on the characters of meteorites.

4. Paleontological speculations. III.
   Am. Geol., vol. 29, pp. 290-301, 1902.

5. The great Jurassic dinosaur.
   Describes the vertebrate animal life of the Jurassic and the occurrence of remains in Wyoming.

   New York, The Broadway Press, no date. 178 pp., Illus.

7. Geology of the City of New York (Greater New York), with geological map.
   Second edition. For use in schools, institutes, and classes.
   New York, Brentano’s, 1904. 119 pp., 35 figs., and geol. map.

Graton (Louis Caryl).

1. On the petrographical relations of the Laurentian limestones and the granite in the township of Glamorgan, Haliburton County, Ontario.

2. Up and down the Mississaga [Ontario].
   Contains observations on the geography, typograph, geology, petrography, and resources.

3. The Carolina tin belt.
   U. S. Geol. Surv., Bull. no. 260, pp. 188-195, 1 fig., 1905.
   Describes the location and general geology of the region in which tin ores have been discovered, their character and occurrence, and the mining developments.

4. Consanguinity of the eruptive rocks of Cripple Creek.

Graton (L. C.) and Schaller (W. T.).

1. Purpurite, a new mineral.
   Describes occurrence, physical properties, and chemical composition.
Graton (L. C.), Hess (F. L.) and.
1. The occurrence and distribution of tin.
   See Hess (F. L.) and Graton (L. C.), 1.

Grave (Caswell).
1. The oyster reefs of North Carolina; a geological and economic study.
   Johns Hopkins Univ., Circ. no. 151, pp. 50-53, 2 figs., 1901.

Green (Raoul).
1. The Frank disaster [Alberta].
   Describes the landslide at Frank, Alberta, and discusses its cause.

Greene (George K.).
1. Contribution to Indiana paleontology. Part VI.
   Describes Devonian fossils from Indiana.

2. Contribution to Indiana paleontology. Part VII.
   New Albany, Ind., pp. 50-61, 3 pls. 1901.
   Describes Devonian and Carboniferous fossils from Indiana.

3. Contribution to Indiana paleontology. Part VIII.
   Describes fossils from upper Paleozoic rocks.

4. Contribution to Indiana paleontology. Part IX.
   New Albany, Ind., pp. 75-84, 3 pls., 1902.

5. Contribution to Indiana paleontology. Part X.
   Contains descriptions of new corals from the Devonian by Greene and of new species of echinoderms from the Carboniferous and Devonian by Rowley.

6. Contribution to Indiana paleontology. Part XI.
   Includes descriptions of Silurian and Devonian corals and echinoderms, the latter described by Rowley.

7. Contribution to Indiana paleontology. Part XII.
   Contains descriptions of Devonian corals and Devonian and Carboniferous echinoderms, the latter by Rowley.

8. Contribution to Indiana paleontology. Part XIII.
   Contains descriptions of Devonian corals and echinoderms, the latter by Rowley.

9. Contribution to Indiana paleontology. Part XIV.
   Contains descriptions of Devonian corals by Greene and Devonian echinodermata by Rowley.

10. Contribution to Indiana paleontology. Part XV.
    New Albany, Ind., pp. 146-155, 3 pls., 1903.
    Contains descriptions of Devonian corals by Greene and of Devonian echinodermata by Rowley.

11. Contribution to Indiana paleontology. Part XVI.
    Contains descriptions of Devonian corals by Greene and of Devonian and Carboniferous echinodermata by Rowley.

12. Contribution to Indiana paleontology. Part XVII.
    New Albany, Ind., pp. 168-175, 3 pls., 1904.
Greene (George K.)—Continued.

13. Contribution to Indiana paleontology. Part XVIII.
New Albany, Ind., pp. 176-184, 3 pls., 1904.

14. Contribution to Indiana paleontology. Part XIX.
New Albany, Ind., pp. 185-204, 3 pls., 1904.
Contains descriptions of Devonian, Silurian, and Carboniferous corals by G. K. Greene, and of Carboniferous and Devonian echinoderms by W. W. Rowley. The latter contributes a review of Dr. G. Hambach's Revision of the Blastoidae.

15. Contribution to Indiana paleontology. Part XX.
New Albany, Ind., pp. 198-204, 3 pls., 1904.
Contains specific descriptions of Devonian corals by George K. Greene.

Parts I-XX, February, 1898, to September, 1904, form volume I of the "Contribution to Indiana paleontology."

Greger (D. K.).
1. The distribution and synonymy of Ptychospira sexplicata (White and Whitfield).
Am. Geol., vol. 33, pp. 35-47, 1904.

2. On the genus Rhynchopora, King, with notice of a new species.
Am. Geol., vol. 33, pp. 297-301, 12 figs., 1904.

Gregory (Herbert E.).
1. Andesites of the Aroostook volcanic area of Maine.

2. Notes on the wells, springs, and general water resources of Connecticut.

U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 114, pp. 76-81, 1 fig., 1905.
Describes the general geology and the underground water supply of the State.

Gregory (J. W.).
1. The plan of the earth and its causes.
Am. Geol., vol. 27, pp. 100-119, 5 figs. and 134-147, 3 pls., 16 figs., 1901.
Reviews previous discussions as to the origin of the distribution of the irregularities in the surface of the lithosphere and discusses the pentagonal theory of Élie de Beaumont and the tetrahedral of Green.

Gregory (W. K.).
1. The weight of the Brontosaurus.

Gregory (W. M.).
1. Preliminary report on Arenac County and parts of Ogemaw, Iosco and Alcona counties [Michigan].
Describes the occurrence of limestone, gypsum, coal, water supply and clays in these counties.

Discusses the economic geology of this area.

3. The alabaster area [Michigan].
Describes the glacial geology, the physiographic features, and the Paleozoic geological formations exposed in this area.

4. Recent shore forms.
Describes changes in the shore line of Lake Huron.
Bull. 301—06——10
Gresley (W. S.).
1. Possible new coal plants, etc., in coal.
   Am. Geol., vol. 27, pp. 6-14, 6 pis., 1901.
   Describes structures occurring in coal beds which may be of vegetable origin.

Grider (R. L.), Bailey (E. W.), Rath (C. M.).
1. A garnetiferous bed in Golden Gate Canyon, Jefferson County, Colorado.
   See Bailey (E. W.), Rath (C. M.), Grider (R. L.), 1.

Griffith (William).
1. An investigation of the buried valley of Wyoming [Pennsylvania].
   Describes glacial phenomena of the region.

2. The anthracite of the Third Hill Mountain, West Virginia.
   Contains notes on the general geology of the region and the recurrence and character of coal.

3. The anthracite of the Third Hill Mountain, West Virginia; the effect of crushing movements on the quality of the coal.
   Describes the general geology of the region.

4. A Missouri coal field.
   Describes the occurrence and character of coal in Morgan County, Missouri.

Griffiths (A. B.).
1. The volcanic dust of Mont Pelée.

Griggs (Robert F.).
1. The thickness of the Columbus limestone.

Grimsley (G. P.).
1. Kansas mines and minerals.
   Gives an account of the occurrence of the various economic products of the State.

2. Economic geology of Lola [Kansas] and vicinity.
   Describes production of natural gas and the mineral industries of this locality.

3. Oil, gas, and glass, chemical industries, and minerals in Kansas.
   Discusses the origin of oil and gas, the geological conditions of accumulation, duration of supply, and their occurrence in Kansas.

   Describes occurrence, character, economic development, and geologic relations of the gypsum deposits.

5. Gypsum deposits in Kansas.
   U. S. Geol. Surv., Bull. no. 223, pp. 53-59, 1 pl., 3 figs., 1904.
   Describes character, occurrence, economic development, and geologic relations of the gypsum deposits in Kansas.

   Am. Geol., vol. 34, pp. 378-387, 1904.
   Describes the general geology of lower Michigan and the geological history of the Michigan basin, and discusses the conditions under which the gypsum deposits of this area were produced.
Grimsley (G. P.)—Continued.

7. The gypsum of Michigan and the plaster industry.
   Gives an account of the occurrence and utilization of gypsum deposits in other countries and
   States, describes the geology and topography of the Michigan series gypsum, and the min¬
   ing of the gypsum deposits and manufacture into plaster, and discusses the origin of gyp¬
   sum and its various uses.


Griswold (W. T.).

1. The Berea Grit oil sand in the Cadiz quadrangle, Ohio.
   U. S. Geol. Surv., Bull. no. 198, 43 pp., 1 pl., 1 fig., 1902.
   Describes the occurrence of petroleum and the method used in constructing a contour map
   of the Berea grit oil sand in this area.

2. Structural work during 1901 and 1902 in the eastern Ohio oil fields.
   Describes factors controlling accumulation of oil, the method used in constructing a map of
   the oil sand, the structure of the Berea grit, and the development of the field.

   Describes the methods of work, the general geology, and the occurrence and mining of the
   Pittsburg coal in this quadrangle.

Guild (F. N.).


2. El Instituto Geologica de Mexico.
   Am. Geol., vol. 36, pp. 293-296, 1 pl., 1905.
   A brief account of the Geological Survey of Mexico, giving history, organization, etc., and a
   list of its publications.

Gulick (Addison).

1. The fossil land shells of Bermuda.
   Describes the occurrence and gives systematic descriptions of fossil land shells of Bermuda.

Gulliver (F. P.).

1. Joint meetings of the Geological Society of America, Section E, and the National
   Geographic Society.
   Gives titles and abstracts of papers read at the meeting at Pittsburg, Pa., July 1 to 3, 1902.

2. Cutthunk Island.

3. Nantucket shorelines. I.
   Outlines a proposed investigation to determine changes in shore lines.

4. Nantucket shorelines. II.
   Describes recent changes in the shore lines of Nantucket Island.

5. Island tying.
   Describes the method by which islands are connected with one another and the mainland by
   the deposition of sediment.

6. Sudbury basin shore lines [Massachusetts].
Gunther (Charles Godfrey).
1. The gold deposits of Plomo, San Luis Park, Colorado.
   Econ. Geol., vol. 1, pp. 143-154, 7 figs., 1905.
   Describes the general geology, the lithologic characters of the rocks, and the character, occurrence, and relations of the ore bodies.

2. An interesting fault-system [California].

Guppy (R. J. Lechrnere).
1. On the occurrence of gold and coal in Trinidad. With a brief sketch of the geological history of the island.
   Trinidad, Victoria Institute, Industrial Trinidad, pp. 520-531, 1903.

2. On some samples of rock from borings at Sangregrande, Trinidad. Part I.
   Describes the material obtained from borings and gives a list of and notes upon the fossils identified therein.

3. The Sangregrande borings. Part II.

4. Observations on some of the Foraminifera of the oceanic rocks of Trinidad.

5. Preliminary geological notes on the Marbela Manjak mine [Trinidad].

6. Note on the Komuto shell-bed.

   Gives notes on the occurrence of some molluscan shells.

8. The growth of Trinidad.
   Describes the process of formation of the island of Trinidad.

Gwillim (J. C.).
   Discusses physiographic features, geologic structure and petrology of this area, and character and distribution of the gold-bearing gravels.

2. Characteristics of the Atlin gold field [British Columbia].
   Describes the general topography and geology of the region and the occurrence of placer gold.

   Jour. Geol., vol. 10, pp. 182-185, 1902.
   Describes the valleys and local glaciers of the region.

4. Notes on some western coals.
   Gives observations upon the occurrence and character of coals in Alberta and British Columbia, and their geologic horizons.

   Discusses origin of coal and the composition of some Canadian coals.

Haanel (Eugene).
1. Discussion of Mr. W. M. Brewer's paper on "The rock-slide at Frank, Alberta Territory, Canada."
Haas (Hippolyt).
1. Der Vulkan. Die Natur und das Wesen der Feuerberge im Lichte der neueren Anschauungen für die Gebildeten aller Stände in gemeinfasslicher Weise dargestellt.
A general discussion of volcanic activity, its causes, nature, etc. One chapter is devoted to volcanic eruptions in the Lesser Antilles in 1902.

2. Zur Geologie von Canada.

Petermanns Mitteilungen, Bd. 50, pp. 20-28, 47-55, 1904.

Haehl (H. L.) and Arnold (Ralph).
1. The Miocene diabase of the Santa Cruz Mountains in San Mateo County, California.
Describes character and occurrence of Tertiary formations and included igneous rocks, and the petrographic characters of the latter. Includes lists of fossils contained in the Tertiary formations.

Hager (Lee).
1. The mounds of the southern oil fields.
Describes the general geology of the Gulf coastal region of Louisiana and Texas, and the geologic structure of the mounds and salines, discusses the theories of their origin, and presents a new hypothesis.

Hague (Arnold).
1. Note sur les phénomènes volcaniques Tertiaires de la chaîne d'Absaroka [Wyoming].

Halberstadt (Baird).
1. Obituary notice of J. Peter Lesley.

Hale (David J.).
1. Marl (bog lime) and its application to the manufacture of Portland cement.
Describes occurrence and character of marl (bog lime) and discusses the theories of its origin.

Hall (Benjamin M.).
1. Water powers of Alabama, with an appendix on stream measurements in Mississippi.
Includes a brief account of the topographic and geologic features of the State.

Hall (Charles E.).
1. Notes on a geological section from Iguala to San Miguel Totolapa, State of Guerrero, Mexico.
Describes character and occurrence of Tertiary and Cretaceous strata and of igneous rocks and gives several sections showing the geologic relations of these formations.

Hall (Charles M.) and Willard (Daniel E.).
1. Casselton-Fargo folio, North Dakota-Minnesota.
Describes the topography, drainage, and general geology, the geologic history, including a brief account of Lake Agassiz, the character and occurrence of Quaternary deposits, discusses the underground water resources, and gives a large number of well records.

Hall (Charles M.), Todd (J. E.) and.
1. Alexandria folio, South Dakota.
See Todd (J. E.) and Hall (C. M.), 1.
Hall (Charles M.), Todd (J. E.) and—Continued.
2. Geology and water resources of part of the lower James River Valley, South Dakota.
   See Todd (James E.) and Hall (C. M.), 2.
3. De Smet folio, South Dakota.
   See Todd (James E.) and Hall (C. M.), 3.

Hall (Christopher Webber).
1. Exploration for gold in the central States.
   Lake Superior Mg. Inst., Proc., pp. 49-60 [1898].
   Discusses occurrences of gold.
2. Sources of the constituents of Minnesota soils.
   Describes the topography and physiography, relations, associated formations, the occurrence
   of the Keweenawan rocks, and the general characters and petrography of the Chengwatana
   series.
4. Keevatinn area of eastern and central Minnesota.
   Describes the occurrence of the series at various localities and their macroscopic and micro­
  oscopic characters. Discusses the evidences as to the age of the series.
5. The geology of Minnesota.
   Describes the geologic formations of the State and the occurrence of economic minerals in
   each of them.
6. The geography and geology of Minnesota.
   Minneapolis, The H. W. Wilson Company, 1903. xii, 299 pp., 5 pls., 163 figs.
7. The geology of Minnesota. A description of the various formations in the State,
   and an account of their products which are of economic value.
   Describes the distribution, lithology, and economic products of the several geologic systems
   present in the State.
8. Notes on the wells, springs, and general water resources of Minnesota.
   Describes the occurrence, character, and water resources of water-bearing strata underlying
   the State.
10. The structure, lithology, and genesis of the magnesian series of the northwestern
    States. [Abstract.]
    Discusses the nomenclature of the Magnesian series in Minnesota and Wisconsin.

Hallock (William).
1. Peculiar effects due to a lightning discharge on Lake Champlain in August, 1900.
   Jour. Geol., vol. 9, pp. 671-672, 1901.
   Describes the effect upon the rocks struck by the discharge.
2. An ascent of Mt. Whitney, California, with notes on the geology.

Halse (Edward).
1. Some silver-bearing veins of Mexico.
   Contains brief notes on the vein systems of various mines.
3. Gems and precious stones of Mexico.
   Contains notes on the occurrence of precious stones in Mexico.

4. Some silver-bearing veins of Mexico.
   Contains observations upon the geology and occurrence of silver ores.

5. The occurrence of pebbles, concretions, and conglomerates in metalliferous veins.

Hambach (Gustav).
1. Revision of the Blastoidae, with a proposed new classification, and description of new species.

Hamilton (S. Harbert).
1. Troost's survey of Philadelphia.
   Am. Geol., vol. 27, pp. 41-42, 1901.
   Calls attention to the location of a copy of Dr. Gerard Troost’s publication on the survey of the environs of Philadelphia.

2. [Notes on the geology and physiography of Cuba.]

Hamilton (W. R.), Kessler (H. H.) and Withrow (James E.).
1. The orbicular gabbro of Dehesa, California.
   See Kessler (H. H.) and Hamilton (W. R.), 1.

Hanbury (David T.).
1. Through the barren ground of northeastern Canada to the Arctic coast.
   Contains a brief account of the geology of the region traversed.

Hanks (Henry G.).
1. The deep-lying auriferous gravels and table mountains of California.
   San Francisco, 1901. 15 pp., 6 pls.

Hardman (John E.).
1. A new mineral area in Ontario.
   Gives notes on the geology of western Ontario and the occurrence of mineral deposits.

Harper (Henry Winston).
1. A contribution to the chemistry of some of the asphalt rocks found in Texas.
   Discusses the nomenclature of asphalt and presents the results of analyses of many samples.

Harper (Roland M.).
1. Taxodium distichum and related species, with notes on some geological factors influencing their distribution.
   Discusses the influence of certain geologic formations upon the geographic distribution of these plants.

2. Notes on the Lafayette and Columbia formations and some of their botanical features.
   Discusses the use of plants growing in soils derived from these formations in identifying the presence of the latter where surface outcrops are not available.
Harrington (Bernard J.).
   Describes the life and work of Dr. Dawson.
2. On the composition of some Canadian amphiboles.
3. On the formula of bornite.
4. On an interesting variety of fetid calcite and the cause of its odor.
5. On the composition of some Montreal minerals.
Describes the composition of nepheline, acmite, lepidomelane, natrolite, and analcite.

Harrington (Daniel).
1. Coal mining at Sunnyside, Utah.
   Describes the general geology, the occurrence of the coal in the Laramie group, and the
   mining operations.

Harris (Gilbert Dennison).
1. Oil in Texas.
   Contains notes on the thickness of the Tertiary in the vicinity of Beaumont.
2. The geology of the Mississippi embayment, with special reference to the State of
   Louisiana.
   La. Geol. Surv., pt. 6, pp. 5-39, 10 pls., 7 figs., 1902.
   Describes the orographic movements at the close of the Cretaceous, and the character and
   distribution of the Eocene, Oligocene, Miocene, and Quaternary series in the region.
3. Subterranean waters of Louisiana.
   La. Geol. Surv., pt. 6, pp. 203-252, 2 pls., 5 figs., 1902.
   Describes the character and occurrence of the Cretaceous and Tertiary beds, and gives sections
   of many well borings and analyses of the waters.
4. Oil in Louisiana.
   La. Geol. Surv., pt. 6, pp. 265-275, 1 pl., 27 figs., 1902.
   Gives sections and data regarding the horizons of the oil-bearing sands.
5. Eocene outcrops in central Georgia.
   Am. Pal., Bull. no. 16, pp. 1-7, 1902.
   Describes occurrence of Eocene formations in Georgia.
6. Underground waters of southern Louisiana.
   Includes an account of the topography and stratigraphy of southern Louisiana.
7. The Helderberg invasion of the Manlius.
   Describes sections of Devonian rocks at a number of localities in New York, and discusses
   their correlation and the occurrence and faunal relations of the fossils.
8. Underground waters of southern Louisiana.
   Discusses the stratigraphy of southern Louisiana, with especial reference to the underground
   waters, and discusses the occurrence, character, depth, etc., of many wells.
9. The establishment of tidal gage work in Louisiana.
   La. Geol. Surv., Bull. no. 3, 28 pp., 8 pls., 5 figs., 1905.
Hartnagel (C. A.).
1. Preliminary observations on the Cobleskill ("Coralline") limestone of New York.
   N. Y. State Mus., Bull. 69, pp. 1109-1175, 2 pls., 5 figs., 1903.
   Discusses the geologic position, geographic extent, and outcrops of the "Coralline" limestone,
   the distribution and stratigraphic relations of its fauna, giving lists of species by localities
   and its relations to other Silurian formations, its correlation and nomenclature, and the ge­
   ographic conditions prevailing in Silurian times.
2. Notes on the Siluric or Ontaric section of eastern New York.
   N. Y. State Mus., Bull. 80, pp. 342-358, 1905.
   Describes the occurrence, development, character, and relations of Silurian formations in the
   Helderberg region of New York.
3. Structural relations and origin of the limonite beds at Cornwall, N. Y.
Hartzell (Joseph Culver).
1. Das Oberdevon Europas und Nordamerikas.
   Inaugural Dissertation, Ludwig Maximilians-Universität zu München. München, Kastner &
   Callwey, 73 pp., 1904.
   Discusses the occurrence and correlation of Devonian strata in Europe, North America, and
   other parts of the world.
Harwood (F. H.).
1. The fluorspar and zinc mines of Kentucky.
   Describes the occurrence, character, and mining of the fluorspar and zinc deposits in western
   Kentucky and southern Illinois.
Haseltine (Robert M.).
1. Lignite deposits or fields of brown coal in North Dakota.
   Describes character and occurrence of the lignite beds.
2. The bituminous coal field of Ohio.
   Describes extent of field, character, composition, occurrence, and production of coals
Haseltine (Robert M.), White (David), Campbell (Marius R.), and
1. The northern Appalachian coal field.
   See White (David), Campbell (M. R.), and Haseltine (R. M.), 1.
Hasse (Adelaide R.).
1. Reports of explorations printed in the documents of the United States government.
   (A contribution toward a bibliography.)
   Contains titles of papers bearing on geology.
Hatcher (John B.).
1. Diplodocus Marsh, its osteology, taxonomy, and probable habits, with a restoration
   of the skeleton.
   vol. 14, pp. 531-532, 1901.
2. On the structure of the manus in Brontosaurus.
3. On some new and little known fossil vertebrates.
4. On the cranial elements and the deciduous and permanent dentitions of Titanoborn
   therium.
5. Sabal rigida; a new species of palm from the Laramie.
6. The Jurassic Dinosaur deposits near Canyon City, Colorado.
   Describes the mode of occurrence of the saurian remains near Canyon City and the geology of
   the strata in which found.

7. A mounted skeleton of Titanotherium dispar Marsh.

8. Structure of the fore limb and manus of Brontosaurus.

9. The genera and species of the Trachodontidae (Hadrosauridae, Claosauridae) Marsh.

10. Oligocene Canidae.

    Discusses the character, distribution, origin, and correlation of these strata.

12. Discovery of a musk ox skull (Ovibos cavifrons Leidy), in West Virginia, near
    Steubenville, Ohio.

13. A correction of Professor Osborn’s note entitled “New vertebrates of the Mid-
    Cretaceous.”
    Contains notes on the locality of species of Ornithominus and the age of the Judith River
    beds.

14. Osteology of Haplocanthosaurus, with description of a new species, and remarks
    on the probable habits of the Sauropoda and the age and origin of the Atlantosaurus
    beds.

15. Additional remarks on Diplodocus.

16. Discovery of remains of Astrodon (Pleurocoelus) in the Atlantosaurus beds of
    Wyoming.
    Includes with the description a discussion of the synonymy and the age of the beds in which
    it occurs.

17. Relative age of the Lance Creek (Ceratops) beds of Converse County, Wyoming,
    the Judith River beds of Montana, and the Belly River beds of Canada.
    Am. Geol., vol. 31, pp. 369-375, 1903.


19. A new name for the dinosaur Haplocanthus Hatcher.
    Proposes to substitute the name Haplocanthosaurus for Haplocanthus, preoccupied.

20. The Judith River beds.
    Discusses the stratigraphic position of the Judith River beds.

21. An attempt to correlate the marine with the nonmarine formations of the middle
    west.
    p. 717, 1904.
    Discusses conditions governing the formation of marine, brackish, and fresh-water beds and
    their application to the correlation and relative age of various Jurassic and Cretaceous
    horizons of the middle west. A note discussing the views advanced in the paper is added
    by Mr. T. W. Stanton.
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Hatcher (John B.)—Continued.

22. Two new Ceratopsia from the Laramie of Converse County, Wyoming.

Hatcher (John B.) and Stanton (T. W.).
1. The stratigraphic position of the Judith River beds and their correlation with the Belly River beds.

Hatcher (J. B.), Stanton (T. W.) and.
1. Geology and paleontology of the Judith River beds.
   See Stanton (T. W.) and Hatcher (J. B.), 1.

Haverstock (R. S.).
1. Quicksilver.
   Contains general notes on the occurrence and treatment of quicksilver ores, with descriptions of California deposits.

Hawes (George W.).
1. On a group of dissimilar eruptive rocks in Campton, New Hampshire.

2. The Albany granite, New Hampshire, and its contact phenomena.

Haworth (Erasmus).
1. The Galena-Joplin lead and zinc district.
   Min. Ind. for 1899, pp. 658-668, 2 figs., 1900.
   Describes the general geology of the region and the occurrence of the ores.

   Eng. and Mg. Jour., vol. 72, p. 397, 1901.
   Describes the geographic and geologic distribution of the oil and gas.

3. Geology and mining interests of Kansas.
   Describes the occurrence of economic minerals in the State.

4. Oil and gas in Kansas.
   Eng. & Mg. Jour., vol. 73, p. 37, 1902.
   Describes the developments in oil and gas in 1901.

5. The Kansas River flood of 1903.
   Describes geologic effects of the flood of 1903 upon the flood plain of the Kansas River.

Haworth (Erasmus) and McFarland (D. F.).
1. The Dexter, Kansas, nitrogen gas well.
   Describes the occurrence, character, flow, and composition of a natural gas, consisting chiefly of nitrogen, issuing from a well at Dexter, Kansas.

Haworth (Erasmus) and Schrader (F. C.).
   Describes the occurrence and character of the raw materials, and the composition of the product.

Haworth (Erasmus), and Crane (W. R.), Adams (George I.).
   See Adams (George I.), Haworth (Erasmus), and Crane (W. R.), 1.

Haworth (E.), Schrader (F. C.) and.
1. Oil and gas of the Independence quadrangle, Kansas.
   See Schrader (F. C.) and Haworth (E.), 1.
Haworth (E.), Schrader (F. C.) and—Continued.

2. Clay industries of the Independence quadrangle, Kansas
See Schrader (F. C.) and Haworth (E.), 2.

Hay (Oliver Perry).

1. The chronological distribution of the elasmobranchs.

2. Description of a new species of Baëna (B. hatcheri) from the Laramie beds of Wyoming.


4. Description of a new species of Cladodus (C. formosus) from the Devonian of Colorado.
   Am. Geol., vol. 30, pp. 373-374, 1 fig., 1902.

5. Bibliography and catalogue of the fossil vertebrata of North America.
   U. S. Geol. Surv., Bull. no. 179, 868 pp., 1902.

6. The composition of the shells of turtles.

7. On some recent literature bearing on the Laramie formation.
   Am. Geol., vol. 32, pp. 115-120, 1903.

8. Description of a new genus and species of tortoise from the Jurassic of Colorado.

9. Two new species of fossil turtles from Oregon.


11. The snout-fishes of Kansas.

12. On an important but not well-known locality furnishing Cretaceous fishes.

13. On some fossil turtles belonging to the Marsh collection in Yale University Museum.

14. Descriptions of two species of extinct tortoises, one new.

15. On two new species of turtles from the Judith River beds of Montana.


17. A new gigantic tortoise from the Miocene of Colorado.

    Gives an account of the meeting and abstracts of papers presented.

19. [Phylogeny and classification of the Reptilia.]

    Gives a brief account of the meeting and abstracts of papers presented.
   Am. Geol., vol. 35, pp. 31-34, 1905.

22. The fossil turtles of the Bridger basin.
   Am. Geol., vol. 35, pp. 327-342, 1 fig., 1905.
   Describes the location and character of the Bridger beds and gives a general account of their chelonian fauna.

23. On the group of fossil turtles known as the Amphichelydia; with remarks on the origin and relationships of the suborders, superfamilies, and families of Testudines.

24. A revision of the species of the family of fossil turtles called Toxochelyidae, with descriptions of two new species of Toxochelys and a new species of Porthochelys.

25. On the skull of a new trionychid, Conchochelys admirabilis, from the Puerco beds of New Mexico.

Haycock (Ernest).
   Discusses the geologic history and structure of this area.

2. Fossils, possibly Triassic, in glaciated fragments in the boulder-clay of Kings County, Nova Scotia.

3. Geology of the west coast of Vancouver Island.
   Describes physiographic features, the general geology, the character and occurrence of igneous rocks, and the economic resources.

4. Geology of the county of Ottawa [Quebec].

Hayden (Horace Edwin).
1. Mr. Ralph Dupuy Lacoe.
   Gives a sketch of his life.

Hayes (Charles Willard).
1. Geological relations of the iron-ores in the Cartersville district, Georgia.
   Describes the stratigraphy and structure of the region and the character and occurrence of the iron, with notes on the occurrence of ochre and manganese.

2. The Arkansas bauxite deposits.
   Describes the general geologic and physiographic relations of the region, and the character, occurrence, and origin of the bauxite deposits.

3. Tennessee white phosphate.
   Describes the character, occurrence, and origin of the phosphates of Perry County.

4. The asphalt deposits of Pike County, Arkansas.
   Contains notes on the geologic occurrence and gives a section of the strata.
Hayes (Charles Willard)—Continued.

5. Rome folio, Georgia-Alabama.
   Describes the geographic and topographic features, the general geologic structure, the character and occurrence of Cambrian, Silurian, Devonian, Carboniferous, and Neocene (?) strata, and the occurrence of iron, bauxite, slate, and limestone.

6. The coal fields of the United States.
   Describes character, distribution and geologic occurrence of coal in the United States.

7. The southern Appalachian coal field.
   Describes extent, general geologic relations, structure and stratigraphy of the field, the character and occurrence of the coal beds, the composition, properties, and production of coal.

8. Some facts and theories bearing on the accumulation of petroleum.

9. Introduction to contributions to economic geology, 1902.
   U. S. Geol. Surv., Bull. no. 213, pp. 9-14, 1903.
   Describes the publications of the U. S. Geological Survey in which papers treating of economic subjects appear.

10. Investigation of nonmetalliferous economic minerals.
    U. S. Geol. Surv., Bull. no. 213, pp. 29-50, 1903.
    Describes character and scope of work done by the U. S. Geological Survey in the investigation of nonmetalliferous minerals.

11. Manganese ores of the Cartersville district, Georgia.
    Describes briefly the character and occurrence of the manganese ores in this district.

    Describes distribution of coal in the United States, the geologic relations of the coal fields, fuel values of coals, and their development, production, and marketing.

13. Oil fields of the Texas-Louisiana Gulf Coastal Plain.
    Describes topography, stratigraphy, and geologic structure of the region, and the occurrence, character, and utilization of the oil.

    Describes the character and occurrence of deposits of asphalt in sands of the Trinity group.

15. Origin and extent of the Tennessee white phosphates.
    Describes varieties of white phosphate, the origin and extent of the deposits, and possible extensions of the field.

16. Introductions to "Contributions to economic geology, 1903."
    U. S. Geol. Surv., Bull. no. 225, pp. 11-17, 1904.
    Gives a brief statement regarding the publications of the United States Geological Survey bearing upon economic geology. Includes a list of the geologic folios, showing the mineral resources described in each.

17. Investigation of nonmetalliferous economic minerals.
    A brief summary statement regarding investigations of nonmetalliferous economic minerals completed during the past year or in progress.

    U. S. Geol. Surv., Bull. no. 260, pp. 11-18, 1905.
    Explains the purpose of the bulletin and describes the publications of the Survey bearing upon economic geology.

19. Investigation of iron and nonmetalliferous economic minerals.
    Reviews the work during the year 1904 of the U. S. Geological Survey upon iron and nonmetalliferous minerals of economic importance.
Hayes (Charles Willard) and Eckel (E. C.).
1. Iron ores of the Cartersville district, Georgia.
   Describes the stratigraphy and geologic structure of this district and the character and occurrence of the iron ores.

2. Occurrence and development of ocher deposits in the Cartersville district, Georgia.

Hayes (Charles Willard), Emmons (S. F.).
1. Contributions to economic geology, 1902.
   See Emmons (S. F.), Hayes (C. W.), 1.

2. Contributions to economic geology, 1903.
   See Emmons (S. F.), Hayes (C. W.), 2.

3. Contributions to economic geology, 1904.
   See Emmons (S. F.), Hayes (C. W.), 3.

Hayes (Charles Willard) and Kennedy (William).
1. Oil fields of the Texas-Louisiana Gulf Coastal Plain.
   Describes topography and drainage of the Gulf Coastal Plain of Texas and Louisiana, the occurrence and character of Tertiary, Quaternary, and Recent formations, giving numerous sections and records of borings, and the location and development of the oil pools; discusses the origin of petroleum, conditions of accumulation, and structural features in this field, and the constitution, properties, and utilization of the oil.

Hayes (Charles Willard) and Ulrich (Edward O.).
   Describes general relations and topography, character and occurrence of Ordovician, Silurian, Devonian, and Carboniferous strata, geologic structure and history and mineral resources, including the occurrence, character, and origin of the phosphates. Includes a correlation table of Paleozoic formations and a generalized faunal chart for the western side of the Middle Tennessee basin.

Hayes (Charles Willard), Vaughan (T. W.) and Spencer (A. C.).
   Washington, 1901. 323 pp., 29 pis., 17 figs.
   Describes the physiography, the general character and distribution of the igneous and sedimentary rocks, the geologic history and occurrence of gold, copper, manganese, iron, asphalts, oil, and coal.

Hayes (Seth).
1. The Shaw mastodon: an examination and description of mastodon and accompanying mammalian remains found near Cincinnati, June, 1894.

Hayford (John F.).
1. A connection by precise leveling between the Atlantic and Pacific oceans.

Hays (Mabel).
1. Winoka gravels, supposed Tertiary deposits. Description of deposits.
   Describes the character and occurrence of gravel deposits in southwestern Missouri.

Haywood (J. K.).

Headden (William P.).
1. Mineralogical notes.
   Describes the occurrence of tellurium and tellurite in Colorado, and the characters of cuprodescloizite from Arizona.
Headden (William P.)—Continued.

2. Significance of silicic acid in waters of mountain streams.

3. The Doughty springs, a group of radium-bearing springs, Delta County, Colorado.

4. Mineralogical notes, no. 2.
   Describes the characters and composition of minerals from various localities.

Hedburg (Eric).

1. The Missouri and Arkansas zinc mines at the close of 1900.
   Reviews the mining industry of this district, and discusses geologic position and origin of the ores.

Heilprin (Angelo).

1. Fossils and their teachings.

2. How to interpret the facts of geology.
   Abstract of lecture delivered before the Philadelphia Academy of Natural Sciences.

3. Mont Pelée and the tragedy of Martinique.
   Philadelphia, J. B. Lippincott Company, 1905. xiii, 325 pp., illus.

4. The activity of Mont Pelée.

5. The ascending obelisk of the Montagne Pelée.

6. The ascending obelisk of the Montagne Pelée.
   Science, new ser., vol. 18, pp. 184-185, 1903.

7. Mont Pelée—the eruptions of August 24 and 30, 1902.

8. The nature of the Pelée tower.
   Discusses the mode of formation of the spine of Mont Pelée.


10. Tower of Pelée.

11. Uniformity in mountain elevations.

Heine (R. E.).

1. The water resources of Washington. Water power.

Heiney (Wm. M.).

1. River bends and bluffs [Indiana].

Henderson (David B.).

1. Powell as a soldier.

Henderson (Junius).

1. The overturns in the Denver basins [Colorado].
   Gives an explanation of the overturning of strata in this region.
Henderson (Junius)—Continued.

2. The Arapahoe glacier in 1903.
Jour. Geol., vol. 12, pp. 30-33, 1 fig., 1904.
Compares the status of the Arapahoe glacier of Colorado in 1903 with that of 1902.

3. Paleontology of the Boulder area [Colorado].
Gives lists, with notes on their occurrence and character, of fossils found in formations of Cretaceous age in the Boulder, Colorado, area.

4. Extinct glaciers of Colorado.
Discusses the occurrence of evidences of former glaciation in Colorado.

5. Arapahoe glacier in 1905.
Jour. Geol., vol. 13, p. 556, 1905.

Henretta (C. M.).
1. Bankhead coal mines [Alberta, Canada].
Includes notes on the occurrence and character of the coal seams.

Henrich (Carl).
1. The Guanajuato mining district [Mexico].
Describes the occurrence, geologic relations, and mining of the silver ores of this region.

Henry (Carl D.).
1. The white country granite of West Sugar Loaf or Bald Mountain, Boulder County, Colorado.
Describes the occurrence, the megascopic and microscopic characters, and the composition of this rock.

Herrick (Clarence Luther).
1. Applications of geology to economic problems in New Mexico.
Describes some of the geologic features and the occurrence of economic minerals.

2. Secondary enrichment of mineral veins in regions of small erosion.

3. A Coal-Measure forest near Socorro, New Mexico.
Jour. Geol., vol. 12, pp. 237-251, 10 figs., 1904.
Describes the general geologic structure of the Rio Grande Valley and the occurrence, character, and fauna of Coal-Measure strata in vicinity of Socorro, New Mexico.

4. Laws of formation of New Mexico mountain ranges.
Am. Geol., vol. 33, pp. 301-312, 328, 2 pls., 1904.
Describes the geologic structure and physiographic features of various mountain ranges of New Mexico.

5. The clinoplains of the Rio Grande.
Am. Geol., vol. 33, pp. 376-381, 1 fig., 1904.
Describes the character, occurrence, and origin of clinoplains in the vicinity of Socorro, New Mexico.

6. Lake Otero, an ancient salt lake basin in southeastern New Mexico.
Am. Geol., vol. 34, pp. 174-180, 1 pl., 3 figs., 1904.
Describes the geologic structure and history, physiographic features, and economic resources of the region, the character and relations of the formations present, and the extent and history of the ancient lake Otero.

Herrick (H. N.).
1. Gypsum deposits in New Mexico.
Describes character, occurrence, and geologic relations of the gypsum deposits of New Mexico.
Bull. 301—06—11
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Hershey (Oscar H.).
1. Peneplains of the Ozark Highlands.
   Am. Geol., vol. 27, pp. 23-41, 1901.
   Describes the Cretaceous and Tertiary peneplains, the Lafayette baselevel, the Ozarkian
   valleys and the modern valleys.

2. Metamorphic formations of northwestern California.
   Am. Geol., vol. 27, pp. 225-245, 1901.
   Describes the character, occurrence, and distribution of the pre-Cretaceous rocks of the
   Klamath Mountains.

3. On the age of certain granites in the Klamath Mountains.
   Am. Geol., vol. 27, pp. 238-259, 1901.
   Brief discussion of the geology of the region and of the intrusive origin of the granite.

4. The age of the Kansan drift sheet.
   Am. Geol., vol. 28, pp. 20-25, 1901.
   Describes the occurrence of the Kansan drift in Missouri and discusses its age.

5. The geology of the central portion of the Isthmus of Panama.
   Univ. of Cal., Dept. of Geol., Bull., vol. 2, pp. 231-267, and map, 1901.
   Describes the physiographic features and the occurrence and character of several formations.
   Discusses the relations of the crust movements of the region.

6. On the age of certain granites in the Klamath Mountains [California].
   Contains notes on the occurrence of the granites and on the geologic history of the region.

7. An unusual type of auriferous deposit.
   Describes occurrence of gold in a semidecomposed rock mass in California and discusses the
   mode of deposition of the gold.

8. The significance of the term Sierran.
   Am. Geol., vol. 29, pp. 88-95, 1902.
   Discusses the recent earth movements in the Sierra Nevada region and the use of the terms
   Ozarkian and Sierran.

9. Some crystalline rocks of Southern California.
   Describes the character, occurrence, and distribution of probable pre-Paleozoic crystalline
   granites, schists, etc., and of certain quartzite and limestone strata in this region.

10. Some Tertiary formations of Southern California.
    Am. Geol., vol. 29, pp. 349-372, 1902.
    Describes volcanic and sedimentary beds of the region.

11. The significance of certain Cretaceous outliers in the Klamath region, California.
    Describes the occurrence and character of the Cretaceous sediment and the geological history
    of this region.

    Discusses topographic development of west central Arkansas and reviews a paper by A. H.
    Purdue on "Physiography of the Boston Mountain, Arkansas."

13. Neocene deposits of the Klamath region, California.
    Describes the occurrence of these deposits and the conditions under which they were
    accumulated.

14. The Quaternary of Southern California.
    Describes orographic movements, erosion phenomena, and deposits of Quaternary time in this
    region.

15. A supposed early Tertiary peneplain in the Klamath region, California.
    Discusses the evidences for the ancient peneplain character of the region and the date of forma-
    tion of the peneplain.
Hershey (Oscar H.)—Continued.

   Am. Geol., vol. 31, pp. 139-156, 1903.
   Describes occurrence of remains of a fossil elephant in glacial deposits, the character and
   occurrence of glacial deposits, the terrace formations, and gorges in this region.

17. Structure of the southern portion of the Klamath Mountains, California.
   Am. Geol., vol. 31, pp. 231-245, 1903.
   Describes the general geologic structure and geologic history of the region.

18. The Sierra valleys of the Klamath region, California.
   Jour. Geol., vol. 11, pp. 155-165, 1903.
   Describes physiographic features and discusses physiographic history of the region.

19. The relation between certain river terraces and the Glacial series in northwestern
   California.
   Jour. Geol., vol. 11, pp. 431-458, 1903.
   Describes location, materials, and characteristics of river terraces, and discusses their relation
   to the stages of the Glacial series and the climatic conditions and causes of glaciation.

20. Certain river terraces of the Klamath region, California.
   Discusses the occurrence, character, and geologic relations of the Bragdon and associated
   formations, and presents evidences for the Jurassic age of the Bragdon.

21. The Bragdon formation in northwestern California.
   Discusses the occurrence, character, and geologic relations of the Bragdon and associated
   formations, and presents evidences for the Jurassic age of the Bragdon.

22. The river terraces of the Orleans basin, California.
   Outlines briefly the bed-rock geology and geomorphogeny of the region, gives detailed descrip­
   tions of the occurrence and characteristic features of the terrace remnants, and discusses
   the problems presented by them and their correlation with the Quaternary terrace system
   of other portions of California.

Herzer (H.).

1. Psaronius.
   Gives description and critical remarks upon this fossil plant.

2. Six new species, including two new genera, of fossil plants.

3. A new fossil sponge from the Coal Measures [Ohio].

4. New fossil plants from the Carboniferous and Devonian.


Hess (Frank L.) and Graton (L. C.).

1. The occurrence and distribution of tin.
   Describes the occurrence of tin ores in various parts of the world and States of the Union,
   and gives a bibliography of tin deposits.

Hess (F. L.), Prindle (L. M.) and.

1. Rampart placer region [Alaska].
   See Prindle (L. M.), and Hess (F. L.), 1.

Hessler (Robert).

1. The medicinal properties and uses of Indiana mineral water.
Heurteau (Ch. E.).
1. Les charbons gras de la Pennsylvanie et de la Virginie occidentale.
   Describes the general geology of the bituminous coal regions of Pennsylvania and West Virginia, the occurrence of the coal seams, the composition and fuel values of the coals, and the mining, transportation, and sale of coal.
2. L'industrie du pétrole en Californie.
   Describes the location and general geology of the petroleum field of southern California, and the character, production, and utilization of the petroleum, and compares it with that produced in Texas.

Hewett (G. C.).
1. Notes on southwestern Utah and its iron ores.
   Contains observations on the geology and occurrence of the iron ores.
2. The age of the homestake lode, South Dakota.
   Discusses the occurrence and the origin of the gold.
3. [Discussion of paper by W. H. Weed, "Section across the Sierra Madre Occidental of Mexico."]
   Adds observations upon the geology of the region.

Hice (Richard R.).
1. Northward flow of ancient Beaver River.
   Describes history of Beaver River and discusses evidence of potholes for showing direction of flow.
2. The clays of the upper Ohio and Beaver River region.
   Describes the general geology of the Carboniferous and Quaternary deposits of western Pennsylvania, and particularly the geologic occurrence and character of the clays.

Hidden (William E.).
1. Some results of late mineral research in Llano County, Texas.
   Describes the occurrence and characters and radio-activity of minerals occurring at Barringer-Hill, Llano County, Texas.

Hijar (Jeronimo).
1. Ligeros datos sobre los criaderos de Peñoles (Oax.) y Tamazula (Jal.), [México].
   Gives some account of the character and occurrence of the ore deposits of these localities, containing principally gold.

Hilgard (E. W.).
1. A historical outline of the geological and agricultural survey of the State of Mississippi.
   Am. Geol., vol. 27, pp. 284-311, 1901.
   Gives an account of the work of this organization and a list of its publications.
2. A sketch of the pedagogical geology of California.
   General notes on the soils of the State.
3. The debris fans of the arid region in their relation to the water supply.
   Describes the structure of fans at the mouths of canyons and their relations to water supply.
Hilgard (E. W.)—Continued.

4. The Grand Gulf formation.
Describes lithologic and other characteristics of the Grand Gulf formation.

5. The valley of southern California.
Abstract: Jour. Geol., vol. 11, p. 96, 1903.

6. The prairie mounds of Louisiana.
Discusses the origin of these mounds.

Hill (Benjamin F.).
1. The Terlingua quicksilver deposits, Brewster County, Texas.
Texas Univ. Mineral Surv., Bull. no. 4, 74 pp., 21 pls., 10 figs., 1902.
Gives a brief account of the physiography, geologic structure, and occurrence of the Cretaceous and igneous rocks. Describes the character and occurrence of the quicksilver deposits and associated minerals and discusses the mode of occurrence of the ores.

2. The occurrence of the Texas mercury minerals.

U. S. Geol. Surv., Bull. no. 223, pp. 68-73, 1 fig., 1904.
Describes character, occurrence, and economic development of gypsum deposits in Texas.

4. Das Vorkommen der texanischen Quecksilbermineralien.
Describes the occurrence in Texas of minerals containing quicksilver.

Hill (B. F.), Kemp (J. F.) and.
See Kemp (J. F.) and Hill (B. F.), 1.

Hill (Robert T.).
1. The coast prairie of Texas.
Describes the evidences of differential movements in this region and its bearing on the occurrence of oil.

2. Geographic and geologic features of Mexico.
Eng. & Mg. Jour., vol. 72, pp. 561-564, 2 figs., 1901.
Describes the physiography and geology of the country.

Describes physiographic and drainage features, the character and occurrence of Azolic, Cambrian, Ordovician, Carboniferous, Pernio-Triasico, and Cretaceous rocks, and the conditions and occurrence of artesian waters. The nomenclature, classification, correlation, character, and occurrence of the Cretaceous rocks are described in detail, with numerous sections, faunal lists, and figures of characteristic fossils and typical exposures, and the geography and conditions of deposition prevailing in Cretaceous times are discussed.

4. The geographic and geologic features and their relation to the mineral products of Mexico.

5. The Beaumont oil field, with notes on other oil fields of the Texas region.
Describes the occurrence and geologic relations of the oil-bearing strata of Texas.

6. [Report to the National Geographic Society on volcanic disturbances in the West Indies.]
Contains an account of the author's observations of the phenomena attending the eruptions in 1902.
Hill (Robert T.)—Continued.

7. The upland placers of La Cienega, Sonora, Mexico.
   Eng. & Mg. Jour., vol. 73, pp. 132-134, 7 figs., 1902.
   Describes the occurrence of the gold and the method of dry washing.

8. The cinnabar deposits of the Big Bend province of Texas.
   Describes the geologic occurrence of the cinnabar deposits in this area.

9. The Beaumont oil-field, with notes on other oil-fields of the Texas region.
   Discusses origin and occurrence of oil, describes geography, occurrence, and character of sedimentary strata of southeastern Texas, the situation, extent, and production of different oil-fields, the discovery, development, geology, and structural features of the Beaumont field, and discusses the origin of its oil.

10. The Santa Eulalia district, Mexico.
    Describes the general geology and the character and occurrence of the ore bodies.

11. The ore deposits of Cananea [Mexico].
    Gives observations upon the general geology, structural features, and the origin of the ores.

    Describes the geology of the region, the occurrence and sequence of the igneous rocks, the fissuring and faulting, and the occurrence and origin of the copper ore deposits.

13. The geologic and physiographic history of the Lesser Antilles.

14. The Guanajuato mining district [Mexico].
    Includes observations on the geology of the region and the occurrence and character of the gold and silver ores.

15. Report upon the geology of the Santo Domingo placer fields, Magdalena district, Sonora, Mexico.
    Greene Consolidated Gold Company [Prospectus], New York, pp. 12-24, 10 pls., 1904.
    Describes the location and general geology of the district, and the character, occurrence, and geologic relations of sedimentary formations, of igneous rocks, and of placer gold deposits, and discusses the source of the gold.

    Outlines the eruption phenomena of Mont Pele, and from the study of these phenomena and data furnished by physiographic, stratigraphic, and paleontologic investigations, deduces the geologic history of the Windward Islands, and discusses the nature and causes of volcanism.

17. Enrichment in fissure veins.

18. Physical history of the Windward Islands as illustrated in the larger story of Pélé—a study of volcanic and oceanic geography.

19. The physical geography of Mexico—an introduction to the social, political, and economic geography of the republic.

Hill (Robert T.) and Vaughan (T. Wayland).

1. Austin folio, Texas.
   Describes geographic and topographic features, general geologic relations, the character and occurrence of Cretaceous, Tertiary, and Quaternary formations, and the occurrence of economic products.
FOR THE YEARS 1901-1905, INCLUSIVE. 167

Hille (F.).
1. The iron ore deposits of western Ontario and their genesis.
   Describes the geologic and geographic position of the ore deposits, and discusses their formation.

2. The Baraboo iron ore.
   Discusses the geologic age and origin of the iron ores of Baraboo, Wisconsin.

3. Genesis of the Animikie iron range [Ontario].
   Discusses the geologic data bearing upon the presence and amount of iron ore north of the International Boundary in this region, the character, occurrence, classification, and nomenclature of Archean and Algonkian formations, the origin, constituents, and metamorphism of their rocks, and the origin of the iron ores.

4. A correction in the classification of our gold formation.
   Discusses the relations of the rocks in which the Algoma gold deposits occur.

Hillebrand (W. F.).
1. Chemical discussion of analyses of volcanic ejecta from Martinique and St. Vincent.

2. The composition of yttrialite, with a criticism of the formula assigned to thalénite.
   Discusses Benedicks' formula for thalénite and presents the author's results of the chemical properties of yttrialite.


4. Emmonsite (?) from a new locality.
   Describes the occurrence, optical and other characters, and chemical composition of a mineral provisionally regarded as emmonsite, from Cripple Creek, Colorado.

5. Red beryl from Utah.

6. Two tellurium minerals from Colorado.
   Describes occurrence and composition of emmonsite (?) and tetradymite.

7. The composition of yttrialite, with a criticism of the formula assigned to thalénite.

8. Preliminary announcement concerning a new mercury mineral from Terlingua, Texas.

Hillebrand (W. F.) and Penfield (S. L.).
1. Some additions to the alunite-jarosite group of minerals.
   Describes the occurrence, optical and other characters, and chemical composition of several alunite-jarosite minerals.

Hillebrand (W. F.) and Ransome (F. L.).
1. On carnottite and associated vanadiferous minerals in western Colorado.
   Describes occurrence, character, origin, and chemical composition.
Hillebrand (W. F.), Lindgren (Waldemar) and.
   See Lindgren (Waldemar) and Hillebrand (W. F.), 1.
Hillebrand (W. F.), Schaller (W. T.) and.
1. Crystallographical and chemical notes on lawsonite.
   See Schaller (W. T.) and Hillebrand (W. F.), 1.
2. Notes on lawsonite.
   See Schaller (W. T.) and Hillebrand (W. F.), 2.
Hills (R. C.).
1. Spanish Peaks folio, Colorado.
   Describes the geographic features, the character and occurrence of the Cretaceous, Eocene, and Neocene strata, the geologic structure, the igneous rocks, and the occurrence of coal and artesian water.
   Discusses the correlation of these beds.
3. The Oscuro Mountain meteorite [New Mexico].
   Describes the occurrence and the characters of this meteorite.
Hind (Wheelton).
1. The type of Aviculipecten.
   Am. Geol., vol. 34, pp. 200-201, 1904.
Hitchcock (A. S.).
1. Controlling sand dunes in the United States and Europe.
Hitchcock (C. H.).
1. Tuff cone at Diamond Head, Hawaiian Islands.
2. The story of Niagara.
   Describes the geological history of the region about Niagara Falls, the geological history of the Niagara Cataract and River, and discusses the rate of recession of the falls and the estimates of age in years.
4. Notice of a species of Acidaspis from a boulder of Marcellus shale, found in drift at West Bloomfield, New Jersey.
   Describes the occurrence, with lists of forms identified, of Silurian fossils, and the occurrence, characters, and geologic relations of Silurian and perhaps other Paleozoic sedimentary strata, in large part metamorphosed, and of igneous rocks. The paper includes a description of Dalmanites lunatus by Avery E. Lambert.
   Montpelier, Vt., Argus and Patriot Press, 1904. 21 pp. [Private publication.]
   Describes various evidences of glacial action upon high summits in the Green Mountains in Vermont and the Adirondacks of New York, and discusses glaciation in New England and New York.
Hitchcock (C. H.)—Continued.

   Notes the renewal of activity of the volcano Kilauea in the Hawaiian Islands.

10. The geology of Littleton, New Hampshire.
   Describes the general geology, the character, occurrence, and relations of igneous and schistose rocks, Silurian and Devonian strata, and Glacial deposits, and the economic resources of the township.

11. Fresh-water springs in the ocean.
    Contains notes upon the geologic structure and underground water conditions of Oahu, one of the Hawaiian Islands, and of Florida.

Hixon (Hiram W.).
1. Geology of the Sudbury district [Ontario].

2. Volcanoes and earthquakes.
   Offers an explanation of these phenomena.

Hobbs (William Herbert).
   Discusses a recent review by W. M. Davis.

2. The Newark system of the Pomperaug Valley, Connecticut.
   Gives a sketch of present knowledge regarding this system, describes the character of the sedimentary and igneous rocks, and discusses the deformation and degradation of the region.

3. The river system of Connecticut.
   Jour. Geol., vol. 9, pp. 409-485, 2 pls., 2 figs., 1901.
   Describes the occurrence and origin of the jointing and faulting in the Pomperaug Valley, the occurrence of certain intersecting series of parallel lines called troughs, which occupy the drainage channels for varying distances.

   Min. Ind. for 1900, pp. 301-304, 1901.
   Briefly describes occurrence and distribution.

5. The old tungsten mine at Trumbull, Conn.
   Describes petrology, geologic structure, and occurrence of ore bodies of this locality.

   Describes the peculiar drainage features of the region and the conditions determining the course of the rivers, and discusses the theories that have been advanced.

7. Edward Orton.

   Describes the occurrence of diamonds in glacial materials, principally in Wisconsin.

9. Former extent of the Newark system.
   Gives a summary of the views of various geologists regarding this series, and discusses the conditions under which the beds were deposited.
    Jour. Geol., vol. 10, pp. 780-792, 1 pl., 1 fig., 1902.
    Describes methods of studying the occurrence, character, and relations of crystalline schists.

11. The mapping of the crystalline schists. II. Basal assumptions.
    Discusses the mechanics of deformation and the criteria for recognizing folds and faults.

12. An instance of the action of the ice sheet upon slender projecting rock masses.
    Describes the glacial phenomena in the Pomperaug Valley (Connecticut).


    Discusses structural features of the region and their origin.

15. Meteorite from Algoma, Wisconsin.
    Describes surface, composition, and texture.

16. Tungsten mining at Trumbull, Conn.
    U. S. Geol. Surv., Bull. no. 213, p. 98, 1903.
    Describes the occurrence of the ore and methods employed in mining and extracting the metal.

17. The frontier of physiography.

18. Geology of the river channels about Manhattan Island.

19. A record of post-Newark depression and subsequent elevation within the area of southwestern New England.


22. Lineaments of the Atlantic border region.
    Discusses the orientation of earth lineaments, namely, mountain ranges, ridges, borders of plateaus, drainage lines, coast lines, boundary lines of geologic formations, fall lines, boundaries of physiographic provinces, etc.

    Discusses the relations of fault systems to one another in the area considered, and related geographic features.

    Discusses in detail various data secured bearing upon the configuration of the surface of the rock beneath the Manhattan Island area, and discusses the origin of the water channels.

25. The correlation of fracture systems and the evidences for planetary dislocations within the earth's crust.

    Jour. Geol., vol. 13, pp. 383-374, 7 figs., 1905.
Hobbs (William Herbert)—Continued.
27. The configuration of the rock floor of Greater New York.
   U. S. Geol. Surv., Bull. no. 270, 96 pp., 5 pls., 6 figs., 1905.
   Reviews the geological studies of the New York City area of previous writers, and describes
   investigations upon the rock floor of Greater New York.
28. Contributions from the mineralogical laboratory of the University of Minnesota.
   Am. Geol., vol. 36, pp. 179-186, 1 pl., 2 figs., 1905.
   Gives notes upon the composition, characters, and crystallographic features of minerals from
   various localities.
Hodgdon (F. W.).
1. [In discussion of paper by J. P. Frizell on "Tidal scour in harbors, etc."]
   Contains notes on scour in Boston Harbor.
Hoeing (J. B.).
1. The oil and gas sands of Kentucky.
   Ky. Geol., Surv., Bull. no. 1 (preliminary part), 233 pp., 10 pls. and 3 maps, 1905.
   Describes the general geology of oil and gas, the geological relations, character, and occur­
   rence of oil and gas bearing strata, and gives numerous well records. An appendix con­
   tains lists of elevations above sea of points in Kentucky.
Hoen (A. B.).
1. Discussion of the requisite qualities of lithographic limestone, with report on tests
   of the lithographic stone of Mitchell County, Iowa.
Hoernes (Rudolf).
1. Die vulkanischen Ausbrüche auf den Kleinen Antillen.
   Describes the volcanic eruptions and the attendant phenomena that took place in the Lesser
   Antilles in 1902.
Hoffmann (G. Christian).
1. Report of the section of chemistry and mineralogy.
2. On some new mineral occurrences in Canada.
3. On some new mineral occurrences in Canada.
   Describes datolite and faujasite.
5. On the occurrence of chrompicotite in Canada.
   Describes its occurrence, characters, and chemical composition.
7. Sousite, a native iron-nickel alloy occurring in the auriferous gravels of the Fra­
   ser, province of British Columbia, Canada.
8. Chemistry and mineralogy.
   Includes notes on the examination and occurrence of various minerals.
Hogarty (Barry).
1. The andesite of Mount Sugar Loaf, Boulder County, Colorado.
   Describes the occurrence, the megascopic and microscopic characters, and the composition of
   the rock.
- **Holder** (Charles F.).
  1. A remarkable salt deposit.
     Describes occurrence of salt on the Salton Desert, in California.
  2. Erosion on the Pacific coast.
     Describes some of the physiographic features of the California coast.
  4. Natural monuments.
     Describes pillars and other features resulting from erosion.

- **Hole** (Allen D.), **Moore** (Joseph) and.
  1. Concerning well-defined ripple marks in the Hudson River limestone, Richmond, Indiana.
     See Moore (J.) and Hole (A. D.), 1.

- **Holland** (W. J.)
  1. In memoriam, John Bell Hatcher.
  2. A new crocodile from the Jurassic of Wyoming.
  3. The hyoid bone in Mastodon americanus.

- **Hollick** (Arthur).
  1. A reconnoissance of the Elizabeth Islands [Massachusetts].
     Describes the physiographic and glacial features of the region.
  2. Discovery of a mastodon’s tooth and the remains of a boreal vegetation in a swamp on Staten Island, N. Y.
  3. Eocene Plantæ.
     Md. Geol. Surv., Eocene, pp. 238-261, 1 pl., 1901.
     Describes the general geologic and botanical features of these localities.
  5. Fossil ferns from the Laramie group of Colorado.
  6. A fossil petal and a fossil fruit from the Cretaceous (Dakota group) of Kansas.
  7. Field work during 1901 in the Cretaceous beds of Long Island.
     Gives a list of Cretaceous fossil plants collected in the vicinity of Glencove on Long Island, New York.
  8. Two additions to our list of drift fossils.
     Notes occurrence of drift bowlders containing Devonian fossils.
     N. Y. Bot. Garden, Jour., vol. 4, pp. 65-68, 4 figs., 1903.
     Gives a brief account of a collection of Cretaceous fossil leaves from Kansas.
  10. Systematic paleontology of the Miocene deposits of Maryland: Angiospermæ.
Hollick (Arthur)—Continued.

11. Additions to the paleobotany of the Cretaceous formation on Long Island. No. II.

12. Some recently discovered facts in regard to Silver Lake [Staten Island, New York].
   Gives records of borings at this locality, and notes upon the character of the material passed through.

   Gives notes upon the occurrence of a submerged peat bed near Staten Island, New York.


15. A canoe trip down the Yukon River from Dawson to Anvik [Alaska].
   Gives observations upon the geology of the region traversed.

16. A recent discovery of amber on Staten Island.
   N. Y. Bot. Garden, Jour., vol. 6, pp. 45-48, 2 figs., 1905.
   Describes the occurrence of amber in Cretaceous strata on Staten Island, and discusses its origin.

17. The occurrence and origin of amber in the eastern United States.

18. The preservation of plants by geologic processes.
   N. Y. Bot. Garden, Jour., vol. 6, pp. 115-118, 3 figs., 1905.

19. Paleobotanical notes.

20. Additional notes on the occurrence of amber at Kreischerville.

   See Merrill (F. J. H.), and others, 1.

Hollister (George B.).

1. Physiographic features of the Susquehanna basin.
   Describes physiographic features of the Susquehanna basin.


3. Waters of a gravel-filled valley near Tully, N. Y.

Holmes (J. A.).

1. Biennial report of the State geologist on the operations of the Geological Survey of North Carolina during the two years ending November 30, 1902.

2. Biennial report of the State geologist on the operations of the North Carolina Geological Survey during the two years ending November 30, 1904.

Holmes (W. H.).

1. Fossil human remains found near Lansing, Kansas.
   Discusses the age of the deposits in which the human remains were found at Lansing, Kansas.
Holway (Ruliff S.).
1. Eclogites in California.  
Jour. Geol., vol. 12, pp. 344-358, 5 figs., 1904.  
Reviews previous work upon eclogites (garnetiferous augite or hornblende), and describes the occurrence and petrographic characters of eclogites from localities in California and Oregon.

Hopkins (A. D.).
1. Work of the prehistoric scolytid, Phloeosinus squalidens Scudd.  

Hopkins (Thomas C.).
Describes character and occurrence of clays and their products manufactured in the State.
Am. Geol., vol. 28, pp. 47-51, 1901.  
Reviews the evidences of the formation of fire clays in situ, and states that the occurrence of a considerable portion of them is better explained by considering them as transported clays reduced before deposition.

3. Graphite and garnet.  
Describes occurrence in Pennsylvania and other regions.
Describes character and occurrence of clays and products manufactured from them.
5. Fireclays of the Coal Measures, a short discussion of their origin, and the causes of the qualities which render them more or less refractory.  

6. The Lower Carboniferous area in Indiana.  

Discusses the causes assigned for the climate of Glacial times, especially the hypothesis of the variation in amount of carbon dioxide in the atmosphere.

8. Lower Carboniferous area in Indiana.  
Describes briefly the Carboniferous formations of the region.

Describes the occurrence and production of building stones, clays, and other economic resources.

10. The geological map of Indiana.  
Describes the preparation of the geologic map of the State of Indiana (scale: 4 miles to the inch) accompanying the Twenty-eighth Annual Report of the Department of Geology and Natural Resources of Indiana.

11. A short description of the topography of Indiana and of the rocks of the different geological periods; to accompany the geological map of the State.  
The part on the Ordovician and the Silurian (pp. 21-39) was written by A. F. Foerste.

12. Contents of the published volumes of reports of the Indiana Geological Survey, the Department of Geology and Natural History, and the Department of Geology and Natural Resources.  
Hopkins (Thomas C.)—Continued.
13. General index to all the publications of the Indiana Geological Survey, the Department of Geology and Natural History, and the Department of Geology and Natural Resources.

Hopkins (Thomas C.) and Smallwood (Martin).
1. On some anticlinal folds [Pennsylvania].

Hopkins (Thomas C.), Smallwood (W. M.) and.
   See Smallwood (W. M.) and Hopkins (T. C.), 1.

Horton (Robert E.).
1. The drainage of ponds into drilled wells.

Hosea (R. M.).
1. Tercio and Cuatro mines. A description of the coal washing and coking plants of the Colorado Fuel & Iron Co. at Tercio and Cuatro [Colorado].
   Includes observations on the general geology of the region.

Hotchkiss (W. O.).
1. An explanation of the phenomena seen in the Becke method of determining index of refraction.
   Am. Geol., vol. 36, pp. 305-308, 1 fig., 1905.

Hovey (Edmund Otis).
   Contains abstracts of papers read.
2. Geology and geography at the Denver meeting of the American Association for the Advancement of Science.
   Contains brief abstract of some of the papers read.
4. [Abstracts of papers read before the thirtieth annual meeting of the Geological Society of America.]
5. Geology at the fiftieth meeting of the American Association for the Advancement of Science.
   Contains abstracts of papers read.
7. The fourteenth annual meeting of the Geological Society of America.
8. The paleontological collections of the geological department of the American Museum of Natural History.
   Jour. Geol., vol. 10, pp. 252-255, 1902.
Hovey (Edmund Otis)—Continued.

10. The eruptions of La Soufrière, St. Vincent, in May, 1902.
   Describes the author’s observations.

11. A visit to Martinique and St. Vincent after the great eruptions of May and June, 1902.

12. Martinique and St. Vincent; a preliminary report upon the eruptions of 1902.
   Describes the phenomena of these eruptions and the extent of the devastation.


14. A remarkable slab of fossil crinoids [from the Cretaceous of Kansas].

15. [Abstracts of papers on geology and geography read before Section E of the American Association for the Advancement of Science at the Washington meeting.]

16. The annual meeting of the Geological Society of America, and geology and geography at the convention of the American Association for the Advancement of Science.

17. The new cone of Mont Pelée and the gorge of the Rivière Blanche, Martinique.

18. Martinique and St. Vincent revisited.
   Describes phenomena connected with the eruptions of Mont Pelée and La Soufrière.

19. ‘Mount Pelée.’
   Discusses the proper form of the name of this volcano.

20. Mont Pelé from May to October, 1903.
   Describes changes in the spine of Mont Pelé.

21. The marvelous obelisk of Mont Pelé.
   Describes the appearance, character, and formation of the “spine” and other volcanic phenomena.

22. The volcanoes of the Caribbean Islands. Appearance of Mont Pelé, Martinique, and La Soufrière, St. Vincent, one year after the great eruption.

23. The inner cone of the Mont Pelée crater and its relation to the destruction of Morne Rouge.

24. Some erosion phenomena on Mont Pelée and Soufrière.

   Gives abstracts of papers read at the sixteenth annual meeting.

26. Mont Pelé from October 20, 1903, to May 20, 1904.

Hovey (Edmund Otis)—Continued.

   Gives observations upon the geology of the island, and the physical features and volcanic activity of the Grande Soufrière.

29. New cone and obelisk of Mont Pelé.

30. Some erosion phenomena observed on the islands of Saint Vincent and Martinique in 1902 and 1903.

   Describes briefly the present condition of this volcano.

32. Bibliography of literature of the West Indian eruptions published in the United States.

33. The 1902-1903 eruptions of Mont Pelé, Martinique, and the Soufrière, St. Vincent.
   Congr. géol. intern., Compte rendu ix* sess., pp. 707-738, 11 pls. and 6 figs., 1904.

34. The Crystal Cave of South Dakota.

35. Some erosion phenomena in St. Vincent and Martinique.


37. [Report of meeting of] Section E—Geology and Geography [of the American Association for the Advancement of Science, at Philadelphia, December 28, 1904].
   Gives abstracts of some of the papers read.

38. The Geological Society of America.

39. Geology and geography at the American Association for the Advancement of Science.
   Gives a brief account of the meeting and abstracts of some of the papers read.

40. Seventeenth annual meeting of the Geological Society of America.
   Gives abstracts of papers presented.

41. Geological progress.
   Eng. & Mg. Jour., vol. 73, pp. 94-95, 1905.
   Gives abstracts of papers read at the annual meeting of the Geological Society of America.

42. The Cape York meteorites.
   Describes meteorites brought from Greenland.

43. The western Sierra Madre of the State of Chihuahua, Mexico.
   Contains notes on the geology of the region.

44. Volcanoes of Martinique, Guadeloupe, and Saba.
   Bull. 301—00——12
Hovey (Edmund Otis)—Continued.
45. Volcanoes of St. Vincent, St. Kitts, and Statia.
46. The American Association for the Advancement of Science. Summer meeting
    of section C, geology and geography.
    Contains notes on the geology of the vicinity of Syracuse, N. Y., and abstracts of papers pre­
    sented to the meeting.
47. The western Sierra Madre of the State of Chihuahua [Mexico].
Hovey (Horace C.).
1. The lead and silver mines of Newbury [Massachusetts].
    Contains notes on the occurrence of the minerals and the geology of the region.
2. Colossal cavern (Kentucky).
    Spelunca, t. 5, pp. 57-61 (247-251), 2 figs., 1904.
    In the author's separates a copyright plate has been added showing route in the cave.
Howarth (O. H.).
1. Geological features of the Azores; interesting illustrations of peculiar volcanic
    effects, both past and present.
Howe (Ernest).
1. Experiments illustrating intrusion and erosion.
    Describes experiments illustrating the formation of laccoliths and the deformation of the
    invaded strata.
2. Recent tufts of the Soufrière, St. Vincent.
    Describes character and occurrence of deposits of volcanic ejecta.
3. An occurrence of greenstone schists in the San Juan Mountains, Colorado.
    Discusses the occurrence and character of greenstone schists in the San Juan Mountains, dis­
    cusses their age, and compares them with similar rocks from other localities.
Howe (E.), Cross (W.) and.
    See Cross (W.) and Howe (E.), 1.
2. Red Beds of southwestern Colorado and their correlation.
    See Cross (W.) and Howe (E.), 2.
3. Topography and general geology of the Needle Mountains quadrangle [Colorado].
    See Cross (W.) and Howe (E.), 3.
    See Cross (W.) and Howe (E.), 4.
Howe (James Lewis), Campbell (H. D.) and.
1. A new (?) meteoric iron from Augusta Co., Virginia.
    See Campbell (H. D.) and Howe (J. L.), 1.
Howley (James P.).
1. Report of geological exploration in the district of White Bay, N. F., during the
    season of 1902.
    Newfoundland Geol. Surv. 28 pp., 1903.
    Describes observations upon the geology of northern Newfoundland.
Howley (James P.)—Continued.
2. Report on exploration and boring operations in the central Carboniferous basin near Grand Lake [Newfoundland], 1904.
Contains notes on the occurrence of coal in Newfoundland.

Hrdlička (Aleš).
1. The crania of Trenton, New Jersey, and their bearing upon the antiquity of man in that region.
Describes the occurrence and character of the remains.
2. The Lansing skeleton.
Gives a detailed description of the skeleton and its parts, and a comparison with that of the American Indian.

Hubbard (George D.).
Describes distribution of Illinoian and Wisconsin drift deposits in southern Illinois and various physiographic features of the Embarras Valley, and discusses its physiographic history.

Hubbard (Lucius L.).
1. Two new geological cross-sections of Keweenaw Point [Michigan].
Lake Superior Mg. Inst., Proc., vol. 2, pp. 79-96 [1894?].
Describes the geology of this area and gives a section of the strata.
2. The relation of the vein at the Central mine, Keweenaw Point, to the Kearsarge conglomerate [Michigan].
Lake Superior Mg. Inst., Proc., vol. 3, pp. 74-83, 4 pls. [1895?].

Hudson (Edward J.), Mabery (Charles H) and.
1. On the composition of California petroleum.
See Mabery (C. F.) and Hudson (E. J.), 1.

Hudson (George H.).
1. Contributions to the fauna of the Chazy limestone on Valcour Island, Lake Champlain.
N. Y. State Mus., Bull. 80, pp. 270-295, 5 pls. and 7 figs., 1905.

Hulst (Nelson P.).
1. The geology of that portion of the Menominee Range, east of the Menominee River [Michigan].
Lake Superior Mg. Inst., Proc. for 1893, pp. 19-28, 2 figs., geol. map [1893?].
Describes the geologic structure and occurrence of ores in this area.

Hunter (A. F.).
1. The Algonquin shore line in Simcoe County, Ontario.
2. Raised shore lines along the Blue Mountain escarpment [Ontario].

Huntington (Ellsworth) and Goldthwait (James Walter).
1. The Hurricane fault in southwestern Utah.
Jour. Geol., vol. 11, pp. 46-63, 10 figs., 1903.
Gives a table showing the succession of formations in the region, and describes physiographic features and its geologic history.
2. The Hurricane fault in the Toquerville district, Utah.
Describes geographic and physiographic features of the region, the character and occurrence of the geologic formations, the geologic history, embracing deposition, uplift, folding, faulting, erosion, and vulcanism, and the occurrence and effects of lava flows.
Hurley (Thomas Jefferson).
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   of genera and species of Cretaceous Pseudoceratites from North America and other parts of
   the world.
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   The systematic descriptions of orders, families, genera, and species are preceded by a synopsis
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   Ohio Naturalist, vol. 4, pp. 149-157, 4 tigs., 1904.
   Discusses changes in drainage produced by the ice invasions of the Glacial period.

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1. Chemical composition of igneous rocks, expressed by means of diagrams, with
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   U. S. Geol. Surv., Professional Paper no. 18, 98 pp., 8 pis. (diagrams), 1903.
   Reviews the use of diagrams in representing the composition of igneous rocks, discusses the
   purpose and construction of the diagrams employed by the writer, gives a classified list of
   analyses used in constructing the diagrams, and a general discussion of igneous rocks as to
   occurrence, composition, correlation, and classification.
2. A fracture valley system.
   Jour. Geol., vol. 12, pp. 94-106, 1 pl., 1904.
   Discusses the relations subsisting between systems of drainage and fractures, and describes,
   in illustration, the drainage system and geologic structure of the Livingston quadrangle,
3. Quartz-feldspar-porphyry (graniphyro liparose-alaskose) from Llano, Texas.
   Describes petrographic characters and chemical composition, and discusses its position in the
   quantitative system of classification.
4. The isomorphism and thermal properties of the feldspars. Part II. Optical study.
   Lime-soda feldspars crystallized in open crucibles from fused constituents.
   Carnegie Inst. of Wash., Publ. no. 31, pp. 77-95, 26 pls., 1 fig., 1905.

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   Describes the character and occurrence of rocks, the occurrence of copper and iron ore deposits, and the mining operations.

7. Section of mines, Annual report for 1902.

8. Bruce Mines district [Ontario].
   Includes brief notes on the geology of the district.

9. Section of mines, Annual report for 1903.

10. Geology of the country around Bruce Mines [Ontario].
    Describes the occurrence and relations of igneous and sedimentary rocks in this region.

11. Some recently exploited deposits of wolframite in the Black Hills of South Dakota.
    Describes the general geology and occurrence of wolframite in the ore-bearing veins of the region.

12. Ore deposits of the northern Black Hills.
    Describes the general geology of the region and the character and geologic occurrence of the gold ore deposits.

13. The ore deposits of the northern Black Hills.
    Discusses the general geology and the occurrence, geologic relations, and character of the gold, silver, tin, and wolframite ore deposits.

    Discusses the general geology and the character and occurrence of ore deposits, chiefly gold, lead-silver, and wolframite ore deposits, in Algonkian, Cambrian, Carboniferous, and eruptive rocks.
Irving (John Duer)—Continued.
5. Microscopic structure and origin of certain stylolitic structures in limestone.
   Discusses the character and origin of stylolites.
6. Ore deposits of the Ouray district, Colorado.
   U. S. Geol. Surv., Bull. no. 260, pp. 50-77, 4 figs., 1905.
   Discusses the general geology, and the occurrence, relations, and economic development of
   gold and silver-bearing deposits.
7. Ore deposits in the vicinity of Lake City, Colorado.
   Discusses the general geology, and the occurrence, character, and relations of the gold and
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8. University training of engineers in economic geology.
   Econ. Geol., vol. 1, pp. 77-82, 1905.
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Irving (John Duer) and Emmons (S. F.).
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   Describes the character, occurrence, and geologic relations of the gold, silver, copper, tin
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Irving (J. D.) and Emmons (W. H.).
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   Contains observations on the occurrence of the copper-ore deposits.

Jackson (Robert T.).
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1. Ore quarrying in the Boundary district of British Columbia.
   Describes briefly the occurrence and character of copper-ore deposits.
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Jaggar (Thomas Augustus).
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   Describes the occurrence of the sedimentary and igneous rocks, and the character, occurrence,
   and distribution of the laccolithic intrusives, and discusses the physiographic form of eroded
   domes.
Jaggar (Thomas Augustus)—Continued.

2. Field notes of a geologist in Martinique and St. Vincent.
   Describes recent volcanic phenomena.

3. The next eruption of Pelée.

4. Professor Heilprin on Mont Pelée.
   Reviews the "Mont Pelée and the tragedy of Martinique" of Angelo Heilprin, and discusses phenomena connected with the eruptions.

   Describes topography, stratigraphy, lithology, geologic structure, and characteristic sections.

6. The eruption of Mont Pelée, 1851.
   Translated from the French of LePrieur, Peyraud, and Rufz.

7. The initial stages of the spine on Pelée.
   Describes occurrence and appearance of spines in the crater of Mont Pelée and gives an explanation of their origin.

8. The eruption of Pelée, July 9, 1902.
   Gives details of observations on the eruption of July 9, 1902, and discusses the causes of the phenomena.

Jaggar (T. A., jr.) and Palache (Charles).

1. Bradshaw Mountains folio, Arizona.
   Describes the occurrence, character, and relations of Algonkian sedimentary and metamorphic strata, of igneous rocks, and of Quaternary deposits, the geologic history, and the economic resources, including gold, silver, and copper deposits.

James (F. Wilton).

   Gives notes upon physiographic features of the region.

Jamieson (George S.).

1. On the natural iron-nickel alloy, awaruite.
   Describes character and composition of specimens of natural iron-nickel alloy obtained from Josephine County, Oregon, and from Del Norte County, California.

Jamieson (G. S.), Penfield (S. L.) and.

1. On tychite, a new mineral from Borax Lake, California, and on its artificial production and its relation to noruphite.
   See Penfield (S. L.) and Jamieson (G. S.), 1.

Jefferson (Mark S. W.).

1. Limiting widths of meander belts.
   Describes methods and results of meander studies.

   Discusses the proper writing of the name of this volcano.

3. Some shore features of Lake Huron.

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1. A fossil Sequoia from the Sierra Nevada.
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3. The mineral crest, or the hydrostatic level attained by the ore-depositing solutions, in certain mining districts of the Great Salt Lake Basin.
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   Discusses the action of carbon and hydrocarbons in the formation of ore deposits.

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1. The copper deposits of the Kaibab Plateau, Arizona.
   Describes the general geology and occurrence of the ore deposits, containing copper chiefly
2. Origin of the magnetic iron ores of Iron County, Utah.
   Describes the occurrence and character of the magnetic iron-ore deposits and discusses their origin.

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1. Notes on the vegetable tissues in Daemonelix.

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1. Notes on the history of manganese mining in part of Nova Scotia and on some of the geological conditions of the manganese belt running through Hants County.
   Discusses the occurrence and geological relations of the manganese ore deposits.

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Johnson (Charles W.).
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2. Notes of a geological reconnaissance in eastern Valencia County, New Mexico.
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   Gives a brief description of material collected by E. F. Tuttle.
For the years 1901-1905, inclusive.

Johnson (Douglas Wilson)—Continued.

   School of Mines Quart., vol. 24, pp. 303-350, 7 pls., 7 figs.; pp. 456-500, 10 pls., 6 figs., 1903.
   Describes the geographic and physiographic features, reviews previous geologic work upon the district, gives a detailed account of the stratigraphy, mainly Cretaceous and Tertiary, areal geology and intrusive rocks, discusses the physiographic and general geologic history, and describes the character, occurrence, and production of coal and turquoise.

5. The geology of the Cerrillos Hills, New Mexico. Part II. Paleontology.
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   Describes the occurrence and characters, megascopic and microscopic, of the igneous rocks of this region.

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   Am. Geol., vol. 31, pp. 135-139, 1 pl., 1903; Columbia Univ., Contr. from Geol. Dept., vol. 11, no. 93, 1903.
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8. The distribution of fresh-water faunas as an evidence of drainage modifications.

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2. The high plains and their utilization. (Conclusion of paper in Twenty-first Annual Report, Part IV.)
   Discusses the origin and structure of the region, and its water resources, especially the ground water as a possible source of supply.

3. The profile of maturity in Alpine glacial erosion.
   Jour. Geol., vol. 12, pp. 569-578, 1904.
   Discusses physiographic characteristics due to glacial erosion of the Sierra Nevada Mountains, and the agencies by which they were produced.

4. The grade profile in Alpine glacial erosion.
   Reprinted with changes by the author, from the Journal of Geology, vol. 12, pp. 569-578, 1904. [See no. 3 above].
Johnson (William H.).
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   Gives a general account of the development of the Missouri-Arkansas-Kansas lead and zinc mining district, and discusses briefly the general geology and the formation and character of the ores.

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1. Eastern part of the Abitibi region.
   Describes the author's observations in this region.

2. Geology of part of the County of Ottawa [Quebec].

Johnston (R. A. A.).
   Describes characters, uses, etc., of molybdenum and tungsten, and gives a list of their occurrences in Canada.

2. The copper claims of Aspen Grove and Aberdeen Camp, B. C.

3. On the meteorite which fell near the village of Shelburne, township of Melancthon, Ontario, in August, 1904.

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1. Notice sur le Dr. Professor Charles Othontiel Marsh (29 octobre 1831-18 mars 1899).

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Jones (Alfred W.).
1. Further studies in the Mentor beds [Kansas].

2. The fauna of the Mentor.
   A list of the marine fossils found in the Mentor beds of the Kansas Carboniferous.

Jones (Fayette Alexander).
1. New Mexico mines and minerals. World's Fair edition, 1904.
   Santa Fe, N. M., The New Mexican Printing Company, 1904. 349 pp., 50 figs.
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   Describes the physiographic features of the region and the origin of the gorge.
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   Geol. Mag., new ser., dec. 4, vol. 9, pp. 401-403, 6 figs., 1902.
2. On some Isochilinae from Canada and elsewhere in North America.
   Geol. Mag., new ser., dec. 4, vol. 10, pp. 300-304, 3 figs., 1903.
   Includes a catalogue of the known Isochilinae, giving geologic occurrence and citation to description.
3. Note on a Paleozoic Cypridina from Canada.
   Describes a new species under the name Cypridina antiqua.
4. Some Paleozoic ostracods from Maryland.
   Johns Hopkins Univ., Circ., 1905, no. 3, pp. 30-33, 7 figs., 1905.

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1. A study of the structure of fulgurites.
   Jour. Geol., vol. 9, pp. 673-693, 3 figs., 1901.
   Gives the results of the study of four fulgurites.
2. Erosion by flying sand of the beaches of Cape Cod.
3. The geology of central Cape Cod [Massachusetts].
   Abstract: Am. Geol., vol. 27, p. 44, 1901.
   Contains notes on the glacial phenomena of the region.
4. [Discussion of paper by J. F. Kemp on "The Cambro-Ordovician outlier at Wells-town, Hamilton County, New York."]
   Discusses the origin of the sand in the limestone.
5. On pyrite and marcasite.
6. Erosion by flying sand on the beaches of Cape Cod.
   Describes the character, occurrence, and origin of these rocks and their metamorphic phases and contact alterations.
8. The occlusion of igneous rock within metamorphic schists.
   Defines the term "occlusion" and discusses some of the phenomena of enclosed igneous rocks.
9. Determination of brucite as a rock constituent.
   Describes the characters of brucite by which it may be recognized in rocks.

K.
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1. Recent earthquakes in New Brunswick.

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   Includes observations upon the geology, topography, drainage, etc., of the region traversed, and a discussion of the petrography.

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   Includes observations on the general geology and the occurrence of placer gold.
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1. Maynardville folio, Tennessee.
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2. Folded faults in the southern Appalachian.

3. Topography and geology of the southern Appalachians.
   Message from the President of the United States, transmitting a report of the Secretary of Agriculture in relation to the forests, rivers, and mountains of the southern Appalachian region (Senate Doc. no. 84, 57th Cong., 1st sess.), pp. 111-123, 11 pls., 1902.
   Contains a brief account of the general geology of the region.

   Describes geographic and topographic features, general geologic relations and structure, character and occurrence of Archean, Algonkian, Cambrian, and Jurassian (?) rocks, and mineral resources.

   Describes the character and occurrence of the iron ores of this region.

6. Tennessee marbles.
   Describes the occurrence and character of marble deposits in eastern Tennessee, and locations suitable for quarrying.

7. Talc deposits of North Carolina.
   Describes the character, occurrence, and methods of mining the talc deposits.

8. Recent zinc mining in east Tennessee.
   Describes the general geology, character, occurrence, and origin of the zinc-ore deposits.

   Describes the geographic relations and drainage, the geologic history, the character, occurrence, and relations of Archean, Algonkian, Cambrian, and Ordovician rocks, the geologic structure, and the mineral resources of the area.

10. Folded faults of the southern Appalachians.
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    Discusses the character and occurrence of overthrust faulting in the southern Appalachian region.

    Describes the general relations of the Greeneville quadrangle, its detailed geography, the general geological structure and history of the area, the character, occurrence, and relations of Archean, Cambrian, Ordovician, Silurian, and Carboniferous rocks, and the mineral resources.

    Describes the geography, physiographic features, the general geology, the occurrence, character, and relations of Archean, Cambrian, and Triassic (?) rocks, the geologic structure, and economic resources.

    Describes the geography, topography, the character, occurrence, and relations of Carboniferous strata and of igneous rocks, and the geologic structure of the region.
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See DARTON (N. H) and KEITH (Arthur), 1.

KEMP (James Furman).  
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2. The Cambro-Ordovician outlier at Wellstown, Hamilton County, New York.  
Contains brief description of occurrence of small outliers of Paleozoic strata within the crystalline area of the region.

3. New asbestos region in northern Vermont.  
Describes the occurrence of asbestos associated with serpentine.

4. Physiography of Lake George.  
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5. Calculation of rock analyses.  

Abstract of paper read before the N. Y. Academy of Sciences.

Abstract of paper read before the N. Y. Academy of Sciences.

8. Notes on the occurrence of asbestos in Lamoille and Orleans counties, Vermont.  

9. The rôle of the igneous rocks in the formation of veins.  
Discusses mode of occurrence and formation of ores in igneous, sedimentary, and metamorphic rocks; and the occurrence of groundwater and the part which it plays in the localization of ore deposits.

10. The deposits of copper-ores at Ducktown, Tennessee.  
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11. The geological relations and distribution of platinum and associated metals.  
U. S. Geol. Surv., Bull. no. 193, 95 pp., 6 pls., 8 figs., 1902; Columbia Univ., Geol. Dept., Contr., vol. 10, no. 81, 1902.

12. Igneous rocks and circulating waters as factors in ore deposition.  


15. Notes on the physiography of Lake George.  

16. Theodore G. White (Obituary):  

17. The anthracite situation and problem.  
Contains a brief account of the character and occurrence of anthraeitce and the geologic structure of the anthracite fields of Pennsylvania.
19. Igneous rocks and circulating waters as factors in ore-deposition.

Describes the general geology of the vicinity of the mine and the occurrence of the platinum-bearing ores.

Describes character and occurrence of spheroidal granite in a boulder found near Charlevoix, Michigan.

22. On the differentiation of igneous magmas and the formation of ores.

23. Comments on the geology of Bingham Canyon, Utah.

24. The leucite hills of Wyoming.

25. Genetic classification of ore deposits.


27. Graphite in the eastern Adirondacks, N. Y.
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35. The problem of the metalliferous veins.
Econ. Geol., vol. 1, pp. 207-232, 1905.
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Kemp (James Furman)—Continued.

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   Abstracts: Am. Geol., vol. 35, p. 64, 1905.
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   Gives abstracts of papers read.

Kemp (James Furman) and Hill (B. F.).

Kemp (James Furman) and Knight (W. C.).
1. Leucite hills of Wyoming.
   Reviews previous work, describes the geographic situation and general character of the region, the general geology, and in detail the twenty-two leucite hills with especial reference to physiographic features and petrographic character.

Kemp (J. F.), Finlay (George I.) and.
1. Nepheline syenite area of San José, Tamaulipas, Mexico.
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Kendall (J. D.).
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   See Hayes (C. W.) and Kennedy (William), 1.

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   Norden, Soltan's Verlag, 1902. 35 pp., 6 figs.

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1. A depositional measure of unconformity.
   Describes the development of the Carboniferous sediments in the Mississippi Valley and Southwestern regions.
Keyes (Charles Rollin)—Continued.

2. Origin and classification of ore deposits.
   Discusses the nature of ore deposits, general methods of ore formation, the classification of ore deposits, and certain other phases of ore deposits.

3. Derivation of the terrestrial spheroid from the rhombic dodecahedron.
   Jour. Geol., vol. 9, pp. 244-249; 1901.
   Discusses Green's hypothesis of the tetrahedral form of the earth.

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   Discusses the time ratios of the several subdivisions of the Carboniferous of the Mississippi Valley region.

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   Iowa Geol. Surv., vol. 11, pp. 461-463, 1901.
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    Describes its occurrence and its bearing on the stratigraphy of the Mississippi Valley.

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    Discusses the relations of the coal-bearing horizons of the trans-Mississippian region.

14. The stratigraphical location of named trans-Mississippian coals.
    Gives list of geological formations and the coals occurring in each.

15. Contiguity of ore deposits of different generic relationships.

16. Diverse origins and diverse times of formation of the lead and zinc deposits of the Mississippi Valley.

17. Origine eolienne du loess.
    Discusses the origin of the loess of the Mississippi Valley.
Keyes (Charles Rollin)—Continued.

18. Depositional equivalent of hiatus at base of our Coal Measures; and the Arkansan series, a new terrane of the Carboniferous in the western interior basin.


Discusses evidences of denudation prior to the deposition of the Coal Measures in this area, gives tables comparing the thickness of Coal Measures formations, and describes the Arkansan series.

19. Names of coals west of the Mississippi River.


Discusses the Carboniferous deposits of the western interior coal field, tabulates the terranes and percentage of coal production of each, and gives a list of names that have been applied to the coal seams, with place of publication and stratigraphic position.

20. Diverse origins and diverse times of formation of the lead and zinc deposits of the Mississippi Valley.


Discusses mode of formation of these ores.

21. [In discussion of “The origin of ore-deposits.”]


22. Character and stratigraphical peculiarities of the southwestern Iowa coal fields.

Eng. & Mg. Jour., vol. 73, p. 651, 1902.

Describes the stratigraphic position of these coals.

23. Determination of the Cambrian age of the magnesian limestones of Missouri.

Am. Geol., vol. 29, pp. 384-387, 1902.

Reviews previous determinations of the age of these limestones.


Discusses the evidences of the age of the Kansas and Iowa gypsum beds.

25. Cartographic representation of geological formations.

Jour. Geol., vol. 10, pp. 691-699, 2 figs., 1902.

Discusses the criteria by which formations are discriminated and the methods of their cartographic representation.

26. Devonian interval in Missouri.


Discusses lithologic and faunal characters of the strata and the evidence of unconformities.

27. Magmatic differentiation of rocks.

Science, new ser., vol. 15, pp. 32-33, 1902.

Discusses the formation of the Magnet Cove [Arkansas] igneous mass and the classification of rocks.

28. A Devonian hiatus in the continental interior—its character and depositional equivalents.


Discusses the absence of Devonian strata in west central Missouri and the history and meaning of the terms Kinderhook and Chouteau.

29. Geological structure of New Mexican bolson plains.


Describes the characters of these plains and the geologic history of the region.

30. Ephemeral lakes in arid regions.


31. Some recent aspects of the Permian question in America.

Am. Geol., vol. 32, pp. 218-223, 1903.

Discusses questions of nomenclature and taxonomic rank.

32. A remarkable silver pipe.


Discusses the occurrence and origin of “pipe-veins,” and an occurrence in central New Mexico.

Bull. 301—06—13
Keyes (Charles Rollin)—Continued.

33. Geology of the Apache Cañon placers [New Mexico].
   Describes the location of the placers, the discovery of the placer gold, the geology of the
   Sierra de los Caballos Mountains, and the occurrence of fissure veins.

34. Significance of the occurrence of minute quantities of metalliferous minerals in
   rocks.

35. Genesis of certain cherts.

36. Comparative values of different methods of geologic correlation in the Mississippi
   Basin.

37. Note on block mountains in New Mexico.
   Am. Geol., vol. 33, pp. 19-23, 1904.
   Discusses structure and formation of block mountains in New Mexico.

38. Bolson plains and the conditions of their existence.
   Am. Geol., vol. 34, pp. 160-164, 1904.
   Describes the characters of bolson plains and discusses their origin.

   Describes an occurrence of aurichalcite in the Magdalena Mountains in New Mexico.

40. Certain basin features of the high plateau region of southwestern United States.
   Discusses features of bolson plains of New Mexico, and discusses their origin.

41. Note on the Carboniferous faunas of Mississippi Valley in the Rocky Mountain
   region.
   Notes the identity of many of the fossils from the two regions, although they have been
   described under different names.

42. Iron deposits of the Chupadera Mesa [New Mexico].
   Describes the occurrence and geologic relations of iron ores in central New Mexico and
   explains their origin.

43. The Hagan coal field [New Mexico].
   Describes the occurrence and geologic relations of coal beds in central New Mexico.

44. Unconformity of the Cretaceous on older rocks in central New Mexico.
   Discusses the relations of the Cretaceous rocks to the underlying formations. Includes a
   table giving a general geological section for New Mexico, showing the sequence, thickness,
   and lithologic character of the geologic formations.

45. Structures of Basin ranges.
   Jour. Geol., vol. 13, pp. 57-70, 5 figs., 1905.
   Discusses systems of faulting and the general geologic structure of the Basin ranges of New
   Mexico, and the physiographic development of the New Mexican region.

46. The fundamental complex beyond the southern end of the Rocky Mountains.
   Am. Geol., vol. 36, pp. 112-122, 1905.
   Discusses age, relations, and character of igneous and altered clastic rocks occurring in the
   New Mexican portion of the Rocky Mountains.

47. Ore deposits of the Sierra de Los Caballos [New Mexico].
   Eng. & Mg. Jour., vol. 80, pp. 149-151, 3 figs., 1905.
   Describes the general geology of the region, and the occurrence and character of lead deposits.

48. Zinc carbonate ores of the Magdalena Mountains.
   Mg. Mag., vol. 12, pp. 109-114, 5 figs., 1905.
   Describes the geology, and the occurrence and relations of the zinc-ore deposits.
FOR THE YEARS 1901-1905, INCLUSIVE.

Keyes (Charles Rollin)—Continued.

49. Geology and underground water conditions of the Jornada del Muerto, New Mexico.
   Describes the physiographic character of the region, the geologic structure, the occurrence
   and relations of Archean, Algonkian, Carboniferous, Jurassic-Triassic, Cretaceous, and
   Quaternary deposits, and of the eruptive rocks, and the underground water resources.

50. Triassic system in New Mexico.
   Discusses the geologic position of the "Red Beds" of the Great Plains and the Southwest, and
   the occurrence and relationships of the Carboniferous and Triassic "Red Beds" in New
   Mexico.

51. The Jurassic horizon around the southern end of the Rocky Mountains.
   Am. Geol., vol. 36, pp. 289-292, 1 fig., 1905.
   Discusses the stratigraphic and time relations of some Mesozoic formations in New Mexico.

52. Bisection of mountain blocks in the Great Basin region.

53. Geological structure of the Jornada del Muerto and adjoining bolson plains
   [New Mexico].

54. Northward extension of the Lake Valley limestone [New Mexico].
   Describes the occurrence of Carboniferous rocks in New Mexico

Kilham (John T.).

1. The oil wells of the United States.
   An historical account of the discovery of oil and the development of the oil industry.

Killebrew (J. B.), Safford (J. M.) and.

1. The elements of the geology of Tennessee.
   See Safford (J. M.) and Killebrew (J. B.), 1.

Kimball (James P.).

1. Bohemia mining district of western Oregon.
   Eng. & Mg. Jour., vol. 73, pp. 889-890, 3 figs., 1902.
   Contains notes on the geology and mining developments in the district.

Kindle (Edward M.).

1. The Devonian fossils and stratigraphy of Indiana.
   Reviews the nomenclature of the formations and describes the lithologic and faunal character
   of many sections, and the characters of a large number of fossils from the Devonian rocks
   of the State. Discusses the correlation of the formations.

2. The Niagara limestones of Hamilton County, Indiana.
   Describes the lithologic and faunal characters of the limestones and correlates them with the
   Lockport limestone.

3. The Niagara domes of northern Indiana.
   Discusses general structure and deformation of Niagara strata.

4. A series of gentle folds on the border of the Appalachian System.
   Jour. Geol., vol. 12, pp. 281-289, 1 fig., 1904.
   Describes the occurrence and character of anticlinal folds in the Watkins Glen quadrangle in
   southern New York.

5. Note on some concretions in the Chemung of southern New York.
   Am. Geol., vol. 33, pp. 360-363, 3 figs., 1904.
   Describes the occurrence in the Chemung of a bed of concretions in connection with a fos-
   siliferous band, and gives an explanation of their origin.

6. The stratigraphy and paleontology of the Niagara of northern Indiana.
7. Salt and other resources of the Watkins Glen district, New York.
   Describes the location of the salt deposits, the general geology, and the strata penetrated in
   the salt wells; also the occurrence of natural gas.


Kindle (Edward M.) and Breger (C. L.).
1. Paleontology of the Niagara of northern Indiana.

Kingsley (J. S.).
1. The origin of the mammals.

Kinney (Bryce A.).
1. Annual report of the State natural-gas supervisor.
2. Annual report of the State natural-gas supervisor.

Kinzie (Robert A.).
1. Mining at the Alaska Treadwell.
   Describes the occurrence of the ore and the methods of mining.
2. The Treadwell group of mines, Douglas Island, Alaska.
   Includes a brief description of the geology of the district.

Kirby (Edmund B.).
1. Methods of testing and sampling placer deposits.
2. The ore deposits of Rossland, British Columbia.
   Describes the geologic occurrence, relations to surrounding rocks, and character of the gold,
   silver, and copper ore deposits of this locality.

Kirchoffer (William Gray).
1. The sources of water supply in Wisconsin.
   Includes a general account of the geology of Wisconsin.
FOR THE YEARS 1901-1905, INCLUSIVE.

Kirsopp (John, jr.).
   Describes geologic occurrence of coal in Alaska and distribution of coal in Alaska, British
   Columbia, and Washington.

Klein (Carl).
1. Über die am 7. Mai 1902 vom Vulcan Soufrière auf St. Vincent ausgeworfene vul-
   canische Asche.
   Describes the fall of volcanic ash in St. Vincent and its composition.

2. Über das Meteoreisen von Persimmon Creek, bei Hot House, Cherokee Co., Nord-
   Carolina.
   Describes characters of this meteorite.

Klem (Mary J.).
1. A revision of the Paleozoic Paleechinoidea, with a synopsis of all known species.

Knapp (George N.).
   Describes extent and character of the physiographic provinces of New Jersey and their water
   supply, and gives data regarding wells drilled in 1903.

2. The Cliffwood clays and the Matawan.
   Discusses stratigraphic position of the formations occurring at Cliffwood, N. J.

   Describes briefly the general geology, the physiographic provinces, and the underground
   water resources.

Knapp (George N.), Kümmel (Henry B.) and.
1. The stratigraphy of the New Jersey clays.
   See Kümmel (Henry B.) and Knapp (George N.), 1.

Knapp (S. A.).
1. Tonopah [Nevada].
   Describes occurrence of gold and silver at this locality.

Knight (C. W.).
1. Notes on some deposits in the eastern Ontario gold belt.
   Describes the general geology of the district, and in detail the occurrence and character of
   the gold ore deposits and associated rocks of the Belmont and Star of the East gold mines,
   and discusses their origin.

Knight (Nicholas).
1. Some Iowa dolomites.
   Contains chemical analyses of the dolomites.

2. Some recent analyses of Iowa building stones; also of potable waters.

   Am. Geol., vol. 29, p. 189, 1902.


5. The dolomites of eastern Iowa.
   Describes investigations upon the composition of dolomites.
Knight (Nicholas)—Continued.
   Describes composition of examples of dolomite rock from the Niagara of Iowa.
7. Estimation of the silica in the Bedford limestone.
   Am. Geol., vol. 36, pp. 57-60, 1905.
   Describes a chemical examination of the Bedford limestone of Indiana.

Knight (Wilbur Clinton).
1. Description of Bates Hole [Wyoming].
   Describes the physiographic and geologic features of the region.
2. The petroleum fields of Wyoming.
   Eng. and Mg. Jour., vol. 72, pp. 358-359, 628-630, 4 figs., and map, 1901.
   Describes the geology and character and occurrence of the oil in the several oil-bearing districts of the State.
3. The Sweetwater mining district, Fremont County, Wyoming.
   Wyo. Univ., School of Mines, 35 pp., 1 map, 1901.
   Describes occurrence of gold in this district.
   Eng. & Mg. Jour., vol. 73, p. 696, 1902.
   Contains notes on the occurrence of platinum and other rare metals.
5. The petroleum fields of Wyoming, III. The fields of Uinta County.
   Eng. & Mg. Jour., vol. 73, pp. 720-722, 4 figs., 1902.
   Describes the topography, general geology, and occurrence of oil in Uinta County.
6. The Laramie Plains Red Beds and their age.
   Jour. Geol., vol. 10, pp. 412-422, 1902.
   Reviews the literature of the subject, gives a detailed section in Red Mountain, and discusses the age of the Red Beds and their associated strata.
7. Coal fields of southern Uinta County, Wyoming.
   Describes briefly the Cretaceous strata of the region and gives chemical analyses of the coal.
8. Some notes on the genus Baptanodon, with a description of a new species.
   U. S. Geol. Surv., Bull. no. 223, pp. 79-85, 1 pl., 2 figs, 1904.
   Describes character, extent, occurrence, economic development, and geologic relations of the gypsum deposits occurring in the Red Beds in Wyoming.

Knight (Wilbur Clinton) and Slosson (E. E.).
1. Alkali lakes and deposits [Wyoming].
   Describes the character, occurrence, and origin of the deposits of considerable depth.
2. The Dutton, Rattlesnake, Arago, Oil Mountain, and Powder River oil fields [Wyoming].
   Wyo. Univ., School of Mines, Petroleum Ser., Bull. no. 4, 57 pp., 1 fig., 2 maps, 1901.
   Describes the occurrence and character of the oils in the several districts.
3. The Newcastle oil field [Wyoming].
   Describes the topography, geology, and development of oil of this area.
4. The Bonanza, Cottonwood, and Douglas oil fields.
   Wyo. Univ., School of Mines, Petroleum Ser., Bull. no. 6, 30 pp., 1903.
   Describes geographic location and geologic structure of these fields, the character of the oil, and the possibilities of production.

Knight (Wilbur Clinton), Kemp (J. F.) and.
1. Leucite hills of Wyoming.
   See Kemp (J. F.) and Knight (W. C.), I.
FOR THE YEARS 1901-1905, INCLUSIVE.

Knight (William H.).
1. Address at the presentation of the memorial bronze of Edward Waller Claypole, Throop Polytechnic Institute, Passadena, Cal., June 2, 1902. (Not seen.)

Knopf (A.) and Thelen (P.).
1. Sketch of the geology of Mineral King, California.
   Describes the physiography, evidences of glaciation and its effects, the occurrence, character, and relations of igneous and stratified rocks, and their petrography and metamorphism, and discusses the relations of the Mineral King belt to the granite.

Knowlton (Frank Hall).
1. [Report on the Clarno flora, Oregon.]
   Univ. of Cal., Dept. of Geol., Bull., vol. 2, pp. 287-291, 1901.
   Gives list of fossil plants collected.
2. [Report on the flora of the Mascall formation, Oregon.]
   Univ. of Cal., Dept. of Geol., Bull., vol. 2, pp. 308-309, 1901.
   Gives list of fossils collected.
   Briefly describes material.
4. A fossil nut pine from Idaho.
   Torreya, vol. 1, pp. 113-115, 3 figs., 1901.
   Describes Pinus lindgrenii n. sp.
5. Fossil hickory nuts.
6. A fossil flower.
   Plant World, vol. 4, pp. 73-74, 1901.
7. Fossil sequoias in North America.
   Gives lists of species of fossil plants determined.
   Plant World, vol. 5, pp. 33-34, 2 figs., 1902.
   Describes Pinus lindgrenii.
10. Fossil mosses.
    Plant World, vol. 5, pp. 243-244, 1902.
    Gives a summary of what is known regarding these forms.
11. Notes on the fossil fruits and lignites of Brandon, Vermont.
    U. S. Geol. Surv., Bull. no. 204, 164 pp., 17 pls., 1902.
    Gives a brief description of the geologic formations and localities of this area, describes the fossil plants, and discusses critically the age and relations to other floras.
15. Description of a new fossil species of Chara.
    Torreya, vol. 2, pp. 71-72, 1 fig., 1902.
Knowlton (Frank Hall)—Continued.
16. Fossil plants from Kukak Bay [Alaska].
   Harriman Alaska Expedition, vol. 4, pp. 149-162, 12 pls., 1904.
17. Fossil floras of the Yukon.
18. Fossil plants of the Judith River beds.

Knox (Newton Booth).
1. Dredging and valuing dredging-ground in Oroville, California.
   Contains observations on the occurrence of gold in placer deposits.

Koenig (George A.).
1. The crystallization of mohawkite, domeykite, and other similar arsenides.
2. On the new species melanochalcite and keweenawite, with notes on some other
   known species.
   Describes occurrence and chemical characters of the material.

Kofoid (C. A.).
1. The plankton of the Illinois River, 1894-1899, with introductory notes upon the
   hydrography of the Illinois River and its basin. Part I. Quantitative investiga­
   tions and general results.
   Includes a brief account of geologic and hydrographic features of the Illinois River basin.

Kolderup (Carl Fred.).
1. Guldforekomsterne i Alaska og tilgrænsende strøg. [The occurrence of gold in
   Alaska and adjacent regions.]
2. Nordhavets bund og den gamle landbro mellem Island og Grønland. [The bottom
   of the Arctic Ocean and the old bridge between Iceland and Greenland.]
3. De vulkanske udbrud i Vestindien. [The volcanic eruption in the West Indies.]
   Describes eruptions of La Soufriere in St. Vincent and Mont Pelé in Martinique.
4. The rock name anorthosyte.
   Am. Geol., vol. 31, pp. 392-398, 1903.

Kraus (Edward H.).
1. A new exposure of serpentine at Syracuse, N. Y.
   Describes occurrence, character, and relations to other dike exposures.
2. The occurrence of celestite near Syracuse, N. Y., and its relation to the vermicular
   limestones of the Salina epoch.
3. Some interesting mineral occurrences in the Salina epoch.
   Describes occurrence of hematite and celestite.
4. Occurrence and distribution of celestite-bearing rocks.
   Describes the occurrence and character of celestite-bearing rocks, particularly on Put-in-Bay
   Island, Lake Erie.
5. Celestite-bearing rocks.
   Am. Geol., vol. 35, p. 130, 1905.
   A brief note on the occurrence of celestite and the origin of certain limestones and dolomites.
Kraus (Edward H.)—Continued.


Kraus (E. H.) and Reitinger (J.).
   Describes the chemical and crystallographic characters of the material.

Krebs (Wilhelm).
1. Flutschwankungen und die vulkanischen Ereignisse in Mittelamerika.
   Globus, Bd. 84, pp. 72-74, 1903.
   Discusses connection between high tides in the Pacific Ocean and the volcanic activity in Central America in 1902.

Kroustchoff (K. de).
1. Note sur une roche basaltique de la Sierra Verde [Mexico].

Krusch (P.).
   Describes occurrence of copper-ore bodies.

Kümmler (Henry B.).
   Describes the composition of Portland cement, and the character and occurrence of the lower Paleozoic rocks from which the materials are derived. Includes detailed descriptions of localities.

2. The mining industry. [New Jersey.]
   Contains statistics and notes on iron, zinc, and copper.

3. The mining industry [of New Jersey].
   Contains notes on the occurrence of iron, zinc, and copper ores.

4. Administrative report [of the State geologist of New Jersey].
   Reviews the work of the New Jersey Geological Survey during the year ending October 31, 1902.

5. The iron and zinc mines [New Jersey].
   Describes the occurrence of the ores and the mining operations.

6. A summary of the work of the Geological Survey of New Jersey, with a subject index to its reports.
   N. J. Geol. Surv., Summary and Index to Repts., 27 pp., 1903.

7. Administrative report of the State geologist.
   Outlines the work of the New Jersey Geological Survey for the year ended October 31, 1903.

8. Administrative report [of the State geologist of New Jersey].

9. A report upon some molding sands of New Jersey.
   Describes characters, composition, distribution, and geologic relations.

10. Well records [New Jersey].
    Gives records of strata passed through in borings.
Kümmerl (Henry B.) and Knapp (George N.).
1. The stratigraphy of the New Jersey clays.
   N. J. Geol. Surv., vol. 6, pp. 117-209, 10 pls., 1904.
   Describes the occurrence and geologic relations of clays of Pleistocene, Tertiary, Cretaceous, and older systems of New Jersey.

Kümmerl (Henry B.) and Weller (Stuart).
1. Paleozoic limestones of Kittatiny Valley, New Jersey.
   Describes the lithologic and faunal characters of the subdivisions of the Cambrian and Ordovician series and the structure of the region.

   2. The rocks of the Green Pond Mountain region.
   Describes geologic occurrence and history and geographic distribution of the formations of this area, and gives lists of fossils determined.

Kunz (George F.).
1. Des progrès de la production des pierres précieuses aux États-Unis.

   2. Precious stones in the United States in 1901.
   Eng. & Mg. Jour., vol. 73, p. 38, 1902.

   3. Composition of tourmaline.
   Eng. & Mg. Jour., vol. 73, pp. 482-483, 1902.

   4. Gems and precious stones of Mexico.
   Describes occurrence, properties, etc.

   5. Californite (vesuvianite), a new ornamental stone.
   Describes occurrence, characters, and composition.

   6. Native bismuth and bismite from Pala, California.

   7. On a new lilac-colored transparent spodumene.
   Describes occurrence and characters.

   8. Gem minerals of southern California.
   Describes the occurrence and characters of some gem minerals recently discovered.

   9. Clackamas meteoric iron.
   Describes the occurrence and characters of a meteoric mass recently discovered.

10. The exhibit of the U. S. Geological Survey radium collection shown at the St. Louis Exposition.
   Includes brief notes on the Cañon Diablo meteorite.

Lacroix (A.).
1. Les roches volcaniques de la Martinique.

2. Sur les cendres des éruptions de la Montagne Pelée de 1851 et de 1902.
   Describes characters of volcanic ashes ejected from Mont Pelé.

3. Les roches volcaniques de la Martinique.
   Describes characters of volcanic material from Martinique.
Lacroix (A.)—Continued.

   Describes observations upon Mont Pelé and the surrounding country after the eruptions.

5. Sur les roches rejetées par l’éruption actuelle de la Montagne Pelée.
   Discusses the character of rocks ejected by Mont Pelé.

   Discusses the composition of rocks ejected by Mont Pelé.

7. Nouvelles observations sur les éruptions volcaniques de la Martinique.
   Records observations upon the effects of the volcanic eruptions in Martinique.

8. Sur l’état actuel du volcan de la Montagne, Pelée, à la Martinique.
   Gives observations upon conditions prevailing at the summit of Mont Pelé at the time of the writer’s visit.

9. État actuel du volcan de la Martinique.
   Gives observations made during an ascent of Mont Pelé by the writer on November 8, 1902.

10. Quelques observations minéralogiques faites sur les produits de l’incendie de Saint-Pierre (Martinique).
    Describes effects of the configuration at Saint Pierre upon the andesites used in buildings.

11. Nouvelles observations sur les éruptions volcaniques de la Martinique.
    Describes observations upon volcanic phenomena of Mont Pelé during November and December of 1902.

12. Les éruptions des nuages denses de la Montagne Pelée.
    Describes eruptive phenomena of Mount Pelé.

13. L’éruption de la Montagne Pelée en janvier, 1903.
    Describes an eruption of Mount Pelé that took place in January of 1903.

    Describes the volcanic activity of Soufrière in Guadeloupe.

    Describes observations upon the volcano Soufrière in the island of St. Vincent.

    Discusses volcanic phenomena observed on the island of Martinique.

17. La cordiérite dans les produits éruptifs de la Montagne Pelée et de la Soufrière de St Vincent.
    Describes the composition and mode of formation of some eruptive products of Mont Pelé and the Soufrière of St. Vincent.

18. Les enclaves basiques des volcans de la Martinique et de Saint Vincent.
    Discusses the composition of some eruptive products of Mont Pelé (1902) and of the Soufrière of St. Vincent.

    Describes observations upon volcanic phenomena in the island of St. Vincent.
Lacroix (A.)—Continued.

20. La Montagne Pelée et ses éruptions.
Paris, Masson et Cie., 1904. xxii, 662 pp., 30 pls. and 238 figs., 4to.
Gives a full account of the volcanic phenomena connected with the eruptions of La Montagne Pelée in 1902.

Lacroix (A.), Rollet de l'Isle, and Giraud (J.).

1. Sur l'éruption de la Martinique.
Gives a general account of the eruptions of Mont Pelé, with observations upon various volcanic phenomena, topographic changes, and the character of the ejectaments.

Laflamme (J. C. K.).

1. Modifications remarquables causées à l'embouchure de la Rivière Ste-Anne par l'eboulement de St-Alban.
2. Eboulement à Saint-Luc-de-Vincennes, Rivière Champlain, le 21 Septembre, 1895.
3. Geological exploration of Anticosti [Canada].
Describes the author's observations upon the island.

La Forge (Laurence).

1. Water resources of central and southwestern Highlands of New Jersey.
La Forge (Laurence), Crosby (W. O.) and.

1. Notes on the wells, springs, and general water resources of Massachusetts.
See Crosby (W. O.) and La Forge (Laurence), 1.

Laguerenne (Teodoro L.).

1. Estado de Tabasco [Mexico].
Describes topographic and geologic features and mineral deposits of this State.

Laird (George A.).

1. The gold mines of the San Pedro district, Cerro de San Pedro, State of San Luis Potosi, Mexico.
Describes the general geology, the character and occurrence of the ore deposits in the different mines and openings, and the mining methods and production.

Lakes (Arthur).

1. The American Nettie [Colorado].
Describes the geology of the region and the occurrence of ores in cave deposits.
2. Cripple Creek [Colorado].
Describes volcanic rocks and phenomena of the region.
3. The Curtis coal mine [Colorado].
Brief description of occurrence and character of coal near Colorado Springs
4. Cave ore deposits [Colorado].
Describes character and occurrence of ore bodies in the San Juan region.
5. The Cerrillos anthracite mines [New Mexico].
Describes character and occurrence of coal in this region.
6. A new coal field [New Mexico].
Describes the geology of the region and the occurrence of coal.
7. The turquoise mines [New Mexico].

8. Change of ore bodies with change of country rock.
   Discusses some phenomena accompanying ore deposition.

   Contains notes on the general geology of the region.

10. Oil fields of California.
    Describes the general geology of southern California and the occurrence of oil.

    Describes general geology and occurrence of oil in Colorado.

    Describes the general characters and occurrence of various building stones.

    Describes occurrence and character of building stones from sedimentary strata.

    Describes the occurrence of oil in this region.

15. The geology of the oil fields of Colorado.
    Describes the stratigraphy and geologic structure of the oil fields and the occurrences of oil.

    Contains notes on the occurrence of oil.

17. Oil Springs of Rio Blanco County, Colorado.
    Describes the geologic structure and occurrence of oil.

18. Some Idaho mining districts.
    Contains notes on the geology of the State and the character and occurrence of ore bodies.

19. The geological occurrence of oil in Colorado.

20. The Buckhorn mine and the San Luis Park, Colorado. Peculiar formations which contain some ores and present a striking appearance.

21. Oil in Colorado, the geology of the deposits, and the various horizons in which signs of oil have been found.

22. A lesson on faults. Sketch of the Aspen mining region, Colorado, in which the effects of faulting in the past, and still going on, are shown.

23. The coal, graphite, and oil fields of Raton, New Mexico. The location and geologic character. The coal mines.

    Describes the general geology of the region.
25. Geology along the Animas River, with descriptions of coal and metal mines along its course, including a sketch of the Silver Lake mine [Colorado].
   Describes the character and occurrence of the coal and associated strata.

26. Natural gas in Colorado, a description of some of its occurrences and the conditions which point to the probability of its existence.

27. Prospecting for oil in the region of the cliff dwellers of southeastern Colorado.
   Describes the general geology and structure of the region.

   Gives a summary of R. C. Hill's description of the region.


30. Glacial placer beds on the flanks of the Mosquito Range, South Park, Colorado.

31. Prospecting for coal in the western States—points of resemblance and points of difference between the western and eastern coal fields.

32. The prairie region of northeastern Colorado. A description of some interesting geological occurrences near Sterling.
   Describes the Tertiary strata of the region.

33. Faults in metal mines. The different types and their various manifestations, their effects upon ore deposition.

34. Volcanoes. The manner of their eruption, their effect upon the deposition of minerals.

35. South Park, Colorado. A description of its geology and economic resources in gold, silver, lead, coal, and oil.
   Describes the general geology of the region.

   Describes the Cretaceous and Tertiary strata of the region.

37. Great Salt Lake basin. A description of the terraces which show the shores of the ancient lake when it was much larger than now.

38. Sketching the characteristic features of rocks.

39. Aguilar coal and oil district. A description of the geology, the thickness and quality of the coal veins, and the indications of oil.

40. The soils of Colorado in relation to their geological origin and surroundings, and their availability for irrigation.
Lakes (Arthur)—Continued.
41. The La Plata Mountains. Observations on their formations and the influence of the different igneous rocks upon mineralization.

42. Recent earth movements. An account of some movements in the Rocky Mountains as shown by effects on streams and mines.

43. Summit County placers of Colorado; a description of the great hydraulic works now nearing completion near Breckenridge.
Describes the general geology and the occurrence of placer gold.

44. Redcliff ore deposits. Not unlike in some respects to the ore deposits of the Mancos contact and the American Nettie at Ouray [Colorado].
Describes the occurrence of the gold ore deposits.

45. The Bellevue mining district of Idaho; the geological peculiarities of the veins as shown in the Minnie Moore and the Queen of the Hills mines.

46. Secondary enrichment of ore deposits—its causes and effects—the conclusions of various authorities.

47. The Silver Lake mine, near Silverton, San Juan County, Colo. An instance of successful operation of a large mine at high altitude.
Includes notes on the occurrence and geologic relations of the silver-lead ores.

48. The present oil situation in Colorado; a review of the histories of the several regions, and the discoveries which have been made.
Includes an account of the geology of the Boulder oil field.

49. Geology and economics along the line of the new Moffat railway, to be built from Denver to Salt Lake City.
Gives observations on the geology of the region.

Describes briefly the general geology and occurrence of the silver-lead ores.

51. A trip to Chihuahua, old Mexico. A description of the Descubidoro mine, with some impressions of the country, the people, and the mines.
Contains observations on the geology and the occurrence of the silver and gold ores.

52. Zinc deposits: their geology and origin as shown in Wisconsin, Arkansas, Missouri, and Tennessee.

53. Peculiar mines and ore deposits of the Rosita and Silver Cliff mining district of Colorado. Ore deposits in a volcanic throat.

54. Santa Eulalia mines. A trip to the ancient and very rich silver-lead mines in the Santa Eulalia Mountains, near Chihuahua, Mexico.
Describes the general geology and the occurrence of the silver-lead ore deposits.

55. A remarkable occurrence in the depths of a fissure vein.
Describes the occurrence of a carbonized tree in a fissure vein of quartz.
Lakes (Arthur)—Continued.

56. Geologizing by the seaside. Illustrations of geological phenomena related to mining as shown in the sea cliffs and caves at La Jolla, near San Diego, Cal.
   Describes observations upon the geology and geologic phenomena of the region.

57. The sea and mining. Illustrations shown at seacoast of manner of making and destruction of rocks by action of shellfish and erosion.
   Describes erosion and sedimentation processes and the destructive action of boring seashells.

58. Mud volcanoes. Present-day illustrations of mudflows and formations resembling some older ones in which mineral deposits have been found.

59. Bonanzas and pockets of ore. Some of the causes of their deposition and origin as illustrated in various mines.
   Describes the formation of ore deposits.

60. Coal and asphalt deposits along the Moffat railway. Geological conditions shown which promise valuable deposits at workable depths.
   Describes the general geology and the occurrence and character of coal and asphalt deposits.

61. Gypsum deposits in Colorado.
   U. S. Geol. Surv., Bull. no. 223, pp. 86-88, 2 figs., 1904.
   Describes character, occurrence, and economic development of the gypsum deposits of Colorado.

62. The coal fields of Colorado.
   Describes the formation of the coal, the location, character, and geologic age of the coal fields and the character and occurrence of the coals.

63. Field notes concerning ore shoots and the influence of downhill pressure on the outcrop of veins.

64. Grand Encampment copper district of Wyoming. Some notes on the geology, and a description of some of the development work.

65. The Yampa coal fields. A description of the anthracite, bituminous, and lignite field traversed by the Moffatt Road in Routt County, Colorado.
   Describes the occurrence, character, and geologic relations of the coal beds.

66. The Book Cliff coal mines. Coal seams near Grand Junction, Colorado, which exhibit interesting peculiarities in their locations and formations.
   Describes the occurrence, character, geologic relations, and economic development of these coal beds.

67. A trip through Arizona. Interesting desert scenery and the relation it bears to the geology and mining interests of the region.
   Gives observations on the physiography and geology of parts of Arizona.

68. Tonopah mining camp. Some notes on its location, the geological formations of the region, and the mines in operation.

69. Mines and scenery. A typical Nevada mining region situated in the bottom of an ancient dried up lake bed.
   Gives observations upon the physiography and geology of a part of western Nevada,
Lakes (Arthur)—Continued.
70. Schists and slates as ore carriers.
71. Ore in anticlinals, as at Bendigo, Australia, and Tombstone, Arizona.
72. The Lone Mountain district, near Tonopah, Nevada.
   Discusses physiographic and geologic features of the region and the occurrence of silver-ore deposits.
73. Some of the ore deposits of Colorado.
   Describes the character and occurrence of some ore deposits.
74. Ore shoots and veins that do not come to the surface.
   Describes occurrences of ore bodies.
75. Organic remains in ore deposits.
   Mg. Rep., vol. 50, pp. 113-114, 1904.
76. Ore deposition in the cement of rocks.
77. Volcanic craters and ore deposits.
78. Shear zones or zones of impregnation vs. true quartz fissure veins.
   Discusses the character of veins containing ore deposits.
79. The Rocky Mountain coal fields.
   Mg. Rep., vol. 51, pp. 5-7, 2 figs., 1905.
80. The coal fields of Colorado.
   Mg. Rep., vol. 51, pp. 73-74, 3 figs., 1905.
81. The anthracite situation in Colorado.
82. Coal along the eastern foothills.
83. The geology and coal deposits of the Spanish Peaks district.
84. The La Plata or southwestern Colorado coal field.
85. Coals of the southern Colorado or the Walsenburg and Trinidad region.
86. Disturbances and other peculiarities of the northeastern coal field of Colorado between Ralston Creek and Boulder.
87. The Grand River coal field [Colorado].
88. The Yampa coal field of Routt County, Colorado.
89. The South Park coal field [Colorado].
90. Geology of the hot springs of Colorado and speculations as to their origin and heat.
91. Sketch of the economic resources of the foothills of the front range of Colorado.

Bull. 301—06—14
Lakes (Arthur)—Continued.

92. Faults with special reference to coal and metal mining.
Mg. Rep., vol. 52, pp. 6-7, 4 figs., 1905.

93. Fault phenomena. Signs of faulting below ground.

94. Fault phenomena. Practical consideration of faults in mining.

95. Examples of Colorado faults, both old and recent. Some practical suggestions.

96. Peat and its relation to coal.
Mg. Rep., vol. 52, pp. 208-209, 4 figs., 1905.

97. The hot and mineral springs of Routt County and Middle Park, Colorado.

98. Oil-impregnated volcanic dikes in Colorado.

99. The Occidental and other coal mines of Huerfano County, Colorado. A description of the geology and development of the region.

100. Flints and other hard rocks as material for tube mills.
Contains notes on the occurrence and origin of flint nodules.

101. Organic remains in ore deposits.

102. Igneous rocks in ore deposition.

103. Geology of the hot springs of Colorado and speculations as to their origin and heat.

104. Geology of western ore deposits. (New edition entirely rewritten and enlarged, with 300 illustrations.)

Lamb (George F.).
1. Field geology in the Ohio State University.
Contains brief geological notes upon various Paleozoic formations in Ohio.

Lambe (Lawrence M.).
1. Notes on a turtle from the Cretaceous rocks of Alberta [Canada].


3. New genera and species from the Belly River series (Mid-Cretaceous).

4. Red Deer River, Alberta [Canada].
Discusses the author's field work at this locality.

5. On Trionyx foveatus, Leidy, and Trionyx vagans, Cope, from the Cretaceous rocks of Alberta [Canada].
Describes characters and occurrence of these fossil Chelonia.

6. The lower jaw of Dryptosaurus (Cope).
Ottawa Nat., vol. 17, pp. 138-139, 3 pls., 1908.
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Lambe (Lawrence M.)—Continued.

7. Stegoceras and Stereocephalus.
Science, new ser., vol. 18, p. 60, 1903.

8. On Dryptosaurus incrassatus (Cope), from the Edmonton series of the Northwest Territory.

9. The grasping power of the manus of Ornithomimus altus, Lambe.

Ottawa Nat., vol. 18, pp. 81-84, 2 pls., 1904.

11. On the squamoso-parietal crest of the horned dinosaurs Centrosaurus apertus and Monoclonius canadensis from the Cretaceous of Alberta.

12. The progress of vertebrate paleontology in Canada.
Gives a review of work upon vertebrate fossils discovered in Canada, with a list of Canadian species occurring in each of the systems of the geological scale, and a list of papers containing references to these species.

13. Vertebrate paleontology.
Reviews the work upon vertebrate paleontology during 1903 of the Geological Survey of Canada.


15. Vertebrate paleontology.
Reviews of the work on vertebrate paleontology in 1904 of the Geological Survey of Canada.


17. A new species of Hyracodon (H. priscidens) from the Oligocene of the Cypress hills, Assiniboia.

Lambert (Avery E.).
1. Description of Dalmanites lunatus.

2. A trilobite (Dalmanites lunatus) from Littleton, N. H., with notes on other fossils from the same locality.

Landes (Henry).
1. An outline of the geology of Washington.
Discusses the topography and geologic formations found in the State of Washington.

2. The nonmetaliferous resources of Washington, except coal.

3. The coal deposits of Washington.
Discusses the geologic position and distribution of the coals of the State of Washington.


5. The clay deposits of Washington.
Landes (Henry)—Continued.
6. Field notes on Mt. Rainier [Washington].
   Gives notes on the general geology and the geologic structure of Mt. Rainier.

Landes (Henry) and Ruddy (C. A.).
   Describes character, geographic distribution, and geologic relations of the coal beds of Wash-
   ington, the occurrence, thickness, and value of the coal seams, and constitution and fuel
   value of the coals.

Landes (Henry), Thyng (William S.), Lyon (D. A.) and Roberts (Milnor).
1. The metalliferous resources of Washington, except iron.

Lane (Alfred C.).
1. Michigan limestones and their uses.
   Describes the occurrence, character, and uses of the limestones derived from the several ge-
   ologic horizons in Michigan.
2. The pre-Glacial surface deposits of Lower Michigan.
   Describes briefly the drainage systems and the character of the bed-rock material.
3. Annual report of the State geologist [Michigan].
   Summarizes the geological work done in Michigan.
4. Suggestion from the State geologist.
   Proposes to substitute the term Sagina\ for Jackson as applied to coal beds in Michigan, and
   Antrim for St. Clair as applied to Upper Devonian shales of Thunder Bay and Grand Traverse
   Bay regions.
5. The economic geology of Michigan in its relation to the business world.

6. Asphalt in Delta County, Michigan.
   Eng. & Mg. Jour., vol. 73, p. 50, 1902.
   Gives a section of the Ordovician strata, and describes the character of the asphalt material.

7. Subsurface geology [Alcona County, Michigan].
   Describes the character of the Carboniferous and Devonian rocks as exhibited by the well
   records and the possible occurrence of oil and gas.

8. Economic geology [of Michigan].

9. Limestones [of Michigan].
   Describes the character, composition, and occurrence of limestones in Michigan.

10. Deep wells and prospects for oil and gas [Michigan].
    Gives notes on well records in various parts of the State.


12. Salt [Michigan].
    Contains brief notes on well records and analyses of the brines.

    Contains notes on surface and underground temperatures.
Lane (Alfred C.)—Continued.

   Describes the geologic occurrence, composition, and mining of coal in the Lower Peninsula of Michigan.

15. The northern interior coal field.
   Describes extent, geologic relations and structure of the field, the character and occurrence of the coal beds, the properties, composition, and development of the coal.


17. Queneau on size of grain in igneous rocks.


19. Report on certain lands leased for oil and gas near Cannel City, Morgan County, Kentucky.
   Lansing, 12 pp., 1902. (Private publication.)
   Gives an account of the geologic structure of the region.


   Includes notes on the occurrence of marls and clays and analyses of materials used in the manufacture of cements.

22. Studies of the grain of igneous intrusives.
   Discusses the grain of augite in a group of chemically similar diabases.

23. Porphyritic appearance of rocks.
   Discusses the origin of variation in texture of igneous rocks as the margin is approached.

   Mich. Miner, vol. 5, no. 2, pp. 16-26, 1903; reprinted as separate, 26 pp., 1903.
   Discusses the occurrence and utilization of various economic products found in Michigan.

25. Geological changes now going on.
   Discusses erosion on lake shores and changes in elevation.


27. Variation of geothermal gradient in Michigan.
   Presents data regarding underground variations of temperature.

28. The theory of copper deposition.
   Discusses the theory of copper deposition with especial reference to the copper-ore deposits of the Lake Superior region.

29. The science of raw materials.
   Discusses scope and utility of economic geology.

   Mich. Miner, vol. 6, no. 5, pp. 9-12, no. 6, pp. 9-11, 1904.
   Gives notes on the occurrence, character, and use of materials for Portland cement and cement-brick manufacture, and road making.
Lane (Alfred C.)—Continued.

   Mich. Miner, vol. 6, no. 8, pp. 9-12, no. 9, pp. 9-13, 1904. Includes record of borings and discussion of the strata passed through.

32. The rôle of possible eutectics in rock magmas.
   Jour. Geol., vol. 12, pp. 83-93, 1 fig., 1904. Discusses the quantitative classification of igneous rocks.

33. Magnetic phenomena around deep borings.

34. Our underground wealth. Michigan clays, shales, and paving materials.

35. Gold near Lake Superior.


37. The coarseness of igneous rocks and its meaning.
   Am. Geol., vol. 35, pp. 65-72, 1 pl., 1905. Discusses variation in size of grain of igneous rocks and its causes, and points out applications which may be made of the facts stated.

   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 114, pp. 242-247, 2 figs., 1905. Describes briefly the general geology, the underground water supplies, and the geologic horizons from which they are obtained.

39. Fifth annual report of the State geologist [Michigan].

40. Waters of the Upper Peninsula of Michigan.

41. Limestones [of Michigan].

42. Transmission of heat into the earth.

43. Grain of rock.

44. The theory of copper deposition.

45. The Tamarrack Mine cross section and the Keweenawan lodes.

46. Deep borings for oil and gas [in Michigan].

47. Comment on the "Report of the special committee on the Lake Superior region."

48. Sixth annual report of the State geologist [of Michigan], for 1904.
Langley (S. P.).
1. Powell as a man.
2. The greatest flying creature.
   Discusses flight in the Ornithostoma, introducing a paper by F. A. Lucas with the same title.

Langworthy (A. E.).
   Gives record of boring, discusses strata penetrated, and includes analyses of coal.

Lasswitz (Rudolf).
1. Die Kreide-Ammoniten von Texas. (Collectio F. Roemer.)
   Geol. und Pal. Abh. (Koken), N. F., Bd. 6, Heft 4, 40 pp., 8 pls., 1901.
   Gives systematic descriptions of Cretaceous ammonites from Texas, a graphic section of strata at Austin, and correlation tables of Cretaceous formations.

Launay (L. de).
1. [Discussion of "The origin of ore-deposits."]

Lawson (Andrew C.).
1. A feldspar-corundum rock from Plumas County, California.
   Gives chemical analysis of the feldspar.
2. The drainage features of California.
   Discusses the causes which have determined the drainage features of the Coast, Klamath, and Sierra Nevada ranges.
3. Joseph Le Conte.
   Gives a sketch of his life and work.
   Discusses the application of the terms Archaean and Algonkian, the correlation of their formations and defines the term Eparchsean interval.
5. Third annual meeting of the Cordilleran section of the Geological Society of America [Proceedings and abstracts of papers].
6. A geological section of the middle Coast ranges of California.
   Gives a table showing succession and character of geologic formations in the Coast ranges in the vicinity of the Bay of San Francisco.
7. On an orbicular gabbro from San Diego County, California.
   Discusses occurrence of corundiferous rocks, and describes the occurrence and characters of this corundum rock discovered on Spanish Peak in Plumas County, California.
9. Geological section of the middle Coast ranges of California.
   In a table gives the names of the formations and their lithologic characters and thickness.
10. The geomorphogeny of the upper Kern basin.
    Discusses the occurrence and general petrographic characters of the rocks and the glaciation and physiographic features of the region, and discusses the origin of the latter.
Lawson (Andrew C.)—Continued.
11. The orbicular gabbro at Dehesa, San Diego Co., California.
   Describes the general geology of the region, the occurrence of the orbicular gabbro and its
   petrographic characters and composition.
12. The relation of geology to the mining industry.
Lawson (Andrew C.) and Palache (Charles).
1. The Berkeley Hills [California]. A detail of Coast Range geology.
   Univ. Cal., Dept Geol., Bull., vol. 2, pp. 349-450, 8 pls., map, 1902.
   Describes the character, occurrence, and relations of the formations of the region, erosion
   intervals, faults, and the microscopic characters of the volcanic rocks.
Lawson (Publius V.).
1. Preliminary notice of the forest beds of the lower Fox [River, Wisconsin].
Lay (H. C.).
1. Recent geological phenomena in the "Telluride quadrangle" of the U. S. Geological
   Survey in Colorado.
   Presents the author’s observations on the glacial phenomena, earth movements, and under-
   ground waters of the region.
Lazo (Augustin M.) and Ordóñez (Ezequiel).
1. Las canteras de San Lorenzo Totolingo y Echagaray [México].
   Describes the character, occurrence, and geologic relations of building stone.
Leach (J. C.).
2. Annual report of the State natural gas supervisor.
Leach (W. W.).
1. Crows Nest coal fields.
   Describes the occurrence of coal seams of Cretaceous age in this area.
2. The Blairmore-Frank coal fields.
   Describes the geologic structure of the area.
Le Conte (Joseph).
1. The origin of transverse mountain valleys and some glacial phenomena in those
   of the Sierra Nevada.
   Describes the geologic history of the Sierra Nevada, the origin of certain mountain valleys,
   and the glacial phenomena in these valleys.
2. A century of geology.
4. Elements of geology: a text-book for colleges and for the general reader. Revised
   and partly rewritten by Herman Le Roy Fairchild. Fifth edition.
   New York, D. Appleton and Company, 1903. xii, 667 pp., 1002 figs.
Le Couppey de la Forest (Max).
1. Quelques grottes des Etats-unis d’Amerique.
   Spelunca, t. 35, no. 35, pp. 3 (117)-21 (135), 2 figs., 1904.
   Describes Mammoth and Colossal caves in Kentucky, Wyandotte Cave in Indiana, and Wind
   Cave and Grand Caverns in Colorado. Includes some account of the Carboniferous forma-
   tions in which the caves occur.
Ledoux (A. R.).
1. Notes on the Oregon nickel prospects.
   Describes the geological relations of the ore bodies and gives a chemical analysis of the ore.

2. The production of copper in the Boundary district, B. C.
   Describes the character and occurrence of the ores.

Lee (Harry A.).
   Denver, 1903. 310 pp., map.
   -Gives a history of precious metal mining by counties in Colorado, with notes upon the geologic occurrence, production, etc., of precious metals and other minerals.

Lee (Leslie A.).
1. The mineral resources of Maine.

Lee (Willis Thomas).
1. The Morrison formation of southwestern Colorado.
   Jour. Geol., vol. 9, pp. 343-362, 4 figs., 1901.
   Describes the character and occurrence of the Jurassic and Cretaceous strata of the region, and discusses the stratigraphic and paleontologic evidences of the age of the Morrison formation.

2. The areal geology of the Castle Rock region, Colorado.
   Am. Geol., vol. 29, pp. 96-110, 1 pl., 1902.
   Describes the occurrence and character of the sedimentary and igneous rocks and the geologic structure of the region.

3. The Morrison shales of southern Colorado and northern New Mexico.
   Jour. Geol., vol. 10, pp. 36-58, 7 figs., 1902.
   Describes the general structure of the region, gives detailed sections and discusses the age and equivalency of the shales.

   Includes sections of the strata cut by some of the canyons described.

   Jour. Geol., vol. 10, pp. 393-396, 1902.
   Gives a detailed section in the Sangre de Cristo Range and a list of the fossils collected.

6. The canyons of northeastern New Mexico.
   Jour. Geol., vol. 2, pp. 63-82, 14 figs., 1903.
   Includes sections of the strata cut by some of the canyons described and gives a general account of the formations exposed.

7. Age of the Atlantosaurus beds.

8. The underground waters of Gila Valley, Arizona.
   Includes sections of wells showing thickness and character of strata passed through.

   Includes an account of the geology and physiography of the region.

10. Note on the glacier of Mount Lyell, California.

Leffingwell (E. D. K.), Capps (S. R.) and.
1. Pleistocene geology of the Sawatch Range, near Leadville, Colo.
   See Capps (S. R.) and Leffingwell (E. D. K.), 1.
Leffmann (Henry).
1. The microscopic structure of building stones.

Leith (Charles Kenneth).
   Jour. Geol., vol. 9, pp. 79-87 and 441-458, 1901.
2. Geology of the Mesabi Iron region.
   Abstract of paper read before the Geological Society of Washington. Discusses the stratigraphic geology and the origin of the ores.
3. Pre-Cambrian summaries for 1901.
   Jour. Geol., vol. 10, pp. 891-913, 1902.
4. The Mesabi iron-bearing district of Minnesota.
   Describes geography and topography, gives a brief history of the opening and development of the district, and reviews the literature bearing on the geology of the region. Describes the lithologic character, occurrence, structure, and geologic relations of Archean, Huronian, Keweenawan, Cretaceous, and Quaternary deposits and discusses the geologic history of the region, the correlation of the formations, the distribution, character, and geologic occurrence of the iron ores, their petrographic relations to adjacent rocks and origin, and the development of the mining industry of the district.
5. Geologic work in the Lake Superior iron district during 1902.
   (Gives observations on the character and occurrence of the iron ores.
   Describes geologic features of the range and discusses the origin of the ore.
7. Summaries of pre-Cambrian literature for 1902-1903.
   Jour. Geol., vol. 12, pp. 52-62, 1903.
8. A comparison of the origin and development of the iron ores of the Mesabi and Gogebic iron ranges.
10. The Lake Superior iron region during 1903.
    Describes the geologic occurrence of the iron-ore deposits in the different districts of the Lake Superior iron region.
11. Iron ores in southern Utah.
    Describes distribution, geologic relations, and character of the iron ores and discusses their origin.
12. Lake Superior iron region in 1903.
    Mg. World, vol. 21, pp. 198-200, 3 figs., 1904.
    Includes observations on the general geology and the occurrence and character of the iron-ore deposits.
    Describes the geology of the Lake Superior iron-bearing and copper-bearing series and the occurrence, relations, and origin of the iron ores.
15. Genesis of Lake Superior iron ores.
    Econ. Geol., vol. 1, pp. 47-66, 1905.
Leith (C. K.), Van Hise (C. R.) and.
1. The Mesabi district.
   See Van Hise (C. R.), 2.

Leonard (Arthur Gray).
1. The basic rocks of northwestern Maryland and their relation to the granite.
   Am. Geol., vol. 28, pp. 135-176, 5 pls., 1901.
   Describes the geologic occurrence and relations and discusses the origin of the various facies.

2. Report of assistant State geologist [Iowa].
   Gives record of a boring at Clarinda, Iowa.

3. Geology of Wapello County [Iowa].
   Describes physiographic features, geologic structure, and occurrence and utilization of economic products.

4. Topographic features and geological formations of North Dakota.

Lerch (Otto).
1. A preliminary report upon the hills of Louisiana, north of the Vicksburg, Shreveport and Pacific Railroad.
   La. State Experiment Stations; Geol. & Agric., pt. 1, pp. 1-52, 6 figs., 2 pls. [1892].
   Describes topography, drainage, and geology of the area and discusses its economic resources.

2. A preliminary report upon the hills of Louisiana, south of the Vicksburg, Shreveport and Pacific Railroad, to Alexandria, Louisiana.
   La. State Experiment Stations; Geol. & Agric., pt. 2, pp. 53-158, 26 figs., 2 pls. (sections) [1893].
   Describes topography, drainage, and geology of the area and discusses its economic resources.

LeRoy (Osmond Edgar).
1. Geology of Rigan Mountain, Canada.
   Describes the topographic and general geologic features of the region and the microscopic characters of the igneous rocks.

LeRoy (Osmond E.), Adams (F. D.) and.
1. The artesian and other deep wells on the Island of Montreal.
   See Adams (F. D.) and LeRoy (O. E.), 1.

Letson (Elizabeth J.).
1. Post-Pliocene fossils of the Niagara River gravels.

Leverett (Frank).
   Ill. Bd. of World's Fair Commissioners, Rept., pp. 77-92, 1 pl., 1895.

2. Old channels of the Mississippi in southeastern Iowa.
   Describes the extent and history of the glaciation, the old drainage of the upper Mississippi, and the changes produced by the glaciation.

   Describes the physiography, glacial deposits and lake history, and the occurrence of marl, clay, and water powers.

4. Glacial formations and drainage features of the Erie and Ohio basins.
   Describes physical features, present and former drainage, character, and occurrence of drift deposits and the glacial history of the region.

Leverett (Frank)—Continued.


7. The loess and its distribution.
   Am. Geol., vol. 33, pp. 56-57, 1904.

   Discusses the physical features of the southern peninsula, the possible extension of the
   Keewatin ice field over Michigan, evidences in Michigan of successive advances of the Lab­
   rador ice field, the location of the ice margin, structure of the drift in Michigan, Glacial
   lakes, and origin of the Great Lakes, and gives a bibliography.


10. Glacial gravels [of the Kittanning quadrangle, Pennsylvania].

    Gives a brief account of the geology, and describes the water-producing qualities of the
    various geologic formations of the State, and localities favorable for artesian wells.

    Describes briefly the geologic column of Indiana, the principal water-bearing horizons, and
    the mineral waters.

    Describes the underground water supplies with reference to the geologic horizons.


Levison (W. G.).
1. Notes on fluorescent gems.
   Am. Geol., vol. 33, pp. 57-58, 1904.

Lewis (J. V.), Pratt (J. H.) and Liddell (Charles A.), Parsons (H. F.) and.
   See Pratt (J. H.) and Lewis (J. V.), 1.

L'Hame (Wm. E.).
1. Thunder Mountain, Idaho.
   Describes briefly occurrence of gold in the region.

2. Thunder Mountain district [Idaho]. A description of the peculiarities of geology
   and situation of the various regions comprised in the district.
   Describes the general geology and the occurrence of gold ore deposits.

Lindgren (Waldemar).
1. Metasomatic processes in fissure veins.
   ser., vol. 11, pp. 253-244, 1901.
   Discusses the general features of the changes in rocks contiguous to ore-bearing fissures, and
   the minerals developed by metasomatic processes in fissure veins. Gives an account of
   fissure veins in various mining regions classified according to metasomatic processes.

2. Trias in northeastern Oregon.
   Describes briefly character and distribution.
Lindgren (Waldemar)—Continued.

3. Rare minerals in gold quartz veins of eastern Oregon.
   Gives a chemical analysis of roscoelite and notes on other minerals.

4. The gold belt of the Blue Mountains of Oregon.
   Describes topography and drainage, general geologic features, the character and occurrence
   of Archean, Paleozoic, Triassic, Neocene, and Quaternary strata and intrusive rocks, the
   character, occurrence, and general geologic relations of the ore deposits and minerals, the
   quartz and placer mining, and production of precious metals in this area.

5. The character and genesis of certain contact deposits.
   Describes the character, origin, and geographic distribution of some ore deposits, discusses
   contact metamorphism and its cause, and gives a genetic classification.

6. The gold production of North America, its geological derivation and probable
   future.

7. Tests for gold and silver in shales from western Kansas.
   Describes the author’s observations in this region.

8. Tests for gold and silver in shales from western Kansas.
   Gives a brief description of the topography and geology, and describes tests made to deter­
   mine presence of gold and silver in certain shales in western Kansas.

9. A deposit of titanic iron ore from Wyoming.

10. Neocene rivers of the Sierra Nevada.
    U. S. Geol. Surv., Bull. no. 213, pp. 64-65, 1903.
    Gives a brief outline of work upon the Neocene gravels of the Sierra Nevada.

    U. S. Geol. Surv., Bull. no. 213, pp. 60-70, 1903.
    Describes briefly the geography and general geology of the region, and the character and dis­
    tribution of the ore deposits.

12. Copper deposits at Clifton, Ariz.
    Describes topographic features and geologic structure, the character and occurrence of copper
    ore deposits, and occurrences of gold-bearing gravels.

13. The water resources of Molokai, Hawaiian Islands.
    Includes observations on the geology of the island.

14. The gold production of North America, its geological derivation and probable
    future.
    Discusses the occurrence and production of gold.

15. The copper deposits of Clifton, Arizona.
    Describes the geological structure and the character and occurrence of the deposits of copper
    ore.

16. The geological features of the gold production of North America.
    Discusses the occurrence and geologic relations of gold-bearing veins and deposits, and pro­
    duction of gold in general and in the several gold-producing States, Alaska, Canada, and
    Mexico.

17. [Classification of ore deposits.]

Lindgren (Waldemar)—Continued.


20. Gypsum deposits in Oregon.
   Describes character, occurrence, economic development, and geologic relations of gypsum deposits in eastern Oregon.

   Describes topography and drainage, character, occurrence, and geologic relations of igneous and sedimentary rocks of Quaternary, Tertiary, and pre-Tertiary age, the geologic structure and history of the area, the character and occurrence of gold, silver, copper, and lead ore deposits, and the mining developments.

22. The genesis of the copper deposits of Clifton-Morenci, Arizona.
   Describes the general geology, and the character and occurrence of copper-ore deposits, and discusses their origin.

23. Chemistry of copper deposits.
   Eng. & Mg. Jour., vol. 73, p. 189, 1905.

24. The occurrence of stibnite at Steamboat Springs, Nevada.

25. The production of gold in the United States in 1904.


27. Ore deposition and deep mining.
   Econ. Geol., vol. 1, pp. 34-46, 1905.
   Discusses the occurrence of various kinds of ore deposits, and the relations of depth to the richness of the deposits.

28. Clifton folio, Arizona.
   Describes the geography and topography, the geologic structure and history of the area, the occurrence, character, and relations of pre-Cambrian, Cambrian, Ordovician, Devonian, Carboniferous, Cretaceous, and Quaternary formations and intrusive rocks, and the mineral resources, chiefly copper.

29. The copper deposits of the Clifton-Morenci district, Arizona.
   Gives a full account of the geology, petrology, character, occurrence, relations, and origin of the copper-ore deposits of this district.

30. The great fault of the Bitterroot Mountains.

31. The subterranean gases of Cripple Creek [Colorado].

Lindgren (Waldemar) and Drake (N. F.).

1. Nampa folio, Idaho-Oregon.
   Describes the geography, the geologic history, the occurrence and character of Tertiary strata and igneous rocks and Quaternary deposits, and the economic resources, chiefly placer gold.

2. Silver City folio, Idaho.
   Describes geography, topography, and drainage, the general geologic history and structure, the character and occurrence of igneous rocks and sedimentary deposits of Tertiary and Quaternary age, and the economic resources, chiefly precious metals.
Lindgren (Waldemar) and Hillebrand (W. F.).
   Describes the occurrence, optical and other characters, and chemical composition of some minerals from copper deposits in Arizona.

Lindgren (Waldemar) and Ransome (Frederick Leslie).
   U. S. Geol. Surv., Bull. no. 254, 36 pp., 1904.
   Describes the general geology and the occurrence and character of the gold-ore deposits.

Lines (E. F.).
1. Well records.
   U. S. Geol. Surv., Bull. no. 264, pp. 41-103, 1905.
   Gives a summary of well drilling reported in 1904.

Lloyd (John Uri).
1. When did the American mammoth and mastodon become extinct?

Lobel (Loicq de).
1. Relation du voyage au Klondyke.

Lobley (J. Logan).
1. Volcanic action and the West Indian eruptions of 1902.
   Describes volcanic phenomena in general and more particularly those of the West Indian eruptions of 1902, and discusses geologic and geographic conditions, and the causes and results of volcanic action.

Logan (W. N.).
1. Economic products of St. Lawrence County [New York].
   Describes the occurrence and production of economic products of this area.

2. Geology of Oktibbeha County [Mississippi].
   Describes drainage, topography, and physiography, the character, occurrence, and relations of the Cretaceous, Tertiary, and Quaternary formations, and the economic resources of the county.

Logan (W. N.) and Perkins (W. R.).
1. The underground waters of Mississippi; a preliminary report.

Loomis (Frederic B.).
1. Die Anatomic und die Verwandtschaft der Ganoid- und Knochen-fische aus der Kreide-formation von Kansas, U. S. A.
   Discusses anatomy and relationships of the ganoid and teleost fishes from the Cretaceous strata of Kansas and gives systematic descriptions of a considerable number of forms.

2. On Jurassic stratigraphy in southeastern Wyoming.
   Describes the geologic structure of the region and the character of the Jurassic and Cretaceous sediment of the region.
Loomis (Frederic B.)—Continued.

3. On Jurassic stratigraphy on the west side of the Black Hills—second paper on American Jurassic stratigraphy.
   Describes the general characters of the Jurassic strata and gives detailed sections.

4. The dwarf fauna of the pyrite layer at the horizon of the Tully limestone in western New York.
   N. Y. State Mus., Bull. 69, pp. 892-920, 5 pls., 1903.
   Describes character and occurrence of the fauna, discusses the causes of its dwarfing, and
gives descriptions and figures of the species determined.

5. Two new river reptiles from the Titanotherium beds.


Loomis (F. B.), Emerson (B. K.) and.

1. On Stegomus longipes, a new reptile from the Triassic sandstones of the Connecticut Valley.
   See Emerson (B. K.) and Loomis (F. B.), 1.

Louderback (George Davis).

1. General geological features of Nevada and their relationships to the prevailing economic deposits.

2. Some gypsum deposits of northwestern Nevada.
   Describes occurrence and character.

3. A structural section of a Basin range.
   Abstract: Jour. Geol., vol. 11, pp. 102-103, 1903.
   Describes the geologic structure and stratigraphic features of Humboldt Lake Range.

4. Basin range structure of the Humboldt region [Nevada].
   Describes the character, occurrence, and general relations of sedimentary and igneous rocks
of the Basin ranges of western Nevada, particularly those of the Humboldt Lake mountains,
and their geologic structure, discusses the mode of their formation and the evidences
thereof, and gives an outline of the geologic history of the region.

5. Gypsum deposits in Nevada.
   U. S. Geol. Surv., Bull. no. 223, pp. 112-118, 1 pl., 1 fig., 1904.
   Describes character, occurrence, economic development, and geologic relations of gypsum
deposits in northwestern Nevada.

6. The Mesozoic of southwestern Oregon.
   Jour. Geol., vol. 13, pp. 514-555, 1 fig., 1905.
   Describes the character, occurrence, and relations of sedimentary rocks of Cretaceous age and
of igneous and sedimentary rocks, the areal distribution of the formations, and their corre-
lation with the standard California type formations.

Loughlin (Gerald Francis).

1. The clays and clay industries of Connecticut.
   Describes the geographic distribution, origin, geological history, composition, and character
of Connecticut clays, and the clay-working industries of the State.

Loughlin (G. F.), Crosby (W. O.) and.

1. A descriptive catalogue of the building stones of Boston and vicinity.
   See Crosby (W. O.) and Loughlin (G. F.), 1.
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Lovewell (J. T.).
1. Gold in Kansas shales.
   Describes the stratigraphy and discusses the evidence for the presence of gold in these shales.

2. Gold in Kansas.
   Describes experiments to determine amount of gold in Kansas shales.

Low (A. P.).
1. Report on an exploration of part of the south shore of Hudson Strait and of Niagara Bay [Canada].
   Describes the physiography and crystalline rocks of the region.

2. Report on an exploration of the east coast of Hudson Bay from Cape Wolstenholme to the south end of James Bay.
   Gives observations on the general geology, the occurrence and character of igneous, Archean, and Cambrian rocks, and economic resources of the area explored. Includes a list of glacial stria.

3. Report on the geology and physical character of the Nastapoka Islands, Hudson Bay.
   Describes the general geology of the Nastapoka Islands, and gives detailed descriptions of the physical features and the geologic formation of each of the larger islands of the group.

4. The government expedition to Hudson Bay and northward by the S. S. Neptune, 1903-04.
   Contains observations on the geology of the region visited.

5. The field work of a physiography class on a glacial problem.

Lowry (J. D.).
1. Mining in Lower California.
   Contains notes on the occurrence of gold, silver, and copper ores.

Lucas (Anthony F.).
1. The great oil well near Beaumont, Texas.
   Describes method used in obtaining control of the well, the character of the oil, and gives section passed through in boring.

Lucas (Frederic A.).
1. A new rhinoceros, Trigonias osborni, from the Miocene of South Dakota.


3. The pelvic girdle of Zeuglodon, Basilosaurus cetoides (Owen), with notes on other portions of the skeleton.
   Includes section of the Zeuglodon beds.


5. A flightless auk, Mancalla californiensis, from the Miocene of California.
   Bull. 301—06——15
Lucas (Frederic A.)—Continued.

6. Vertebrates from the Trias of Arizona.
   Describes briefly material recently collected.

7. Animals of the past.

8. The restoration of extinct animals.
   Smithsonian Inst., Ann. Rept. for 1900, pp. 479-492, 8 pls., 2 figs., 1901.

9. The dinosaurs or terrible lizards.
   Reprinted from "Animals of the past."

10. The greatest flying creature, the pterodactyl Ornithostoma.

11. Paleontological notes—the generic name Omosaurus—a new generic name for
    Stegosaurus marshi.
    Proposes the name Dacentrurus for Omosaurus Owen, preoccupied, and Hoplitosaurus for the
    author's previously described Stegosaurus marshi.

    Gives notes on the occurrence, characters, and synonymy of these fossils.

13. Constructing an extinct monster from fossil remains [Triceratops].


15. Notes on the osteology and relationship of the fossil birds of the genera Hesper-
    ornis, Hargeria, Baptnornis, and Diatryma.


17. A new plesiosaur.

18. The greatest flying creature, the great pterodactyl Ornithostoma.
    Discusses flight in birds and in the Ornithostoma as indicated by its anatomy.

19. A new batrachian and a new reptile from the Trias of Arizona.


21. The dinosaur Trachodon annectens.
    Describes occurrence and characters of fossil remains, and restorations.

22. Eocene whales.
    Note on the occurrence in Eocene deposits of southern United States of fossil remains which
    may throw light upon the ancestry of the whale.

Ludlow (Edwin).

1. The coal fields of Las Esperanzas, Coahuila, Mexico.
    Describes the geology of the area, and character and production of the coal (Cretaceous).

Lull (Richard Swan).

Skull of Triceratops serratus.
Lull (Richard Swan)—Continued.

2. Fossil footprints of the Juratraias of North America.
   Reviews previous work upon fossil footprints, describes their geologic occurrence, gives a
classification and systematic descriptions of genera, species, and higher groups.

3. Note on the probable footprints of Stegomaus longipes.

   Pop. Sci. Mo., vol. 66, pp. 139-149, 8 figs., 1904.
   Gives a general account of the footprints in the Triassic rocks of the Connecticut Valley and
of the animals by which they were made.

5. Megacerops tyleri, a new species of titanothere from the Bad Lands of South
   Dakota.
   Jour. Geol., vol. 13, pp. 443-456, 2 pis., 2 figs., 1905.

6. Restoration of the Titanothere Megacerops.

7. Restoration of the horned dinosaur Diceratops.

8. Footprint interpretation.

Lunt (Horace F.).

1. The copper deposits of the Kaibab Plateau, Arizona.
   Describes the occurrence and character of copper deposits in this region.

Luquer (Lea McIlvaine).

1. On the determination of relative refractive indices of minerals in rock sections by
   the Becke method.
   School of Mines Quart., vol. 33, pp. 127-133, 1902.

2. Bedford cyrtolite.
   Am. Geol., vol. 33, pp. 17-19, 1904.
   Describes occurrence of this mineral at Bedford, New York, and its characters. Appends a
list of additional minerals collected from this locality.

3. Ramosite not a mineral.
   Shows from analysis and structure that ramosite is a basic scoria and not a mineral.

4. Minerals in rock sections. The practical methods of identifying minerals in rock
   sections with the microscope. (Revised edition.)

Luquer (Lea McI.), Moses (Alfred J.) and.

1. Notes on recent mineralogical literature.
   See Moses (A. J.) and Luquer (L. McI.), 1.

2. Notes on recent mineralogical literature.
   See Moses (Alfred J.) and Luquer (L. I.), 2.

3. Notes on recent mineralogical literature.
   See Moses (Alfred J.) and Luquer (Lea McI.), 3.

Luther (D. Dana).

1. Stratigraphic value of the Portage sandstones.
   N. Y. State Mus., Bull. no. 52, pp. 616-631, 1 fig., 1902.
   Describes the characters of these beds at various localities and discusses the relations in
different sections. Includes a note by J. M. Clarke on the occurrence and relations of the
faunas.

2. Stratigraphy of Portage formation between the Genesee Valley and Lake Erie.
   N. Y. State Mus., Bull. 69, pp. 1000-1029, 13 figs., 1903.
   Describes character, occurrence, and geologic relations of Devonian strata in the Genesee
Valley and other localities in western New York.
Luther (D. Dana), Clarke (John M.) and.
1. Stratigraphic and paleontologic map of Canandaigua and Naples quadrangles.
   See Clarke (John M.) and Luther (D. Dana), 1.

2. Geology of the Watkins and Elmira quadrangles [New York], accompanied by a
geologic map.
   See Clarke (J. M.) and Luther (D. D.), 2.

3. Geologic map of the Tully quadrangle [New York].
   See Clarke (J. M.) and Luther (D. D.), 3.

Luther (D. D.), Clarke (J. M.), Ruedemann (R.) and.
1. Contact lines of upper Siluric formations on the Brockport and Medina quadrangles [New York].
   See Clarke (J. M.), Ruedemann (R.), and Luther (D. D.), 1.

Lyman (Benjamin Smith).
1. Accounting for the depth of the Wyoming buried valley [Pennsylvania].
   Discusses explanations offered to account for the depth of the buried valley and advances a
   new hypothesis.

2. Lodel Creek and Skippack Creek.
   Describes the occurrence of ripple marks, footprints, etc., in shales of the New Red in south-
eastern Pennsylvania.

3. The original southern limit of the Pennsylvania anthracite beds.
   Discusses topographic and other evidences that show that the anthracite region of Pennsyl-
vania could never have extended far south of its present limits.

4. Biographical notice of J. Peter Lesley.
   Am. Inst. Mg. Engrs., Trans. (New York meeting, October, 1903), 55 pp., por. [Advance
   separate.]

5. Biographical notice of J. Peter Lesley.

Lyman (K.), Park (E. J.) and.
1. The Springfield water supply. Description of springs and geology of the district.
   See Park (E. J.) and Lyman (K.), 1.

2. The Hannibal formation in Green County [Missouri].
   See Park (E. J.) and Lyman (K.), 2.

Lyon (D. A.).
   Describes the character and occurrence of the serpentine.

Lyon (D. A.), Roberts (Milnor), Landes (Henry), and Thyng (William S.).
1. The metalliferous resources of Washington, except iron.
   See Landes (H.), Thyng (W. S.), Lyon (D. A.), and Roberts (M.).

Mabery (Charles F.).
1. Composition of Texas petroleum.

2. The composition of petroleum. On the hydro-carbons in Pennsylvania petroleum
   with boiling points above 216°.

3. A résumé of the composition and occurrence of petroleum.
   Discusses composition, occurrence in Ohio, Canada, California, and Texas, and the natural
   formation of petroleum.
Mabery (Charles F.) and Hudson (Edward J.).
1. On the composition of California petroleum.
   Gives results of chemical analyses of petroleum oil from various parts of California.

Macallum (A. B.).
1. The paleochemistry of the ocean in relation to animal and vegetable protoplasm.
   Discusses the relative abundance of certain chemical elements in sea water at present and in remote geological ages, and the origin of the physiological relation of the chemical elements in blood plasma.

McBeth (W. A.).
1. The development of the Wabash drainage system and the recession of the ice sheet in Indiana.
   Describes drainage and glacial phenomena.

2. A theory to explain the western Indiana boulder belts.
   Considers they were deposited by floating ice.

3. Wabash River terraces in Tippecanoe County, Indiana.
   Describes topographic features and character of glacial deposits in this area and discusses changes in drainage.

4. History of the Wea Creek in Tippecanoe County, Indiana.
   Discusses drainage changes produced in this region by glacial action.

Macbride (Thomas H.).
1. Geology of Clay and O'Brien counties [Iowa].
   Iowa Geol. Surv., vol. 11, pp. 463-497, 2 figs., and map, 1901.
   Describes physiography, the occurrence and character of the Pleistocene beds and the occurrence of economic products.

2. Geology of Cherokee and Buena Vista counties [Iowa], with notes on the limits of the Wisconsin drift as seen in northwestern Iowa.
   Iowa Geol. Surv., vol. 12, Ann. Rept. for 1901, pp. 305-353, 4 figs., geol. map, 1902.
   Discusses the physiographic and drainage features, geologic structure and economic products of the counties.

3. Geology of Kossuth, Hancock, and Winnebago counties [Iowa].
   Iowa Geol. Surv., vol. 13, pp. 81-122, 2 pls., 3 figs., 1903.
   Describes topography and drainage, deposits of Quaternary age, soils and economic resources.

4. The geology of Emmet, Palo Alto, and Pocahontas counties.
   Discusses the physiographic features, the occurrence, character, and relations of Pleistocene deposits and Carboniferous (Mississippian) strata, and the economic resources.

McCaffery (Richard S.), Yung (Morrison B.) and.
1. The ore deposits of the San Pedro district, New Mexico.
   See Yung (M. B.) and McCaffery (R. S.), 1.

McCalley (Henry).
1. The Alabama coal fields.
   Describes the general occurrence and character of the coal.

McCalley (Henry), Smith (Eugene Allen) and.
1. Index to the mineral resources of Alabama.
   See Smith (Eugene Allen) and McCalley (Henry), 1.

McCallie (S. W.).
1. Some notes on the trap dikes of Georgia.
   Am. Geol., vol. 27, pp. 133-134, 3 pls., 1901.
   Describes the character and occurrence of dike rocks which cut the crystalline rocks.
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McCallie (S. W.)—Continued.
2. Mineral resources of Georgia.
   Gives an account of the various economic products of the State.

   Ga. Geol. Surv., Bull. no. 6, 264 pp., 27 pls., 28 figs., 1901. Abstract: Stone, vol. 24, pp. 316-
   322, 352-353, 1902.

4. The Ducktown copper mining district.
   Contains notes on the geology of this area.

5. An erratic boulder from the Coal Measures of Tennessee.
   Am. Geol., vol. 31, pp. 46-47, 1903.
   Describes the occurrence of a boulder of rhyolite in a coal seam near Chattanooga, Tenn.

6. Sandstone dikes near Columbus, Georgia.
   Describes occurrence and character of sandstone dikes in Cretaceous clays.

7. The Barboursville oil-field, Kentucky.
   Gives a brief sketch of the physiography and general geology of the region and the character and occurrence of the oil.

8. Notes on the wells, springs, and water resources of Georgia.

   Ga. Geol. Surv., Bull. no. 12, 121 pp., 60 figs., 1904.
   Describes the general geology and topography of the northwestern part of Georgia, the geologic structure of the coal fields of that region, the character and occurrence of the coal beds, and the composition of the coals, and in detail the coal deposits and mining developments of Walker, Chattooga, and Dade counties.

10. Experiment relating to problems of well contamination at Quitman, Ga.
    U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 110, pp. 45-54, 1 fig., 1905.
    Gives general notes upon the geology of the region.

11. Underground waters of eastern United States: Georgia.

McCarn (H. L.).
1. The Planet copper mines [Arizona].
   Describes the general geology and the occurrence and character of copper ores on Big Williams Fork, Arizona.

McCaskey (H. D.).
1. Report on a geological reconnaissance of the iron region of Angat, Bulacan [Philippine Islands].
   Describes observations upon the geology, the occurrence of iron-ore deposits, and the mining operations.

2. Sixth annual report of the chief of the Mining Bureau for the year ended August 31, 1905.
   Manila Bureau of Printing, 1905. 66 pp., 3 maps, 13 pls.
   Includes notes upon the occurrence of various ores and building stones.

McCaslin (D. S.).
1. The geology of the artesian basin in South Dakota.

McClung (C. E.).
1. The fossil bison of Kansas.
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Macco (Albr.).
1. Die Eisenerzlagerstätten am Lake Superior.
   Describes general geology and occurrence and character of the iron-ore deposits.

McColum (E. V.), Bartow (E.) and.
1. Kansas petroleum.
   See Bartow (E.) and McColum (E. V.), 1.

McConnell (R. G.).
1. Note on the so-called basal granite of the Yukon Valley [Alaska].
   Reviews previous discussion of the age and relations of the granite and presents the author's observations and conclusions.

2. The Yukon district.
   Discusses the occurrence and mining of placer gold in this region.

3. The Macmillan River, Yukon district.
   Describes topography, geology, and occurrences of gold in this area.

4. Kluane mining district, Yukon Territory
   Includes observations on the geography and geology of the region, and the occurrence of placer gold.

5. Report on the Klondike gold fields [Yukon].
   Describes the topography and general geology, the occurrence, character, and relations of stratified, intrusive, and igneous rocks, and the distribution and working of gold-bearing placer gravel beds.

6. The Kluana mining district [Yukon].
   Includes observations on the geography and geology of the region, and the occurrence of placer gold.

McConnell (R. G.) and Brock (R. W.).
   Describes the general geology of Turtle Mountain, and in detail the slide of April 29, 1903, and discusses its cause.

McCormick (E.).
1. The Santa Fe mining district, Nevada.
   Describes the geologic structure of the region and the occurrence of copper and silver ores.

MacDonald (Bernard).
1. The ore deposits of Rossland, British Columbia.
   Describes the geologic structure of the region and the occurrence and origin of the gold-copper ores.

McEvoy (James).
1. Report on the geology and natural resources of the country traversed by the Yellow Head Pass route from Edmonton to Tete Jaune Cache, comprising portions of Alberta and British Columbia.
   Describes the physiography and the general character and occurrence of the Tertiary, Creataceous, Cambrian, and Archean rocks of the region.

2. Notes on the special features of coal mining in the Crow's Nest, B. C.
   Discusses the geologic occurrence and character of the coals of this field.
McFarland (D. F.).
1. Composition of gas from a well at Dexter, Kans.

McFarland (D. F.), Haworth (E.) and.
1. The Dexter, Kans., nitrogen gas well.
   See Haworth (E.) and McFarland (D. F.), 1.

McGee (W J).
1. The New Madrid earthquake.
   Refers to the records of this earthquake described by G. C. Broadhead. See Broadhead, 3.

2. Geest.
   Suggests the restoration of the term "geest," proposed by De Luc for the superficial mantle of rock débris.

3. The Antillean volcanos.
   Reviews descriptions of the recent volcanic phenomena in this region and discusses the geographic distribution of volcanoes.

4. Powell as an anthropologist.

McGregor (J. H.).
1. The relationships of the Phytosauria.

McInnes (William).
1. Region southeast of Lac Seul [Canada].
   Describes author's observations in this region.

2. Region on the northwest side of Lake Nipigon.
   Gives observations on the topography and geology of the region examined.

3. The Winisk River, Keewatin district.
   Gives notes on the geology of the region examined.

4. The upper parts of the Winisk and Attawapiskat rivers.
   Includes observations on the geology of the region examined.

McKee (G. W.).
1. Prismatic crystals of hematite.
   Describes the crystallographic characters.

Mackensen (Bernard).
1. Report on the excavation of Mastodon remains, undertaken by a committee of the Scientific Society of San Antonio [Texas].

Mackenzie (George L.).
1. A quick way of preparing sections of rocks.

Maclaren (J. M.).
1. Ores which are deposited by underground waters.

McLaughlin (J. E.).
1. Barela Mesa coal field [Colorado].
   Describes the occurrence and character of the coal seams, and gives a section of the associated strata.
McLouth (C. D.).
1. Some general remarks on the topography, soils, water resources, flora, etc., of 
Muskegon County [Michigan].
Contains brief notes on the subjects mentioned and a statement regarding the recent geolog­
ical history of the region.

McMillan (James G.).
1. Explorations in Abitibi [Ontario].
Includes an account of the petrography of the region examined.

McNairn (W. Harvey).
1. On a large phlogopite crystal.
Briefly describes character and occurrence.

Maddren (A. G.).
1. Smithsonian exploration in Alaska in 1904, in search of mammoth and other fossil
remains:
Contains observations on the geology of the region traversed, and the occurrence of fossil
remains.

Madsen (Victor).
1. On Jurassic fossils from East-Greenland.
Geol., Comm. Paleont., no. 6, 1905.

Magnus (Harry C.).
1. Abrasives of New York State.
Contains notes on their occurrence.

Malcolmson (James W.).
1. The Sierra Mojada, Coahuila, Mexico, and its ore deposits.
Am. Inst. Mg. Engrs., Trans., vol. 32, pp. 100-139, 15 figs., 1902; Eng. and Mg. Jour., vol. 72, pp
705-710, 5 figs., 1901.
Describes geology of the area and character and occurrence of the ore deposits.

Malcolmson (J. W.), Kirk (M. P.) and.
1. A new quicksilver mining district.
See Kirk (M. P.) and Malcolmson (J. W.), 1.

Mallery (Willard).
1. Native gold in igneous rocks.
Describes the occurrence of native gold in Oregon.

Manning (P. C.).
1. Glacial potholes in Maine.
Describes the occurrence and character of the potholes along the coast of Maine and discusses
the evidences indicating their origin.

Manson (Marsden).
1. Evolution of climates.
Revised, enlarged, and reprinted from the American Geologist, vol. 24, nos. 2-4, 1899, 86 pp.,
7 pls., 1903.
2. [On the length of post-Glacial time.]
Am. Geol., vol. 32. pp. 128-139, 1903.
3. The evolution of climate.

Manzano (Jesus P.).
1. The mineral zone of Santa Maria del Rio, San Luis Potosi, Mexico.
Contains observations on the geology and mineral deposits of the region.
Marbut (Curtis F.).
1. The evolution of the northern part of the lowlands of southeastern Missouri.
   Mo. Univ., Studies, vol. 1, no. 3, viii, 63 pp., 5 pls., 2 maps, 1902.
   Describes geology and topography of this area and discusses the mode of formation of the
   physiographic features.
2. The sandstones of the Ozark region in Missouri.
3. Recent studies in the physiography of the Ozark region in Missouri.
4. Geology and physiography [of Missouri].
   The State of Missouri, pp. 68-70, illus. (incl. geol. map), 1904.
   Describes the physiographic features and general geology of the State of Missouri.
5. Physiography in the university.

Marsters (Vernon Freeman).
1. Topography and geography of Bean Blossom Valley, Monroe County, Indiana.
   Describes topographic features and glacial history of this area.
2. A preliminary report on a portion of the serpentine belt of Lamoille and Orleans
   counties [Vermont].
   Describes the occurrence and relations of asbestos to surrounding rocks, and discusses the
   character and origin of the serpentine.
3. Petrography of the amphibolite, serpentine, and associated asbestos deposits of
   Belvidere Mountain, Vermont.
   Includes notes on the general geology of the area and on the occurrence of asbestos and the
   development of the industry, and a discussion of the origin of serpentinous rocks.
4. The serpentine and associated asbestos minerals of Belvidere Mountain, Vermont.

Martel (E. A.).
1. Scientific exploration of caves.
   Contains notes on American caves.

Martin (Daniel S.).
1. [Minerals at Haddam, Maine.]
   Abstract: Am. Geol., vol. 27, p. 44, 1901.
   Mentions occurrence of certain minerals.
2. Geological notes on the neighborhood of Buffalo [New York].

Martin (George Curtis).
1. The geology of Garrett County [Maryland].
   Md. Geol. Surv., Garrett Co., pp. 55-182, 10 pls., 1 fig., 1902.
   Reviews previous geologic work, gives a bibliography, describes the character, distribution
   taxonomy, and history of the geologic formations and occurrence of the anticlines and
   synclines of the county.
2. The mineral resources of Garrett County [Maryland].
   Describes the character, occurrence and stratigraphic position of the coal seams, the distribu-
   tion of fire-clays, clays, limestones, building stones, road materials, and other economic
   products.
   Describes the location, general geology, and structure of the petroleum fields and the Bering
   River coal field, and the character and occurrence of the petroleum and coal.
FOR THE YEARS 1901-1905, INCLUSIVE. 235

Martin (George Curtis)—Continued.
   Md. Geol. Surv., Miocene, pp. 91-97, 2 pls., 1904.
5. Systematic paleontology of the Miocene deposits of Maryland: Mollusca, except Pelecypoda.
   Md. Geol. Surv., Miocene, pp. 130-274, 16 pls., 1904.
7. Systematic paleontology of the Miocene deposits of Maryland: Vermes.
   Md. Geol. Surv., Miocene, p. 430, 1 pl., 1904.
9. Water resources of the Accident and Grantsville quadrangles, Maryland.
10. Water resources of the Frostburg and Flintstone quadrangles, Maryland and West Virginia.
11. The petroleum fields of the Pacific Coast of Alaska, with an account of the Bering River coal deposits.
    U. S. Geol. Surv., Bull. no. 250, 64 pp., 7 pls. and 3 figs., 1905.
    Describes the geography, stratigraphy, and geologic structure of Controller Bay, Cook Inlet, and Cold Bay regions, the indications of petroleum, and attempts at developing the fields, and the character, occurrence, and geologic relations of the coal in the Bering River region.
12. The Cape Yaktag placers [Alaska].
    Describes the general geology, and the occurrence of placer gold.
13. Gold deposits of the Shumagin Islands [Alaska].
    Describes the stratigraphy and geological structure of the petroleum fields, and the progress of development.
15. Bering River coal field [Alaska].
    U. S. Geol. Surv., Bull. no. 259, pp. 140-150, 3 figs., 1905.
    Describes the general geology, the occurrence and geological relations of the coal seams, and the character of the coals.
16. Geology of the Maryland coal district.
    Describes the stratigraphy, geologic structure, and geologic history of the Coal Measures of western Maryland.

Martin (George Curtis), Clark (William Bullock) and.
1. Eocene Echinodermata.
   See Clark (W. B.) and Martin (G. C.), 1.
2. Eocene Molluscoidea (Brachiopoda).
   See Clark (W. B.) and Martin (G. C.), 2.
3. Eocene Mollusca.
   See Clark (W. B.) and Martin (G. C.), 3.
4. The Eocene deposits of Maryland.
   See Clark (W. B.) and Martin (G. C.), 4.
5. Correlation of the Coal Measures of Maryland.
   See Clark (W. B.) and Martin (G. C.), 5.
6. Correlation of the formations and members [of the Maryland coal district].
   See Clark (W. B.) and Martin (G. C.), 6.
Martin (G. C.), and Rutledge (J. J.), Clark (W. B.).
1. Distribution and character of the Maryland coal beds.

See Clark (W. B.), Martin (G. C.), and Rutledge (J. J.), 1.

Martin (G. C.), Stanton (T. W.) and.
1. Mesozoic section on Cook Inlet and Alaska Peninsula.

See Stanton (T. W.) and Martin (G. C.), 1.

Martin (G. C.), Stose (G. W.) and.
1. Water resources of the Pawpaw and Hancock quadrangles, West Virginia, Maryland, and Pennsylvania.

See Stose (G. W.) and Martin (G. C.), 1.

Martin (J. O.).
1. The Ontario coast between Fairhaven and Sodus bays [New York].

Am. Geol., vol. 27, pp. 331-334, 2 pls., 1901.

Describes the lake shore phenomena of the region.

Martin (K.).

See Becker (George F.), 1.

Martin (L.), Tarr (R. S.) and.
1. Recent changes of level in Alaska.

See Tarr (R. S.) and Martin (L.), 1.

Maso (Saderra).
1. Volcanoes and seismic centers of the Philippine Archipelago.

U. S. Dept. Commerce and Labor, Census of the Philippine Islands, Bull. 8, 80 pp., ills., 1904.

Describes briefly the distribution of active and dormant volcanoes, the occurrence and character of volcanic rocks, the general geology, and in detail the seismic activity in the islands.

Mason (F. H.).
1. Potter's clay at Middle Musquodoboit [Nova Scotia].


Describes the occurrence and chemical character of the material.

Mathews (Edward Bennett).
1. The mineral resources of Cecil County [Maryland].


2. Recent work in the Piedmont area of northern Maryland.


3. Abstract of criticism of the quantitative classification of igneous rocks.

Am. Geol., vol. 31, pp. 399-400, 1903.

4. The practical working of the quantitative classification.


Discusses the classification of igneous rocks.

5. The structure of the Piedmont Plateau as shown in Maryland.


Discusses the character and occurrence of the rocks, reviews the explanations by previous writers of the geologic structure, and describes in detail the structural features of the Piedmont Plateau.

6. Correlation of Maryland and Pennsylvania Piedmont formations.


Describes the occurrence, character, and relations of the stratigraphic formations in Maryland, and discusses their correlation with those of Pennsylvania and their extension southward into Virginia.

Mathews (Edward B.) and Miller (W. J.).
1. Cockeyesville marble.


Describes the distribution and character of the geologic formations of the Piedmont region of northeastern Maryland and their structure.
Mathez (Auguste).
1. Geology of the Cananeas [Mexico].
   Describes the geology of the region and the occurrence of the copper-ore deposits.

Matson (George C.).
   Jour. Geol., vol. 12, pp. 133-151, 2 pls., 6 figs., 1904.
   Describes physiographic features of the Finger Lake region of New York, and discusses the origin of the gorges in the streams of that region.
2. Peridotite dikes near Ithaca, N. Y.
   Describes the occurrence of dikes near Ithaca, New York, and the characters and mineral composition of the rock forming the dikes and discusses their age.

Matthes (Francois E.).
1. Glacial erosion in the northern Rockies.

2. The Alps of Montana.
   Contains observations on the physiography, general geology, glaciers, and glaciation in the Rocky Mountain region of Montana.

3. The significance of U-shaped glacier and stream channels.


Matthew (George F.).
1. Preliminary notice of the Etcheminian fauna of Newfoundland.
   Contains descriptions of several new species.

2. Preliminary notice of the Etcheminian fauna of Cape Breton.

3. [Devonian of the Acadian provinces.]
   Discusses recent papers by David White.

4. Are the St. John plant beds Carboniferous?
   Am. Geol., vol. 27, pp. 383-386, 1901.
   Discusses the stratigraphic and faunal evidences of the age of the beds.

5. Les plus anciennes faunes Paleozoiques.
   Gives a résumé of what is known regarding the earliest faunas of eastern Canada.

   Paper read before the Royal Society of Canada.

7. Acrothyra and Hyolithes—a comparison.
   Discusses characters, systematic position, and relation of these genera, and describes several species of Hyolithes.

8. Hyolithes gracilis and related forms from the Lower Cambrian of the St. John group.

9. New species of Cambrian fossils from Cape Breton.
Matthew (George F.)—Continued.
10. Acrothyra, a new genus of Etcheminian brachiopods.
11. Monocraterion and Oldhamia.
12. Additional notes on the Cambrian of Cape Breton, with descriptions of new species.
   Discusses the Cambrian of this area and describes its fauna.
13. Ostracoda of the basal Cambrian rocks in Cape Breton.
   Describes the general characters of ostracods and of a number of new genera and species.
14. Cambrian rocks and fossils of Cape Breton.
   Describes observations in this area and gives a table of geologic formations belonging to the lower portion of the Paleozoic rocks in the maritime provinces of Canada.
   Discusses the comparative age of formations in Nova Scotia and New Brunswick. See White (David), 8.
   Describes the increase in size in successive Cambrian terrains of shells belonging to the genera Acrotreta, Acrothyra, Leptobolus, Lingulepis, Lingulella, and Obolus.
18. Notes on Cambrian faunas. No. 7. Did the upper Etcheminian fauna invade eastern Canada from the southeast?
   Discusses migrations of faunas in Cambrian times.
   Gives a detailed description of the occurrence, fossil contents, and stratigraphic relations of the Cambrian rocks of Cape Breton Island and systematic descriptions of the fossils.
21. New genera of batrachian footprints of the Carboniferous system in eastern Canada.
22. Note in reference to batrachian footprints.
23. On batrachian and other footprints.
24. How long ago was America peopled?
   Describes evidences for the length of post-Glacial time.
25. An attempt to classify Paleozoic batrachian footprints.
   Discusses generic terms proposed for Paleozoic batrachian footprints, and gives a classification in tabular form of genera and species hitherto described.
26. Note on Oliver's cave.
   Describes the cave and discusses its origin and age.
Matthew (George F.)—Continued.


29. Physical aspect of the Cambrian rocks in eastern Canada, with a catalogue of the
   organic remains found in them.
   Describes the occurrence and character of Cambrian rocks and gives a table of the fossils
   occurring in them, showing place of publication, locality, and horizon.

30. New species and a new genus of batrachian footprints of the Carboniferous system in
   eastern Canada.

31. The Cambrian Dictyonema fauna of the slate belt of eastern New York. By
   Rudolf Ruedemann.
   A note in regard to Ruedemann's view and the views of others as to the upper boundary of
   the upper Cambrian.

Matthew (William D.).

1. Additional observations on the Creodonta.
   Discusses the classification of the group and revision of genera.

2. Fossil mammals of the Tertiary of northeastern Colorado.
   Describes character and occurrence of Tertiary beds in Colorado and the vertebrate fauna
   obtained from them.

3. A skull of Dinocyon from the Miocene of Texas.

4. On the skull of Bunolurus, a musteline from the White River Oligocene.

5. New Canide from the Miocene of Colorado.

6. A horned rodent from the Colorado Miocene. With a revision of the Mylagauli,
   beavers and hares of the American Tertiary.

7. The skull of Hypisodus, the smallest of the Artiodactyla, with a revision of the
   Hypertragulidae.

8. List of the Pleistocene fauna from Hay Springs, Nebraska.
   Also describes Capromeryx furcifer n. gen. et sp.


10. A fossil hedgehog from the American Oligocene.

11. The evolution of the horse.
    Am. Mus. Jour., vol. 3, no. 1, supplement, 30 pp., illus., 1903.

12. The collection of fossil vertebrates. A guide leaflet to the exhibition halls of
    vertebrate paleontology in the American Museum of Natural History.
    Am. Mus. Jour., vol. 3, no. 5, supplement, 32 pp., illus., 1903.

13. Recent zoopaleontology. Concerning the ancestry of the dogs.
Matthew (William D.)—Continued.


15. Notice of two new Oligocene camels.

16. The arboreal ancestry of the mammals.

17. Exhibition of the series of foot bones illustrating the evolution of the camel, recently installed in the Hall of Vertebrate Paleontology of the American Museum of Natural History.

18. Outlines of the continents in Tertiary times.

19. Fossil carnivores, marsupials, and small mammals in the American Museum of Natural History.
   Gives a synoptic account of fossil mammals and discusses their origin.

20. Notes on the osteology of Sinopa, a primitive member of the Hyenodontidae.

21. The mounted skeleton of Brontosaurus.
   Describes the collection and mounting of a skeleton of Brontosaurus, and the probable appearance and habits of life of the animal.

22. Notice of two new genera of mammals from the Oligocene of South Dakota.

23. On Eocene Insectivora and on Pantolestes in particular.

Matthew (W. D.) and Gidley (J. W.).

1. New or little known mammals from the Miocene of South Dakota. American Museum expedition of 1903.
   Describes occurrence, character, origin, and faunal contents of Loup Fork beds of South Dakota, and gives systematic descriptions of vertebrate fossils from these beds.

Mauck (A. V.), Cumings (E. R.) and.

1. A quantitative study of variation in the fossil brachiopod Platystrophia lynx.
   See Cumings (E. R.) and Mauck (A. V.), 1.

Maury (Carlotta Joaquina).

   Am. Paleont., Bull. no. 15, pp. 3-94, 10 pls., 1902.
   Describes character and occurrence of Oligocene strata in France, Belgium, Germany, and southern United States, giving faunal lists and sections of strata, and discusses their correlation.

Maxwell (Henry V.).

1. Tennessee iron ores.
   Eng. & Mg. Jour., vol. 78, p. 742, 1904.
   Describes the occurrence, character, and geologic relations of iron-ore deposits in eastern Tennessee.

Mead (Charles S.).

1. [Report on] Field geology in Ohio State University.
   Contains observations on geological formations in central Ohio.

Mead (J. R.).

1. The Flint Hills of Kansas.
   Discusses the origin of these hills.
1. The chemical analysis of Portland cement.

2. Some of the pyrites deposits at Port au Port, Newfoundland.


4. Progress in the phosphate mining industry of the United States during 1900.

5. A reconnaissance in the Norton Bay region, Alaska, in 1900.

6. Notes on the geology of the Klondike.

7. Chitina copper deposits, Alaska.

8. Geology of the central Copper River region, Alaska.

9. The hydrology of San Bernardino Valley, California.

10. The mineral resources of the Mount Wrangell district, Alaska.

Merriam (C. Hart).
1. Bogoslof, our newest volcano.

Merriam (John C.).
1. A contribution to the geology of the John Day basin [Oregon].
   Univ. of Cal., Dept. of Geol., Bull., vol. 2, pp. 269-314, 3 pls., 1 fig., 1901.
   Gives a sketch of previous explorations and literature of the region, and describes the classification, character, occurrence, relations, and faunas of the Cretaceous, Tertiary, and Pleistocene strata.

2. A geological section through the John Day basin [Oregon].
   Describes the character and occurrence of the John Day beds and the associated strata.

3. The John Day fossil beds [Oregon].
   Describes the general geology and the occurrence of vertebrate fossils.

4. Triassic Ichthyopterygia from California and Nevada.
   Notes the stratigraphic position and describes several new species of Shastasaurus from California, and redescribes Leidy's species of Cymbospondylus from Nevada.

5. Triassic Reptilia from northern California.

6. New Ichthyosaurus from the upper Triassic of California.

7. The Pliocene and Quaternary Canidee of the Great Valley of California.

8. Recent literature on Triassic Ichthyosaurus.
   Science, new ser., vol. 18, pp. 311-312, 1903.


10. A note on the fauna of the lower Miocene in California.
    Describes the character and occurrence of faunas in different beds of Miocene age in California.

    Describes Thalattosaurus alexandre, new genus and species.


13. The types of limb structure in the Triassic Ichthyosaurus.
    Describes characteristics of known types of limbs, and discusses lines of descent among Triassic and Jurassic genera of Ichthyosaurus.


15. The Thalattosaurus, a group of marine reptiles from the Triassic of California.


17. The occurrence of ichthyosaur-like remains in the upper Cretaceous of Wyoming.

Merriam (John C.) and Sinclair (William J.).
1. The correlation of the John Day and the Masclall.
   Abstract: Jour., Geol., vol. 11, p. 95-96, 1903.
   Discusses the age of the beds from a study of the fauna.
Merrill (Frederick J. H.).
1. New York State Museum; report of the director and State geologist, 1900.
   Summary of work done.

2. Description of the State geologic map of 1901.
   N. Y. State Mus., Bull. 56, pp. 3-37, 2 pls. (maps), and a table of formations, 1902.
   Sketches the history of the New York Geological Survey, outlines briefly the geologic provinces and formations of New York, and discusses data used in compiling the geologic map.

3. Report of the director of the State Museum and State geologist for the year 1901.
   Reviews the administrative and scientific work of the year.

4. [Administrative] 56th report of the director of the State Museum and 22d of the State geologist [New York].

5. Report of the Director of the New York State Museum, 1903.
   Gives a summarized account of the work for the year ending September 30, 1903.

6. The northeast extremity of the pre-Cambrian Highlands [New York].
   Gives notes upon the distribution of Ordovician, Cambrian, and pre-Cambrian rocks of this area. The geologic map is by T. Nelson Dale and L. M. Prindle.

7. Geology of Sonora, Mexico.

Merrill (F. J. H.), assisted by Magnus (H. C.).
1. Distribution of Hudson schist and Harrison diorite in the Westchester area of the Oyster Bay quadrangle [New York].

Merrill (Frederick J. H.), Darton (N. H.), Hollick (Arthur), Salisbury (R. D.), Dodge (R. E), Willis (Bailey), and Pressey (H. A.).
1. New York City folio, New York-New Jersey.
   Describes geographic and physiographic features, general geologic relations and history, character and occurrence of pre-Cambrian, Cambrian, Silurian, Juratrias, and Cretaceous strata, Quaternary deposits, and water supply.

Merrill (George P.).
1. The Department of geology in the National Museum.
   Am. Geol., vol. 28, pp. 107-123, 5 pls., 1901.
   Gives an account of the methods employed in caring for and rendering available to students the materials in charge of this department of the Museum, and in displaying the same for the benefit of the public.

2. On a stony meteorite which fell near Felix, Perry County, Alabama, May 15, 1901.

   Describes the character, occurrence, and uses of the nonmetallic minerals.

4. A newly found meteorite from Admire, Lyon County, Kansas.

5. What constitutes a clay.
   Discusses the composition of clay and reviews a paper by Rösler, entitled "Beiträge zur Kenntniss einiger Kaolin Lagerstätten."

   Abstract of paper read before the Geological Society of Washington.
Merrill (George P.)—Continued.

7. A newly found meteorite from Mount Vernon, Christian County, Kentucky.
   *Am. Geol.*, vol. 31, pp. 156-158, 1903.

8. John Wesley Powell.
   *Am. Geol.*, vol. 31, pp. 327-333, 1 pl. (por.), 1903.

9. The quantitative classification of igneous rocks.
   *Am. Geol.*, vol. 32, pp. 48-54, 1903.
   Gives an outline of the nomenclature and classification used in the “Quantitative Classification of Igneous Rocks” of Cross, Iddings, Pirsson, and Washington. Includes a table by E. B. Mathews, showing the new nomenclature and terminology as applied to some of the better known igneous rocks.

    Describes a pothole brought from Maine and the method employed in removing it from its matrix.

    New York, John Wiley & Sons, 1903. xi, 551 pp., 33 pls., 24 figs.

12. The non-metallic minerals, their occurrence and uses.
    Note.—The large number of chemical analyses in this work have not been listed in the index.

13. Catalogue of the type and figured specimens of fossils, minerals, rocks, and ores in the Department of geology, United States National Museum. Part 1.—Fossil invertebrates.
    See Schuchert (Charles) and others, 1.

    Describes the occurrence and character of asbestos veins in massive serpentine from Thetford, Canada, and discusses their origin.

15. Gold and its associations.
    Gives a list of specimens of gold ore, showing conditions of occurrence and locality from which derived.

    Describes the history, scope, organization, and work of the Department of geology of the U. S. National Museum.

Merrill (George P.) and Stokes (H. N.).

1. A new stony meteorite from Allegan, Michigan, and a new iron meteorite from Mart, Texas.
   Describes the occurrence, characters, and chemical composition of the material.

Meunier (Stanislaus).

   Discusses the cause of volcanic phenomena.

Michel-Lévy (Auguste).

1. L’éruption de la montagne Pelée et les volcans des Petites Antilles.
   Revue gén. des Sciences, t. 13, pp. 554-557, 3 figs., 1902.
   Discusses the broad problems of volcanic activity in the West Indies and other parts of the world.

2. Sur la composition des cendres projetées, le 3 mai 1902, par la Montagne Pelée.
   Describes characters of volcanic material ejected from Mont Pelé.
Mickle (G. R.).
1. The iron-bearing rocks of the Nastapokan Islands.
   Describes the occurrence and composition of the iron ores.

2. Volcanic origin of natural gas and petroleum.

Miers (Henry A.).
1. A visit to the Yukon gold fields. Letter from Henry A. Miers [to the Hon. Clifford Sifton, Canadian Minister of the Interior]. 32 pp., 1901. [Private publication.]
   Describes the occurrence of placer gold and the mining operations.

2. Gold mining in Klondike.
   Describes physiographic features, general geology, occurrence of placer gold, mining operations, and prospects in the Klondike region.

Miller (Arthur M.).
1. Preglacial drainage in southwestern Ohio.

2. A new meteorite (Bath Furnace) from Kentucky.

3. Additional facts concerning the Bath Furnace meteoric fall of November 15, 1902.
   Science, new ser., vol. 18, pp. 243-244, 1903.

4. The lead and zinc bearing rocks of central Kentucky, with notes on the mineral veins.
   Ky. Geol. Surv., Bull. no. 2, 35 pp., 8 pls., 1 fig., 1905.
   Describes the occurrence, character, and relations of Ordovician strata of central Kentucky, and of the mineral veins producing lead, zinc, fluorite, r:al barite.

Miller (B. L.).
1. Geology of Marion County [Iowa].
   Iowa Geol. Surv., vol. 11, pp. 130-197, 1 pl. 4 figs. and map, 1901.
   Describes the physiography, the character and occurrence of the Carboniferous and Pleistocene deposits, and the occurrence of coal.

Miller (B. L.), Shattuck (G. B.) and.
1. Physiography and geology of the Bahama Islands.
   See Shattuck (G. B.) and Miller (B. L.), 1.

Miller (Elmer I.).
1. A week in the Mt. Lassen and cinder cone region of northern California.
   Describes physiographic features of this region and discusses the evidences for determining the time of the volcanic activity of Mount Lassen.

Miller (G. W.).
1. The Verde mining district, Yavapai County, Arizona.
   Gives an account of the geology of the district and the occurrence of the copper-ore deposits.

2. Geology of the Butte mining district [Montana].
   Ores & Metals, vol. 15, no. 10, pp. 15-16; no. 11, pp. 19-20, 3 figs., 1904.
   Describes the mining of silver and copper ores, the general geology and the occurrence, character, and origin of the veins and fissures.

Miller (Gerrit S., jr.).
1. Preliminary list of mammals of New York.
   Contains list of fossil species.
Miller (Samuel A.).
1. Strophomena and the type of the genus.

Miller (Willet G.).
1. On some newly discovered areas of nepheline syenite in central Canada.
Am. Geol., vol. 27, pp. 21-25, 1901.
Describes character and occurrence in Ontario.

2. Iron ores of Nipissing district [Ontario].
Describes the physiography of the region and the occurrence and character of the iron ores in Huronian rocks.

3. The iron ore fields of Ontario.
Contains notes on the occurrence and character of iron ore deposits in Ontario.

4. The eastern Ontario gold belt.
Describes the distribution and geologic occurrence of the ore bodies.

5. Lake Temiscaming to the Height of Land [Canada].
Contains notes on the geology of this region.

6. Eastern Ontario; a region of varied mining industries.
Describes the occurrence of mineral deposits.

Am. Geol., vol. 32, pp. 182-185, 1903.
Describes occurrence and composition.

Describes the occurrence and character of these ore bodies.

Describes occurrences of iron ores.

10. [In discussion of paper by Waldemar Lindgren, "The geological features of the gold production of North America."]
Discusses occurrences of gold in Canada and conditions under which they can be worked.

11. Cobalt-nickel arsenides and silver.
Describes the occurrence, character, and geological relations of ore deposits of nickel-cobalt arsenides and silver in the northern part of Ontario.

Discusses the occurrence of minerals of economic value in the Province of Ontario.

13. The cobalt-nickel arsenides and silver deposits of Temiskaming [Ontario].
Discusses the occurrence, character, and geological relations of the cobalt, nickel, and silver ores of Ontario.

A full account of the character, occurrence, geologic relations, and utilization of the limestones of Ontario.

15. Boston township iron range [Ontario].
Describes the occurrence and relations of iron ore deposits.
Miller (Willet G.)—Continued.
16. [Pre-Cambrian rocks in the vicinity of Lake Temiskaming, Ontario.]

Miller (W. J.), Mathews (E. B.) and.
1. Cockeysville marble.
   See Mathews (E. B.) and Miller (W. J.), 1.

Miller (W. W., jr.).
1. Analysis of emery from Virginia.
   Abstract: Am. Geol., vol. 27, pp. 311–315, 1901.
2. Examination of sandstone from Augusta County, Virginia.
3. Analysis of smithsonite from Arkansas.

Mills (Frank S.).
1. River terraces and reversed drainage [New York].
   Jour. Geol., vol. 11, pp. 670–678, 3 figs., 1903.
   Describes physiographic features in the Catatonic River Valley in southern New York and
   their bearing upon pre-Glacial drainage conditions.
2. The delta-plain at Andover, Mass.
   Describes glacial and physiographic features of this locality.

Mills (S. Dillon).
1. Some recent rock movements in the Laurentian and Huronian areas [Ontario].
2. Occurrence of hematite north of Little Current, Georgian Bay [Canada].
   Includes notes on the geology of the locality.

Mills (W. Magoon).
1. A physiographic and ecological study of the Lake Eagle (Winona Lake) region,
   Indiana.
   Includes observations on the physiographic features of the region.

Milne (J.).
1. The recent volcanic eruptions in the West Indies.
   Discusses recent reports regarding these eruptions.
2. West Indian volcanic eruptions.
   Discusses volcanic phenomena and their causes with especial reference to the volcanoes Pelé
   and St. Vincent.

Moffet (Fred H.).
1. The copper mines of Cobre, Santiago de Cuba.
   Abstract: Am. Geol., vol. 32, p. 64, 1903; Science, new ser., vol. 18, p. 18, 1903.
2. The Kotzebue placer-gold field of Seward Peninsula, Alaska.
   Describes the general geology, and the occurrence and mining of placer gold.
3. The Fairhaven gold placers, Seward Peninsula, Alaska.
   U. S. Geol. Surv., Bull. no. 247, 85 pp., 14 pls., 2 figs., 1905.
   Describes the geography, the general geology, the character, occurrence, and relations of
   metamorphic and igneous rocks and of surficial deposits, and the occurrence and mining of
   placer gold in this region.
4. The gold placers of Turnagain arm [Alaska].
   Describes the general geology and the occurrence of placer gold.
Moissan (Henri).
   Describes investigations upon the constitution of gases collected from a fumarole of Mont Pelé.
2. Sur la présence de l’argon dans les gaz des fumerolles de la Guadeloupe.
   Describes the chemical analyses of gas from fumaroles of Guadeloupe.
   Describes the characters and composition of this meteorite.

Monckton (G. F.).
1. Mining districts near Kamloops Lake, British Columbia.
   Contains notes on the geology of this area.
2. Cinnabar-bearing rocks of British Columbia.
   Describes the general geology and the occurrence of quicksilver ores.

Monroe (Charles E.).
1. Notes on a collection of Hamilton fossils from the town of Bethany, Genesee County, N. Y.
   Contains notes on fossils collected and gives faunal lists.

Montessus de Ballore (D. de).
1. Les États-Unis sismiques.
   Gives notes upon and lists of earthquakes that have occurred in various parts of the United States.

Montgomery (Hugh T.).
1. The glacial phenomena as exhibited in northern Indiana and southern Michigan, and the resulting ancient waterways, or the early history of our home.

Montgomery (Thomas H.).
1. Missing links.

Moore (Charles J.).
1. The formation of the Cripple Creek mining district, Teller County, Colorado.
2. The formation of the Leadville mining district, Lake County, Colorado.
3. Geology applied to mining, or the practical use of geology in mining

Moore (Frederick).

Moore (Joseph) and Hole (Allen D.).
1. Concerning well-defined ripple marks in the Hudson River limestone, Richmond, Indiana.
Morgan (William Conger).

1. The origin of bitumen.
   Discusses various theories proposed to explain the origin of bitumen.

Morgan (William Conger) and Tallmon (Marion Clover).

1. A fossil egg from Arizona.

2. A peculiar occurrence of bitumen and evidence as to its origin.
   Describes the occurrence, mode of fossilization, and character and origin of the mineralization of a fossil egg from Arizona.

Morganroth (L. C.).

1. The caves of Huntingdon County, Pennsylvania.
   Describes the character of the caves.

Morris (Henry G.).

1. Hydro-thermal activity in the veins at Wedekind, Nevada.
   Discusses the geologic structure and the origin of the ores.

Morscher (L. N.).

1. Corrading action of river water during high floods.
   Kans. Univ. Geol. Surv., Min. Res. for 1902, pp. 82-97, 8 figs., 1903.
   A study of river erosion based largely upon observations made upon the effects of the Kansas River flood of 1903.

Mosely (E. L.).

1. Submerged valleys in Sandusky Bay [Ohio].
   Discusses the character and occurrence of these valleys and the indications that the tilting of the Great Lakes region is still progressing.

2. Formation of Sandusky Bay and Cedar Point.
   Describes changes in the lake shore in this locality and how they have been produced.

Moses (A. J.).

1. Mineralogical notes.
   Describes crystallographic characters of pectolite, atacamite, realgar, vesuvianite, chrysoberyl, and pyroxene.

2. Eglestonite, terlinguait, and montroydite, new mercury minerals from Terlingua, Texas.
   Describes crystallographic and other characters and composition.

3. The crystallization of molybdenite.
   Describes crystallographic measurements of material from several sources.

4. Eglestonit, Terlinguait und Montroydity, neue Quecksilbermineralien von Terlingua in Texas.
   Describes the composition and crystallographic characters of quicksilver minerals from Texas.

5. The crystallization of luzonite, and other crystallographic studies.

Moses (Alfred J.) and Luquer (Lea McI.).

1. Notes on recent mineralogical literature.
   School of Mines Quart., vol. 23, pp. 290-302, 1902.
Moses (Alfred J.) and Luquer (Lea McL.)—Continued.
2. Notes on recent mineralogical literature.
   School of Mines Quart., vol. 24, pp. 247-266, 1903.
3. Notes on recent mineralogical literature.
   Sch. of Mines Quart., vol. 25, pp. 412-427, 1904.
Moudy (R. B.), Slosson (E. E.) and.
1. The Laramie cement plaster.
   See Slosson (E. E.) and Moudy (R. B.), 1.
Mügge (O.).
1. Ueber die Structur des gronliindischen Inlandeises und ihre Bedeutung fur die
   Theorie der Gletscherbewegung.
   Discusses the structure and movement of ice in the interior of Greenland and its
   bearing upon the theory of the movement of glaciers.
2. Weitere Versuche über die Translationsfähigkeit des Eises, nebst Bemerkungen
   über die Bedeutung der Structure des gronliindischen Inlandeises.
   Discusses the plasticity of ice, and the significance of the structure of the ice-mass in
   Greenland.
Muir (John).
1. Notes on the Pacific coast glaciers.
   Harriman Alaska Expedition, vol. 1, pp. 119-185, illus., 1902.
Murgoci (G. M.).
1. On the genesis of riebeckite and riebeckite rocks.
Murphy (Edward Charles).
1. Accuracy of stream measurements.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 64, 99 pp., 30 figs., 4 pls., 1902.
Musgrave (Robert).
1. Copper deposits of Mt. Sicker, Vancouver [British Columbia].
   Describes the occurrence, character, and geologic relations of copper-ore deposits.
Myers (E. W.), Pressey (H. A.) and;
1. Hydrography of the southern Appalachians.
   See Pressey (H. A.) and Myers (E. W.), 1.
Nansen (Fridtjof).
   Jour. Geol., vol. 9, pp. 273-275, 1901.
2. The bathymetrical features of the north Polar seas, with a discussion of the conti­
   nental shelves and previous oscillations of the shore line.
   The Norwegian North Polar Expedition, 1893-1896; Scientific Results, vol. 4, XIII, 231-pp., 29
   pls., 1904.
   Includes in the discussion an account of the continental shelves of Greenland and the North
   American coast.
Nason (Frank L.).
1. On the presence of a limestone conglomerate in the lead region of St. Francois
   County, Missouri.
   Brief note announcing discovery of limestone conglomerate between the St. Joseph or Bonne
   Terre limestone and the Potosi in Missouri.
Nason (Frank L.)—Continued.

2. The geological relations and the age of the St. Joseph and Potosi limestones of St. Francois County, Missouri.
   Describes occurrence of a conglomerate between the two formations and gives a columnar section.

3. The origin of vein cavities.
   Discusses the origin of these vein phenomena.

4. The disseminated lead ores of southeast Missouri.
   Eng. and Mg. Jour., vol. 73, pp. 478-480, 2 figs., 1902.
   Describes the occurrence and origin of these ores.

5. The geological relations and the age of the St. Joseph and Potosi limestones of Missouri.
   Eng. & Mg. Jour., vol. 73, p. 861, 1902.
   Discusses the relations of these beds.

Nathorst (A. G.).
1. Bidrag till nordostra Grönlands geologi.
   Describes the geology of northeastern Greenland.

Nattress (Thomas).
1. The Corniferous exposure in Anderdon [Ontario].
   Gives notes on the distribution of the Corniferous, describes the geology at this locality, and gives a faunal list.

Nelson (Aven).
1. Wilbur Clinton Knight.
   Gives a short account of his life and work, and a chronologic list of his papers.

Neumayer (L.).
1. Die Koprolithen des Perms von Texas.
   Describes the occurrence and character of coproliths from the Permian of Texas.

Nevius (J. Nelson).
1. Roofing slate quarries of Washington County [New York].
   Describes the slates of the various quarries.

2. Emery mines of Westchester County [New York].

3. The Sain Alto tin deposits [Mexico].
   Describes the occurrence of tin.

Newland (David H.).
1. The serpentines of Manhattan Island and vicinity and their accompanying minerals.
   School of Mines Quart., vol. 22, pp. 307-317, 399-410, 4 figs., 1901.
   Describes the microscopic and chemical characters of the serpentines and the minerals associated with them. Discusses origin of the serpentines.

   N. Y. State Mus., Bull. 93, pp. 909-970, 1905.

Newsom (John F.).
1. Drainage of southern Indiana.
   Jour. Geol., vol. 10, pp. 166-181, 6 pls., 1902.
   Describes the drainage features of this region that are dependent upon the geologic structure.
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Newsom (John F.)—Continued.

   Jour. Geol., vol. 10, pp. 803-814, 6 figs., 1902.
   Describes the fissures and fractures caused by the explosion.

3. A geologic and topographic section across southern Indiana from the Ohio River at Hanover to the Wabash River at Vincennes, with a discussion of the general distribution and character of the Knobstone group in the State of Indiana.
   Describes topographic and drainage features, the stratigraphy, character, and geological relations of formations of Ordovician, Silurian, Devonian, and Carboniferous age, and discusses the geologic history of the region.

   Describes location, geologic relations, character, and origin of clastic dikes, chiefly those of California, and gives references to literature in which clastic dikes are described.

Newton (R. Bullen).

1. List of Thomas Say's types of Maryland (U. S.) Tertiary mollusca in the British Museum.
   Geol. Mag., dec. iv, vol. 9, pp. 303-305, 1902.

New York State Museum.

1. Economic geology of New York.
   N. Y. State Mus., Handbook 17, 40 pp., 1904.
   Gives brief accounts of the occurrence and utilization of mineral products of the State of New York.

Nicholls (H. A. Alford).

1. Notes on the recent eruptions of Mt. Pelée [West Indies].
   Contains daily notes of the recent eruptions.

Nichols (Henry W.).

1. Nitrates in cave earths.
   Reviews paper by William H. Hess on the same subject, gives a number of analyses of soil, limestone, and cave earth, and discusses the origin of the nitrates.

2. [In discussion of paper by Eric Hedburg on "The Missouri and Arkansas zinc mines."]

Nichols (J. Clayton).

1. Notes on the Pigholugan and Pigtso gold region, Island of Mindanao, Philippine Islands.
   Describes the occurrence of gold veins and placers.

Nicholson (Frank).

1. The Wisconsin zinc-fields.
   Describes the general geology of the region and the occurrence and character of the zinc and lead ore deposits and the mining operations.

Nickles (John M.).

1. Geological section—St. Louis to Shawneetown [Illinois].
   Describes geology along the line of the section and gives records of borings and sections of outcrops.

2. Geological section in southern Illinois through Waterloo, Sparta, Murphysboro, and Olmstead.
   Ill. Bd. World's Fair Commissioners, Rept., pp. 177-228, 1896.
   Describes the geology along the line of the section, gives records of borings and sections of outcrops, and discusses the occurrence and exploitation of natural gas at Sparta, Illinois.
Nickles (John M.)—Continued.

3. The geology of Cincinnati.
   Describes topography and geology of Cincinnati and the surrounding region, and gives.
   faunal lists.

   beds of the Lorraine group.

5. The Richmond group in Ohio and Indiana and its subdivisions, with a note on the.
   genus Strophomena and its type.

6. The upper Ordovician rocks of Kentucky and their Bryozoa.
   Ky. Geol. Surv., Bull. no. 5, 64 pp., 3 pls., 1905.
   Describes the geological history and stratigraphy of the Ordovician area of Kentucky and
   gives systematic descriptions of characteristic Bryozoa.

Nicol (William).

1. Spinel twins of pyrite.

Nicol (William), Goldschmidt (Victor) and.

1. New forms of sperrylite.
   See Goldschmidt (Victor) and Nicol (William), 1.

Nicolau (Th.).

1. Untersuchungen an den eisenführenden gesteinen der insel Disko.
   Describes the occurrence, characters, and composition of the iron-bearing rocks of the
   Island Disco.

Nicolson (J. T.), Adams (Frank D.) and.

1. An experimental investigation into the flow of marble.
   See Adams (F. D.) and Nicolson (J. T.), 1.

Nolan (A. W.) and Dixon (J. D.).

1. Geology of St. Helen's Island [Quebec].
   Discusses the character and occurrence of Ordovician and Devonian strata, the character,
   occurrence, and origin of the breccia formation of the island, and the petrography of the
   intersecting dikes.

Nordenskjöld (Otto).

1. Notes on some specimens of rocks collected by C. Kruuse on the east coast of
   Greenland, between lat. 65° 35' and 67° 22' N.

Norton (William Harmon).

1. Geology of Cedar County [Iowa].
   Iowa Geol. Surv., vol. 11, pp. 282-396, 6 pls., 12 figs. and maps, 1901.
   Describes the physiographic and drainage features, the character and occurrence of the
   Silurian, Devonian, and Pleistocene deposits and the occurrence of economic products.

2. The relation of physical geography to other science subjects.

   Describes briefly the shallow supplies of water, and the artesian waters with especial reference
   to the geologic horizons from which they are derived.

4. Water supplies at Waterloo, Iowa.

Novarese (Vittorio).

1. Rocks and minerals of south Alaska.
   In Filippo de Filipi's The Ascent of Mount St. Elias, Westminster, Archibald Constable and
   Co., 1900, Appendix E, pp. 252-259.
   Gives observations upon the geology and petrology of this part of Alaska.
Nutter (Edward Hoit).
1. Sketch of the geology of the Salinas Valley, California.
   Jour. Geol., vol. 9, pp. 330-336, 8 figs., 1901.
   Describes the formation of the valley and the character and occurrence of the Tertiary strata
   which were laid down in this trough.

Nutter (Edward Hoit) and Barber (William B.).
1. On some glaucophane and associated schists in the Coast Ranges of California.
   Jour. Geol., vol. 10, pp. 738-744, 1902.
   Describes the occurrence and contact relations of the schists and discusses their origin.

Nylander (Olof O.).
1. Shells of the marl deposits of Aroostook County, Maine, as compared with the
   living forms in the same locality.
   Gives list of fossils determined.

Obalski (J.).
1. Notes on the magnetic iron sand of the north shore of the St. Lawrence [Canada].
   Gives chemical analyses of the sand and describes its distribution.
2. On a mineral containing radium in the Province of Quebec.
   Jour., vol. 7, pp. 245-256, 8 figs., 1905.
   Describes the occurrence and characters of a mineral, cleveite, containing radium.

O'Brien (Charles J.).
1. Igneous rocks: How to identify them.

O'Brien (M. E.).
1. Geology of the district west of Redding, Cal.
   Describes the character and occurrence of the rock formations and ore deposits.

Ochsenius (Carl).
   Zeitsch. für prak. Geol., Jahrg. 1900, p. 21, 1900.
   Describes an occurrence of natural coke.
2. Natronsalpeter in California.
   Gives a general account of deposits of nitrate of soda.

Ogilvie (Ida H.).
   Jour. Geol., vol. 10, pp. 337-412, 1 pt., 1902; Columbia Univ., Geol. Dept., Contrib., vol. 10,
   no. 84, 1902.
   Describes the strie, character of ice movement and glacial deposits of the region, and discusses
   the erosion history of the Adirondacks. Includes table of strie.
2. An analcîte-bearing camptonite from New Mexico.
   Jour. Geol., vol. 10, pp. 500-507, 4 figs., 1902; Columbia Univ., Geol. Dept., Contrib., vol. 10,
   no. 85, 1902.
   Describes the general geology of the region and the occurrence and character of the campto-
   nite and compares with rocks of similar composition from other regions.
3. Geological notes on the vicinity of Banff, Alberta.
   Jour. Geol., vol. 12, pp. 408-414, 4 figs., 1904.
   Describes the general geology and the character and origin of physiographic features of this
   region.
4. The effect of superglacial débris on the advance and retreat of some Canadian
   glaciers.
Ogilvie (Ida H.)—Continued.

5. The high altitude conoplain; a topographic form illustrated in the Ortiz Mountains [New Mexico].
   Am. Geol., vol. 36, pp. 27-34, 1 pl., 1905.
   Discusses the conditions of rainfall and erosion by which the conoplain is produced.

   N. Y. State Mus., Bull. 96, pp. 461-505, 17 pls., 3 figs., and map, 1905.
   Describes the general geology, the character and occurrence of Cambrian strata, and in detail the physiography, glaciology, and petrography of the area.

O'Harra (Cleophas C.).

1. Black Hills ore deposits.
   Int. Mg. Cong., 4th session, pp. 97-100, 1901.
   Describes the occurrence of the gold ores.

2. The mineral wealth of the Black Hills [South Dakota].
   Gives a general geological sketch of the geology of the Black Hills and describes the occurrence of the minerals.

3. The geology and mineralogy of the Black Hills region.
   Describes the general topographic and geologic features and character of the rocks of the region, and gives notes upon the occurrence, character, and geologic relations of the ore deposits, chiefly gold ores.

O'Harra (C. C.), Barton (N. H.) and.

Ohly (J.).

1. The origin of petroleum. Different theories which have been advanced and the circumstances for and against them.

Oliphant (F. H.).

1. [In discussion of paper by R. Pearson on "The discovery of natural gas in Sussex, Heathfield district."]
   A short note in regard to the distribution of natural gas in the United States.

2. Petroleum.
   Includes a table showing the stratigraphic position of petroleum-producing horizons in the Appalachian and Lima-Indiana fields.

Olsson-Seffer (Pehr).

1. Examination of organic remains in post-Glacial deposits.
   Am. Nat., vol. 37, pp. 785-797, 2 figs., 1903.
   Discusses methods of collecting and examining plant remains from Quaternary deposits, particularly from peat-bogs.

Ordóñez (Ezequiel).

1. Las rhyolitas de México.
   México Inst. Geol., Bul. no. 14, 75 pp., 5 pls., 1900; no. 15, 76 pp., 11 pls., 1901.
   Describes the macroscopic and microscopic characters of the rhyolites and their distribution.

2. La industria minera en México.
   Ciencia y Arte, México, 1901, 19 pp. (Not seen.)

3. The mining district of Pachuca, Mexico.
   Contains notes on the geology and mineralization of the region.

4. The onyx-marble deposits of Jimulco, Coahuila [Mexico].
Ordoñez (Ezequiel)—Continued.

5. Les cendres d’un volcan près du Santa Maria (Guatemala).
   Describes materials ejected from a volcano near Santa Maria.

6. The mining district of Pachuca, Mexico.
   Includes an account of the topography and geology of the area and the ore formations.

7. Le Xinantacatl ou volcan Nevado de Toluca [Mexico].
   Describes physiographic features, the character and occurrence of igneous rocks, and the history of its volcanic activity, and compares its physical features with those of other Mexican volcanoes.

8. El Sabacab de Yucatan.
   Describes the character and occurrence of some geologic formations in this part of Mexico.

9. Los volcanes de Zacapu, Michoacan [Mexico].
   Describes physiographic features of the volcanoes of this region and the character and occurrence of igneous rocks.

10. Les dernières éruptions du volcan de Colima [Mexico].
    Describes eruption phenomena and eruptive products of this volcano.

11. El mineral de Angangueo, Michoacan [Mexico].
    Discusses vein phenomena and the occurrence of silver veins in a matrix of pyrite and galena.

12. Las aguas subterráneas de Amozoc [México].
    Discusses the occurrence of underground water in the State of Puebla, Mexico.

13. Las cenizas del volcán de Santa María.
    Describes ashes from the volcano Santa Maria, Guatemala.

14. Descripción de las rocas de los Estados de Chiapas y Tabasco.
    Describes the petrographic characters of igneous and volcanic rocks from the States of Chiapas and Tabasco, Mexico.

15. Los Xalapazcos del Estado de Puebla.
    México, Inst. Geol., Par., t. 1, pp. 293-341, 4 pls. and 1 map, 1905.
    Describes the physiographic features and geologic structure of the district.

16. Las Barrancas de las Minas y de Tatatila [México].
    Includes notes on the geology of the region.

17. Los crateres de Xico [México].
    Describes physiographic features and geologic structure of the Island of Xico in Lake Chalco, Mexico.

18. El Nauchampatepetl ó Cofre de Perote [México].
    Describes the physiographic features and geologic structure.

Ordoñez (Ezequiel) and Bose (E.).

1. Apuntes para la geología del valle de Chilpancingo [Mexico].
   Contains observations on the geology of this area.

Ordoñez (E.), Lazo (A. M.) and.

1. Las canteras de San Lorenzo Totolingo y Echagaray [México].
   See Lazo (A. M.) and Ordóñez (E.), 1.
Orr (William).
1. An outline of eight excursions for the study of the physical geography and geology of Springfield [Massachusetts] and vicinity.
Published for the Springfield Geological Club by the City Library Association, Springfield, Mass., 16 pp., 2 pls., 1901.

Ottmann (Arnold E.).
1. The theories of the origin of the Antarctic faunas and floras.
Reviews the literature on the subject.
2. Ueber die Decapoden-Gattungen Linuparus und Podocrates.
Discusses the relationships of these genera of crustacea.
3. The geographical distribution of freshwater decapods and its bearing upon ancient geography.
Includes a discussion of the geography of the earth’s surface during Cretaceous, Tertiary, and Quaternary times.

Orton (Edward).
See Bull. U. S. Geol. Surv., No. 188, Orton no. 4172.

Orton (Edward, Jr.).
Ohio Geol. Surv., 4th ser., Bull. no. 1, pp. i--xxi, 1903.
Gives an outline of the work and publications of the preceding and present organizations of the geological survey of Ohio.

Orton (Edward, Jr.) and Peppel (S. V.).
1. The lime resources of Ohio available for Portland-cement manufacture.
Discusses the occurrence, character, and geologic relations of limestones in Ohio suitable for use in manufacture of cements. Gives a table with many analyses of limestone.

Osann (A.).
1. Beiträge zur Geologie und Petrographie der Apache (Davis) Mts., Westtexas.
Describes the general geology of the region, the occurrence of igneous and Carboniferous and Cretaceous sedimentary rocks, and the petrographic characters of the igneous rocks.
2. Notes on certain Archaean rocks of the Ottawa Valley [Canada].
Discusses petrology of this region and occurrence and characters of economic minerals.

Osborn (Henry Fairfield).
1. The recent progress of vertebrate paleontology in America.
Abstract of lecture delivered at Trinity College, Hartford, Conn.
2. Recent zoo-paleontology.
Contains notes on papers relating to the John Day beds and to the Kansas chalk.
3. Recent zoo-paleontology.
Reviews Wortman’s work on the Carnivora and Gidley’s work on Pleistocene horses.
5. Corrélation des horizons de mammifères Tertiaires en Europe et en Amérique.
Bull. 301—06——17
Osborn (Henry Fairfield)—Continued.


7. Homoplasy as a law of latent or potential homology.
   Discusses the independent evolution of identical structures in teeth of different families of mammals as a form of homology which has heretofore been defined as homoplasy.

8. The law of adaptive radiation.
   Quotes from the author’s previous papers bearing upon this law and shows how it is exhibited in the geographic distribution of orders, families, and related contemporaneous forms.

9. Dolichocephaly and brachycephaly in the lower mammals.
   Discusses these factors in cranial evolution and their correlation with similar ones in the trunk and limbs.

10. The four phyla of Oligocene Titanotheres. Titanotheres contributions, no. 4.
    Discusses the general characters of the material and their stratigraphic position.

    Points out the synonymous genera and describes the species, including several new ones.

    Discusses relative age and correlation of Cretaceous formations and the relations of their faunas and gives in tabular form the geologic distribution of Cretaceous vertebrates.

13. Recent zoopaleontology—new vertebrates of the mid-Cretaceous.
    Gives an abstract of a report by Henry F. Osborn and Lawrence M. Lambe on "Vertebrata from the mid-Cretaceous Rocks of the Northwest Territory of Canada."

14. Recent zoopaleontology: a remarkable new mammal from Japan, its relationship to the Californian genus Desmostylus, Marsh—progress of the exploration for fossil horses—the perissodactyles typically polyplyetic.


16. Ornitholestes hermanni, a new compsognathoid dinosaur from the upper Jurassic.

17. Glyptotherium texanum, a new glyptodont, from the lower Pleistocene of Texas.

18. The skull of Creosaurus.

19. The reptilian subclasses Diapsida and Synapsida and the early history of the Diapsida.
    Discusses classification, anatomy, and phylogeny of fossil reptiles and defines the major classification groups and genera.

20. Recent zoopaleontology.
    Includes a brief discussion of the age of the Fort Union beds and related formations.

21. Recent zoopaleontology.
    Discusses the age of the typical Judith River beds.
Osborn (Henry Fairfield)—Continued.

22. Recent zoopaleontology.

Gives a comparison of the European and American Eocene horses.


24. On recent models and restorations of a number of extinct animals, with a discussion of their probable habits and mode of life.


Describes the work being done to complete Professor Marsh's monographs on the Titanotheres, Ceratopsia, Stegosauria, and Sauropoda.


Reviews the history and principles of classification of the Reptilia, proposes a new classification, and gives definitions of the higher groups.

27. Paleontological evidence for the original tritubercular theory.


28. Recent zoopaleontology. Field expeditions during the past season.


29. Recent advances in our knowledge of the evolution of the horse.


30. An armadillo from the middle Eocene (Bridger) of North America.


31. New Oligocene horses.


32. Manus, sacrum, and caudals of Sauropoda.


33. Teleorhinus browni—a teleosaur in the Fort Benton.


34. New Miocene rhinoceroses with revision of known species.


35. The great Cretaceous fish Porthesia molossus Cope.


36. Revised list of casts, models, photographs, and restorations of fossil vertebrates of the Department of vertebrate paleontology of the American Museum of Natural History.


37. On the position of the bones of the forearm in the Opisthocoelia or Sauropoda.


38. On the use of the sandblast in cleaning fossils.


40. On the primary components of vertebrae and their relations to ribs.


41. The classification of the Reptilia.


42. Fossil wonders of the West. The dinosaurs of the Bone-cabin quarry, being the first description of the greatest "find" of extinct animals ever made.

Osborn (Henry Fairfield)—Continued.

43. The evolution of the horse in America. First complete account of the American Museum explorations under the William C. Whitney fund.
   The Century Magazine, vol. 69, pp. 3-17, 15 figs., 1905.

44. Ichthyosaurs: The evolution of fitness in ichthyosaurs.
   The Century Magazine, vol. 69, pp. 414-422, 7 figs., 1905.

45. Recent zoozooanatomy.
   Gives an abstract of a lecture delivered by the author before the Society of Naturalists at the Philadelphia meeting upon the evolution and phylogeny of various vertebrate types.

46. Recent vertebrate paleontology. Fossil mammals of Mexico.
   Gives notes upon the fossil mammals of Mexico and the present location of the specimens.

47. Recent vertebrate paleontology.
   Notes on exploration going on for vertebrate fossils and work in progress in museums and laboratories on vertebrate paleontology.

48. The present problems of paleontology.

49. Ten years' progress in the mammalian paleontology of North America.
   Gives a résumé of the progress in mammalian paleontology during the last ten years and indicates lines of exploration and research. Discussed phylogenetic relations of various mammals.

50. Tyrannosaurus and other Cretaceous carnivorous dinosaurs.

51. Skull and skeleton of the sauropodous dinosaurs, Morosaurus and Brontosaurus.

52. The evolution of the horse.

53. Western explorations for fossil vertebrates.

54. [Phylogeny and classification of the Reptilia.]

55. Evolution of the horse. Recent discoveries and studies.

Osborn (Henry Fairfield) and Granger (Walter):

1. Fore and hind limbs of Sauropoda from the Bone Cabin quarry [Wyoming].

Osgood (Wilfred H.).

1. Scaphoceros tyrrelli, an extinct ruminant from the Klondike gravels.

Osmont (Vance C.).

1. A geological section of the Coast Ranges north of the Bay of San Francisco.
   Describes the occurrence, character, and relations of stratified rocks of Jurassic, Cretaceous, Tertiary, and Quaternary age, and of igneous rocks observed in cross sections of the Coast Ranges of California, and the petrographical characters of the igneous rocks, and discusses the correlation of the Eocene strata, the geological structure along the sections, and the geologic history of the region.

2. Areas of the California Neocene.
   Gives systematic descriptions and discusses the occurrence of associated fossils, giving faunal lists.
O'Sullivan (Owen).
1. Survey of the south and west coast of James Bay.
   Includes observations on the geology of the region examined.

Otsuka (S.).
1. A short sketch on the petroleum industry of Europe and America. [In Japanese.]
   Includes observations on the petroleum industry in the Appalachian region, Texas, and California.

Owen (Luella Agnes).
1. The bluffs of the Missouri River.
   Describes loess deposits and discusses evidence as to their origin.
2. More concerning the Lansing skeleton.
   Bibliotheca Sacra, 73d yr., pp. 572-578, 1903.
   Reviews the discussion as to the geological age of the Lansing skeleton.
3. The loess at St. Joseph [Missouri].
   Am. Geol., vol. 33, pp. 223-228, 2 pls., 1904.
   Describes the occurrence and character of loess deposits at this point and discusses the origin of the loess.
4. Cave regions of the Ozarks and Black Hills.
   Cincinnati, The Editor Publishing Co., 1898. 228 pp., illus.
5. Evidence on the deposition of the loess.
   Discusses the occurrence and character of fossil mollusks in the loess at St. Joseph, Mo., and their bearing on the question of the origin of the loess.

Palache (Charles).
1. A description of epidote crystals from Alaska.
   Describes the general geology, the occurrence and petrographic characters of the rocks, the occurrence of the gold ore deposits, and the mining operations.
3. Geology about Chichagof Cove, Stepovak Bay, with notes on Popof and Unga Islands.
   Harriman Alaska Expedition, vol. 4, pp. 69-88, 2 pls., 3 figs., 1904.
   Describes the general geology, the character and occurrence of sedimentary and igneous rocks, and the petrographic characters of the latter.
4. Notes on the minerals collected [by the Harriman Alaska expedition].
   Harriman Alaska Expedition, vol. 4, pp. 91-96, 1904.
   Describes the occurrence and characters of some minerals, and gives a list of minerals obtained and their localities.

Palache (Charles) and Fraprie (F. R.).
1. (1) Babingtonite from Somerville, Massachusetts. (2) Babingtonite from Athol, Massachusetts.
   Describes occurrence, crystallography, and chemical analysis.

Palache (Charles) and Wood (H. O.).
1. A crystallographic study of millerite.

Palache (C.), Jaggar (T. A., jr.) and.
1. Bradshaw Mountains folio, Arizona.
   See Jaggar (T. A., jr.) and Palache (C.), 1.
Palache (Charles), Lawson (Andrew C.) and.
1. The Berkeley Hills [California]. A detail of Coast Range geology.
   See Lawson (A. C.) and Palache (C.), 1.
2. The Berkeley Hills [California]. A detail of Coast Range geology.
   See Lawson (A. C.) and Palache (C.), 2.

Palache (Charles), Wolff (John E.) and.
1. Apatite from Minot, Maine.
   See Wolff (J. E.) and Palache (C.), 1.

Palmer (Charles M.).
   Gives composition and describes absorption of water.

Palmer (T. S.).
   Includes also the fossil forms.

Park (Emma J.).
   Describes gravel deposits of southwestern Missouri and discusses their age.

Park (Emma J.) and Lyman (Kate).
1. The Springfield water supply. Description of springs and the geology of the district.
2. The Hannibal formation in Greene County [Missouri].

Park (James).
1. On the cause of border-segregation in some igneous magmas.

Parker (Charles A.).
1. Evidences of rheumatoid arthritis in the Lansing man.
   Am. Geol., vol. 33, pp. 39-42, 1 fig., 1904.
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Parkinson (John).
1. The hollow spherulites of the Yellowstone and Great Britain.
   Describes the author's observations in the Yellowstone region and discusses the origin of spherulites.
2. Some lake basins in Alberta and British Columbia.
   Describes the physiography of the region and the character of the lake basins.

Parks (William Arthur).
1. The Huronian of the Moose River Basin [Ontario].
   Toronto Univ., Studies, Geol. Seriés, no. 1, 35 pp., 1 map, 1900.
   Discusses the occurrence, character, and classification of the Huronian rocks of the region.
2. The country east of Nipigon Lake and River [Canada].
   Describes the author's observations in this area.
3. Region lying northeast of Nipigon Lake.
   Gives observations upon the physiography, geology, and economic resources of the region examined.
Parks (William Arthur)—Continued.

   Describes location, lithologic and stratigraphic features of outcrops of Silurian and Devonian
   strata of southwest Ontario, and gives lists of fossils obtained and discusses economic
   resources.

5. Devonian fauna of Kwataboahegan River [Ontario].
   Describes the occurrence of Devonian fossils in the Moose River basin of Ontario, and gives
   systematic descriptions of new species.

6. A remarkable parasite from the Devonian rocks of the Hudson Bay slope.

7. The study of stratigraphy.
   Discusses the necessity of stratigraphy and paleontology in the geologic investigations of eco­
   nomic resources.

8. The geology of a district from Lake Timiskaming northward [Ontario].
   Describes the geology of the district and the occurrence and relations of ore deposits contain­
   ing cobalt.


Parsons (Arthur L.).

1. Recent developments in the gypsum industry in New York State.

2. The gypsum deposits of New York state.


Parsons (H. F.) and Liddell (Charles A.).

1. The coal and mineral resources of Routt County [Colorado].
   Describes the geology, the location of the coal districts, the character and occurrence of the
   Cretaceous coals, and the occurrence of other mineral deposits, chiefly gold.

Patten (William).

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2. Studies relating to the origin of vertebrates.
   Outlines work upon the ostracoderms and their systematic position.

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   Advancement of Science, August 20–29, 1901.

   Discusses the methods of alteration of minerals and describes dolomite and calcite crystals
   from Colorado.


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1. The geology and petrography of Crater Lake National Park.
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**Payne (Henry M.).**

1. The Tug River coal field [West Virginia]. A description of the general geology of the region and of the qualities of the coal.

**Peale (A. C.).**

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**Pearson (Herbert W.).**

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   Duluth, Minn., J. J. LeTourneau & Co., 1902. 38 pp., 2 figs.

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1. The fossil man of Lansing, Kansas.
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**Peck (Frederick B.).**

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   Describes the general geology and structure of the region and the occurrence of the crystalline rocks and the alteration products.

2. The basal conglomerate in Lehigh and Northampton counties, Pennsylvania.
   Describes its occurrence and characters.

   Describes the character and occurrence of this formation in the area under consideration.

4. The Atlantosaur and Titanotherium beds of Wyoming.
   Describes a geologic excursion in this region. Includes observations on the geology and paleontology of Jurassic and Cretaceous strata.

5. The cement belt in Lehigh and Northampton counties of Pennsylvania. A description of the geological formations.
   Describes the physiographic features and the general stratigraphy of the region and the character and occurrence of the cement rock.
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   Describes the water supply of Vermont.


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   Describes the geologic structure of the region and the character and occurrence of the ore deposits.
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10. The geology and copper deposits of Bisbee, Arizona.
    Describes the geography and general geology, the character, occurrence, and relations of the Paleozoic and Mesozoic sedimentary strata, the intrusions and deformation, the character, occurrence, and origin of the copper-ore deposits, and the mining operations.
Ransome (Frederick Leslie)—Continued.

11. The geology and ore deposits of the Bisbee quadrangle, Arizona.

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Describes the physiographic divisions of Arizona, the topography, climate, and vegetation and general geology of the area, the occurrence, character, and geological relations of pre-Cambrian, Cambrian, Devonian, Carboniferous, Tertiary, and Quaternary deposits and igneous rocks, the geologic structure and history, the occurrence, character, origin, geologic relations, and mining of the ores, chiefly gold, silver, and copper.


Describes the topography and drainage, the general geology, the character, occurrence, and relations of pre-Cambrian metamorphic rocks, Cambrian, Devonian, Carboniferous, and Cretaceous strata, Quaternary deposits, and igneous rocks, the geologic structure and its expression in topography, the geologic history, and the economic resources, principally copper ores.

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Describes the system of fissures, the relations of the ores to the fissures, the minerals occurring in the lodes, and the character, distribution, origin, and value of the ore deposits containing gold, silver, and lead.

17. Ore deposits of the Coeur d'Alene district, Idaho.

U. S. Geol. Surv., Bull. no. 298, pp. 374-393, 4 figs., 1905.

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1. On carnotite and associated vanadiferous minerals in western Colorado.

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3. The developmental changes in some common Devonian brachiopods.
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   twenty species.
   Describes the developmental changes of some Devonian brachiopods from the Tripidoleptus
   fauna at Canandaigua Lake, New York, and gives a comparative faunal study of this
   faunule.
5. The trilobites of the Chazy limestone.
7. The fauna of the Chazy limestone.
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4. What is a fissure vein?
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Richards (Ralph W.).
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2. The terranes of Orange County, Vermont.
   Discusses the topographic and geologic features, the occurrence and characters of economic products, and the petrographic and chemical characters of the rocks.

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3. Indiana folio, Pennsylvania.
   Describes physiographic features, the character, occurrence, and relations of Carboniferous strata, and general geologic structure, the character and occurrence of the coals, natural gas, and other economic resources.
Richardson (George Burr)—Continued.

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   Contains notes on the geology of the region and the occurrence of gold.

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   Discusses the distribution of water underground and its bearing upon the origin of ore deposits.

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   Am. Geol., vol. 28, pp. 269-270, 1 pl. (por.), 1901.
   Gives a brief sketch of his life and work, and a list of publications.

3. Clays of New York, their properties and uses.

   Discusses origin, chemical composition and geologic occurrence in New York of lime and cement materials.

   Discusses origin, composition, properties, geologic and geographic distribution, and working of the clays of Maryland.
6. The clays of the United States east of the Mississippi River.
   Discusses origin, geographic and geologic distribution of clays in the United States east of the
   Mississippi River, and their properties, composition, and utilization.

   Describes origin and nature of peat, its utilization, and its occurrence in New York.

8. Magnetite deposits at Mineville, New York, and a description of the new electric
   concentrating plant.
   Describes the character and occurrence of the iron ore deposits.

9. The coal mines at Las Esperanzas, Mexico.
   Describes the character, geologic occurrence, and mining of the Cretaceous coal beds.

    Gives notes on the occurrence of economic materials and a geological section of a deep well.

11. Notes on recent mineral developments at Mineville [New York].
    Brief notes on the occurrence and production of iron ore at this locality.

    N. J. Geol. Surv., vol. 6, pp. 1-115, 15 pls., 34 figs., 1904.
    Discusses mode of occurrence, methods of working, chemical and physical properties.

13. The manufacture of clay products, with special reference to the New Jersey
    industry.
    N. J. Geol. Surv., vol. 6, pp. 211-583, 82 pls., 5 figs., 1904.
    Includes notes on the occurrence and properties of clays.

14. The coal fields of Texas. Locations of the different deposits. Quality of the
    coals as shown by analyses. Production of the State.

15. Economic geology of the United States.

Riggs (Elmer S.).
1. The Dinosaur beds of the Grand River valley of Colorado.
   Describes the general character of the Cretaceous, Jurassic, and Triassic strata, and the occurrence
   of vertebrate remains.

2. The fore leg and pectoral girdle of Morosaurus. With a note on the genus Cama-
   rosaurus.

3 The largest known dinosaur.
   Contains brief description of the skeleton obtained by a recent expedition of the Field Columbian Museum.

4. The vertebral column of Brontosaurus.

5. The use of pneumatic tools in the preparation of fossils.

6. Brachiosaurus altithorax, the largest known dinosaur.
   Gives a description of this Jurassic fossil and discusses its relationships.

7. Structure and relationships of Opisthocoelian dinosaurs. Part I. Apatosaurus
   Marsh.
   Field Col. Mus., Geol. ser., vol. 2, pp. 165-196, 8 pls., 18 figs., 1903.
Riggs (Elmer S.)—Continued.
8. Dinosaur footprints from Arizona.
   Describes occurrence and character of footprints.


Riggs (Elmer S.) and Farrington (Oliver Cummings).
1. The Dinosaur beds of the Grand River Valley of Colorado.

Ritter (Etienne A.).
1. Le district aurifère de Cripple Creek et ses récents développements dans la zone profonde.
   Describes the general geology, the lithology, the veins and their minerals, and the ore deposits of the Cripple Creek gold mining district.

Ritter (Wm. E.).
1. Some observations bearing on the probable subsidence during recent geologic times of the Island of Santa Catalina off the coast of southern California.

Rivers (J. J.).
1. Descriptions of some undescribed fossil shells of Pleistocene and Pliocene formations of the Santa Monica Range [California]

Robbins (F.).
1. Ore occurrence at Leadville, Colo.
   Describes the general stratigraphy of the region and the occurrence of the ore bodies.

Roberts (Milnor).
1. Note on the action of frost on soil.
   Jour. Geol., vol. 11, pp. 314-317, 4 figs., 1903.

Roberts (Milnor), Landes (Henry), Thyng (William S.), Lyon (D. A.), and
1. The metalliferous resources of Washington, except iron.
   See Landes (H.), Thyng (W. S.), Lyon (D. A.), and Roberts (M.), 1.

Robertson (William Fleet).
1. Summary report on the valley of the Flathead River [British Columbia].
   Includes observations upon the physiography, geology, and economic resources of the region examined.

   Includes observations upon the geology and economic resources of the region.

   Includes observations upon the geology of the region.

4. Petrography of rock samples from British Columbia.
   Gives reports upon examinations of rock specimens from British Columbia by A. E. Barlow, J. A. Dresser, and L. P. Silver.

Robinson (H. H.).
1. On octohedrite and brookite from Brindletown, North-Carolina.
   Describes occurrence and crystallographic characters of the minerals.
Robinson (Neil).
1. The Kanawha and New River coal fields of West Virginia, U. S. A.
Charleston, W. Va., 23 pp. 3 pis., 1904. [Private publication].
Includes notes upon the occurrence, geologic relations, composition, fuel values, and production of coal in the Kanawha and New River coal fields of West Virginia.

Rockstroh (Edwin).
1. Recent earthquakes in Guatemala.

Rockwell (Cleveland).
1. The Coos Bay coal fields [Oregon].
Contains notes on the geologic structure of this area.

Rogers (Austin F.).
1. The Pottawatomie and Douglas formations along the Kansas River.
Gives lists of fossils from various localities.
2. Mineralogical notes, no. 2.
Describes crystallographic characters of calcite, galena, pyrite, topaz, leadhillite, ilvaite, caledonite, barite, and celestite.
3. Some new American species of Cyclus from the Coal Measures.
4. Mineralogical notes, no. 3.
School of Mines Quart., vol. 33, pp. 133-139, 4 figs., 1902.
Presents crystallographic notes on gypsum, celestite, barite, anglesite, cerussite, vesuvianite, calcite, dolomite, pyrite, and quartz crystals.
5. The crystallography of the calcites of the New Jersey trap region.
School of Mines Quart., vol. 23, pp. 336-347, 1902.
6. The minerals of the Joplin, Mo., lead and zinc district.
7. A method for the exact expression of crystal habit.
Sch. of Mines Quart., vol. 25, pp. 199-203, 22 figs., 1904.

Rogers (Austin F.), Beede (J. W.) and.
1. Coal Measure faunal studies, III. Lower Coal Measures.
See Beede (J. W.) and Rogers (Austin F.), 1.

Rohn (Oscar).
1. The Baraboo iron range [Wisconsin].
Describes the general geology and the occurrence and character of the iron ore.

Rolfe (Charles W.).
1. The geology of Illinois as related to its water supply.
Ill. Univ., Chemical Survey of the waters of Illinois, pp. 41-56, 2 pls. (geol. maps), 1903.
Gives an outline of the general geology and the geological history of Illinois.

Rollet de l'Isle et Giraud, Lacroix (A.).
1. Sur l'éruption de la Martinique.
See Lacroix (A.), Rollet de l'Isle et Giraud (J.), 1.

Ropes (Leverett S.).
1. [Corundum of North Carolina.]
Min. Ind., 1899, pp. 12-14, 1900.
Notes on occurrence.

Rose (Robert Selden).
1. The geology of some of the lands in the Upper Peninsula [Michigan].
Describes the general geology and the occurrence and character of the iron-ore deposits.
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Rose (Robert Selden)—Continued.

2. The geology of some of the lands in the Upper Peninsula [Michigan].
   Describes the geologic occurrence, character, and location of iron ores in the Upper Peninsula.

Rowe (Jesse Perry).

1. Some volcanic ash beds of Montana.
   Mont. Univ., Bull. no. 17 (Geol. ser. no. 1), 32 pp., 9 pls., 1903.
   Discusses the origin of the volcanic ash of Montana; describes its composition and properties and distribution in the State by counties; gives a list and figures of fossil leaves from the ash of Missoula County.

2. Some Montana coal fields.
   Describes the bituminous and lignite coal resources of Montana and the geographic distribution, by counties, of coal deposits.

3. Nodular barite and selenite crystals of Montana.
   Am. Geol., vol. 33, pp. 185-199, 1904.
   Describes occurrence and composition of selenite crystals and nodular barite in Montana.

4. Pseudomorphs and crystal cavities.
   Describes material from Shoshone, Idaho.

5. Montana gypsum deposits.
   Describes the occurrence, character, and geological relations of gypsum deposits in Montana, and their utilization.

6. The Montana coal fields.
   Mg. Mag., vol. 11, pp. 241-260, 7 figs., 1905.

Rowley (R. R.).

1. Two new genera and some new species of fossils from the upper Paleozoic rocks of Missouri.
   Am. Geol., vol. 27, pp. 343-355, 1 pi., 1901.
   Describes species of two little-known groups of blastoids.

2. New species of fossils from the Subcarboniferous rocks of northeastern Missouri.
   Am. Geol., vol. 29, pp. 303-310, 1902.

3. The Echinodermata of the Missouri Silurian and a new brachiopod.
   Am. Geol., vol. 34, pp. 269-282, 1 pi., 1904.

4. Missouri paleontology.
   Describes various species of fossils, in part new, mainly Echinodermata, from Mississippian formations of Missouri.

See also Greene (G. K.).

Ruddy (C. A.).

1. The water resources of Washington. Artesian water.

Ruddy (C. A.), Landes (Henry) and.

   See Landes (Henry) and Ruddy (C. A.), 1.

Ruedemann (Rudolf).

1. Hudson River beds near Albany and their taxonomic equivalents.
   Reviews previous work on these strata. Describes the lithologic and faunal characters at various localities in the region and discusses the geologic structure and correlation of the beds. Describes the characters of new species of fossils collected.

2. Trenton conglomerate of Rysedorph Hill, Rensselaer County, N. Y., and its fauna.
   N. Y. State Mus., Bull. 49, pp. 3-114, 9 pls., 1901.
   Describes the stratigraphic relations and characters of the fauna.

   Bull. 301—06—19
Ruedemann (Rudolf)—Continued.

3. The graptolite (Levis) facies of the Beekmantown formation in Rensselaer County, New York.
   N. Y. State Mus., Bull. no. 52, pp. 546-576; 1 pl., 1902.
   Describes the lithologic and faunal characters of the beds, and discusses their relations and correlation with Canadian and European strata of the same age.

4. Growth and development of Goniograptus thurau MiCoy.
   N. Y. State Mus., Bull. no. 52, pp. 576-592, 19 figs., 1902.
   Discusses the ontogeny of the species.

5. Noetling on the morphology of the pelecypods.
   Am. Geol., vol. 31, pp. 34-40, 1 pl., 1903.
   Gives a summary of Noetling's views on the "law of torsion" in pelecypod shells and the relations of the animal and the position of its shell.

6. Professor Jackel's theses on the mode of existence of Orthoceras and other cephalopods.
   Am. Geol., vol. 31, pp. 199-217, 1903.
   Gives a translation of Professor Jackel's theses and some of the discussion following (Zeitschrift der Deutschen geologischen Gesellschaft, 54 Bd., 2 Hft. Protokolle, pp. 67-101, 1902), and discusses these propositions. Includes "Annotations" by John M. Clarke.

   N. Y. State Mus., Bull. 69, pp. 934-958, 4 pls., 1903.
   Describes occurrence, character, geologic position, and paleontology of Upper Cambrian strata in Rensselaer County, New York, and discusses the relations of the Dictyonema beds of Scandinavia, Great Britain, and North America, and the bearing of the latter upon paleogeography.

   Gives a review of investigations upon the graptolites, discusses their structure, morphology, classification, phylogeny, range, and distribution, and gives systematic descriptions of the graptolites from the upper Cambrian and lower Ordovician of New York.

9. The structure of some primitive cephalopods.
   N. Y. State Mus., Bull. no. 50, pp. 296-341, 26 figs., 1905.

Ruedemann (Rudolf), Clarke (John M.) and.
   See Clarke (J. M.) and Ruedemann (Rudolf), 1.

Ruedemann (Rudolf), Clarke (J. M.), and Luther (D. D.).
1. Contact lines of Upper Siluric formations on the Brockport and Medina quadrangles [New York].
   See Clarke (J. M.), Ruedemann (R. J.), and Luther (D. D.). 1.

Ruhl (Otto).
1. The King-Ritter fault.
   Describes occurrence and character of faulting along the northern slope of the Ozark uplift in southwestern Missouri.

2. Observations at Pegmatite Hill (Camden County, Missouri).
   Describes the geologic structure at this locality.

Ruhm (H. D.).
1. The present and the future of the Mount Pleasant phosphate field.
   Describes discovery, occurrence, and production of phosphate rock in the Mount Pleasant phosphate field of Tennessee.

Russell (Israel C.).
1. Geology and water resources of Nez Perce County, Idaho. Part I.
   U. S. Geol. Surv., Water-Supply and Irrigation Papers, no. 53, pp. 1-85, 10 pls., 4 figs., 1901.
   Describes the pre-Tertiary terranes, the Columbia lava, the soils, and the physiography.
Russell (Israel C.)—Continued.

2. Geology and water resources of Nez Perce County, Idaho. Part II.
   U. S. Geol. Surv., Water-Supply and Irrigation Papers, no. 54, pp. 95-141, 10 figs., 1901.
   Describes the character and occurrence of the water supply, building stones, and lignite.
   Includes a bibliography of artesian waters and a note concerning Portland cement.

3. [Report to the National Geographic Society on the recent volcanic eruptions in the
   West Indies.]
   Describes the author's observations in Martinique and St. Vincent.

   Contains additional data on the eruptions and a bibliography.

5. Geology and water resources of the Snake River Plains of Idaho.
   U. S. Geol. Surv., Bull. no. 199, 192 pp., 25 pis., 6 figs., 1902.
   Describes topography, geology and resources of this area.

   Describes composition of Portland cement, method of manufacture, the geologic occurrence,
   properties and composition of limestones, shales, marls and clays occurring in Michigan
   suitable for the manufacture of Portland cement, and the development of the industry.


   U. S. Geol. Surv., Bull. no. 217, 83 pp., 18 pis., 2 figs., 1903.
   Describes climatic conditions, topography, hydrography, recent and Tertiary volcanic forma-
   tions, and the geologic structure of this region, and discusses conditions of origin and accumu-
   lation of petroleum.

9. Preliminary report on artesian basins in southwestern Idaho and southeastern
   Oregon.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 78, 51 pp., 2 pis., 3 figs., 1903.
   Includes a short account of the general geology of the region.

    Reprinted by permission, after revision by the author, from the National Geographic Maga-
    zine, vol. 13, no. 12, December, 1902. See no. 4 above.

    Jour. Geol., vol. 11, pp. 783-785, 1 fig., 1903.
    Describes glacier cornices and discusses their origin.

12. The Pele obelisk.

13. Criteria relating to massive-solid volcanic eruptions.
    Describes massive-solid volcanic eruptions, and discusses the character of the evidence neces-
    sary to determine that volcanic masses have been extruded in a solid state.

14. Physiographic problems of to-day.
    Jour. Geol., vol. 12, pp. 524-560, 1904.
    Discusses the scope, nomenclature, and field of investigation of physiography, the use of ideal
    physiographic types, the primary and secondary features of the earth's surface, and the
    relations of physiography to life and man.

    Includes chapters on the margin of the continent, the topography of the land, climate, plant
    life, animal life, geology, the aborigines, and political geography. In the chapter on geol-
    ogy describes the growth of the continent, the distribution and character of the rocks of
    which it is composed, and the occurrence of economic products.

    Gives a brief account of his life.
Russell (Israel C.)—Continued.

17. Bela Hubbard.
   Gives a brief account of his life.

   Am. Geol., vol. 35, pp. 1-4, 1 pl. (por.), 1905.
   Includes a list of his published writings.

19. The influence of caverns on topography.

20. Hanging valleys.
   Gives a classification of hanging valleys, describes their characters and origin, and discusses
   particularly the characteristics and origin of glaciated hanging valleys.

   Describes the general physiographic features and geology of the region, and in detail the phys­
   iographic features, the character and occurrence of volcanic and stratified rocks and the
   water resources of the counties included in the area under consideration.

22. The Pelé obelisk once more.
   Science, new ser., vol. 21, pp. 924-931, 1 fig., 1905.
   Discusses the mode of formation of the spire of Mont Pelé.

23. A geological reconnaissance along the north shore of Lakes Huron and Michigan.
   Describes briefly the character and occurrence of Ordovician, Silurian, and Devonian strata,
   and in detail the extent, character, and origin of Glacial deposits, and various physiographic
   features.


Rutland (Joshua).

1. Mammals and reptiles; or what was the Ice ages?
   Describes their occurrence and characters in geologic times.

Rutledge (J. J.), Clark (W. B.), Martin (G. C.) and

1. Distribution and character of the Maryland coal beds.
   See Clark (W. B.), Martin (G. C.), and Rutledge (J. J.), 1.

Rutley (Frank).

1. Mineralogy.
   p. 923, 1901.

Safford (J. M.).

   Describes the geologic relations of the various phosphate deposit

2. Classification of the geological formations of Tennessee.
   Gives in tabular form a list of the geological formations of Tennessee and includes brief notes
   regarding them.

Safford (J. M.), and Killebrew (J. B.).

1. The elements of the geology of Tennessee.
   Nashville, Tenn., 1900. 294 pp., 45 figs.

Salazar (Leopoldo).

1. Apuntes relativos al mineral de Taxco de Alarcon (Estado de Guerrero) [México].
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Salisbury (Rollin D.).
1. The surface formations in southern New Jersey.
   Describes the character and occurrence of the surface formations of pre-Pleistocene and
   Pleistocene ages in southern New Jersey.

2. Glacial work in the western mountains in 1901.
   Jour. Geol., vol. 9, pp. 718-731, 1901.
   Describes the results of the work of several parties of students in various parts of western
   United States.

3. [In discussion of paper by T. C. Chamberlin on "The geologic relations of the
   human relics of Lansing, Kansas."]

4. Recent progress in glaciology.

5. Three new physiographic terms.
   Defines, discusses, and illustrates the application of the physiographic terms topographic
   unconformity, topographic and structural adjustment, and superimposed youth.

6. The mineral matter of the sea, with some speculations as to the changes which
   have been involved in its production.
   Jour. Geol., vol. 13, pp. 499-484 1905
   Discusses the amounts of various kinds of mineral matter in the sea, and the bearing of these
   facts upon geologic history and geologic time.

Salisbury (Rollin D.) and others.
1. New York City folio, New York-New Jersey.
   See Merrill (F.I.H.) and others, 1.

Salisbury (Rollin D.) and Blackwelder (Eliot).
   Jour. Geol., vol. 11, pp. 216-223, 2 figs., 1903.
   Describes distribution of glaciers in the region, and character, occurrence, and age of the
   glacial deposits.

Salisbury (Rollin D.), assisted by Kümml (Henry B.), Peet (Charles E.), and
Knapp (George N.).
1. The glacial geology of New Jersey.
   N. J. Geol. Surv., Final Rept., vol. 5, xxv+ 802 pp., 66 pls., 102 figs. in text, 4 maps (in pocket),
   1902.
   Discusses character, distribution, and origin of the drift, the development of the ice sheet,
   the topographic and drainage changes produced by it, the history and cause of the Glacial
   period, and describes in detail the drift features of northern New Jersey

Salisbury (Rollin D.), Chamberlin (Thomas C.), and.
   See Chamberlin (Thomas C.) and Salisbury (Rollin D.), 1.

Sapper (Carl).
   Petermanns Mitteilungen, Bd. 46, pp. 149-161, 1 pl., 1900.

2. Die südlichsten Vulkane Mittel-Amerikas.
   Describes volcanoes in the southern part of Central America.

3. Die Alta Verapaz (Guatemala).
   Describes the general geology, the character and occurrence of pre-Paleozoic, Paleozoic,
   Mesozoic, Tertiary, and Cenozoic formations, the geologic history, and the petrology of this
   region.

4. Das Erdbeben in Guatemala vom 18. April, 1902.
   Petermanns Mitteilungen, Band 48, pp. 136-191, 1 pl. (map), 1902.
   Describes the earthquake of April 18, 1902, in Guatemala.
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Sapper (Carl)— Continued.

5. Der Ausbruch des Vulkans Santa Maria in Guatemala (Oktober, 1902).
   Describes phenomena connected with the volcanic eruption of Santa Maria in Guatemala in October, 1902.

   Centralbl. f. Min., pp. 71-72, 1903.
   Gives further observations upon the eruption of the volcano St. Maria in Guatemala.

7. Die jüngsten Ereignisse am Vulkan Izalco (Salvador).
   Describes volcanic phenomena in Salvador.

8. Ein Besuch der Insel Grenada.
   Gives observations upon volcanic deposits of this island.

   Centralbl. f. Min., pp. 246-258, 5 figs., 1903.
   Gives observations upon the geology and volcanic phenomena of St. Vincent.

    Gives observations upon the geology and sulphur springs of the island.

11. Ein Besuch der Insel Montserrat (Westindien).
    Centralbl. f. Min., pp. 279-283, 1 fig., 1903.
    Gives observations upon the geology of the island.

    Gives observations upon geologic features of the island.

    Gives observations upon the geology of these islands.

    Centralbl. f. Min., pp. 319-323, 2 figs., 1903.
    Gives observations upon the geology and fumaroles of the island.

15. Ein Besuch von Martinique.
    Centralbl. f. Min., pp. 337-388, 7 figs., 1903.
    Describes observations upon the geology of the island and the phenomena connected with the eruptions of Mont Pelée.

    Centralbl. f. Min., pp. 369-373, 2 figs., 1903.
    Describes the crater of the Soufrière of St. Vincent.

17. Ein Besuch der Inseln Nevis und S. Kitts (S. Christopher) [West Indies].
    Gives observations upon the geologic formations of the island.

    Globus, Bd. 84, pp. 297-303, 377-388, 1903.
    Describes the eruption and its effects of the Soufrière on St. Vincent.

    Discusses volcanic and related phenomena of the Lesser Antilles that took place in 1902 and 1903, the character and occurrence of the volcanic rocks ejected, and the forms of the Antillean volcanoes.

    Neues Jahrb. f. Min., etc., Bd. 1, pp. 59-90, 7 pls., 8 figs., 1904.
    Describes volcanic eruptions of 1902 in Central America.

    Notes the activity of some volcanos in several States of Central America.
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Sapper (Carl)—Continued.

   Describes briefly the general geologic structure of Central America.

23. Ein neuer Vulkanausbruch in Mittelamerika.
   Centralbl. f. Min., Geol. u. Pal., no. 6, pp. 172-175, 1905.
   Describes an eruption of the volcano Momotombo in Nicaragua that took place in January 1905.

   Stuttgart: Verlag der E. Schweizerbartschen Verlagsbuchhandlung (E. Nigeli), 1905. vi, 334 pp., 33 pls. and 45 figs.
   Describes volcanic eruptions of 1902-3, and physiographic and geologic features of the Lesser Antilles.

Sardeson (Frederick W.).

1. The Saint Peter sandstone.
   Discusses geographic distribution and lithologic characters, and describes the fauna.

2. The fauna of the Magnesian series.

3. Problem of the Monticuliporoidea. I.
   Jour. Geol., vol. 9, pp. 1-27, 1 pl. and 1 fig., 1901.
   Describes the characters of various species of Trachyphyllum and discusses their affinities.

4. Problem of the Monticuliporoidea. II.
   Jour. Geol., vol. 9, pp. 149-178, 1 pl., 1 fig., 1901.
   Describes the general characters of various species of Cryptostomata and discusses their affinities.

5. Note on the western Tertiary.
   Contains notes on the occurrence of fossils as indicating the mode of formation of the strata.

6. Paleozoic fossils in the drift [Minnesota].

7. Fossils in the St. Peter sandstone.

8. The lower Silurian formations of Wisconsin and Minnesota compared.

9. The range and distribution of the lower Silurian fauna of Minnesota, with descriptions of some new species.

10. On the deceptive fossilization of certain pelecypod species and on the genus Eurymya.
    Describes the preservation of Moliolopsis plana Hall.

11. The Carboniferous formations of Humboldt, Iowa.
    Am. Geol., vol. 30, pp. 300-312, 1 pl., 1902.
    Describes the occurrence of the Kinderhook at this locality and the characters of the fossils collected.


13. The phylogenic stage of the Cambrian Gastropoda.
    Jour. Geol., vol. 11, pp. 409-422, 2 pls., 1903.

    Jour. Geol., vol. 13, pp. 351-357, 2 figs., 1905.
Sarle (Clifton J.).
1. Reef structures in Clinton and Niagara strata of western New York.
   Describes occurrence of irregular, hardened masses in the limestone and discusses their origin. Describes similar occurrences in other geologic horizons.

   N. Y. State Mus., Bull. 66, pp. 1080-1108, 21 pls., 1903.

3. Economic geology of Monroe County and contiguous territory [New York].
   Describes the general geology of the county, and the occurrence and utilization of stone, clays, sand, gravel, gypsum, and peat.

4. The burrow origin of Arthropycus and Dedealos (Vexillum).

Savage (T. E.).
1. Drift exposure in Tama County [Iowa].
   Describes the strata exposed in a railroad cutting and refers them to the Kansas drift, Aftonian inter-Glacial period, and pre-Kansan drift.

2. Geology of Henry County [Iowa].
   Describes the physiographic and drainage features, geologic structure, and economic products of this county.

3. Geology of Tama County [Iowa].
   Iowa Geol. Surv., vol. 13, pp. 185-253, 13 figs., 1903.
   Describes topography and drainage, the character, occurrence, and geologic relations of Devonian and Carboniferous strata and Glacial and post-Glacial deposits, and the economic resources.

4. The Toledo lobe of Iowan drift.
   Describes the geographic position, physiographic features, and component materials of this portion of the drift sheet, and the distribution of drift deposits in the lobe, and the sequence of geologic events producing them.

5. A buried peat bed in Dodge Township, Union County, Iowa.
   Describes occurrence and geologic relations of a peat bed in glacial deposits, and discusses its origin.

6. Report of the assistant State geologist [Iowa].
   Outlines the official work carried on by the author.

7. Geology of Benton County [Iowa].
   Describes the physiographic features, the occurrence, character, and relations of Devonian and Mississippian strata and Pleistocene deposits, and the economic products.

8. Geology of Fayette County [Iowa].
   Describes the physiography, the occurrence, character, and relations of Ordovician, Silurian, and Devonian strata and Pleistocene deposits, and the economic resources.

Savicki (Wm. V.).

Scalia (S.), Burckhardt (C.) and.
1. La faune marine du Trias Supérieur de Zacatecas [Mexique].
   See Burckhardt (C.) and Scalia (S.), 1.

Schaller (Waldemar T.).
Schaller (Waldemar T.)—Continued.
2. Spodumene from San Diego Co., California.
   Describes occurrence, crystallization, physical properties, and composition.

3. Notes on some California minerals.
   Describes the character, occurrence, and composition of halloysite, amblygonite, boothite,
   pisanite, and a quartz pseudomorph.

4. The tourmaline localities of southern California.
   Describes the occurrence and character of tourmaline deposits.

5. Dumortierite.
   Describes the general and crystallographic characters, and composition of this mineral.


7. Dumortierite.
   U. S. Geol. Surv., Bull. no. 262, pp. 91-120, 3 figs., 1905.

8. Mineralogical notes.
   U. S. Geol. Surv., Bull. no. 262, pp. 121-144, 4 figs., 1905.
   Describes the occurrence, composition, and optical and other properties of various minerals.

Schaller (W. T.) and Hillebrand (W. F.).
1. Crystallographical and chemical notes on lawsonite.

2. Notes on lawsonite.
   U. S. Geol. Surv., Bull. no. 262, pp. 58-60, 1 fig., 1905.
   Describes the optical characters and chemical composition.

Schaller (W. T.), Graton (L. C.) and.
1. Purpurite, a new mineral.
   See Graton (L. C.) and Schaller (W. T.), 1.

Scherer (George H.).
1. Geology of the Hahatonka district, Camden County [Missouri].
   Gives an account of the occurrence and geologic formations of the region and of the springs.

Schiotz (O. E.).
1. Results of the pendulum observations and some remarks on the constitution of
   the earth’s crust.

Schmeckebier (Laurence F.).
1. Catalogue and index of the publications of the Hayden, King, Powell, and
   Wheeler surveys, namely: Geological and Geographical Survey of the Terri-
   tories, Geological Exploration of the Fortieth Parallel, Geographical and Geo-
   logical Surveys of the Rocky Mountain region, Geographical and Geological
   Surveys west of the One Hundredth Meridian.
   U. S. Geol. Surv., Bull. no. 222, 208 pp., 1904.

Schmidt (C.).
1. Ueber vulkanische Asche, gefallen in San Cristobal L. C. (Süd-Mexiko), am 25
   Oktober 1902.
   Centrbl. f. Min., p. 131, 1703.
   Discusses the composition of volcanic ashes.

Schmitt (Joseph).
Schneider (Philip F.).
1. Notes on the geology of Onondaga County, N. Y.
   Syracuse, N. Y., 47 pp., 1894. (Privately printed.)
   Describes the character, occurrence, and geologic relations of the formations of Silurian and
   Devonian age in this county, and gives observations upon the occurrence of fossils.

2. Limestones in central New York.
   Onondaga Acad. Sci., Science ser., no. 1, 16 pp., 1897.
   Describes the occurrence, character, and utilization of the limestones in central New York.

3. The Marcellus fault.
   Describes faulting in the vicinity of Marcellus, N. Y.

   Describes the occurrence and character of the dike rock.

5. The whetstone industry.
   Describes the occurrence and character of the Labrador whetstone in the Portage group in
   the vicinity of Syracuse, N. Y.

6. The geology of the serpentines of central New York.
   Describes the occurrence and petrologic characters of dikes at Syracuse, N. Y.


8. South Onondaga geology.
   In “The Septuagenary of the South Onondaga Methodist Episcopal Society” by W. W.
   Newmnn (Syracuse, N. Y., C. W. Bardeen, 1903, 108 pp.), pp. 80-84, 1904.
   Reviews previous exploration of the region, describes the geography, character, and occur­
   rence of Silurian, Devonian, Cretaceous, Tertiary, and Quaternary strata, and the mineral
   resources, principally gold and coal.

Scholz (Carl).
1. [Discussion of paper by Charles Catlett on “Coal outcrops.”]

2. The coal fields of Arkansas and Indian Territory.
   Mg. Mag., vol. 11, pp. 520-524, 2 figs., 1905.

Schottler (W.).
1. Bemerkung über die in San Cristobal (S.-Mexico) am 25 Okt. 1902 gefallene
   Asche.
   Describes petrographic characters of volcanic ashes from San Cristobal, in southern Mexico.

Schrader (Frank Charles).
   Describes the character and occurrence of the Silurian, Devonian, Carboniferous and Meso­
   zoic rocks.

2. The geological section of the Rocky Mountains in northern Alaska.

3. Reconnaissance in northern Alaska across the Rocky Mountains, along Koyukuk,
   John, Anaktuvuk, and Colville rivers, and the Arctic coast to Cape Lisburne,
   in 1901.
   U. S. Geol. Surv., Professional Paper no. 20, 139 pp., 16 pls., 4 figs., 1901.
   Reviews previous exploration of the region, describes the geography, character, and occur­
   rence of Silurian, Devonian, Cretaceous, Tertiary, and Quaternary strata, and the mineral
   resources, principally gold and coal.
FOR THE YEARS 1901-1905, INCLUSIVE.

Schrader (F. C.) and Brooks (Alfred H.).
1. Some notes on the Nome gold region of Alaska.
Describes the topography of the region, the occurrence of the placers, and the origin of the beach placers.

Schrader (Frank C.) and Haworth (Erasmus).
1. Oil and gas of the Independence quadrangle, Kansas.
Describes occurrence and character of clays, and their manufacture into brick and other wares.

Schrader (Frank Charles) and Spencer (Arthur Coe).
1. The geology and mineral resources of a portion of the Copper River district, Alaska.
U.S. Geol. Surv. (Special reports on Alaska.) 94 pp., 13 pis., 1901.
Describes the general geography and physiography, the occurrence and character of the sedimentary and igneous rocks, and the occurrence of copper and gold.

Schrader (F. C.), Haworth (E.) and.
See Haworth (E.) and Schrader (P. C.), 1.

Schrader (F. C.), Mendenhall (Walter C.) and.
1. The mineral resources of the Mount Wrangell district, Alaska.
See Mendenhall (W. C.) and Schrader (F. C.), 1.
2. Copper deposits of the Mount Wrangell region, Alaska.
See Mendenhall (W. C.) and Schrader (F. C.), 2.

Schramm (Eck Frank).

Schuchert (Charles).
1. On the Helderbergian fossils near Montreal, Canada.
Am. Geol., vol. 27, pp. 245-256; 4 figs., 1901.
Contains notes on the fossils and probable correlations of the St. Helens Island faunas of New York. Figures two new species.
2. Morse on living brachiopods.
Am. Geol., vol. 31, pp. 112-121, 1903.
Reviews "Observations on living brachiopods," by Edward S. Morse, especially such parts as have a direct bearing on fossil forms. Includes observations on paleozoic forms.
Am. Geol., vol. 31, pp. 131-135, 1 pl. (por.), 1903.
Gives a sketch of the life of Mr. I. H. Harris and an account of the collection which he accumulated.
Am. Geol., vol. 31, pp. 160-178, 3 figs., 1903.
Discusses stratigraphic position of the Coralline limestone of the New York series and gives notes upon its fauna, with descriptions of some species.
5. On the faunal provinces of the middle Devonic of America and the Devonic coral sub-provinces of Russia, with two paleographic maps.
Gives a summary of Lebedew's work on the corals of Russia, describes the faunal provinces of the American middle Devonic and relations of their faunas with one another and with the faunas of European provinces, and tabulates the distribution of American corals in the Mississippian and Dakota seas.
Schuchert (Charles)—Continued.

6. On new Siluric Cystoidea and a new Camarocrinus. 

7. On the lower Devonic and Ontaric formations of Maryland.
   Describes character, occurrence, faunal contents, and geologic relationships of Silurian and
   Devonian strata in Allegany County, Maryland, and vicinity.

8. A noteworthy crinoid.
   A brief note on the occurrence of Uintacrinus socialis.

   Gives an account of his life and paleontologic work, and a list of his published papers.

10. The stratigraphy and paleontology of the Niagara of northern Indiana.
    Reviews a paper with the above title in the Twenty-eighth Annual Report of the Geological
    Survey of Indiana by E. M. Kindle, and discusses the subject-matter of the paper.

11. On Siluric and Devonic Cystoidea and Camarocrinus.
    Describes the occurrence near Keyser, West Virginia, of a cystid fauna, and gives a section
    of the strata of the Manlius formation at this locality and systematic descriptions of
    Silurian and Devonian cystids.

    Am. Geol., vol. 33, pp. 143-154, 1904.

    The reviewer includes notes of his own observations upon the occurrence and relations of
    Devonian faunas in the Appalachian region.


15. John Bell Hatcher.
    Am. Geol., vol. 35, pp. 131-141, 1 pl. (por.), 1905.
    Includes a list of his published writings.

Schuchert (Charles), assisted by Dall (W. H.), Stanton (T. W.), and Bassler
   (R. S.).

1. Catalogue of the type specimens of fossil invertebrates in the Department of Geology,
   United States National Museum.
   In the introduction to the catalogue discusses the kinds and nomenclature of type material.

Schuchert (Charles) and Buckman (S. S.).

1. The nomenclature of types in natural history.
   Science, new ser., vol. 21, pp. 899-901, 1905.

Schuchert (Charles), Ulrich (E. O.) and.

1. Paleozoic seas and barriers in eastern North America.
   See Ulrich (E. O.) and Schuchert (C.), 1.

Schultz (Alfred R.).

   Describes briefly the topography, general geology, and the underground water resources.

Schwarz (T. E.).

1. Notes on an occurrence of mica in Boulder County [Colorado].

2. Features of the occurrence of ore at Red Mountain, Ouray County, Colo.
   Discusses the occurrence of the ore bodies.
Scott (A. C.).
1. A brief summary of glacier work.
   Gives a general summary of the literature of glaciology.

Scott (Dunkinfield Henry).
1. Studies on fossil botany.

Scott (O. N.).
1. The ore deposits of Copper Mountain, Similkameen district, British Columbia.
   Describes the rocks of this area, the occurrence of the ore bodies, and their origin.

Scott (W. B.).
1. Historical geology.
   Abstract of lecture delivered at the Wagner Institute, Philadelphia, Pa.

2. Earth carrying.
   Abstract of lecture delivered at the Wagner Institute, Philadelphia, Pa.

3. John Bell Hatcher.
   Science, new ser., vol. 20, pp. 139-142, 1904.
   Gives an account of his life and work.

Scudder (Samuel H.).

Seals (John Henry).
1. The physical geography, geology, mineralogy, and paleontology of Essex County, Massachusetts.
   Salem, Mass., Published by the Essex Institute, 1905. 418 pp., 209 figs., map (in pocket).

Sebbin (E. W.).
1. Geology of Mexico.
   Gives a brief account of the general geology of Mexico.

Seely (Henry M.).
1. Sketch of the life and work of Augustus Wing.
   Describes the life of Augustus Wing and his work on the geology of Vermont.

2. The geology of Vermont.
   The Vermonter, vol. 5, pp. 53-67, Illus., 1901.
   Gives a general account of the geology of Vermont.

3. Some sponges of the Chazy formation.
   Discusses geologic position and gives descriptions of these forms.


5. The Stromatoceria of Isle La Motte, Vermont.

Sellards (E. H.).
1. Permian plants. Tseniopteris of the Permian of Kansas.
Sellards (E. H.)—Continued.

2. Fossil plants in the Permian of Kansas.
   Describes occurrence of the plant remains at various localities.

3. On the fertile fronds of Crossotheca and Myriotheca, and on the spores of other Carboniferous ferns from Mazon Creek, Illinois.

4. On the validity of Idiophyllum rotundifolium Lesquereux, a fossil plant from the Coal Measures of Mazon Creek, Illinois.
   Considers that the characters of this fossil plant agree with Neuropteris marinervis Bumb, and that the genus Idiophyllum has no standing.

5. Some new structural characters of Paleozoic cockroaches.
   Discusses structural features and immature stages, and describes several forms of Carboniferous cockroaches.

6. Codonotheca, a new type of spore-bearing organ from the Coal Measures.


8. A study of the structure of Paleozoic cockroaches, with descriptions of new forms from the Coal Measures.

Sellards (E. H.), Beede (J. W.) and.

1. Stratigraphy of the eastern outcrop of the Kansas Permian.
   See Beede (J. W.) and Sellards (E. H.), 1.

Shaaf (Albert), Price (J. A.) and.

1. Spy Run and Poinsett lake bottoms.
   See Price (J. A.) and Shaaf (A.), 1.

2. Abandoned meanders of Spy Run Creek [Indiana].
   See Price (J. A.) and Shaaf (A.), 2.

Shaler (M. K.), Taff (J. A.) and.

1. Notes on the geology of the Muscogee oil fields, Indian Territory.
   See Taff (J. A.) and Shaler (M. K.), 1.

Shaler (N. S.).

1. Broad valleys of the Cordilleras.
   Discusses the origin and development of these valleys and the bearing of the evidence on the orographic features of the region.

2. A comparison of the features of the earth and the moon.

Sharwood (W. J.), Eakle (A. S.) and.

1. Luminescent zinc-blende.
   See Eakle (A. S.) and Sharwood (W. J.), 1.

Shattuck (C. H.).

1. A fossil forest in Jackson County [Kansas].
   Describes the occurrence of fossil plants in the Carboniferous of Jackson County, Kansas.

Shattuck (George Burbank).

1. The Pleistocene problem of the North Atlantic coastal plain.
   Johns Hopkins Univ., Circular no. 152, pp. 69-75, 1901; Am. Geol., vol. 28, pp. 87-107, 1901.
   Reviews the opinions of various writers on these problems and gives the author's conclusions.

2. Apparent unconformities during periods of continuous sedimentation.
FOR THE YEARS 1901-1905, INCLUSIVE.

3. Development of knowledge concerning the physical features of Cecil County [Maryland], with bibliography.
   Md. Geol. Surv., Cecil Co., pp. 31-62, 3 pls., 3 figs., 1902.

4. The physiography of Cecil County [Maryland].
   Md. Geol. Surv., Cecil Co., pp. 63-82, 4 pls., 1 fig., 1902.
   Discusses topographic features and their origin.

5. The geology of the coastal plain formations [of Cecil County, Maryland].
   Md. Geol. Surv., Cecil Co., pp. 149-194, 5 pls., 4 figs., 1902.
   Describes the character, distribution, and history of geologic formations in this county of Quaternary, Tertiary, and Mesozoic age.

6. The Miocene formation of Maryland.

7. The Pleistocene problem in Maryland.

8. The Mollusca of the Buda limestone, with an appendix on the corals of the Buda limestone.
   U. S. Geol. Surv., Bull. no. 205, 94 pp., 27 pls., 1 fig., 1903.
   Gives a short account of the geology of the Buda limestone in Texas and descriptions of the molluscan fauna found therein.


10. The Miocene deposits of Maryland. Geological and paleontological relations, with a review of earlier investigations.
    Gives a historical review of investigations upon the Maryland Miocene deposits and a bibliography of literature relating thereto, and describes in detail the character, occurrence, relations, etc., of the Miocene formations in Maryland, with sections of strata and a tabular list of fossils, showing geographic and geologic distribution and range.

Shattuck (George Burbank) and Miller (Benjamin Leroy).

1. Physiography and geology of the Bahama Islands.

Sheak (W. H.), Blatchley (W. S.) and.

1. Trenton rock petroleum.
   See Blatchley (W. S.) and Sheak (W. H.), 1.

Shedd (S.).

1. The iron ores of Washington.
   Discusses the distribution, genesis, and working of the iron ores of the State of Washington, and gives chemical analyses.

2. The building and ornamental stones of Washington.
   Discusses physical properties required in building stones, and describes character, occurrence, and utilization of stone deposits of Washington suitable for building and decorative purposes.

Sheldon (George) and (J. M. Arms).

1. Newly exposed geologic features within the old "8,000 Acre Grant."
   New York, 21 pp., 12 pls., 1903. (Private publication.)
   Describes peculiar structural features in sand and clay deposits and columnar trap formations, and discusses their origin.

Sheldon (J. M. Arms).

   Describes the occurrence, character, and constitution of concretions from clay beds in the Connecticut Valley, and discusses their origin.
Shepard (Edward M.).
1. Table of geological formations.
   Gives in tabular form the geologic formations of Missouri correlated with those of Arkansas.
2. Notes on the wells, springs, and general water resources of Missouri.
3. The New Madrid earthquake.
   Jour. Geol., vol. 13, pp. 45-62, 5 figs., 1905.
   Describes the phenomena of the earthquake, features of the earthquake area and associated artesian conditions, and discusses the cause of the earthquake.
4. Spring system of the Decaturville dome, Camden County, Missouri.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 110, pp. 113-125, 4 figs., 1905.
5. Underground waters of eastern United States: Missouri.
   Describes the general geology and the physiographic provinces with particular reference to their underground water supplies.
6. Key to the rocks and geological horizons of Greene County [Missouri].

Day (A. L.) and Shepherd (E. S.).
1. The phase-rule and conceptions of igneous magmas. Discussion of paper by Mr. T. T. Read.
   See Day (A. L.) and Shepherd (E. S.), 1.

Sheridan (Jo E.).
1. Annual report of the mine inspector for the Territory of New Mexico.
   Includes a description of the New Mexico coal fields, showing the occurrence, character, geologic relations, etc., of the coal seams.

Sherwin (R. S.).
1. Notes on the geology of the Antelope Hills [Oklahoma].
   Gives a brief account of the geology of this region.
   Discusses the origin of the gypsum deposits of Kansas and Oklahoma.

Sherzer (William Hittell).
1. Ice work in southeastern Michigan.
   Jour. Geol., vol. 10, pp. 194-216, 8 figs., 1902.
   Describes the general topography, drift and ice action, and scouring in the region.
2. Glacial studies in the Canadian Rockies and Selkirks. (Smithsonian Expedition of 1904.) Preliminary report.

Shimek (B.).
1. Recent decline in the level of Lake Nicaragua.
   Refers to a paper published in 1896 on the same subject.
2. The loess of Iowa City and vicinity [Iowa].
   Gives list of loess and recent fossils, with notes on some of the species.
3. Pyramidula shimekii (Pilsbry) Shimek.
4. The loess of Natchez, Mississippi.
   Am. Geol., vol. 28, pp. 279-299, 7 pls., 1902.
   Gives lists of fossils found in the loess and describes the formation and character of the loess deposits.
Shimek (B.)—Continued.
5. The loess and the Lansing man.
   Am. Geol., vol. 32, pp. 353-369, 1903.
   Discusses the character of the fossil shells occurring in the loess and their bearing upon the question of the origin of the loess.

6. Living plants as geological factors.
   Discusses the action of plants in the disintegration and formation of deposits.

7. Fresh-water shells in the loess.

8. Helicina occulta Say.
   Discusses the geographical and geological distribution of this mollusk, which occurs in a fossil state in the loess.

   Includes the five following papers.

10. The loess of Natchez, Miss.
    This paper appeared in the American Geologist, vol. 30, 1902. See above!

11. The loess and the Lansing man.
    This paper appeared in the American Geologist, vol. 32, 1903. See above.

12. The Lansing deposit not loess.
    Discusses the characters which distinguish loess deposits, and their bearing upon the kind and age of the deposits containing the Lansing human remains.

13. Loess and the Iowan drift.
    Discusses the position of loess deposits with reference to drift deposits, and the bearing of these facts upon the question of the formation of the loess, and points out the stratigraphic position of various loess deposits.

14. Evidences (?) of water-deposition of loess.
    Discusses the evidences advanced for the theory of the deposition of loess by water action.

15. Additional note on Helicina occulta.
    Discusses the occurrence of this shell in the loess and the evidence it gives as to climatic conditions.

Shimer (Hervey Woodburn).
1. Petrographic description of the dikes of Grand Isle, Vermont.
   Discusses the composition and occurrence of the dikes on this island.

   Am. Geol., vol. 31, pp. 62-64, 1903.
   Contains notes on the geology and petrology of Manhattan Island and localities in the vicinity of New York City.

3. [Field work at Larrabee's Point, Vermont.]
   Am. Geol., vol. 32, pp. 130-131, 1903.

   Describes observations in northeastern New Jersey.
   Bull. 801—06——20
Shimer (Hervey Woodburn)—Continued.

5. Upper Siluric and Devonian faunas of Trilobite Mountain, Orange County, New York.

N. Y. State Mus., Bull. 80, pp. 173-269, 3 pls. and 10 figs., 1925.
Describes the situation, general geology and geological structure of Trilobite Mountain, with a brief review of the work previously done, and in detail the character, occurrence, and relations of the Devonian formations and the fossil faunas contained in them.

Shimer (Hervey W.) and Grabau (Amadeus W.).

1. Hamilton group of Thedford, Ontario.

Describes the lithologic and faunal characters of the local sections, discusses the correlation of the beds and presents notes on some of the species.

Siebenthal (C. E.).

1. On the use of the term Bedford limestone.

Jour. Geol., vol. 9, pp. 234-235, 1901.
Discusses the use of the name in Ohio and Indiana and considers that the Bedford of Indiana has priority.

2. The Silver Creek hydraulic limestone of southeastern Indiana.

Reviews the geologic literature regarding the region, describes the stratigraphic and paleontologic features and nomenclature of the Devonian formations, and gives an account of the economic uses of the limestone.

3. The Indiana oolitic limestone industry in 1900.


4. Structural features of the Joplin district [Missouri].

Econ. Geol., vol. 1, pp. 119-128, 1 pl., 1905.
Reviews the views of previous workers in the area regarding the structure of the district and the origin of the ores, and describes the geologic structure of the Cornfield region and discusses its origin.

Silver (L. P.).

1. The sulphide ore bodies of the Sudbury region [Ontario].

Discusses the occurrence and origin of the nickel-bearing ore deposits.

2. Petrography of some igneous rocks of the Kettle River mining division, British Columbia.

Describes their characters and occurrence.

Simmersbach (B.).

1. Die Steinkohlengebiete von Pennsylvanien und Westvirginien.

Zeitsch. f. prak. Geol., vol. 11, pp. 413-423, 1 fig., 1903.
Gives a general account of the Appalachian coal field, describing its geographic extent, and the succession, thickness, character, and distribution of the geologic formations.

Simmons (Jesse).

1. Tungsten ores in the Black Hills.

Describes the occurrence and character of tungsten ores and discusses their origin.

Simonds (Frederic William).

1. The minerals and mineral localities of Texas.

Gives an account of the preparation of a list of Texas minerals and localities.

2. Dr. Ferdinand von Roemer, the father of Texas geology; his life and work.

Am. Geol., vol. 29, pp. 131-140, pl., 1902.

3. The minerals and mineral localities of Texas.

Describes the occurrence of minerals found in Texas.
Simonds (Frederic William)—Continued.
4. The geography of Texas, physical and political.
   Boston, Ginn & Company, 1905. 237 pp., 133 figs.
   Includes a chapter on the geology of Texas.

Simpson (Howard E.).
1. The accretion of flood plains by means of sand bars.

Sinclair (William J.).
1. The discovery of a new fossil tapir in Oregon.
   Jour. Geol., vol. 9, pp. 702-707, 1 fig., 1901.
   Describes Protapirus robustus n. sp. from the John Day beds.
2. A preliminary account of the exploration of the Potter Creek cave, Shasta County, California.
   Describes the situation of the cave, the deposits in it, and the occurrence of vertebrate remains, with a list of the forms identified.
3. Mylagaulodon, a new rodent from the upper John Day of Oregon.
   Describes the characters and relations of a new genus and species.
4. A new tortoise from the auriferous gravels of California.
5. The exploration of the Potter Creek cave (California).
   Describes the general geology and physiography of the region, the stratigraphy of the cave deposits, the occurrence of the remains of Quaternary vertebrates, with a list of identified forms, and their relations to other faunas.
6. New or imperfectly known rodents and ungulates from the John Day series.
7. New Mammalia from the Quaternary caves of California.

Sinclair (William J.) and Furlong (E. L.).
1. Euceratherium, a new ungulate from the Quaternary caves of California.

Sinclair (William J.), Merriam (John C.) and.
1. The correlation of the John Day and the Mascall.
   See Merriam (J. C.) and Sinclair (W. J.), 1.

Skewit (Ethel G.).
1. The Jurassic rocks of East Greenland.
   Gives an historical review of geological exploration in East Greenland, describes the general geologic structure and the occurrence of Jurassic strata and their fossil contents, and discusses the distribution of land and sea during Jurassic time.

Skinner (W. W.).
1. The underground waters of Arizona—their character and uses.

Slichter (Charles S.).
1. The motions of underground waters.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 67, 106 pp., 50 figs., 8 pls., 1902.
2. Field measurements of the rate of movement of underground waters.

Sloan (Earl).
1. The mineral resources of South Carolina.
Slosson (E. E.) and Moody (R. B.).
1. The Laramie cement plaster.
   Describes the occurrence of gypsum beds and the composition and manufacture of cement plaster.

Slosson (E. E.), Knight (W. C.) and.
1. Alkali lakes and deposits [Wyoming].
   See Knight (W. C.) and Slosson (E. E.), 1.

2. The Dutton, Rattlesnake, Arago, Oil Mountain, and Powder River oil fields [Wyoming].
   See Knight (W. C.) and Slosson (E. E.), 2.

3. The Newcastle oil field [Wyoming].
   See Knight (W. C.) and Slosson (E. E.), 3.

4. The Bonanza, Cottonwood, and Douglas oil fields.
   See Knight (W. C.) and Slosson (E. E.), 4.

Smallwood (W. M.) and Hopkins (T. C.).
   Syracuse Univ., Bull., ser. 4, no. 1., pp. 18-24, 1903.
   Describes drainage and geological structure of this region.

Smallwood (Martin), Hopkins (T. C.) and.
1. On some anticlinal folds [Pennsylvania].
   See Hopkins (T. C.) and Smallwood (Martin), 1.

Smith (A. F.), Ball (Sydney H.) and.
1. The geology of Miller County.
   See Ball (Sydney H.) and Smith (A. F.), 1.

Smith (A. F.), Buckley (E. R.), Ball (S. H.), and.
1. Glacial boulders along the Osage River in Missouri.
   See Buckley (E. R.), Ball (S. H.), and Smith (A. F.), 1.

Smith (Alexander H.).
1. "Los Reyes" gold mines, southern Mexico.
   Includes notes on the geology of the region.

Smith (Alva J.).
1. The Americus limestone.
   Describes its distribution in Lyon County, Kansas, and its petrographic and faunal characters.

2. A bulletin on Lyon County geology.
   Emporia, Kansas, 1902. 11 pp., 4 pls. (Private publication.)
   Describes the topography and general geology of Lyon County, Kansas. Parts of the paper were presented to the Kansas Academy of Science, and published in its Transactions, vols. 16 and 17.

3. Geology of Lyon County, Kansas.
   Describes the stratigraphy.

4. Reading blue limestone.

Smith (Burnett).
1. Senility among gastropods.

Smith (Charles E.).
1. Work of the Cornell Summer School of field geology.
   Am. Geol., vol. 30, pp. 396-397, 1902.
Smith (Dwight T.).
1. A geological reconnaissance of the region of the upper main Walker River, Nevada.  
2. The geology of the upper region of the main Walker River, Nevada.  
   Describes the physical features of the region, the occurrence, character, and geologic relations  
   of the sedimentary Tertiary and igneous rocks, the unconformities between formations, the  
   geological structure of the area, and the character and occurrence of gold and copper ore  
   deposits.

Smith (E. Percy) and Dominian (Leon).
1. Notes on a trip to White Oaks, New Mexico.  
   Gives observations on the economic resources and geology of the region.

Smith (Eugene Alien).
1. Carboniferous fossils in “Ocoee” slates in Alabama.  
   Science, new ser., vol. 18, pp. 244-246, 1903.  
   Discusses the determinations of the age of the Ocoee slates and related formations and the  
   occurrence in them of Carboniferous plants in Clay County, Alabama.
2. The Portland-cement materials of central and southern Alabama.  
   Describes character and distribution of Cretaceous and Tertiary limestones suitable for use in  
   the manufacture of Portland cement. Includes a map showing the distribution of these  
   limestones and the coal of northern Alabama.
3. The cement resources of Alabama.  
   Describes location, geologic horizon, character, and availability for cement manufacture of  
   the limestones and clays of Alabama.
4. The cement resources of Alabama.  
   Ala. Geol. Surv., Bull. no. 8, pp. 61-93, 16 pls. (incl. geol. map), 1904.  
   Describes the occurrence, character, and geological relations of limestones in Alabama available  
   for cement manufacture.
5. Notes on the wells, springs, and general water resources of Alabama.  
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 102, pp. 276-331, 1904.
   Describes briefly the geologic formations of the State and their water-bearing conditions.
   Am. Geol., vol. 35, pp. 197-201, 1 pl. (por.), 1905.  
   Includes a list of his published writings.
   Describes the general geology and the occurrence and geological relations of limestones and  
   other cement materials of Alabama.
9. Revised map of the southeastern part of the Cahaba coal field, with columnar  
   section.  
   Ala. Geol. Surv., 1905

Smith (Eugene Alien) and Aldrich (Truman H.).
1. The Grand Gulf formation.  
   Discusses the age of this formation in the light of new data obtained by the authors.
2. The Grand Gulf formation.  
   Science, new ser., vol. 18, pp. 20-26, 1903.  
   Discusses stratigraphic position of the Grand Gulf formation.
Smith (Eugene Alien) and McCalley (Henry).
1. Index to the mineral resources of Alabama.
   Ala. Geol. Surv., 79 pp., map and 6 pls., 1904.
   Describes the occurrence, geologic relations, and character of the economic resources of Alabama.

Smith (Frank B.).
   Contains notes on the geologic occurrence of the coals.

2. The Frank disaster [Alberta].
   Describes the landlord and attendant disasters at Frank, Alberta.

Smith (Fred D.).
1. The Osceola, Nevada, tungsten deposits.
   Eng. & Mg. Jour., vol. 73, pp. 304-305, 1902.
   Describes the occurrence and character of the ores.

Smith (G. F. Herbert).
1. On the remarkable problem presented by the crystalline development of calaverite.
   Min. Mag., vol. 13, pp. 122-150, 9 figs., 1902.

Smith (G. H.).
1. Stateline mining district, Iron County, Utah.
   Describes the general geology of the region and the mining developments.

Smith (George).
1. [In discussion of paper by S. F. Emmons, "The secondary enrichment of ore deposits."]
   Discusses formation of certain ore deposits.

2. The geology of Mount Rainier.
   Describes geologic history of Mount Rainier and the character and occurrence of its igneous rocks.

3. A geological study of the Fox Islands, Maine.
   Describes the character and occurrence of the sedimentary and igneous rocks and the geologic history of the islands.

4. Geology and water resources of a portion of Yakima County, Washington.
   U. S. Geol. Surv., Water-Supply and Irrigation Papers, no. 55, pp. 1-68, 7 pls., 8 figs., 1901.
   Describes the geographic and geologic features of the region and the water resources.

   Contains notes on the geologic structure of this area and the occurrence of gold.

6. Criticism of Doctor Jenney's paper [The mineral crest].
   Eng. & Mg. Jour., vol. 73, p. 826, 1902.
   Discusses the subject in the light of observations in the Tintic district, Utah.

7. The coal fields of the Pacific coast.
   Describes location, geologic relations, and structure of the Pacific coast coal fields occurring in Washington, California, and Oregon, the number, extent, and occurrence of the workable beds, and the character, composition, mining, and distribution of the coals.

   Describes geographic features, drainage, and water supply of the Ellensburg quadrangle, the geologic history of the Cascade Mountains and of the Ellensburg quadrangle, and the character and occurrence of Miocene strata and igneous rocks, and discusses character and origin of structural and physiographic features and economic resources of the quadrangle.
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Smith (George Otis)—Continued.

   Reviews previous work upon the region, describes the character, extent, and relations of igneous rocks and sedimentary strata of pre-Eocene, Eocene, and Miocene age, the geologic history and structure, and physiographic features and history.

   U. S. Geol. Surv., Bull. no. 213, pp. 76-80, 1903.
   Describes occurrence of gold in gravel deposits and quartz veins, and the mining operations in the district.

10. Anticlinal mountain ridges in central Washington.
    Jour. Geol., vol. 11, pp. 166-177, 1 fig., 1903.
    Reviews previous work in the area and describes its geological structure.

11. [Discussion of paper by W. P. Jenney, "The mineral crest, or the hydrostatic level attained by the ore-depositing solutions in certain mining districts of the Great Salt Lake Basin."
    "Discusses the presence of silver and copper deposits in the vicinity of York, Maine."


    Describes physiographic features, the geologic history and structure, the occurrence, character, and relations of pre-Tertiary and Tertiary strata and igneous rocks, and the economic resources, chiefly gold and coal.

14. Quartz veins in Maine and Vermont.
    Describes the occurrence and character of quartz veins carrying precious metals.

15. Stratigraphic problems in the northern Cascades.

    Describes the occurrence and character of molybdenite deposits.

17. The granite industry of the Penobscot Bay quadrangle, Maine.
    Describes the occurrence, quarrying, and production of granite in this part of Maine.

    Includes some account of the geologic conditions of the area.

19. Water supply from Glacial gravels near Augusta, Me.

20. Artesian water in crystalline rocks.
    Discusses the presence of artesian water in crystalline rocks in the vicinity of York, Maine.

Smith (George Otis) and Calkins (Frank C.).

1. A geological reconnaissance across the Cascade Range near the Forty-ninth Parallel.
   U. S. Geol. Surv., Bull. no. 235, 103 pp., 4 pis., 1 fig., 1904.
   Describes the topography and general geology of the region, the occurrence, character, and relations of the pre-Cretaceous, Cretaceous, Tertiary, and Quaternary formations, and the occurrence and petrographic characters of the metamorphic and igneous rocks.

Smith (George Otis) and White (David).

1. The geology of the Perry basin in southeastern Maine.
   Reviews previous work in the area, describes the character, occurrence, and geologic relations of Silurian and Devonian sedimentary rocks and associated lavas, gives systematic descriptions of Devonian plant remains, and discusses the search for coal in Maine.
Smith (George Otis) and Willis (Bailey).
   Describes the character, occurrence, and origin of the ores and the general geologic and structural features of the region.

Smith (James Perrin).
1. The border line between the Paleozoic and Mesozoic in western America.
   *Jour. Geol.*, vol. 9, pp. 512-521, 1901.
   Discusses briefly the criteria by which geologic time divisions of the line between this Paleozoic and Mesozoic as influenced by the faunas of certain beds of Idaho and California and their relation to allied Asiatic and European faunas.
2. Über Pelecypodenzonen in dcr Trias Nord-Amerikas.
   *Centralbl. f. Min., etc.*, no. 22, pp. 689-695, 1902.
   Describes the distribution of Trias sediments and gives a table showing the occurrence and relations of pelecypods in the Trias in North America.
3. The Carboniferous ammonoids of America.
   Reviews briefly the occurrence of ammonoids in the different Carboniferous formations of America, gives tables of the correlation of Carboniferous formations, discusses the classification and phylogeny, and describes and figures American genera and species.
4. Periodic migrations between the Asiatic and the American coasts of the Pacific Ocean.
   Discusses geographic distribution and relations, and evidences of migrations and derivations of faunas in various provinces of Paleozoic, Mesozoic, and Tertiary time, and physiographic changes.
5. The comparative stratigraphy of the marine Trias of western America.
   Describes the general development of Triassic formations in the various geographic provinces of the world, their correlation and faunal characteristics, and in detail the Triassic strata of western North America, and gives systematic descriptions of Triassic genera and species of cephalopods.

Smith (James Perrin) and Weller (Stuart).
1. Prodromites, a new ammonite genus from the Lower Carboniferous.
   *Jour. Geol.*, vol. 9, pp. 255-268, 3 pis., 1901.
   Discusses the occurrence of ammonites in upper Paleozoic rocks of the Mississippi Valley, and describes a new genus and two new species.

Smith (J. P.), Hyatt (A.) and.
1. The Triassic cephalopod genera of America.
   See Hyatt (A.) and Smith (J. P.), 1.

Smith (Otto M.) and Standley (Paul C.).
1. The Pierson Creek mines [Missouri].
   Contains notes on the occurrence and geologic relations of lead and zinc ores.

Smith (Philip S.), Smyth (Henry Lloyd) and.
1. The copper deposits of Orange County, Vermont.
   See Smyth (Henry Lloyd) and Smith (Philip S.), 1.

Smith (W. D.).
1. Advance report to the chief of the Mining Bureau upon the coal deposits of Batan Island [Philippine Islands].

Smith (W. D.).
1. The development of Scaphites.
   *Jour. Geol.*, vol. 13, pp. 585-584, 3 pis., 1905.
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Smith (W. N.).
1. Loon Lake iron-bearing district [Ontario].
   Describes the general geology of the region and the occurrence, character, and relations of deposits of iron ore.

Smith (W. S. Tangier).
   Describes geographic and topographic features, character, and occurrence of igneous rocks and sedimentary deposits of Algonkian, Carboniferous, Jurassiac, Cretaceous, Tertiary, and Quaternary systems, the geologic history and economic products.

2. Lead and zinc deposits of the Joplin district, Missouri-Kansas.
   U. S. Geol. Surv., Bull. no. 213, pp. 197-204, 1903.
   Describes briefly the stratigraphy and geologic structure of the region and the character, occurrence, and origin of the ores.

3. Lead, zinc, and fluor spar deposits of western Kentucky. Part II. Ore deposits and mines.
   Describes the character, occurrence, production, and origin of the lead and zinc ores and fluor deposits and the mining operations.

4. Water resources of the Joplin district, Missouri-Kansas.

5. Igneous rocks of the Sundance folio, Wyoming-South Dakota.
   Describes the character, occurrence, and relations of Algonkian (?) and Tertiary intrusive rocks in the area.

   Describes the occurrence, character, and relations of Algonkian intrusive and Tertiary igneous rocks of this area.

Smith (W. S. Tangier), Darton (N. H.) and.
1. Edgemont folio, South Dakota-Nebraska.
   See Darton (N. H.) and Smith (W. S. T.), 1.

Smith (W. S. Tangier), Ulrich (E. O.) and.
1. Lead, zinc, and fluor spar deposits of western Kentucky.
   See Ulrich (E. O.) and Smith (W. S. T.), 1.

Smock (John C.).
1. Administrative report. (New Jersey Geological Survey.)
   Gives an account of the work of the Survey for the year, and discusses the character and relations of the surface formations of southern New Jersey.

Smyth (C. H., jr.).
1. Geology of the crystalline rocks in the vicinity of the St. Lawrence River.
   Describes the gneiss and associated rocks of the region.

2. Petrography of recently discovered dikes in Syracuse, New York, with note on the presence of melilite in the Green Street dike.
   Describes the megascopic and microscopic characters of the dike rocks.

   Describes the general characters and occurrence of the tourmaline zones and of the associated rocks.

4. The Rosie lead veins [New York].
   School of Mines Quart., vol. 24, pp. 421-429, 1 fig., 1903.
   Describes the character and occurrence of the rocks and galena-bearing veins, and discusses the origin and age of the vein-filling materials.
Smyth (C. H., jr.)—Continued.
5. Notes on the economic geology of Oneida County [New York].
   Describes occurrence and production of the economic resources of this county.

6. Replacement of quartz by pyrite and corrosion of quartz pebbles.

7. The abstraction of oxygen from the atmosphere by iron.

Smyth (H. L.).
1. The origin and classification of placer deposits.

Smyth (Henry Lloyd) and Smith (Philip S.).
1. The copper deposits of Orange County, Vermont.
   Describes the general geology of the region, and the character, occurrence, and origin of the copper ores.

Sollas (W. J.).
1. Evolutional geology.

Souder (Harrison).
1. Mineral deposits of Santiago, Cuba.
   Describes the occurrence and mining of manganese, copper, and iron ores in the vicinity of Santiago, Cuba.

Sovereign (L. Douglas).
1. Gems and rare minerals of southern California.
   Describes the occurrence of valuable mineral deposits in San Diego County, Cal.

Spalding (E. P.).
1. The quicksilver mines of Brewster County, Texas.
   Contains notes on the character and occurrence of the ore.

Spencer (Arthur Coe).
1. The iron ores of Santiago, Cuba.
   Eng. & Mg. Jour., vol. 72, pp. 633-634, 6 figs., 1901.
   Describes the character and geologic relations of the ore bodies.

2. The physiography of the Copper River basin, Alaska.
   Contains abstract of paper read before the Geological Society of Washington.

3. The manganese deposits of Santiago Province, Cuba.

4. The Pacific mountain system of British Columbia and Alaska.
   Discusses physiography of the mountainous region bordering the Pacific Ocean.

5. Pacific mountain system in British Columbia and Alaska.
   Describes physiographic features and discusses their origin.

   Gives an account of the general geology of this region, and the character and occurrence of the deposits of copper ores.

7. Reconnaissance examination of the copper deposits at Pearl, Colo.
   Gives a brief account of the geography and geology of this region, and describes the mining developments.
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Spencer (Arthur Coe)—Continued.

8. Manganese deposits of Santiago, Cuba.
   Describes briefly the geologic structure of the region and the occurrence and probable output
   of manganese ores.

   Describes the general geology and the occurrence and mining of gold.

10. The copper deposits of the Encampment district, Wyoming.
    Describes the general geology and the character and occurrence of Mesozoic, Tertiary, pre-
    Cambrian, and igneous rocks, and copper and silver ore deposits, and discusses the origin
    of the copper-ore bodies.

11. The geology of the Treadwell ore deposits, Douglas Island, Alaska.
    1904.
    Describes the general geology, the occurrence, character, and relations of intrusive, igneous, 
    and sedimentary rocks, and the occurrence, geologic relations, character, and origin of the 
    gold ore deposits.

    Mg. Mag., vol. 10, pp. 377-381, 4 figs., 1904.

13. Pre-Cambrian rocks of the Franklin Furnace quadrangle [New Jersey].

14. The Treadwell ore deposits, Douglas Island.
    U. S. Geol. Surv., Bull. no. 259, pp. 69-87, 4 figs., 1905.
    Describes the general geology, the character, and occurrence of the gold-ore deposits, and 
    surrounding rocks.

15. Progress of work in the pre-Cambrian rocks [of New Jersey].

16. What is a fissure vein?

17. The magmatic origin of vein-forming waters in southeastern Alaska.


Spencer (Arthur Coe), Hayes (C. Willard), Vaughan (T. Wayland), and.
   See Hayes (C. W.), Vaughan (T. W.), and Spencer (A. C.), 1.

Spencer (Arthur Coe), Schrader (Frank C.) and.
1. The geology and mineral resources of a portion of the Copper River district, Alaska.
   See Schrader (F. C.) and Spencer (A. C.), 1.

Spencer (Joseph William Winthrop).
1. On the geological and physical development of Antigua.

2. On the geological and physical development of Guadelupe.

3. On the geological and physical development of Anguilla, St. Martin, St. Bartholo-
    mew, and Sombrero.

4. On the geological and physical development of the St. Christopher chain and 
    Saba Banks.
Spencer (Joseph William Winthrop)—Continued.
5. On the geological and physical development of Dominica; with notes on Martinique, St. Lucia, St. Vincent, and the Grenadines.
   Contains notes on physiography and on the volcanic, gravel, and terrace formations.
6. On the geological and physical development of Barbados; with notes on Trinidad.
   Discusses the physiographic and stratigraphic features.
7. The Windward Islands of the West Indies.
   Gives an account of physiographic and geologic features of these islands.
8. On the geological relationship of the volcanoes of the West Indies.
   Discusses physiographic features and changes of the West Indies islands and the submerged plateau upon which they rest, the place of their igneous formations in geologic history, and the evidences of the geologic age of the volcanic activity and its relations to physical changes in the Antillean region.
9. Geological age of the West Indian volcanic formations.
   Am. Geol., vol. 31, pp. 48-51, 1 fig., 1903.
   Discusses the geologic history of the region.
10. Submarine valleys off the American coast and in the North Atlantic.
    Describes the submerged Atlantic coastal plain from Cape Hatteras to Newfoundland and the channels traversing it, discusses geological data and evidences of the age of the submerged valleys, and describes submerged valleys of the North Atlantic and adjacent Arctic basins.
11. A rejoinder to Dr. Dall's criticism on Dr. Spencer's hypothesis concerning the late union of Cuba with Florida.
    Am. Geol., vol. 34, pp. 110-119, 1904.
12. The submarine great canyon of the Hudson River.
    Am. Geol., vol. 84, pp. 292-293, 1904.
    Describes the course, depth, etc., of the Hudson River channel.
13. The submarine great canyon of the Hudson River.
    Reviews previous work upon the subject and gives additional data upon the position, depth, and character of the Hudson River canyon, and discusses its origin.
14. On the physiographic improbability of land at the North Pole.
16. Dr. Nansen's "Bathymetrical features of the north polar sea, with a discussion of the continental shelves and the previous oscillations of the shore-line."
17. [Discussion of paper by R. S. Tarr, "Gorges and waterfalls of central New York."]

Spencer (W. K.).
1. On the structure and affinities of Paleodiscus and Agelacrinus.
   The investigation described is based in part upon specimens of Agelacrinus from the Ordovician of Ohio.

Spillman (W. J.).
1. Natural mounds.
   Discusses the occurrence and origin of these mounds in southwestern Missouri.
Spinks (Charles H.).
1. Magnesite and its uses.
   Describes the occurrence and geologic relations of magnesite deposits in southern California,
   and discusses their origin.

Springer (Ada).
1. On some living and fossil snails of the genus Physa, found at Las Vegas, New
   Mexico.

Springer (Frank).
1. Uintacrinus: its structure and relations.
   Describes occurrence, structure, and relations of this crinoid from Cretaceous strata.
2. On the crinoid genera Sagenocrinus, Forbesiocrinus, and allied forms.
   Am. Geol., vol. 30, pp. 88-97, 1 fig., 1902.
   Includes description of a new species of Sagenocrinus.
3. Cleiocrinus.

Spurr (Josiah Edward).
   98, 1901.
   Describes the structural features of the ranges in the Great Basin region and discusses their
   origin.
   Jour. Geol., vol. 9, pp. 586-606, 1 fig., 1901.
   Describes the character and occurrence of the variations of certain andesitic and rhyolitic
   rocks and gives chemical analyses.
3. The ore deposits of Monte Cristo, Washington.
   Jour., vol. 74, pp. 240-241, 4 figs., 1902.
   Describes petrology, general geologic relations and structure of the area, and character,
   occurrence and origin of the ores.
4. Application of geology to mining.
   Discusses relations of geology and mining.
5. The original source of the Lake Superior iron ores.
   Am. Geol., vol. 29, pp. 355-349, 1902.
   Describes the origin of these ores as being derived from a sedimentary rock containing large
   quantities of glauconite.
6. Descriptive geology of Nevada south of the Fortieth Parallel and adjacent portions
   of California.
   U. S. Geol., Surv., Bull. no. 208, 229 pp., 8 pls., 25 figs., 1903.
   Describes physiographic features, character and occurrence of sedimentary and igneous rocks
   and ore deposits and structure of the region, including résumé of previous publications and
   unpublished data furnished by C. D. Walcott, H. W. Turner, F. B. Weeks, R. B. Rowe, G. H.
   Girty, and E. O. Ulrich.
7. The determination of the feldspars in thin section.
   Am. Geol., vol. 31, pp. 376-383, 1903.
8. Ore deposits of Tonopah and neighboring districts, Nevada.
   U. S. Geol. Surv., Bull. no. 213, pp. 81-87, 1903.
   Discusses the history of the development of the field, the topography, general geology, and
   character and occurrence of the ore deposits.
Spurr (Josiah Edward)—Continued.
   U. S. Geol. Surv., Bull. no. 219, 34 pp., 1 pl., 4 figs., 1903.
   Gives a brief history of the discovery and development of this mining district, and describes
   the geologic structure and history of the region, the periods and nature of mineralization,
   and the occurrence of the ores and their relation to the geologic structure.

10. Relation of rock segregation to ore deposition.
    Discusses the origin of ore deposits.

11. The ore deposits of Tonopah, Nevada.
    Describes the geologic structure of the region and the occurrence of the ore deposits of precious
    metals.

12. A consideration of igneous rocks and their segregation or differentiation as related
    to the occurrence of ores.
    Discusses the relations of igneous rocks and ore deposits, and the origin of the latter.

13. [In discussion of paper by Waldemar Lindgren, "The geological features of the
    gold production of North America."]
    Discusses the age of certain gold deposits in Alaska.

14. The application of geology to mining.

15. [Genetic classification of ore deposits.]

16. The relation of faults to topography.

17. Preliminary report on the ore deposits of Tonopah, Nevada.
    U. S. Geol. Surv., Bull. no. 225, pp. 89-110, 1 pl. (geol. map), 4 figs., 1904.
    See no. 9 above.

18. Ore deposits of Silver Peak quadrangle, Nevada.
    Describes the general geology and the character and occurrence of the gold and silver ore
    deposits and the mining operations.

    Describes the general geology and the occurrence of gold-bearing quartz veins.

20. Coal deposits between Silver Peak and Candelaria, Esmeralda County, Nev.
    Describes the general geology of the region, the character and occurrence of the coal, and
    the outlook for development.

21. Alum deposit near Silver Peak, Esmeralda County, Nev.
    Describes location, occurrence, character, and origin of this deposit.

22. The Silver Peak region, Nevada.
    Describes the character, occurrence, and origin of the gold and silver ore deposits.

23. Geology applied to mining. A concise summary of the chief geological principles,
    a knowledge of which is necessary to the understanding and proper exploitation
    of ore deposits for mining men and students.
    New York, The Engineering and Mining Journal, 326 pp., 70 figs., 1904.

24. Faulting at Tonopah, Nevada.

25. The ores of Goldfield, Nev.
    U. S. Geol. Surv., Bull. no. 269, pp. 132-139, 2 figs., 1905.
    Describes the general geology, and the character and occurrence of the veins and the origin of
    the gold ores.
Spurr (Josiah Edward)—Continued.

Describes recent mining developments in this part of Nevada, and gives data upon the character of the gold ores, and the occurrence, relations, and origin of the veins.

27. Tonopah mining district [Nevada].
Describes the geology of the region, the systems of faulting, and the occurrence and character of the gold-silver ores.

28. Descriptive geology of Nevada south of the Fortieth Parallel, and adjacent portions of California.

29. Geology of the Tonopah mining district, Nevada.
Describes the general geology, the geologic structure, the character, occurrence, and relations of igneous rocks, mineral veins, and deposits of gold and silver ores, the origin of the mineral veins, the economic developments, and the physiographic features of the area.

30. Enrichment in fissure veins.
Discusses the localization of ore deposits in veins and the reasons therefor.

31. Genetic relations of the western Nevada ores.
Discusses the general geology, relations, and origin of gold ores of western Nevada.

Spurr (J. E.) and Garrey (G. H.).

1. Preliminary report on ore deposits in the Georgetown, Colo., mining district.
Describes the general geology and petrology, and the character, occurrence, and geological relations of the gold and silver ore deposits.

Standley (P. C.), Smith (O. M.) and.

1. The Pierson Creek mines [Missouri].
See Smith (O. M.) and Standley (P. C.), 1.

Stanton (Timothy W.).

1. [Report on Cretaceous fossils from the John Day Basin, Oregon.]
Univ. of Cal., Dept. of Geol., Bull., vol. 2, pp. 280-284, 1901.
Gives lists of fossils with notes on some of the species and discusses the faunal relations.

2. Chondrodonta, a new genus of ostreiform mollusks from the Cretaceous, with descriptions of the genotype and a new species.

3. The stratigraphic position of the Judith River beds. A correction of Mr. Hatcher's correction.

4. A new fresh-water molluscan faunule from the Cretaceous of Montana.
Discusses the stratigraphic horizon of this faunule, and the occurrences of Cretaceous formations and their correlation, and describes six new species of fresh-water mollusks.

5. Alpheus Hyatt.

U. S. Geol. Surv., Professional Paper no. 21, p. 70, 1 pl., 1904.
Gives a list of species identified and notes on their occurrence. A few of the more characteristic are figured.

7. Stratigraphic notes on Malone Mountain and the surrounding region near Sierra Blanca, Texas.
U. S. Geol. Surv., Bull. no. 266, pp. 23-33, 1905.
Describes the stratigraphy of Cretaceous and Jurassic formations in western Texas.
Stanton (Timothy W.)—Continued.
8. The Morrison formation and its relations with the Comanche series, and the Dakota formation.
   Discusses the occurrence and character of the Morrison formation in Colorado and Wyoming,
   its relations to associated formations, its correlation, and age.
9. The time element in stratigraphy and correlation.
   See also Schuchert (C.), assisted by Dall (W. H.), Stanton (T. W.), and Basler (R. S.), 1.
Stanton (T. W.) and Hatcher (J. B.).
1. Geology and paleontology of the Judith River beds.
   Gives an historical review of previous work upon the Judith River beds, and discusses their
   stratigraphic position, character, relations, and correlations, and gives systematic descrip­
   tions of the vertebrates (Hatcher), invertebrates (Stanton), and plants (Knowlton).
Stanton (T. W.) and Martin (G. C.)
1. Mesozoic section on Cook Inlet and Alaska Peninsula.
   Describes the general geology, and the occurrence, character, relations, and faunal content
   of Triassic, Jurassic, and Cretaceous formations.
Starbird (H. B.)
1. Secondary enrichment in arid regions.
   Describes occurrence and origin of gold and copper ores.
Stead (Geoffrey).
1. Notes on the surface geology of New Brunswick.
   Describes the process of formation of shore deposits along the coast of New Brunswick.
Stearns (C. H.)
1. Some observations on the topography of Athens and vicinity [Ohio].
   Discusses present and former drainage in the vicinity of Athens, Ohio.
Stearns (Robert E. C.).
1. Fossil land shells of the John Day region, with notes on related living species.
2. The fossil fresh-water shells of the Colorado desert, their distribution, environment,
   and variation.
3. Fossil shells of the John Day region [Oregon].
   Describes two new species.
Steigl (A. A.)
1. The ore deposits of La Cananea [Mexico].
   Gives observations upon the geology and the character and occurrence of the copper-ore
   deposits.
Steere (James H.)
1. The Joplin zinc district of southwestern Missouri.
   Gives observations upon the geology and describes the occurrence of the ores and the mining
   operations.
Steiger (George).
1. Preliminary note on silver chabazite and silver analcite.
   Describes experiments undertaken to replace certain silicates by silver.
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Steiger (George)—Continued.
2. The action of silver nitrate and thallous nitrate upon certain natural silicates.
   U. S. Geol. Surv., Bull. no. 262, pp. 75-90, 1905.

Steiger (George), Clarke (Frank Wigglesworth) and.
1. The action of ammonium chloride upon silicates.
   See Clarke (F. W.) and Steiger (George), 1.
2. On "californite."
   See Clarke (F. W.) and Steiger (George), 2.

Steiger (George), Diller (J. S.) and.
1. Volcanic dust and sand from St. Vincent caught at sea and the Barbados.
   See Diller (J. S.) and Steiger (George), 1.

Sternberg (Charles H.).
1. Experiences with early man in America.
   Describes association of human relics with fossil bones of animals and discusses evidence as to their age.
2. The Permian life of Texas.
   Describes the occurrence of fossil remains and physical characters of the Permian Red Beds in Baylor County, Texas.
3. Elephas columbi and other mammals in the swamps of Whitman County, Washington.
   Describes the occurrence of mammalian remains.
4. Notes on the Judith River group.
   Discusses the occurrence of vertebrate fossils and the stratigraphic position of the Judith River beds.
5. Protostega gigas and other Cretaceous reptiles and fishes from the Kansas Chalk.
   Gives notes on the character and occurrence of these fossils.

Sterrett (Douglas B.).
1. Tourmaline from San Diego County, California.
   Describes crystallographic features of this mineral.
2. A new type of calcite from the Joplin mining district.
   Describes the occurrence and crystallographic characters.

Sterrett (Douglas B.), Pratt (Joseph Hyde) and.
1. The tin deposits of the Carolinas.
   See Pratt (J. H.) and Sterrett (D. B.), 1.

Stevens (Blamey).
1. Geology of some copper deposits in Alaska.
2. Relation of rock segregation to ore deposition.
3. On the differentiation of igneous magmas and formation of ores.
4. Acidic magmas, their exhalations and residues.

Stevens (E. A.).
1. An occurrence of limburgite in the Cripple Creek district [Colorado].
   Describes the occurrence and character of this rock type.
   Bull. 301—06—21
Stevens (E. A.)—Continued.
2. Basaltic zones as guides to ore deposits in the Cripple Creek district, Colorado.
   Describes the character and occurrence of igneous rocks and the relations of the dikes,
fissures, and ore deposits.

Stevens (Horace J.).
1. General information of the geology and mines of the Lake Superior copper district.
   Includes an account of the geology of the region.

Stevenson (John J.).
1. Notes upon the Mauch Chunk of Pennsylvania.
   Am. Geol., vol. 29, pp. 242-249, 1902.
   Discusses the nomenclature of a portion of the Carboniferous, presents a section in Pennsyl­
vania, giving a list of fossils from the various horizons determined by Weller, and discusses
the correlation of the formations.

2. The Lower Carboniferous of the Appalachian Basin.


4. Lower Carboniferous of the Appalachian Basin.
   Describes occurrence, stratigraphy, lithologic characters, and geologic relations of Lower
Carboniferous formations in the Appalachian region and discusses their nomenclature and
correlation, and the physiographic conditions prevailing during their deposition.

5. J. Peter Lesley.

6. Carboniferous of the Appalachian Basin.
   Describes in detail the distribution, character, and geologic relations of the various beds of
the Pottsville of the Pennsylvania series in the Appalachian region, giving numerous
detailed sections, and discusses their nomenclature and correlation.

7. Memoir of J. Peter Lesley.
   Includes a list of his published writings.

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1. The deposition of ores from an igneous magma.

2. The deposition of ores from an igneous magma.

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   Illustrates the formation of an igneous magma by an example based upon geologic structure
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1. Teleosts of the upper Cretaceous.

Stewart (John L.).
1. Ore deposits and industrial supremacy.
   Econ. Geol., vol. 1, pp. 257-264, 1905.

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1. The Pennsylvania anthracite coal field.
   Describes the extent, subdivisions, general geologic relations, and structure of the Pennsyl­
vania anthracite coal field, the number and extent of workable beds, the character, com­
position, production, and marketing of the coal.
Stoess (P. C.).
1. The Kayak coal and oil fields of Alaska.
   Describes the general geology of the region and the occurrence of coal and petroleum.

Stokes (H. N.).
1. On pyrite and marcasite.
   Describes the uncertainty of the methods of distinguishing pyrite and marcasite and a method for the quantitative determination of the minerals when in mixture, and discusses the relations of these sulphides to those of copper.

Stokes (H. N.), Merrill (George P.) and.
1. A new stony meteorite from Allegan, Michigan, and a new iron meteorite from Mart, Texas.

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1. Note on the minerals associated with copper in parts of Arizona and New Mexico.
2. Note on the extinct glaciers of New Mexico and Arizona.
   Brief account of occurrence.
3. [Discovery of coal on Turkey Creek, Colorado.]
   Am. Geol., vol. 32, p. 132, 1903.

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1. The Elders Ridge coal field, Pennsylvania.
   U. S. Geol. Surv., Bull. no. 225, pp. 311-324, 1904.
   Describes location and geologic structure of the field and the occurrence and character of the coals.

2. Oil and gas fields of eastern Greene County, Pa.
   Describes the location and general geology of the field, the stratigraphic position and character of the oil and gas producing strata, the geologic structure of the region, and the production of oil and gas.


5. Coal resources of southwestern Alaska.
   Describes briefly the general geology and the various occurrences of coal beds and the character of the coals.

   Describes the physiography, geologic structure, the occurrence, character, and relations of Carboniferous strata and Pleistocene deposits, the geologic history, and the mineral resources, chiefly coal, natural gas, and oil.

   Describes the physiographic features, the occurrence, character, and relations of Carboniferous formations, the geologic structure, the geologic history, and the mineral resources, chiefly coal and natural gas.

   U. S. Geol. Surv., Bull. no. 256, 86 pp., 12 pls., 4 figs., 1905.
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Stoneham (W. J.).
1. Nevada coal field.
   Describes location and general geology of the field and the occurrence and character of the coal.

Storms (W. H.).
1. Some structural features of the California gold belt.
   Describes the character and occurrence of the lodes and veins yielding gold ore.
2. The genesis and character of ore deposits.
3. The Mother Lode in Tuolumne County, California.
   Describes the geologic relations, occurrence, and character of the Mother Lode, the occurrence of the gold-ore bodies, and the mining operations.
4. Ancient gravel channels of Calaveras County, California.
5. The Golden West mine, Pennington County, South Dakota.
   Describes the occurrence and relations of gold-bearing deposits.

Storrs (Arthur H.).
1. The anthracite coal fields of Pennsylvania.
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Storrs (L. S.).
1. The Rocky Mountain coal fields.
   Describes location, extent, geologic relations and development of coal areas in the Rocky Mountains region, the occurrence, thickness, and extent of coal beds, and the character, composition, and utilization of the coal and lignite.

Stose (George W.).
1. The structure of a part of South Mountain, Pennsylvania.
   Describes the stratigraphy and geologic structure of the Cumberland Valley and the occurrence of barite in this region; describes also the occurrence and quarrying of limestone at Martinsburg, W. Va.
   Jour. Geol., vol. 12, pp. 473-484, 3 figs., 1904.
   Describes physiographic features in the Chambersburg and Mercersburg quadrangles and their origin, including the peneplains and their age.

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Stretch (R. H.).
1. The Silverton mining district, Snohomish County, Washington.
   Eng. and Mg. Jour., vol. 72, p. 105, 1901.
   Describes briefly the occurrence of copper ores.
2. The Independent mine at Silverton, Snohomish County, Washington.
   Eng. & Mg. Jour., vol. 73, p. 892, 1902.
   Briefly describes the vein system and occurrence of gold ores.
Stretch (R. H.)—Continued.
3. The Montezuma district, Nevada.
   Eng. & Mg. Jour., vol. 78, pp. 5-6, 1904.
   Describes the general geology and the occurrence of silver-lead ore deposits.

4. Copper ores in the Cascade Mountains.
   Describes the occurrence, character, and geologic relations of copper-ore deposits in the State of Washington.

Strong (A. M.), Arnold (Ralph), and
1. Some crystalline rocks of the San Gabriel Mountains, California.
   See Arnold (Ralph) and Strong (A. M.), 1.

Struthers (Joseph) and Pratt (Joseph Hyde).
1. Tin.
   Includes an account of the occurrence, character, and geologic relations of the rocks in which the tin ores of North Carolina and South Carolina occur, and of the mineralogical and chemical character of the ores.

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1. Report on the agricultural resources and capabilities of Hawaii.
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2. Rückblick auf die Ausbruchsperiode des Mont Pelé auf Martinique 1902-1903 vom theoretischen Gesichtspunkte aus.
   Leipzig, Max Weg, 1904. 24 pp., 20 figs., 4to. (Not seen.)

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   Describes briefly earthquake observations by seismographs in Toronto and Victoria, Canada.

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   Econ. Geol., vol. 1, pp. 67-73, 1905.

Sutton (W. J.).
1. The geology and mining of Vancouver Island.
   Describes the general geology and the occurrence and economic development of coal and copper-ore deposits.

T.

Taff (Joseph A.).
1. A comparison of the Ouachita and Arbuckle Mountain sections, Indian Territory.
   Briefly describes sections of Paleozoic rocks.
2. Colgate folio, Indian Territory.
   Describes the geographic and topographic features, the general geologic relations, the character and occurrence of the Carboniferous, Neocene, and Pleistocene strata, and the occurrence of coal.
3. Atoka folio, Indian Territory.
   Describes geographic and topographic features, the geologic structure, character and occurrence of pre-Cambrian, Cambrian, Cambro-Silurian, Silurian, Devonian, Carboniferous, and Cretaceous strata, and the mineral resources, chiefly coal, granite, and building stones.
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**Taff (Joseph A.)—Continued.**

4. The southwestern coal field.
   
   
   Describes location, extent, stratigraphy, and geologic structure of this coal field, occupying parts of Arkansas, Texas, and Indian Territory, the number and extent of workable beds, the character, composition, and production of the coal.

5. Chalk of southwestern Arkansas, with notes on its adaptability to the manufacture of hydraulic cements.
   
   
   Describes location, geologic age, and occurrence of the chalk and chalk marl deposits of southwestern Arkansas, the geologic history of the region, character, composition, adaptability, and utilization of the chalk, chalk-marls, and clays of Arkansas in the manufacture of Portland cement.

6. Tishomingo folio, Indian Territory.
   
   
   Describes geography, physiography, general relations, pre-Cambrian igneous rocks, Cambrian, Ordovician, Siluro-Devonian, Carboniferous, and Cretaceous sedimentary rocks and Quaternary deposits, geologic structure of the Arbuckle Mountain region, and the mineral resources.

7. Maps of segregated coal lands in the McAlester district, Choctaw Nation, Indian Territory, with descriptions of the unleased segregated coal lands.
   
   
   Describes the character and occurrence of the coal beds and the quality of the coal.

8. Maps of segregated coal lands in the Wilburton-Stigler district, Choctaw Nation, Indian Territory, with descriptions of the unleased segregated coal lands.
   
   
   Describes the occurrence and character of the coal beds and quality of the coal.

   
   
   Describes the occurrence and character of coal beds and quality of the coal.

10. Maps of segregated coal lands in the McCurtain-Massey district, Choctaw Nation, Indian Territory, with description of the unleased segregated coal lands.
    
    U. S., Dept. Interior, Circular no. 4, 54 pp., 1904.
    
    Describes the occurrence and character of the coal beds and the quality of the coal.

11. Maps of segregated coal lands in the Lehigh-Ardmore districts, Choctaw and Chickasaw nations, Indian Territory, with descriptions of the unleased segregated coal lands.
    
    
    Describes the occurrence and character of the coal beds and the quality of the coal.

12. Description of the unleased segregated asphalt lands in the Chickasaw Nation, Indian Territory.
    
    U. S., Dept. Interior, Circular no. 6, 14 pp., 1904.
    
    Describes the occurrence and character of asphalt deposits.

13. Preliminary report on the geology of the Arbuckle and Wichita-mountains in Indian Territory and Oklahoma.
    
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    Describes the physiographic features and history of the region, the occurrence, character, and relations of pre-Cambrian igneous rocks, and Cambrian, Ordovician, Silurian, Devonian, Carboniferous, and Cretaceous sedimentary rocks, and the geologic structure of the Arbuckle and Wichita mountains.

14. Portland-cement resources of Indian Territory.
    
    
    Describes the occurrence of limestones suitable for cement manufacture.

15. Portland-cement resources of Texas.
    
    
    Describes the occurrence, geologic relations, and character of limestones in Texas suitable for Portland-cement manufacture.
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Taff (Joseph A.)—Continued.
16. Progress of coal work in Indian Territory.
Describes the location, extent, and stratigraphy of the coal fields, the character and extent of the coal beds, and the mining developments.

17. Tahlequah folio, Indian Territory-Arkansas.
Describes the physiographic relations and features, the character, occurrence, and relations of Ordovician, Silurian, Devonian, and Carboniferous formations, the history of the sedimentation, the geologic structure, and the economic resources.

18. Some erratic boulders in middle Carboniferous shale in Indian Territory.

Taff (Joseph A.) and Shaler (Millard K.).
1. Notes on the geology of the Muscogee oil fields, Indian Territory.
Describes the location and opening of the field, and the character and occurrence of the oil, and discusses the strata penetrated in the wells.

Taff (H. H.).
1. Notes on southern Nevada and Inyo County, California.
Includes notes on the geology of the region.

Talbot (Mignon).
1. A contribution to the list of the fauna of the Stafford limestone of New York.
2. Revision of the New York Helderbergian crinoids.

Talmon (Marion Clover), Morgan (William Conger), and.
1. A fossil egg from Arizona.
See Morgan (W. C.) and Tallmon (M. C.), 1.
2. A peculiar occurrence of bitumen and evidence as to its origin.
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1. A recent fault slip, Ogden Canyon, Utah.
Gives a brief account of the phenomena.
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Ithaca, New York, 152 pp., 1902.
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3. Post-Glacial and Inter-Glacial (?) changes of level at Cape Ann, Massachusetts.
Describes physiographic features and discusses evidences of changes of level.
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Tarr (Ralph S.)—Continued.

5. Artesian well sections at Ithaca, N. Y.
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   discusses the geologic history of the Ithaca delta.

   Describes various physiographic features bearing on the question of the origin of these
   valleys.

7. Moraines of Seneca and Cayuga Lakes.
   A brief note regarding the occurrence of moraines.


10. Moraines of the Seneca and Cayuga Lake valleys.
    Describes the position and character of the moraines in this region and discusses their rela­
    tions and mode of formation.

    Discusses various peculiarities of drainage in this region and the hypotheses which have been
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   Describes occurrence and composition of a meteorite from Casas Grandes, Mexico.

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   Describes the drift covering of the county and gives a sketch of the Glacial history of the region.

3. The correlation and reconstruction of recessional ice borders in Berkshire County, Massachusetts.
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   Notes on chemical analysis of the dust.

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   Reviews previous descriptions, describes the characters and succession of the strata, and gives notes on the occurrence of characteristic fossils.

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1. The differential thermal conductivities of certain schists.
   Describes methods of experimentation and experiments made to determine the thermal conductivity of certain schists, the results obtained, and the petrographic characters of the schists employed.

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   Discusses character and composition of oil from Texas.

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   Describes phenomena witnessed during an eruption of Mont Pelé.

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   See Landes (H.), Thyng (W. S.), Lyon (D. A.), and Roberts (M.), 1.

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   silt and loess deposits.
Todd (James E.)—Continued.

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4. Hydrographic history of South Dakota.
   Discusses the earth movements that have affected the drainage features of the State.

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6. Concretions and their geological effects.
   Discusses character, occurrence, and modes of growth of concretions and their influence in producing topographic forms.

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8. A newly discovered rock at Sioux Falls, South Dakota.
   Describes the occurrence and character of an igneous rock discovered in this vicinity.

9. Olivet folio, South Dakota.
   Describes geography and topography, general geology, character, and occurrence of Algonkian, Cretaceous, and Quaternary deposits, geologic history, economic and water resources.

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    Gives a general account of the geology of the State of South Dakota.

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    Describes the topography, drainage, and general geology, the character, occurrence, and relations of Cretaceous strata and Quaternary deposits and the geologic history, and discusses the underground water resources of the area.
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   records of borings.

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detail the water resources of the area.

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6. The Greenback copper mine, Kern County, California.

7. Unusual minerals from the Pacific States.
   Describes occurrence of pyromorphite, monazite, apatite and vivianite.

8. An instance of variability in a rock magma.

9. A post-Tertiary elevation of the Sierra Nevada shown by a comparison of the grades of the Neocene and present Tuolumne rivers.

    Discusses the age of the Sierra Nevada uplift.

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    Describes the geographic features and geologic structure of the region and the occurrence of copper-bearing reefs.

12. The Cretaceous auriferous conglomerate of the Cottonwood mining district, Siskiyou County, California.
    Discusses the character, occurrence, and geological relations of the rock formations, and the source of the gold contained in the conglomerate.

    Describes occurrences of deposits additional to those noted by Mr. Lindgren (Am. Inst. Mg. Engrs., Trans., vol. 31, pp. 230-231).

14. Observations on Mother Lode gold deposits, California. [In discussion of paper of W. A. Prichard.]
    Discusses the time-relations of the diorite intrusions and the fissuring.

15. The geological features of the gold production of North America. [In discussion of paper of Waldemar Lindgren.]
    A note in regard to the geologic position of gold ores in the vicinity of Silver Peak, Nevada.

    Discusses the occurrence and origin of native copper.
Turner (Henry W.)—Continued.
Econ. Geol., vol. 1, pp. 265-281, 3 figs., 1905.
Describes the general geology, the geologic occurrence of the ore deposits, the character and extent of the lodes, the origin of the ores, and associated minerals.

Tuttle (George W.).
1. Recent changes in the elevation of land and sea in the vicinity of New York City.
Discusses detailed investigations upon tidal variation and their bearing upon the question of the elevation or subsidence of the land.

Tutton (C. H.).
1. The laws of river flow.
Contains discussion on the origin and flow of streams.

Tyrrell (J. Burr).
Describes the physiography and drainage of the region and the character of the crystalline rocks.
2. A peculiar artesian well in the Klondike.
Eng. & Mg. Jour., vol. 75, p. 188, 1 fig., 1903.
Describes geologic structure of the region and the conditions producing the artesian flow of water.
3. Report on explorations in the northeastern portion of the district of Saskatchewan and adjacent parts of the district of Keewatin.
Describes the occurrence and characters of Pleistocene deposits and Cambro-Silurian and pre-Cambrian rocks, includes a list of glacial stries and observations on the geologic structure, igneous rocks, and minerals of the region examined.
4. Crystophenes or buried sheets of ice in the Tundra of northern America.
Jour. Geol., vol. 12, pp. 232-236, 1 fig., 1904.
Describes the occurrence, character, and mode of formation of the masses of ice for which the names crystophene and crystocrene are proposed.

Udden (Johan August).
1. A geological section across the northern part of Illinois.
Ill. Bd. of World’s Fair Commissioners, Rept., pp. 117-151, 1 pl. (section), 1895.
Describes geology of northern Illinois and gives records of borings and other sections.
2. Geology of Louisa County [Iowa].
Iowa Geol. Surv., vol. 11, pp. 58-126, 1 pl., 1 fig., 2 maps, 1901.
Describes the physiography, the character and distribution of the Carboniferous and Pleistocene deposits and the occurrence of economic products.
3. Geology of Pottawattamie County [Iowa].
Iowa Geol. Surv., vol. 11, pp. 202-277, 1 pl., 3 figs., and map, 1901.
Describes the physiography, the character and occurrence of the Carboniferous, Cretaceous, and Pleistocene strata and the occurrence of economic products.
4. Loess with horizontal shearing planes.
Jour. Geol., vol. 10, pp. 245-251, 1902.
Describes partings in the loess and discusses their origin.
5. Geology of Jefferson County [Iowa].
Describes physiographic and drainage features, the geologic formations, giving sections and lists of fossils, and the economic products of the county.
Udden (Johan August)—Continued.

   Iowa Acad. Sci., Proc., vol. 9, p. 120, 1902.

7. Pleuroptyx in the Iowa Coal Measures.

8. Geology of Mills and Fremont counties [Iowa].
   Iowa Geol. Surv., vol. 13, pp. 123-185, 4 pls., 1903.
   Describes topography and drainage, character, occurrence, and geologic relations of Carboniferous and Cretaceous strata and surficial deposits, and economic resources. Includes a report by Prof. B. Shimek on the fossils from the loess of these counties.

9. Foraminiferal ooze in the Coal Measures of Iowa.
   Jour. Geol., vol. 11, pp. 238-284, 1903.

10. Note to the article on "Foraminiferal ooze in the Coal Measures of Iowa."
    Jour. Geol., vol. 11, p. 430, 1903.
    Notes the occurrence of a bed of foraminiferal ooze in the upper Carboniferous of Texas.

11. The geology of the Shafter silver-mine district, Presidio County, Texas.
    Tex. Univ. Min. Surv., Bull. no. 8, 60 pp., 11 figs., 2 pls., 1904.
    Describes the physiographic features briefly and in detail the occurrence, character, and geologic relations of Carboniferous and Cretaceous strata, igneous rocks, and mineral deposits, mainly silver ores.

12. On the proboscidean fossils of the Pleistocene deposits in Illinois and Iowa.
    Discusses the occurrences of the fossil remains of elephants and mammoths and their relations to Pleistocene deposits.

Udden (Jon Andreas).

1. Geology of Clinton County [Iowa].
   Describes the physiography, the occurrence, character, and relations of Ordovician, Silurian, and Carboniferous strata and Pleistocene deposits, and the economic resources.

Uhler (P. R.).

1. The Niagara period and its associates near Cumberland, Md.
   Describes Silurian strata in the vicinity of Cumberland, Maryland, and gives lists of fossils obtained.

Ulrich (Edward Oscar).

   Md. Geol. Surv., Eocene, pp. 116-122, 1 pl., 1901.

2. Eocene Molluscoidea (Bryozoa).

3. The lithographic stone deposits of eastern Kentucky.
   Eng. & Mg. Jour., vol. 73, pp. 895-896, 2 figs., 1902.
   Describes the geology of the region and the character of the lithographic stone.

   Discusses the geologic age of the Yakutat formation from the evidence of its fossils and gives systematic descriptions of these.

5. Determination and correlation of formations [of northern Arkansas].
   Discusses the occurrence, character, geologic relations, and correlation of Ordovician, Silurian, Devonian, and Carboniferous formations of northern Arkansas.

7. Portland-cement resources of Tennessee.


Describes the occurrence, geologic relations, and character of limestones in Tennessee suitable for the manufacture of Portland cement.


Describes the character, occurrence, nomenclature, correlation, topography, and paleontology of Devonian and Carboniferous, especially Mississippian, formations in western Kentucky and southern Illinois, giving illustrations of the fossils, the geologic structure, particularly the faulting, and the occurrence and character of the dikes.

9. [The time element in stratigraphy and correlation.]


Ulrich (Edward Oscar) and Bassler (Ray S.).


Ulrich (Edward Oscar) and Schuchert (Charles).

1. Paleozoic seas and barriers in eastern North America.

N. Y. State Mus., Bull. no. 52, pp. 638-663, 1 pl., 1902.

Reviews the evidences of the existence of barriers in the Paleozoic seas of the region, and discusses the relations and migrations of the faunas and the character and extent of the oscillations and their effect on the sedimentation and life.

Ulrich (Edward Oscar) and Smith (W. S. Tangier).

1. Lead, zinc, and fluorspar deposits of western Kentucky.


Describes the mining development and geologic structure of the region and the character and occurrence of the veins and vein minerals.

Ulrich (Edward Oscar), Adams (G. I.) and.

1. Fayetteville folio, Arkansas-Missouri.

See Adams (G. I.) and Ulrich (E. O.), 1.

Ulrich (Edward Oscar), Bain (H. F.) and.

1. The copper deposits of Missouri.

See Bain (H. F.) and Ulrich (E. O.), 1.

2. The copper deposits of Missouri.

See Bain (H. F.) and Ulrich (E. O.), 2.

Ulrich (Edward Oscar), Hayes (C. Willard) and.


See Hayes (C. W.) and Ulrich (E. O.), 1.

Underhill (James).

1. The correlation of Colorado geological formations.


United States Geological Survey.

1. Geology, etc., of the Coosa Valley, Alabama.

56th Cong., 2d sess., Senate Doc. no. 65, 4 pp., 1901.

A letter from the Director of the United States Geological Survey submitting a brief sketch of the geology and natural resources of the Coosa Valley, in the State of Alabama.
United States Geological Survey—Continued.
2. The United States Geological Survey, its origin, development, organization, and operations.
   U. S. Geol. Surv., Bull. no. 227, 205 pp., 9 pls., 5 figs., 1904.
   Describes the organization and work of the U. S. Geological Survey and gives a full list of its publications.

Upham (Warren).
1. Artesian wells in North and South Dakota.

2. Pre-Glacial erosion in the course of the Niagara gorge, and its relation to estimates of post-Glacial time.
   Am. Geol., vol. 28, pp. 235-244, 1901.
   Gives the author's views of the Glacial history of the region and discusses their bearing on estimates of post-Glacial time.

3. The antiquity of the races of mankind.
   Am. Geol., vol. 28, pp. 250-254, 1901.
   Reviews the evidences indicating the pre-Glacial origin of man.

4. The Toronto and Scarboro drift series [Ontario].
   Am. Geol., vol. 28, pp. 306-316, 1901.
   Quotes Coleman's description of these beds and discusses the bearing of the evidences on the existence of interglacial epochs of moderate oscillations of the ice border.

5. Time divisions of the Ice Age.
   Describes glacial phenomena in North America, and discusses the correlation of the glacial deposits and time divisions of North America and Europe and the evidences as to the time of man's appearance upon the earth.

6. New evidence of epeirogenic movements causing and ending the Ice Age.
   Reviews of work of Brøgger and Nansen.

   Am. Geol., vol. 30, pp. 103-111, 1902.
   Gives a historical sketch.

8. Man in the Ice Age of Lansing, Kansas, and Little Falls, Minnesota.
   Describes the deposits in which the remains were found and gives estimates of the duration of the various divisions of the Ice Age.

   Describes the discovery and occurrence of human remains in glacial deposits near Lansing, Kansas.

10. The fossil man of Lansing, Kansas.
    Describes the finding of human remains near Lansing, Kansas, and discusses their antiquity.

    Describes the occurrence of human remains in the loess near Lansing, Kansas.

12. Primitive man in the Ice Age.
    Describes the occurrence of human remains in the loess near Lansing, Kansas, and discusses geological history during the Ice Age.

13. Primitive man in the Ice Age.
    Discusses evidences as to the origin and antiquity of man in Europe and America and his place in the geological scale.
    Bull. 301—06—22
   Am. Geol. vol. 31, pp. 25-34, 1903.
   Discusses distribution and origin of loess deposits and the evidences for the age of the fossiliferous remains found near Lansing, Kansas.

15. The life and work of professor Charles M. Hall.
   Am. Geol., vol. 31, pp. 195-198, pl. 13 (por.), 1903.

16. How long ago was America peopled?
   Am. Geol., vol. 31, pp. 312-315, 1903.
   Discusses time estimates of Glacial and post-Glacial periods and evidences of antiquity of man in America.

17. Glacial Lake Nicolet and the portage between the Fox and Wisconsin rivers.
   Am. Geol., vol. 32, pp. 105-115, 1903.

18. The antiquity of the fossil man of Lansing, Kansas.
   Am. Geol., vol. 32, pp. 185-187, 1903.

19. The Glacial lakes Hudson-Champlain and St. Lawrence.
   Am. Geol., vol. 32, pp. 223-230, 1903.

   Am. Geol., vol. 32, pp. 330-331, 1903.
   As the name Lake Nicolet had been previously used by Winchell, the writer amends his name Lake Nicolet to the form given above.

21. Geology of Prairie Island [Minnesota].

22. The past and future of Niagara Falls.

23. Moraines and eskers of the last glaciation in the White Mountains.
   Am. Geol., vol. 33, pp. 7-14, 1904.
   Calls attention to previous work in this region and describes the character and occurrence of moraines and eskers and distribution of boulders.

24. Boulders due to rock decay.
   Describes occurrence and origin of boulders at Butte, Montana, concludes that many Glacial boulders are the result of rock decay, and discusses the occurrence and distribution of Glacial boulders.

25. Erosion on the Great Plains and on the Cordilleran Mountain belt.
   Am. Geol., vol. 34, pp. 35-39, 1904.
   Discusses the physiographic history of the Great Plains and Cordilleran regions during Tertiary and Quaternary times.

26. Age of the Missouri River.
   Am. Geol., vol. 34, pp. 80-87, 1904.
   Includes observations on the geologic history and physiographic features of the interior portion of the North American Continent.

   Am. Geol., vol. 34, pp. 151-162, 1904.
   Reviews the work of tracing drift boundaries across the United States, and describes the occurrence and character of the Glacial drift deposits in the Northwestern States.

28. Glacial and modified drift in and near Seattle, Tacoma, and Olympia [Washington].
   Am. Geol., vol. 34, pp. 203-214, 1 pl., 1904.
   Describes the probable successive stages in glaciation, and the character and occurrence of Glacial drift deposits.

29. The nebular and planetesimal theories of the earth’s origin.
Upham (Warren)—Continued.

30. Fjords and hanging valleys.

Am. Geol., vol. 35, pp. 312-315, 1905.
Discusses the relations of these physiographic features and their origin, and the evidence they give as to the cause of the Glacial epoch.

31. Age of the St. Croix Dalles.

Discusses various Glacial phenomena of the region and their bearing upon the time and mode of formation of the Dalles of the St. Croix River.

32. Glacial lakes and marine submergence in the Hudson-Champlain valley.


Ussing (N. V.).


Describes mineralogy and petrology of Greenland.

V.

Vaillant (León).

1. Sur la présence du tissu osseux chez certains poissons des terrains paléozoïques de Canyon City, Colorado.

Notes the presence of osseous tissue in certain fish remains from Paleozoic strata near Canyon City, Colorado.

Van der Grinten (Alphons J.).

1. New circular projection of the whole earth's surface.


Van Diest (P. H.).

1. A mineralogical mistake.

Contains observations on occurrence of rocks and ores, and describes the efforts to find tin in the Greenhorn Mountains of Colorado.

Van Hise (Charles R.).

1. Some principles controlling the deposition of ores.

This subject is discussed under the following general heads: Three zones of the lithosphere; the water content and openings in rocks; physico-chemical principles controlling the work of underground waters; general geologic work of underground waters; the precipitation of ores by ascending waters; precipitation of ores by ascending and descending waters combined; the association of certain ores; concentration; enrichment and diminution of richness in depth; special factors affecting the concentration of ores, and the classification of ore deposits.

2. The iron-ore deposits of the Lake Superior region.

Describes the general stratigraphy and occurrence of iron ores in the several districts of the Lake Superior region. The Mesabi district is by C. R. Van Hise and C. K. Leith. The Vermillion iron-bearing district is by C. R. Van Hise and J. Morgan Clements.

3. The geology of ore deposits.

Discusses the evidences that metallic ores and gangue are deposited by underground waters.

4. [Discussion of "Ice ramparts," by E. R. Buckley].

Compares the phenomena of ice deformation with those of crustal deformation.
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Van Hise (Charles R.)—Continued.
   Discusses character, origin, and concentration of lead and zinc ores of the upper Mississippi Valley and of the Ozark region of the lower Mississippi Valley.

   Contains brief notes on the geology of the points visited.

7. The training and work of a geologist.

8. Some principles controlling the deposition of ores. [Continuation of paper in vol. 30, 1901.]
   Reviews recent papers that have been published since the author's discussions of the subject, with special reference to the paper by Professor Kemp on "The rôle of the igneous rocks in the formation of veins."

   Discusses the difficulties of geologic work in this region and gives an historical review of the work that has been done.

10. Powell as an explorer.


12. A treatise on metamorphism.

    Discusses establishment of a geophysical laboratory and the work to be done therein.

14. Lake Superior geological work.
    Gives general observations on geologic work in the Lake Superior iron region.
    Extract from paper read before the Lake Superior Mining Institute.

15. The problems of geology.
    Jour. Geol., vol. 12, pp. 589-616, 1904.

16. A correction.
    Jour. Geol., vol. 13, p. 280, 1905.
    Corrects an error occurring in the author's "A treatise on metamorphism."

Van Hise (C. R.) and others.
   Describes the investigations of a special committee of geologists of the Geological Survey of Canada and of the United States Geological Survey upon the relations, classification, and nomenclature of the formations of the Lake Superior region, and gives their conclusions in tabular form. The report is alphabetically signed by Frank D. Adams, Robert Bell, A. C. Lane, C. K. Leith, W. G. Miller, Charles R. Van Hise.

Van Hise (Charles R.) and Bain (H. Foster.)
1. Lead and zinc deposits of the Mississippi Valley, U. S. A.
   Describes the geographic distribution and stratigraphy of the lead and zinc producing areas of the Mississippi Valley and discusses the occurrence and genesis of the ore deposits.
Van Horn (F. B.)

1. The geology of Moniteau County [Missouri].
   Describes the physiography, the occurrence, character, and relations of Cambrian, Ordovician, Devonian, and Carboniferous strata, various structural features, and the economic resources.

Van Ingen (Gilbert)

1. The Silurian fauna near Batesville, Arkansas, I.
   School of Mines Quart., vol. 22, pp. 318-328, 1 fig., 1901. Columbia Univ., Geol. Dept., Contr. vol. 9, no. 76.
   Describes the geologic relations of the strata. Includes a bibliography.

2. The Silurian fauna near Batesville, Arkansas.
   Describes the characters of the various species collected.

3. [Paleozoic rocks of northwestern New Jersey.]
   Contains considerable data on the Paleozoic strata and faunas of New Jersey.

4. Potsdam sandstone of the Lake Champlain Basin.
   N. Y. State Mus., Bull. no. 52, pp. 529-545, geol. map, 1902.
   Describes certain sections and discusses briefly the results of the investigations.


6. The rounded sands of Paleozoic formations.

Van Ingen (Gilbert) and Clark (P. Edwin)

1. Disturbed fossiliferous rocks in the vicinity of Rondout, N. Y.
   N. Y. State Mus., Bull. 69, pp. 1176-1227, 13 pis., 1903.
   Describes location, stratigraphy, paleontology, and structural features of Silurian and Devonian strata in the city of Rondout, New York, and its vicinity.

Van Vleet (A. H.)

1. [Second biennial report of the Department of Geology and Natural History of Oklahoma.]
   Outlines the work and status of the Department of Geology and Natural History of the Territory of Oklahoma.

Vaughan (T. Wayland)

1. Eocene Coelenterata.
   Md. Geol. Surv., Eocene, pp. 222-222, 1 pl., 1901.

2. Some fossil corals from the elevated reefs of Curaçao, Arube, and Bonaire.

3. The stony corals of the Porto Rican waters.
   In addition to describing recent species of corals, gives notes on fossil species from the United States and the West Indies.

4. Shell Bluff, Georgia, one of Lyell's original localities.
   Contains abstract of paper read before the Geological Society of Washington.

5. Review of recent papers on Bahaman corals.

6. The copper mines of Santa Clara Province, Cuba.
   Eng. & Mg. Jour., vol. 72, pp. 814-816, 4 figs., 1901.
   Describes the geology and occurrence and character of the ore bodies.

7. The locality of the type of Prionostrea vaughani, Gregory.
Vaughan (T. Wayland)—Continued.

8. Bitumen in Cuba.
   Eng. & Mg. Jour., vol. 73, pp. 344-347, 2 figs., 1902.
   Describes the occurrence and character of the material.

   Questions the occurrence of certain fossil remains in Cuba and gives a note on the priority of
   Megalocnus Leidy over Myomorphus Pomel.


11. Evidence of recent elevation of the Gulf coast along the westward extension of
    Florida.
    Science, new ser., vol. 16, pp. 5-14, 1902.

12. Fuller's earth of southwestern Georgia and western Florida.
    Describes the occurrence of fuller's earth deposits in Georgia and Florida, and discusses their
    geologic age from the evidence of fossils.

13. Some recent changes in the nomenclature of West Indian corals.


15. A redescriptions of the coral Platytrochus speciosus.


17. The corals of the Buda limestone.

18. Fuller's earth deposits of Florida and Georgia.
    Describes geographic and geologic occurrence and character of deposits of fuller's earth in
    these States.


21. A critical review of the literature on the simple genera of the Madreporaria
    Fungida, with a tentative classification.

Vaughan (T. Wayland) and Spencer (Arthur Coe).

1. The geography of Cuba.
   Describes the mountains, plains, terraces, drainage, and harbors of Cuba.

Vaughan (T. Wayland), Hayes (C. Willard), and Spencer (Arthur Coe).

   See Hayes (C. W.), Vaughan (T. W.), and Spencer (A. C.), 1.

Vaughan (T. Wayland), Hill (Robert T.) and.

1. Austin folio, Texas.
   See Hill (R. T.) and Vaughan (T. W.), 1.

Vaux (George) and (William S., jr.).

1. Observations made in 1900 on glaciers in British Columbia.
   Notes on movements of the glaciers.
Vaux (George) and (William S., jr.).

Veatch (Arthur C.).
1. The salines of north Louisiana.
La. Geol. Surv., pt. 6, pp. 47-100, 13 pls., 2 figs., 1902.
Describes the local geology of the various salt works, and discusses the geological structure and history of the region.
2. The geography and geology of the Sabine River, Louisiana.
La. Geol. Surv., pt. 6, pp. 107-141, 14 pls., 4 figs., 1902.
Describes the physiography and the character and occurrence of the Tertiary strata of the region.
3. Notes on the geology along the Ouachita [Louisiana].
Describes the physiography and Tertiary beds of the region.
4. The diversity of the Glacial period on Long Island.
Jour. Geol., vol. 11, pp. 762-776, 6 figs., 1903.
Discusses character, occurrence, geologic position, and correlation of glacial deposits on Gardiners and Long Islands, New York.
5. Notes on the geology of Long Island.
Discusses the occurrence of Quaternary formations and their relation to pre-Glacial topography.
6. Some peculiar artesian conditions on Long Island, N. Y.
7. The underground waters of northern Louisiana and southern Arkansas.
Describes the character and occurrence of Cretaceous and Tertiary strata in northern Louisiana and their water-bearing properties.
8. Underground waters of eastern United States: Louisiana and southern Arkansas.
Describes the general geology, and the character and occurrence of the geologic formations with particular reference to their water-bearing qualities.
9. Record of deep-well drilling for 1904. General plan and details of work.
10. The question of origin of the natural mounds of Louisiana, Arkansas, and Texas.

Vermeule (C. C.).
1. East Orange wells at White Oak Ridge, Essex County [New Jersey].
Discusses strata passed through in the wells.

Verrill (A. E.).
1. Peculiar character of the eruption of Mt. Pelee, May 8th.
Discusses the cause of the destruction of St. Pierre.

Very (Frank W.).
1. A cosmic cycle.

Vicaire (A.).
1. Développements récents des industries minière et métallurgique en Colombie britannique.
Ann. des Mines, 10e sér., t. 5, pp. 297-388, 10 figs., 1904.
Includes an account of the geology of the Crow's Nest Pass coal field and the Boundary mining district.
Villada (Manuel M.)
1. Breve reseña geológica del terreno comprendido en las obras del Desagüe del Valle de México y en general de toda esta región.
   Gives an account of the geology of the Valley of Mexico.

Villafañe (Andrés).
1. Criaderos cupro-argentiferos en Tâpalpa, Jal. [México].
   Describes the character, occurrence, and relations of silver-copper ores in Jalisco, Mexico.

Villarello (Juan D.).
1. Genesis de los yacimientos mercuriales de Palomas y Huiztucuo, en los estados de Durango y Guerrero de la República Mexicana.
   Discusses origin of mercury-bearing ore deposits.
2. Análisis y clasificación de un granate procedente del mineral de Pihuamo, Jalisco [México].
   México, Inst. Geol., Par., t. 1, pp. 75-80, 1904.
   Describes the chemical composition and discusses the systematic position of a garnet occurring at Pihuamo, Mexico.
3. Estudio de la teoría química propuesta por el Sr. D. Andrés Almaraz para explicar la formación del petróleo de Aragón, México.
   Discusses the chemical theory for the origin of the petroleum of Aragon, proposed by Andrés Almaraz.
4. Estudio de una muestra de mineral asbestiforme procedente del rancho del Ahuacatillo, Distrito de Zinapécuaro, Michoacán [México].
   Gives a description and an analysis, and discusses the classification of an asbestiform mineral occurring in the State of Michoacan, Mexico.
5. Estudio de la hidrología interna de los alrededores de Cadereyta Mendez, Estado de Queretaro [México].
   Discusses the hydrology and geology of the region.
6. Descripción de los criaderos de mercurio de Chiquilistán (Jalisco) [México].
   Describes the occurrence, geologic relations, and character of ore deposits containing mercury in the State of Jalisco, Mexico.
7. Análisis y clasificación de un granate procedente del Mineral de Pihuamo, Jalisco.
8. Distribución de la riqueza en los criaderos metalíferos primarios epigenéticos.
   Discusses the origin of ore deposits.
9. Description de las minas “Santiago y Anexas” de Estado de Michoacan [México].
   Describes briefly the general geology of the region, and the occurrence, character, and origin of the gold and silver ore.
10. Hidrología subterránea de los alrededores de Queretaro [México].
    Describes the physiography, geology, and underground water resources of the region surrounding Queretaro, Mexico.

Villarello (Juan de D.) and Böse (Emilio).
1. Criaderos de fierro de la hacienda de Vaquerías, en el estado de Hidalgo.
   México Inst. Geol., Bull. no. 16, pp. 15-44, 4 pls., 5 figs., 1902.
   Describes the topography, geology, and petrology, and discusses the occurrence of iron ores in this area.
Villaseñor (F.).
1. Análisis de las cenizas de la erupción del volcán de Santa María (Guatemala), ocurrida el 24 de octubre de 1902, recogidas en Comitán. Secretaria de Fomento [México], Bol., 2ª ep., año 2, no. 7, II, pp. 279-280, 1903. Discusses the composition of cinders ejected by the volcano of Santa Maria in Guatemala.

Vogdes (Anthony W.).
1. A bibliography relating to the geology, paleontology, and mineral resources of California.
Cal. State Mg. Bur., Bull. no. 30, pp. 7-258, 1904.
2. Address on books relating to geology, mineral resources, and paleontology of California.

Vogt (J. H. L.).
1. Problems in the geology of ore-deposits.

Von Rosenberg (Leo).
New York, 12 pp., 9 pls., 1903. (Privately printed.) Contains geologic sections of Carboniferous strata and data bearing on coal production.

Voyle (Joseph).
1. Aurite, and a general theory of gold ore genesis.

Wagenen (T. H. van).
1. Nitrate deposits, Humboldt County, Nevada.

Wagner (George).
1. Observations on Platygonus compressus Le Conte.
Jour. Geol., vol. 11, pp. 777-782, 4 figs., 1903.
2. On an interesting fossil Unio from Wisconsin.
Nautilus, vol. 18, pp. 97-100, 1 pi., 1905.

Walcott (Charles D.).
1. Cambrian Brachiopoda; Obolella, subgenus Glyptias; Bicia; Obolus, subgenus Westonia; with description of new species.
2. The work of the United States Geological Survey in relation to the mineral resources of the United States.
4. Sur les formations pré-Cambriennes fossilières.
Intern. Cong. Géol., Compte Rendu, VIII session, pp. 299-312, 1901. Describes the lithologic and faunal characters of the pre-Cambrian strata in various parts of the United States.
Walcott (Charles D.)—Continued.
5. Outlook of the geologist in America.
   Reviews the geologic investigations that have been undertaken in North America by organizations and individuals, broadly outlines the problems that are being studied, and discusses the future prospects of geologists.

6. Cambrian brachiopoda: Acrotreta; Linnarssonella; Obolus; with descriptions of new species.


8. New term for the Upper Cambrian series.
   Jour. Geol., vol. 11, pp. 318-319, 1903.
   Proposes the term Saratogian for Upper Cambrian, and gives a list of formations referred to it.


    The rules governing the nomenclature and classification of geologic formations promulgated in the Tenth Annual Report, pp. 63-79, have been recently revised and, as revised, are given in this report on pp. 21-27.

    Gives an account of the work of the U. S. Geological Survey during the fiscal year 1903-4.


    Outlines the operations of the U. S. Geological Survey for the fiscal year ending June 30, 1905.

Waldo (C. A.).
1. Dikes in the Oklahoma Panhandle.

Walker (B. E.).
1. List of the published writings of Elkanah Billings.

Walker (Bryant).
1. On the shells of marls.
   Describes the occurrence of gastropodous shells in Michigan marl deposits.

Walker (T. L.).
1. The Geological Survey of Canada as an educational institution.

Wallace (E. C.), Richardson (Clifford) and.
1. Petroleum from the Beaumont, Texas, field.
   See Richardson (Clifford) and Wallace (E. C.), 1.
Wanner (Atreus).

Ward (Henry A.).
   Describes occurrence and characters of this meteorite from Ste. Genevieve County, Mo.
   Chicago, 99 pp., 6 pls., 1900; 28 pp., 1901. (Private publication.)
   Contains notes on the character and occurrence of meteorites.
3. Description of four meteorites.
   Describes meteorites from Andover, Me.; Cuernavaca, Mexico; Arispe, Mexico; and from near Williamsport, Pa.
4. On Bacubirito, or the great meteorite of Sinaloa, Mexico.
   Describes occurrence, size, and characters of this meteoric mass.
   Describes fall and characters.
7. The Canyon City meteorite from Trinity County, California.
   Describes source, character, and composition.
   23840, 9 figs., 1904.
   Describes the discovery, location, and characters.
   Chicago, 113 pp., 9 pls., 1904. (Private publication.)
   Contains notes on the character and occurrence of meteorites.
10. The Billings meteorite: A new iron meteorite from southern Missouri.
    Describes the occurrence, characters, and composition.
    Describes the fall, exterior preservation, and character of one piece of the Bath Furnace meteorite, and discusses phenomena connected with the passage of aerolites through the earth's atmosphere, and their source.

Ward (Lester F.).
1. Geology of the Little Colorado Valley [Arizona].
   Describes the character and occurrence of the several subdivisions of the Mesozoic strata of the region.
2. The petrified forests of Arizona.
3. Correlation of the Potomac formation in Maryland and Virginia.
BIBLIOGRAPHY OF NORTH AMERICAN GEOLOGY

Ward (Lester F.)—Continued.
4. Paleozoic seed plants.
   Describes the stratigraphic and paleontologic relations of the older Mesozoic of Arizona, and
gives an account of the status of knowledge of Triassic, Jurassic, and Cretaceous floras and
a summary of geologic work upon these floras. Includes papers by Fontaine, Bibbins,
and Wieland, giving systematic descriptions of species and notes upon various floras.
6. An example in nomenclature.
   Discusses nomenclature applied to Aneimites fertilis li. sp., David White.

Waring (G. A.).
1. Quartz from San Diego County, California.
   Describes crystallographic features.
2. The pegmatyte veins of Pala, San Diego County [California].
   Describes the occurrence and character of intrusive veins, the types of veins, and the petro-
graphic characters and minerals of the rocks composing them, and discusses their origin.

Warman (Philip Creveling).
1. Catalogue and index of the publications of the United States Geological Survey,
   1880 to 1901.
   U. S. Geol. Surv., Bull. no. 177, 858 pp., 1901.
2. Catalogue and index of the publications of the United States Geological Survey,
   1901 to 1903.

Warren (C. H.).
1. Mineralogical notes. I. Native arsenic from Arizona. II. Anthophyllite with
   the fayalite from Rockport, Mass. III. Cerussite and phosgenite from Colorado.
   Describes occurrence and characters of these minerals.
2. Petrographical notes on the rocks of the Weston aqueduct [Massachusetts].
   Describes their occurrence and petrographic characters.

Warren (C. H.), Penfield (S. L.) and.
1. Some new minerals from the zinc mines at Franklin, N. J., and note concerning
   the chemical composition of ganomalite:
   See Penfield (S. L.) and Warren (C. H.), 1.

Warwick (A. W.).
1. The iron ores of the Uintah Mountains.
   Describes the geology and the character and occurrence of iron-ore deposits.
2. The Leadville district [Colorado].
   Mg. Mag., vol. 11, pp. 430-439, 5 figs., 1905.
   Includes notes on the geology of the district.

Washburne (Chester).
1. Notes on the marine sediments of eastern Oregon.
   Jour. Geol., vol. 11, pp. 224-229, 1903.
   Describes occurrence of fossiliferous limestone of Carboniferous age and gives notes on the
   occurrence of strata and fossils of Triassic, Jurassic, and Cretaceous age. Includes reports
   by George H. Girty on the fossils collected from the Carboniferous limestone and by T. W.
   Stanton on fossils from the Chico formation.
FOR THE YEARS 1901-1905, INCLUSIVE.

Washburne (Chester)—Continued.

2. The distribution of placer gold in Oregon.

3. Beach gold and its source.
   Describes the occurrence of gold in the sands of the coast of Oregon and discusses its source.

Washington (Henry Stephens).

1. The foyaite-ijolite series of Magnet Cove [Arkansas]; a chemical study in differentiation. I.
   Jour. Geol., vol. 9, pp. 607-622, 1901.
   Comprises a study of the chemical composition of several rock types and a discussion of their relations.

2. The foyaite-ijolite series of Magnet Cove [Arkansas]; a chemical study in differentiation. II.
   Jour. Geol., vol. 9, pp. 645-670, 3 figs., 1901.
   Describes the petrographic characters of the rocks and compares them with similar rocks from other regions. Discusses differentiation in laccolithic magmas.

3. The rocks of Lake Winnepesaukee, New Hampshire.
   Abstract: Am. Geol., vol. 27, p. 44, 1901.
   Contains brief notes on the rocks.

4. A chemical study of the glaucochane schists.
   Describes the microscopic and chemical characters of these schists from several foreign countries and from western United States.

5. Igneous rocks from eastern Siberia.
   Compares the characters of some of these rocks with similar rocks occurring in this country.

6. Chemical analyses of igneous rocks published from 1884 to 1900, with a critical discussion of the character and use of analyses.
   Discusses character of chemical analyses of igneous rocks, the construction and nomenclature of the new quantitative classification and its correlation with the qualitative system, and methods of calculation employed, and gives tables embracing nearly all published analyses of igneous rocks, arranged according to the new system.
   Note.—These chemical analyses have not been separately listed in the index of this bibliography.

7. The calculation of center-points in the quantitative classification of igneous rocks.

8. The quantitative distribution of rock magmas.

9. The superior analyses of igneous rocks from Roth's Tabellen, 1869 to 1884, arranged according to the quantitative system of classification.
   Note.—The analyses in this paper have not been listed in the index of this bibliography.

    New York, John Wiley & Sons. 185 pp., 1904.
    Describes fully methods of analysis of rocks.

Washington (Henry S.), Cross (Whitman), Iddings (Joseph P.), Pirsson (Louis V.) and.

1. A quantitative chemico-mineralogical classification and nomenclature of igneous rocks.
   See Cross (W.) and others, 1.

2. Quantitative classification of igneous rocks.
   See Cross (W.) and others, 2.
Washington (H. S.), Pirsson (L. V.) and.
   See Pirsson (L. V.) and Washington (H. S.), 1.

Watson (Lawrence W.).
1. Prince Edward Island.
   Describes the author's field work in this area.

2. Francis Bain, geologist.
   Includes a list of his papers.

Watson (R. Lind).
1. Auriferous deposits of Wreck Bay, Jordan River, and other localities of Vancouver Island [Canada].
   Describes placers of the region.

2. Watson (Thomas Leonard).
   1. The granite rocks of Georgia and their relationships.
      Am. Geol., vol. 27, pp. 199-225, 8 pls., 1901.
      Describes the microscopic and chemical and mineralogic characters of the varieties of granite and discusses the evidence of their intrusive origin.

3. The Georgia bauxite deposits; their chemical constituents and genesis.
   Am. Geol., vol. 28, pp. 25-45, 1 pl., 1901.
   Describes the general geology of the bauxite area and the occurrence, geologic position, and chemical composition of the ore and discusses its origin.

4. On the origin of the phenocrysts in the porphyritic granites of Georgia.
   Jour. Geol., vol. 9, pp. 97-122, 6 figs., 1901.
   Describes the characters of the granites of the several areas studied, their chemical composition, and the genetic relationship of phenocryst to groundmass.

5. Weathering of granitic rocks of Georgia.
   Describes the megascopic, microscopic, and chemical characters of the granite of the State and the phenomena of their weathering.

6. On the occurrence of uranophane in Georgia.
   Describes its occurrence and chemical character.

7. A preliminary report on a part of the granites and gneisses of Georgia.
   Discusses geological age, mode of occurrence, origin, and distribution of granites in Georgia and eastern United States, their chemical and lithologic characteristics, and gives chemical analyses. The geography and physiography of the Georgia portion of the Piedmont Plateau are described.

8. Geological relations of the manganese ore deposits of Georgia.
   Describes the stratigraphy and geologic structure and the character and occurrence of the manganese ores of the Paleozoic and crystalline rocks of northern Georgia, and discusses the origin of the ore deposits.
Watson (Thomas Leonard)—Continued.
10. The yellow ocher deposits of the Cartersville district, Bartow County, Georgia.
   Gives an account of the geology and topography of the district and describes the occurrence, composition, and mining of the ocher deposits.

11. The Seminole copper deposit of Georgia.
   Describes the general geology, structural features, and the character and occurrence of the copper ores.

   Ga. Geol. Surv., Bull. no. 11, 169 pp., 12 pls., 3 figs., and map, 1904.
   Describes the general geology of the bauxite region of Georgia, the character, occurrence, and origin of bauxite deposits, and the mining operations.


14. The leopardite (quartz porphyry) of North Carolina.
   Describes occurrence, megascopic and microscopic characters, and chemical composition.

15. Orbicular gabbro-diorite from Davie County, North Carolina.
   Jour. Geol., vol. 12, pp. 294-305, 2 figs., 1904.
   Describes the occurrence and the megascopic and microscopic characters.

   Describes types of granite occurring in North Carolina, their lithologic characters, structural features, and geographic distribution in the State.

17. Lead and zinc deposits of Virginia.
   Va. Geol. Surv., Geol. Ser., Bull. no. 1, 156 pp., 14 pls., 27 figs., 1905.
   Describes the stratigraphy and geologic structure of the Great Valley of Virginia, and the occurrence, relations, and character of lead and zinc deposits, and discusses the origin of the ores.

Weatherbe (D'Arcy).
1. Recent developments with the calyx drill in the Nictaux iron field [Nova Scotia].
   Contains notes on the geology of the area.

2. Boring machines.
   Contains records of strata passed through in borings in Nova Scotia.

Weatherby (W. J.)
1. The Mogollon range, New Mexico.
   Describes the general geology and mineral resources of the region.

Weaver (Charles E.).
1. Contribution to the paleontology of the Martinez group.
   Gives a discussion of the geographical distribution, stratigraphic relations, and correlations of the Martinez group of the California Eocene formations, followed by systematic descriptions of its fossils.

Webster (Arthur).
1. Geology of the west coast of Vancouver Island.
   Describes observations upon the physical features, general geology, and economic resources of the region.

Webster (Clement L.).
1. Description of a new genus and species of gastropod from the Hackberry group of Iowa.
Webster (Clement L.)—Continued.

2. On some species of fossils from the Hackberry group of Iowa.

3. Contributions to the paleontology of the Iowa Devonian.
   Iowa Nat., vol. 1, pp. 70-71, 1905.

4. Preliminary observations on some of the constituent elements of the glacial drift
   of northern Iowa.
   Iowa Nat., vol. 1, pp. 82-83, 1 fig., 1905.

Weed (Walter Harvey).

1. The enrichment of gold and silver veins.
   Discusses the genesis of rich ore bodies occurring near ground water level and of those found
   in deep mine workings and the chemical reactions which have taken place during the
   process of ore deposition. Describes the author's observations and those of other geologists
   in various mines.

2. Types of copper deposits in the southern United States.
   Describes the character and occurrence of copper ores in certain districts, and discusses relations
   of the ores of the regions with these type deposits.

   Brief notes on the character of the ores.

4. The El Paso tin deposits [Texas].
   U. S. Geol. Surv., Bull. no. 178, pp. 1-16, 1 pl., 4 figs., 1901.
   Describes the general geology of the region and the occurrence and character of the ore-bearing veins.

5. Geology and ore deposits of the Elkhorn mining district, Jefferson County,
   Montana.
   Describes history of mining operations in this district, the character and occurrence of igneous
   and metamorphic rocks and strata of Algonkian, Cambrian, Devonian, Carboniferous, and
   Mesozoic age, and discusses the general geologic structure, relations of the rock masses, the
   character, occurrence, mode of formation, and commercial development of the ore bodies.

   Discusses origin of certain ore deposits.

7. [Discussion of "The origin of ore deposits."]

   Contains notes on the geology of these States, and the character and occurrence of the ores.

9. Notes on a section across the Sierra Madre Occidental of Chihuahua and Sinaloa,
   Mexico.
   Contains observations on the geology and petrology of the region.

10. Recent development of southern copper deposits.
    Eng. & Mg. Jour., vol. 74, pp. 80-81, 1902.

11. Contact metamorphic and other ore deposits near igneous contacts.

12. The Cananea copper deposits, Mexico.

    Describes location, topography, and general geology of the region, and the source, character,
    and geologic relations of the hot springs, and discusses the origin of their heat.
For the years 1901-1905, inclusive.

Weed (Walter Harvey)—Continued.

   Gives a brief history of the development of the field, its geological features, and the occurrence of the ore bodies.

15. Tin deposits at El Paso, Tex.
   Describes briefly the geologic structure and formation of the Franklin Mountains, the character and occurrence of the ores, and the mining developments.

16. Ore deposits at Butte, Mont.
   Describes the mining development of the region, the character and occurrence of the rocks and structural features of the district, and the character, occurrence, and origin of the ore deposits and the vein systems.

17. Copper deposits of the Appalachian States.
   Describes the occurrence of deposits of copper ores in New Jersey, Maryland, Virginia, North Carolina, and Tennessee.

18. Copper deposits of New Jersey.
   Describes the occurrence, character, and structural conditions of the copper ores and the mining operations, and discusses the origin of the ores.

19. Ore deposits near igneous contacts.
   Gives a genetic classification of ore deposits, discusses formation of ores in contact zones, and especially the origin of contact metamorphic deposits.

20. Ore deposition and vein enrichment by ascending hot waters.

21. Secondary enrichment at Cripple Creek [Colorado].
   Eng. & Mg. Jour., vol. 75, pp. 553-554, 1 fig., 1903.

22. Cross vein ore shoots and fractures.
   Describes vein structure and discusses its origin.

23. The Cananea ore deposits [Mexico].
   Gives observations upon the geology and the occurrence of the copper-ore deposits.

24. [Classification of ore deposits.]

25. Gypsum deposits in Montana.
   U. S. Geol. Surv., Bull. no. 223, pp. 74-75, 1904.
   Describes character, occurrence, and geologic relations of gypsum deposits in Montana.

26. Copper deposits in Georgia.
   Describes occurrence and character of copper ores.

27. The Griggstown, N. J., copper deposit.
   Describes the general geology and the occurrence and character of the copper-ore deposits.

   Describes the general geology, the character and occurrence of the copper-ore deposits, and the mining developments.

29. Original native gold in igneous rocks.
   Bull. 301—06—23
Weed (Walter Harvey)—Continued.

30. Occurrence and distribution of copper in the United States.
   *Mg. Mag.*, vol. 10, pp. 185-193, 1 pl., 10 figs., 1904.
   Describes the occurrence, formation, and geologic relations of copper ores in various parts of the United States.

31. Dilation fissures and their contained ores.

32. The Great Flat at Butte, Montana.
   A brief note on physiographic features of this region.

33. Cement resources of Montana.
   Describes the occurrence and character of limestones suitable for cement manufacture.

34. Copper mines near Havana, Cuba.
   Describes the occurrence and character of copper-ore deposits in Cuba.

35. Notes on the gold veins near Great Falls, Maryland.
   Describes the character and occurrence of veins containing gold ore, and the conditions in which it is found.

36. The copper production of the United States.
   *U. S. Geol. Surv.*, Bull. no. 260, pp. 211-216, 1 fig., 1905.
   Discusses production and consumption of copper, and the character, occurrence, and production of copper ores in the United States.

37. The copper deposits of the eastern United States.
   Describes the occurrence and character of copper-ore deposits of the Appalachian region, particularly those of Virginia and Tennessee.

38. Economic value of hot springs and hot-spring deposits.
   Describes general uses of hot springs, and particularly the limonite and travertine deposits of the Anaconda hot springs and the gypsum veins and waters of Hunters Hot Springs, Montana.

   Includes notes on the geologic relations of the thermal waters of Meriwether County, Georgia, and of Hot Springs, Arkansas.

Weed (Walter Harvey) and Pirsson (L. V.).

1. Geology of the Shonkin Sag and Palisade Butte laccoliths in the Highwood Mountains of Montana.
   Describes the physiography of the region, the occurrence and character of the laccoliths, and the chemical characters of the shonkinite and syenite.

2. Missourite, a new leucite rock from the Highwood Mountains of Montana.

Weeks (Fred Boughton).

1. An occurrence of tungsten ore in eastern Nevada.

2. Gold-bearing quartzites of eastern Nevada.

   *U. S. Geol. Surv.*, Bull. no. 188, 717 pp., 1902.
4. Index to North American geology, paleontology, petrology, and mineralogy for the years 1892-1900, inclusive.
   U. S. Geol. Surv., Bull. no. 189, 337 pp., 1902.

   U. S. Geol. Surv., Bull. no. 191, 448 pp., 1902.

   U. S. Geol. Surv., Bull. no. 203, 144 pp., 1902.

   U. S. Geol. Surv., Bull. no. 221, 200 pp., 1903.

8. Tungsten ore in eastern Nevada.
   U. S. Geol. Surv., Bull. no. 213, p. 103, 1903.
   Describes the character and occurrence of hübnerite in the Snake Mountains, Nevada.

   Describes briefly the occurrence and character of pre-Cambrian, Cambrian, Silurian, Devonian, and Carboniferous strata and the general geologic structure.


11. Notes on the wells, springs, and general water resources of New York.

    Describes briefly the general geology of the State and its water resources, particularly the underground waters and the springs.


Weidman (Samuel).

1. The pre-Potsdam peneplain of the pre-Cambrian of north-central Wisconsin.
   Jour. Geol., vol. 11, pp. 289-318, 1 pl. and 3 figs., 1903.
   Describes physiographic features and general structure of the peneplain, and discusses its formation, evidences as to its age, and its subsequent history.

2. Note on the amphibole hudsonite previously called a pyroxene.
   Describes microscopic and chemical characters.

   Wis. Geol. & Nat. Hist. Surv., Bull. no. 11, 68 pp., 10 pls., 1903.
   Describes topography, general geology, water supply, and character and origin of soil formations.

4. Widespread occurrence of fayalite in certain igneous rocks of central Wisconsin.
   Jour. Geol., vol. 12, pp. 551-561, 3 figs., 1904.
   Describes the occurrence in Wisconsin, character, chemical composition, and relations to associated rocks, and discusses the origin and occurrences elsewhere of fayalite.

5. The Baraboo iron-bearing district of Wisconsin.
   Wis. Geol. & Nat. Hist. Surv., Bull. no. 13, 190 pp., 23 pls. (includ. geol. map in pocket), 1904.
   Describes the occurrence, megascopic and microscopic characters, and geologic relations of pre-Cambrian igneous rocks and sedimentary strata, and gives a general account of Cambrian and Ordovician sedimentary rocks and Glacial drift deposits, and discusses the ground water and the occurrence, character, and origin of the iron-ore deposits.
Weidman (Samuel)—Continued.

6. Iron ores of Wisconsin, with special reference to the Baraboo district.
Describes the character, occurrence, and geologic relations of the iron-ore deposits of Wisconsin and the geology of the Baraboo Range.

Weller (Stuart).

1. Correlation of the Kinderhook formations of southwestern Missouri.
Jour. Geol., vol. 9, pp. 130-148, 1901.
Reviews recent correlation of these strata and describes the occurrence and faunas of the several formations which make up the Kinderhook group.

2. Kinderhook faunal studies. III. The faunas of beds no. 3 to no. 7 at Burlington, Iowa.
Describes species collected from the various beds and discusses the correlations.

3. A preliminary report on the Paleozoic formations of the Kittatinny Valley in New Jersey.
Describes the character and occurrence of the subdivisions of the Cambrian and Ordovician strata in New Jersey.

4. The composition, origin, and relationship of the Corniferous fauna in the Appalachian province in North America.
Presents a comparative list of Corniferous and Oriskany faunas, describes the distribution and relations of these faunas, and discusses the origin of the Corniferous fauna.

5. Crotalocrinus cora (Hall).
Jour. Geol., vol. 10, pp. 532-534, 1 pl., 1902.
Describes material from the Niagara group and gives the synonymy of Crotalocrinus cora.

6. The Paleozoic faunas [of New Jersey].
Describes the Paleozoic formations of New Jersey, gives lists of their included fossils, and discusses the characteristics of the faunas and their correlation with those of other areas. Gives systematic descriptions and figures of the fossils of the several formations described.

7. The classification of the Upper Cretaceous formations and faunas of New Jersey.
Discusses previous classifications of the Cretaceous strata of New Jersey and their correlations and the faunas of the various beds.

Jour. Geol., vol. 13, pp. 238-256, 3 figs., 1905.

St. Louis Acad. Sci., Trans., vol. 15, pp. 259-264, 1 pl., 7 figs., 1905.

10. The fauna of the Cliffwood clays.
Describes the occurrence of the fossils, gives notes upon them and descriptions of the new species, a table showing distribution, and an analysis of the fauna and comparison with other faunas.

11. The northern and southern Kinderhook faunas.

12. Classification of the upper Cretaceous formations of New Jersey.


Weller (Stuart), Kümmel (Henry B.) and.

1. Paleozoic limestones of Kittatinny Valley, New Jersey.
See Kümmel (H. B.) and Weller (S.), 1.
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Weller (Stuart), Kümml (Henry B.) and—Continued.
2. The rocks of the Green Pond Mountain region.
   See Kümml (H.B.) and Weller (S.), 2.

Weller (Stuart), Smith (James Perrin) and.
1. Prodomites, a new ammonite genus from the Lower Carboniferous.
   See Smith (J. P.) and Weller (Stuart), 1.

Wells (Horace L.).
1. Sperrylite, a new mineral.
   Jour. Sci., vol. 37, pp. 67-70, 1889.)
2. On the composition of pollucite and its occurrence at Hebron, Me.
   Jour. Sci., vol. 41, pp. 213-220, 1891.)

Wells (H. L.) and Penfield (S. L.).
1. On a new occurrence of sperrylite.
   Describes occurrence in platiniferous copper ore from Wyoming.

Wells (J. Walter).
1. Arsenic in Ontario.
   Describes distribution, manufacture, production, and uses of arsenic.

2. Molybdenite—its occurrence, concentration, and uses.
   1904.
3. Preliminary report on the raw materials, manufacture, and uses of hydraulic
cements in Manitoba.
   Can., Dept. of the Interior, Mines Branch, Ottawa, 1905. 70 pp., 7 pls.
4. Preliminary report on the industrial value of the clays and shales of Manitoba.
   Can., Dept. of the Interior, Mines Branch, Ottawa, 1905. 41 pp., 8 pls.
5. Preliminary report on the limestones and the lime industry of Manitoba.
   Can., Dept. of the Interior, Mines Branch, Ottawa, 1905. 68 pp., 8 pls.

Wells (W. E.).
1. The topography and geology of Clifton Gorge.
   Ohio Nat., vol. 4, pp. 75-79, 2 figs., 1904.

Wendeborn (B. A.).
1. Die Tätigkeit heisser Quellen in den Gängen von Wedekind, Nevada, V. S. N.-A.
   Discusses the ore deposits and their formation by the agency of heated water.

2. Die Quecksilberablagerungen in Oregon.
   Describes occurrence, character, and geologic relations of quicksilver-ore deposits in Oregon.

Wenstrom (Olof).
1. Mineral deposits of Santiago, Cuba. [In discussion of paper of Harrison Souder.]
   Contains observations on the geologic structure of the copper deposits.

Westgate (Lewis G.).
1. The Twin Lakes glaciated area, Colorado.
   Jour. Geol., vol. 13, pp. 265-312, 14 figs., 1905.
   Describes the pre-Glacial topography of the upper Arkansas Valley, the various Glacial fea-
tures of the Twin Lakes region, the Glacial erosion, and the post-Glacial changes, and dis-
cusses mountain form and its origin.

Wheeler (George D.).
1. Zinc in Crittenden County, Kentucky.
   Eng. & Mg. Jour., vol. 74, pp. 413-414, 3 figs., 1902.
Wheeler (H. A.).
1. Notes on the source of the southeast Missouri lead.
   Discusses the origin of the lead-ore deposits of this region.

Wheelock (Charles E.).
1. The Oriskany sandstone.
   Describes distribution, character, and fossil contents of the Oriskany sandstone in Onondaga County, N. Y.
2. [Overturth faults in central New York.]

Whitaker (Milton C.).
1. An olivinite dike of the Magnolia district [Colorado] and the associated picrotitanite.
   Describes the occurrence, the megascopic and microscopic characters, and composition of olivinite, and the characters and composition of the associated picrotitanite.

Whitbeck (E. H.).
1. The pre-Glacial course of the middle portion of the Genesee River [New York].
   Contains notes on the physiography and discusses the evidences regarding the pre-Glacial course of this river.

White (Charles A.).
1. The ancestral origin of the North American Unionidse, or fresh-water mussels.
2. The relation of phylogenesis to historical geology.
   Discusses the bearing of certain paleontologic facts upon the origin of species.

White (Charles Henry).
1. The Appalachian River versus a Tertiary trans-Appalachian River in eastern Tennessee.
   Discusses the evidences for the drainage system of the southern Appalachian region in Cretaceous and Tertiary time.
   Discusses figures of plants made by them upon rocks by their coloring matters and the various evidences of existence of plant life in past geological ages.

White (David).
1. Two new species of Algae from the Upper Silurian of Indiana.
2. Age of the coals at Tipton, Blair County, Pennsylvania.
   Describes the occurrence, character, and structure of the strata associated with the coals and discusses their age as indicated by the fossil flora.
3. Mr. Lacoe's relation to science.
   Gives an account of his geologic and paleontologic labors.
4. The Canadian species of the genus Whittleseyia and their systematic relations.
   Describes the occurrence, relation, systematic position, and characters of the species.
5. Some paleobotanical aspects of the Upper Paleozoic in Nova Scotia.
   Discusses the bearing of the paleobotanical data on the age of certain beds in Nova Scotia.
7. The bituminous coal field of Maryland.
Describes area, structure, and development of the field, and character, occurrence, and pro­duction of the coal beds.

Discusses the age and evidences therefor of certain beds in the region of the Bay of Fundy.

9. Memoir of Ralph Dupuy Lacoe.
Includes a list of publications.

10. Summary of the fossil plants recorded from the upper Carboniferous and Permian formations of Kansas.


12. An anthracite coal field three and a half hours west of Washington.
Describes observations upon the geology and age of the Sleepy Creek Mountain coal basin of West Virginia.

13. Age of the Mercer group.

Describes character and occurrence of Carboniferous deposits of Pottsville age in the Appa­lachian region, and the extent, figure, and general characteristics of the basin in which the sedimentation took place, and sketches the geologic history of the Appalachian region in Pottsville time.

15. Notes on the deposition of the Appalachian Pottsville.


17. The seeds of Aneimites.

18. The geology of the Perry basin in southeastern Maine: Paleontology.
Gives systematic descriptions of Devonian plant remains.

19. Fossil plants of the group Cycadofilices.

20. [The time element in stratigraphy and correlation.]


22. The occurrence of glacial epochs in Paleozoic time.

23. The age of the Wise and Harlan formations of southwestern Virginia.

24. The American range of the Cycadofilices.
White (David) and Campbell (Marius R.).
1. The bituminous coal field of Pennsylvania.
   Describes extent, geologic structure and development of the field, character, occurrence and
   productiveness of the coal beds, gives chemical analyses of the coals, and discusses their eco­
   nomic value.

White (David), Campbell (Marius R.), and Haseltine (Robert M.).
1. The northern Appalachian coal field.

White (D.), Smith (G. O.) and.
1. The geology of the Perry basin in southeastern Maine.
   See Smith (G. O) and White (D.),

White (I. C.).
1. Second edition of the geological map of West Virginia.
   Gives a brief description of the map.

2. Geology of West Virginia. [Paper read before the International Mining Con­
   gress, Boise, Idaho, June, 1901.]
   Describes briefly the character and succession of the sedimentary strata of the State.

3. The geology of West Virginia.
   Presents a summary of the geologic history of the State.

4. Geological horizon of the Kanawha black flint.
   Reviews previous investigations of the stratigraphic problems involved in this discussion,
   presents the author's recent observations, and discusses the relative value of stratigraphic
   and paleobotanic data.

5. List of fossils from the lower half of the Conemaugh formation near Morgantown,
   West Virginia, collected in 1870 by Dr. John J. Stevenson and identified by
   F. B. Meek.

6. The geology of the Pittsburgh district.
   Gives a general sketch of the stratigraphy of the Coal Measures and of geological history dur­
   ing Quaternary times.

7. The Appalachian coal field [West Virginia].
   Gives a detailed account of the Carboniferous system in West Virginia, including geologic
   sections, the extent, character, and geologic position of the various formations, and the
   character, occurrence, constitution, and fuel value of the coals.

8. Map showing occurrence of coal, oil, and gas in West Virginia.

   Gives a historical sketch of the subject and describes the occurrence of petroleum and natural
   gas, including many records of borings and precise surface levels.

10. [Discussion of paper by R. Pearson on "The discovery of natural gas in Sussex,
    Heathfield district." ]
    A short note in regard to the occurrence of natural gas in the United States.

White (Mark).
   Gives a section of the Cretaceous strata.
1. [Faunas of the Lower Ordovician at Glens Falls, N. Y.]

   Abstract: Am. Geol., vol. 27, p. 43, 1901.
   Gives results of the author's detailed studies.

2. Description of a new species of Unio from the Cretaceous rocks of the Nanaimo coal field, Vancouver Island.
   Ottawa Nat., vol. 14, pp. 177-179, 1 fig., 1901.

3. Note on a supposed new species of Lytoceras from the Cretaceous rocks at Denman Island in the Strait of Georgia [Canada].
   Ottawa Nat., vol. 15, pp. 31-32, 1901.

4. On the genus Trimerella, with descriptions of two supposed new species of that genus from the Silurian rocks of Keeewatin.
   Ottawa Nat., vol. 16, pp. 139-148, 2 pls., 1902.

5. On the genus Panenka, Barrande, with a description of a second species of that genus from the Devonian rocks of Ontario.

6. Paleontology and zoology.
   Reports upon the paleontological work accomplished by the author's department.

7. Description of a fossil Cyrena from Alberta.
   Ottawa Nat., vol. 16, pp. 231-233, 1 pl., 1903.

8. Crania of extinct bisons from the Klondike Creek gravels.
   Ottawa Nat., vol. 16, pp. 245-249, 1903.

9. Description of a species of Cardioceras from the Crows Nest coal fields.

10. Notes on some Canadian specimens of "Lituites undatus."
    Ottawa Nat., vol. 17, pp. 119-122, 1903.
    Reviews literature bearing on the subject and discusses the generic placement and relationships of Canadian specimens.

11. Additional notes on some Canadian specimens of "Lituites undatus."

12. Mesozoic fossils. Part 5. On some additional fossils from the Vancouver Cretaceous, with a revised list of the species therefrom.

13. The Canadian species of Trocholites.

14. Description of a new genus and species of rugose corals from the Silurian rocks of Manitoba.
    Ottawa Nat., vol. 18, pp. 113-114, 1903.

15. Uintacrinus and Hemiaster in the Vancouver Cretaceous.
    Describes the occurrence and character of fossil echinoderms from Vancouver Island and gives a description of Hemiaster vancouverensis n. sp.

16. Paléontologie and zoology.
    Outlines the work upon paleontology during 1903 of the Geological Survey of Canada.
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Whiteaves (J. F.)—Continued.

17. Preliminary list of fossils from the Silurian (Upper Silurian) rocks of the Ekwan River, and Sutton Mill lakes, Keewatin, collected by D. B. Dowling in 1901, with descriptions of such species as appear to be new.

18. Paleontology and zoology.

19. Notes on the apical end of the siphuncle in some Canadian Endoceratidae, with descriptions of two supposed new species of Nanno.

Whitehead (Cabell), Chatard (T. M.) and.

See Chatard (T. M.) and Whitehead (C.), 1.

Whitfield (Robert Parr).

1. Note on a very fine example of Helicoceras stevensoni preserving the outer chamber.

2. Description of a new form of Myalina from the Coal Measures of Texas.


4. Description of a new Tereedo-like shell from the Laramie group.

Describes Paleodictyota n. gen.

6. Notice of six new species of Unios from the Laramie group.


9. Notice of a remarkable case of reproduction of lost parts shown on a fossil crinoid.

10. Note on some worm (?) burrows in rocks of the Chemung group of New York.


12. Descriptions of new fossil sponges from the Hamilton group of Indiana.

13. Notice of a new species of Fasciolaria from the Eocene green marls at Shark River, N. J.

Whitfield (R. P.) assisted by Hovey (E. O.).

1. Catalogue of the types and figured specimens in the paleontological collection of the geological department, American Museum of Natural History; Lower Carboniferous to Pleistocene, inclusive.
Whitlock (Herbert P.).
1. Guide to the mineralogic collections of the New York State Museum.
   N. Y. State Mus., Bull. 58, pp. 3-147, 39 pls., 249 figs., 11 models in pocket, 1902.
   Gives an outline of crystallography and describes characters, composition and occurrence of minerals.

2. List of New York mineral localities.
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   Tabulates the occurrence and geologic association of minerals found in the State of New York.

3. Minerals not commercially important.
   Gives notes on the occurrence of various minerals in the State of New York.

4. Contributions from the mineralogic laboratory.
   N. Y. State Mus., Bull. 98, 36 pp., 7 pls., 1905.
   Describes the crystallographic and other characters of various minerals.

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1. The new artesian water supply at Ithaca, N. Y.
   U. S. Geol. Surv., Water-Supply and Irrigation Paper no. 110, pp. 55-64, 1 pl. and 1 fig., 1905.
   Includes notes upon the geology and records of the wells.

Whitney (Milton).
   Ill. Bd. of World's Fair Commissioners, Rept., pp. 93-114, 1895.
2. Field operations of the Division of Soils, 1899.
   U. S. Dept. Agric., Rept. no. 64, Washington, 1900. 198 pp., 29 pls., 19 figs. and 11 maps (in pocket).
   Contains soil surveys of the following areas:
   - Connecticut Valley, by Clarence W. Dorsey and J. A. Bonsteel, pp. 125-140.
   - New Mexico, Pecos Valley, by Thomas H. Means and Frank D. Gardner, pp. 66-76.
   - Utah, Salt Lake Valley, by Frank D. Gardner and John Stewart, pp. 77-114.
   - Utah, Sanpete, Cache, and Utah counties, by Thomas H. Means, pp. 115-120.

3. Field operations of the Division of Soils, 1900.
   Contains soil surveys of the following areas:
   - California, Santa Ana, by J. Garnett Holmes, pp. 385-412.
   - Maryland, Cecil County, by Clarence W. Dorsey and J. A. Bonsteel, pp. 103-124.
   - Maryland, Kent County, by Jay A. Bonsteel, pp. 173-186.
   - Maryland, St. Mary County, by Jay A. Bonsteel, pp. 125-145.
   - Ohio, Montgomery County, by Clarence W. Dorsey and George N. Coffey, pp. 55-102.

4. Field operations of the Bureau of Soils, 1901.
   Contains soil surveys of the following areas:
   - California, San Gabriel area, by J. Garnett Holmes and Louis Mesmer, pp. 569-666.
   - California, Ventura area, by J. Garnett Holmes and Louis Mesmer, pp. 621-657.
   - Georgia, Cobb County, by R. T. Avon Burke and Herbert W. Marean, pp. 317-327.
Whitney (Milton)—Continued.
Contains soil surveys of the following areas—Continued.
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Mississippi, Yazoo area, by Jay A. Bonsteel and party, pp. 359-388.
North Carolina, Cary area, by George N. Coffey and W. Edward Hearn, pp. 311-315.
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Arkansas, Stuttgart area, by J. E. Lapham, pp. 611-622.
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Florida, Gadsden County, by Elmer O. Fippin and Aldert S. Root, pp. 331-352.
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Kansas, Parsons area, by J. A. Drake, pp. 661-693.
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Whittemore (Charles A.).

1. The sub-Carboniferous limestone exposure at Grand Rapids, Mich.


Describes the occurrence and character, and notes the fossils occurring therein.
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1. A Nevada ore deposit.
   Describes occurrence, character, and geologic relations of a deposit of manganese, and discusses its origin.

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3. Notes on the marine turtle Archelon: 1, on the structure of the carapace; 2, associated fossils.
   Describes the rib series of Archelon ischyros from new material.
4. Polar climate in time the major factor in the evolution of plants and animals.
5. Extent and progress of cycad investigation.
7. Structure of the upper Cretaceous turtles of New Jersey: Lytoloma.
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   Contains notes on the physiography of the region.

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1. The lignite deposits of North Dakota.
   Eng. & Mg. Jour., vol. 74, pp. 674-675, 8 figs., 1902.
Wilder (Frank A.)—Continued.
2. The lignite coal fields of North Dakota.
   Describes character and occurrence of the deposits of lignite.

3. Geology of Webster County [Iowa].
   Describes physiographic features and geology of the county, and discusses the origin, geologic and geographic occurrence and utilization of gypsum deposits and other economic products.

4. The age and origin of the gypsum of central Iowa.
   Jour. Geol., vol. 11, pp. 723-748, 3 figs., 1903.
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5. Possible origin for the lignites of North Dakota.
   Describes occurrence and characters of lignite beds in North Dakota and Montana and offers an explanation of their origin.

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8. The lignite of North Dakota and its relation to irrigation.
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9. Thirteenth annual report of the State geologist.
   Outlines the work of the Iowa geological survey during the year 1904.

10. The lignite on the Missouri, Heart and Cannon Ball rivers and its relation to irrigation.
    Contains notes on the character and occurrence of lignite beds.

Willard (Daniel E.).
1. The story of the prairies, or, the landscape geology of North Dakota. Third edition.
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   Describes the physiography and geology of North Dakota.

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1. Casselton-Fargo folio, North Dakota-Minnesota.
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1. On certain aspects of the loess of southwestern Iowa.
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   Describes the character and occurrence of loess deposits in this region differing in color and character, and discusses their origin.

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2. The oil fields of the West.
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1. The alleged Parker channel [Pennsylvania].
   Describes abandoned channel of Allegheny River.

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3. Connection by precise leveling between the Atlantic and Pacific oceans.
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2. Points involved in the Siluro-Devonian boundary question.
   Gives brief summary of questions in dispute.

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4. Shifting of faunas as a problem of stratigraphic geology.
   Discusses relationships of faunas in different types of sediments in the Devonian of New York, Pennsylvania, and Ohio and their shifting, and gives rules for the use of fossils in stratigraphy.

5. The correlation of geological faunas, a contribution to Devonian paleontology.
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   Discusses faunas of upper Devonian, with especial reference to the statistics of the species the evidences for the shifting of faunas and the consequences thereof, and the value and use of fossils in correlation work.

   Gives a list of fossils identified with their occurrence by localities: A few of the more characteristic are figured.

   Discusses some of the results obtained and the methods, largely paleontologic, used in the stratigraphic work.

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Williams (Ira A.).
1. Geology of Jasper County [Iowa].
   Describes physiographic features, the occurrence, character, and relations of Carboniferous
   strata and Pleistocene deposits, and the economic resources.
2. The comparative accuracy of the methods for determining the percentages of the
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Williams (I. A.), Beyer (S. W.) and.
1. Technology of clays.
   See Beyer (S. W.) and Williams (I. A.), 1.
2. The geology of clays.
   See Beyer (S. W.) and Williams (I. A.), 2.

Willimott (C. W.).
   Describes the occurrence and characters of lepidolite, serpentine, and fuchsite from the
   Ottawa Valley.
2. Notes on molybdenite.

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1. Paleozoic Appalachia, or the history of Maryland during Paleozoic time.
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   Describes action of dynamic forces upon land surfaces, and history of orographic movements
   and geographic changes during Paleozoic time affecting the area in which Maryland is
   situated.
2. Individuals of stratigraphic classification.
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   faunal and time divisions.
3. Thomas Benton Brooks.
   Gives an account of his life and geologic researches.
4. Oil of the northern Rocky Mountains.
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   Describes the stratigraphy and structure of the region and the probable occurrence of oil.
   See Merrill (F. J. H.) and others, 1.
   Describes the physiography, the occurrence and character of the Algonkian, Carboniferous,
   Cretaceous and Pleistocene formations, and the geologic structure of the region.
7. Structure of the front range, northern Rocky Mountains, Montana.
8. Physiography of the northern Rocky Mountains.
9. Conditions of overthrust in the northern Rockies.
11. Physiography and deformation of the Wenatchee-Chelan District, Cascade Range
    [Washington].
    Describes physiographic features of the region and their history.
    Bull. 301—06——24
Willis (Bailey)—Continued.
   Describes physiographic and glacial evidences showing submergence and re-elevation.


   Congr. géol. intern., Compte rendu IX. Sess., pp. 529-540, 2 figs., 1904.
   Defines various kinds of overthrust, and discusses their origin and time relations.

15. Mountain growth and mountain structure.

Willis (Bailey), Smith (George Otis) and.
   See Smith (G. O.) and Willis (B.), 1.

Williston (S. W.).
   Kans. Univ. Geol. Surv., vol. 6, pp. 257-256, 10 pls., 1900.

2. The dinosaurian genus Creosaurus, Marsh.
   Reviews previous descriptions and describes new material.

3. A new turtle from the Kansas Cretaceous.
   Describes Porthochelys laticeps, n. gen. et sp.

4. On the hind limb of Protostega.

5. An arrow-head found with bones of Bison occidentalis Lucas in western Kansas.
   Am. Geol., vol. 30, pp. 313-315, 1 fig., 1902.
   Gives a section of the locality where the bones were found.

6. On the skull of Nyctodactylus, an Upper Cretaceous Pterodactyl.
   Jour. Geol., vol. 10, pp. 520-534, 2 pls., 1902.
   Describes new material from western Kansas.

7. Winged reptiles.

8. On the skeleton of Nyctodactylus with restoration.


10. Notes on some new or little-known extinct reptiles.

11. On certain homoplastic characters in aquatic air-breathing vertebrates.
    Discussion mainly of fossil forms.

    Describes occurrence of human remains in loess near Lansing, Kansas.

    Discusses age of the Laramie deposits of Converse County, Wyoming, and gives notes on the fossils found in them.

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**Williston (S. W.)—Continued.**

15. On the osteology of Nyctosaurus (Nyctodactylus), with notes on American pterosaurs.


17. Some osteological terms.
   Science, new ser., vol. 18, pp. 829-830, 1903.

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19. The relationships and habits of the Mosasaurs.
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   Discusses taxonomy in the vertebrates, and the phylogeny, classification, and mode of life of extinct saurians.

20. Wilbur Clinton Knight.
   Am. Geol., vol. 33, pp. 1-6, 1 pl. (por.), 1904.
   Includes a bibliography of the scientific papers published by the subject of the sketch.

21. The fingers of pterodactyls.

22. The stomach stones of the plesiosaurs.

23. Notice of some new reptiles from the upper Trias of Wyoming.
   Jour. Geol., vol. 12, pp. 688-697, 6 figs., 1904.

   Describes the discovery and mode of occurrence of the Lansing skeleton.

25. The Hallopus, Bapitanodon, and Atlantosaurus beds of Marsh.
   Discusses the age of these beds in the light of the evidence given by vertebrate fossil remains.


27. [Phylogeny and classification of the Reptilia.]

28. [New locality for Triassic vertebrates in Wyoming.]

**Wilmott (A. B.).**

1. The Michipicoten Huronian area.
   Describes the occurrence of the igneous and sedimentary rocks of the region and discusses the stratigraphic succession and age of the sediments.

2. The nomenclature of the Lake Superior formations.
   Discusses the use of names for the subdivisions of the Archean and Algonkian of the region.

3. The contact of the Archean and post-Archean in the region of the Great Lakes.
   Describes the character of the line of contact of the Archean and overlying formations in the Great Lakes region in Canada and discusses the origin of this character.

4. The exploration of the Ontario iron ranges.
   Describes the general geology of the iron ranges, the character of the rocks, and the occurrence of iron ore deposits.
Willmott (A. B.), Coleman (A. P.) and
1. The Michipicoten iron ranges [Ontario].
   See Coleman (A. P.) and Willmott (A. B.), 1.
2. The Michipicoten iron region [Ontario].
   See Coleman (A. P.) and Willmott (A. B.), 2.

1. The Medford dike area [Massachusetts].
   Describes the petrographic characters of the crystalline rocks and the glacial phenomena of
   the region. Includes a bibliography and geologic map.
   Describes the character of the pre-sedimentary floor of the region, the characters of the Paleozoic
   series, its post-Paleozoic history, and the glacial phenomena.
3. The country west of Nipigon Lake and River [Canada].
   Describes the author's observations upon the geology, topography, and economic resources of
   this region.
4. Some recent folds in the Lorraine shales [Ontario].
   Describes the occurrence and origin of the local folds.
5. A geological reconnaissance about the headwaters of the Albany River [Canada].
   Gives observations upon the topography and geology of the region examined.
6. The Laurentian peneplain.
   Jour. Geol., vol. 11, pp. 615-669, 14 figs., 1903; McGill Univ., Papers from Dept. Geol., no. 15,
   1903.
   Describes location, physiographic control, topographic and drainage features, and discusses
   the origin of the Laurentian peneplain and some of its features.
7. The theory of the formation of sedimentary deposits.
   16, 1904.
   Discusses the conditions and processes of sedimentation and their bearing upon the character
   and correlation of some Ordovician and Silurian formations of Canada.
8. Cuspate forelands along the Bay of Quinte [Ontario].
   Jour. Geol., vol. 12, pp. 106-132, 12 figs., 1904; McGill Univ., Papers from the Dept. of Geol., no
   18, 1904.
   Describes physiographic features in this vicinity, and discusses the mode of their formation
   by wave action.
9. Trent River system and St. Lawrence outlet.
   Describes physiographic features of the country east and northeast of Lake Ontario, and dis­
   cusses their bearing upon the pre-Glacial drainage of that region.
10. Physiography of the Archean areas of Canada.
    Describes the physiographic character of the region, and discusses the origin of various
    features.
11. A forty-mile section of Pleistocene deposits north of Lake Ontario.
    Describes the occurrence and character of Pleistocene deposits along the north shore of Lake
    Ontario.

Wilson (E. B.).
1. The theory of ore deposits applied to prospecting.
Wilson (Herbert M.).
1. Porto Rico; its topography and aspects.
   Describes physiography of the island.

Wilson (J. Howard).  
1. The Pleistocene formations of Sankaty Head, Nantucket.
   Jour. Geol., vol. 13, pp. 713-734, 12 figs., 1905.
   Describes the position and character of the successive beds in a section at this point, gives a
   tabulated list of the fossils obtained, with notes on their occurrence elsewhere, and dis­
   cusses the conditions under which the beds were formed.

Wilson (John D.).
1. Fauna of the Agoniatite limestone of Onondaga County, N. Y.
   Describes the occurrence, character, and fossils of the Agoniatite limestone of the Marcellus
   shale in Onondaga County, N. Y.

Wilson (W. J.).
1. Western part of the Abitibi region [Canada].
   Describes the author's observations in this region.
2. Reconnaissance surveys of Four Rivers southwest of James Bay.
   Contains observations upon the geology of the region examined.
3. The Nagagami River and other branches of the Kenogami.
   Gives notes upon the geology of the region examined.
4. The Little Current and Drowning rivers, branches of the Albany, east of Lake
   Nipigon [Ontario].
   Includes observations on the geology of the region examined.

Winchell (Alexander N.).
1. Étude minéralogique et pétrographique des'roches gabbroïques de l’État de Min­
   nesota, États-Unis, et plus spécialement des anorthosites.
2. Note on certain copper minerals.
   Am. Geol., vol. 28, pp. 244-246, 1901.
   Describes occurrence of chalcopyrite and bornite at Butte, Mont.
3. Note on titaniferous pyroxene.
   Am. Geol., vol. 31, pp. 302-310, 1903.
   Discusses composition and optic angle.
4. [Discussion of paper by J. E. Spurr, "A consideration of igneous rocks and their
   segregation or differentiation as related to the occurrence of ores.'"
   Discusses an example of ore concentration in Madison County, Montana.

Winchell (Horace V.).
1. The ore deposits of Monte Cristo, Washington.
   Am. Geol., vol. 30, pp. 113-118, 1902.
   Reviews a paper by J. E. Spurr.
   Discusses occurrence and experiments to determine origin of chalcocite.
3. The Mesabi iron range [Minnesota].
   Discusses geologic work upon the Mesabi iron range.
Winchell (Horace V.)—Continued.

   Eng. & Mg. Jour., vol. 78, pp. 7-8, 1 fig., 1904.
   Describes the general geologic structure and the character and occurrence of the copper-ore deposits.

5. Notes on Goldfield, Nevada.
   Am. Geol., vol. 25, pp. 382-385, 1905.
   Describes the location and character of the mining district, and the occurrence and character of the gold-ore deposits.

Winchell (Newton H.).

1. A new iron-bearing horizon in the Keewatin in Minnesota.
   Contains notes on the geology and occurrence of ore in this region.

2. Geological atlas with synoptical descriptions [Minnesota].

   Describes the retreat of the ice sheets and the occurrence of the several Glacial lakes of the region.

4. Edward Waller Claypole.
   Gives a sketch of the life of Prof. Claypole.

5. The origin of Australian iron ores.
   Reviews paper by J. B. Jaquet on "The iron-ore deposits of New South Wales," and compares them with certain deposits in the State of Washington.

6. Fundamental changes in the Archean and Algonkian, as understood by Prof. Van Hise, of the United States Geological Survey.
   Am. Geol., vol. 25, pp. 385-388, 1901.
   Reviews a recent paper by Prof. Van Hise.

7. Sketch of the iron ores of Minnesota.
   Describes the general geology and the occurrence and origin of the iron ores.

8. The geology of the Mississippi Valley at Little Falls, Minnesota.
   Describes occurrence and character of strata at this locality and sketches their geological history.


    Am. Geol., vol. 30, pp. 62-64, 1902.
    Gives an account of this publication issued in 1831-2.

11. The Sutton Mountain.
    Am. Geol., vol. 30, pp. 118-120, 1902.
    In discussing the geology of the region refers to an article by J. A. Dresser.

    Am. Geol., vol. 30, pp. 159-194, 1902.
    Describes the deposits in which the skeleton was found and gives an estimate of its age.

    Am. Geol., vol. 31, pp. 246-253, 1903.
    Gives a brief summary of the results of this survey.
14. The Pleistocene geology of the Concannon farm, near Lansing, Kansas.

Am. Geol., vol. 31, pp. 283-308, 4 pls., 1903.

Summarizes and discusses Professor Chamberlain's paper on "The geologic relations of the human relics of Lansing, Kansas" (Jour. Geol., vol. 10, pp. 745-779, 1902), describes the general geologic relations and character of the deposits where the human remains were found, and discusses their age and mode of formation. Includes contributions by S. W. Williston, J. E. Todd, and G. Frederick Wright.

15. Regeneration of clastic feldspar.


Reviews previous literature on the subject and discusses three phases of the changes through which feldspars pass.

16. Was man in America in the Glacial period?


Describes conditions prevailing in North America during Tertiary times, discusses character of the pre-Glacial geost covering, the advent of the ice sheets, origin of the loess, and the occurrence and character of the Lansing skeleton.

17. Metamorphism of the Laurentian limestones of Canada.

Am. Geol., vol. 32, pp. 385-392, 1903.


18. Granite. Address at unveiling of the Coronado obelisk at Logan Grove, Kansas, Aug. 12, 1902.


Includes a discussion of Archean geologic history and the origin of granite.


Am. Geol., vol. 33, pp. 116-122, 1904.

States the fundamental ideas involved in the hypothesis of climate in Marsden Manson's "Evolution of Climates" (see Manson, 1) and discusses the objections which have been raised against it.

20. Where did life begin?

Am. Geol., vol. 33, pp. 185-190, 1904.

Reviews works by Wm. F. Warren and G. Hilton Scribner and statements of others regarding the origin of life in the North Polar regions and its distribution southward.


Am. Geol., vol. 33, pp. 319-325, 8 figs., 1904.

Applies the term peléolith to massive-solid volcanic extrusions of the type of the recently formed cone of Mont Pelé and describes various examples of peléoliths.

22. The colossal bridges of Utah.

Am. Geol., vol. 34, pp. 189-192, 1 fig., 1904.

Describes briefly these arches produced by erosion, situated in San Juan County, Utah.

23. The Baraboo iron ore.

Am. Geol., vol. 34, pp. 242-253, 1904.

Describes a report by Dr. Weldman on the Baraboo iron-bearing district of Wisconsin.

24. The geology of the iron ores of Minnesota, U. S. A.


Discusses the character and occurrence of the iron ores of Minnesota and the age and character of the rocks in which they occur.

25. Notes on the geology of the Hellgate and Big Blackfoot valleys, Montana.


Gives a provisional general section of the rocks of the region and brief notes upon the stratification, geologic structure, and igneous rocks.

26. Note on the geology of the Hellgate Valley between Missoula and Elliston, and northward to Placid Lake, in Montana.


Describes briefly the stratigraphy and general geology of the region.
Winchell (Newton H.)—Continued.
27. Deep wells as a source of water supply for Minneapolis.
   Am. Geol., vol. 35, pp. 266-291, 4 pls., 1 fig., 1905.
   Discusses the underground water resources of Minneapolis, Minnesota.

28. Another meteorite in the Supreme Court.
   Discusses the question of ownership of meteorites.

29. The Willamette meteorite.
   Describes surface features of this meteorite and discusses their origin.

Winterton (J.).
1. The volcanic eruptions in Guatemala.
   Sci. Am., vol. 89, p. 84, illus., 1903.

Withrow (James R.), Hamilton (S. Harbert) and.
1. The progress of mineralogy in 1899, an analytical catalogue of the contributions
to science during the year.
   See Hamilton (S. H.) and Withrow (J. R.), 1.

Wittman (Ernest).
1. The geological and topographical features of the city of Monterey, Nuevo Leon,
   Mexico, and its vicinity.

Wolff (John E.).
1. Leucite-tunguante from Beemerville, New Jersey.
   Describes this rock and gives chemical analyses.

2. Zinc and manganese deposits of Franklin Furnace, N. J.
   Describes the character, geologic occurrence, and origin of the zinc deposits.

3. Cambrian and pre-Cambrian of Hoosac Mountains, Massachusetts.

Wolff (John E.) and Palache (Charles).
1. Apatite from Minot, Maine.
   pp. 438-448, 1 pl., 1902.
   Describes occurrence, crystallography, chemical composition, and properties of a specimen
   from Maine.

Wood (Edgar).
1. Eruption of Mauna Loa, 1903.
   Am. Geol., vol. 34, pp. 62-64, 1 fig., 1904.
   Describes phenomena observed during an eruption of Mauna Loa in October, 1903.

Wood (Elvira).
1. Marcellus (Stafford) limestones of Lancaster, Erie County, N. Y.
   N. Y. State Mus., Bull. no. 49, pp. 139-181, 1 pl., 1 fig., 1901.
   Describes stratigraphic relations and lithologic and faunal characters.

   Describes Gennaeocrinus carinatus n. sp.

3. On new and old middle Devonian crinoids.

Wood (H. O.), Palache (Charles), and.
1. A crystallographic study of millerite.
   See Palache (Charles) and Wood (H. O.), 1.
Wood (L. H.).

Woodbridge (Dwight E.).
1. The Mesabi iron ore range.
   Discusses the geology of the Lake Superior iron region.

Woodman (J. Edmund).
   Am. Geol., vol. 33, pp. 364-370, 1901. 
   Describes character and occurrence of certain geologic formations in southern Nova Scotia, discusses their nomenclature, and proposes new terms.

   Am. Geol., vol. 34, pp. 13-34, 1904. 
   Describes the occurrence and character and the geologic relations and history of the metamorphic formations of southern Nova Scotia.

3. Distribution of bedded leads in relation to mining policy.
   Discusses the structure of the gold fields of Nova Scotia and its relation to the mining industry.

   Describes the geologic structure of the area, and the character, occurrence, and relations of the folds and faults, and of the mineral veins.

Woodward (Henry).
   Geol. Mag., new ser., dec. 4, vol. 9, pp. 502-505, 529-544, 1 pl. and 7 figs., 1902. 
   Gives a geological section of Mount Stephen and describes fossils from this locality.

2. Note on some fragmentary remains of fossils from the upper part of Mount Noyes (Canadian Rockies).

Woodward (R. S.) and others.
1. Report of advisory committee on geophysics.
   Discusses problems of geophysics and methods of investigation.

Woodworth (Jay Backus).
1. Original micaceous cross-banding of strata by current action.
   Am. Geol., vol. 27, pp. 281-283, 2 figs., 1901. 
   Describes the phenomena occurring in glacial sand of Massachusetts and refers to descriptions of somewhat similar occurrences.

2. Pleistocene geology of portions of Nassau County and Borough of Queens [New York].
   Describes the physiography, and character and occurrence of the Pleistocene strata of the region. Includes a summary of Glacial history and bibliography.

3. The history and conditions of mining in the Richmond coal-basin, Virginia.
   Describes geologic conditions in this coal field.
Woodworth (Jay Backus)—Continued.

4. The Atlantic coast Triassic coal field.
   Describes extent, general geologic relations and structure of this coal field occupying parts of Virginia and North Carolina, the number, thickness and extent of the coal beds, and the character, composition and production of the coal.


6. On the sedentary impression of the animal whose trail is known as Climactichnites.
   N. Y. State Mus., Bull. 69, pp. 959-966, 2 pls., 3 figs., 1903.
   Describes occurrence and character of the trails known as Climactichnites and discusses their formation.

7. The Northumberland volcanic plug.
   Describes the occurrence, character and geologic relations of an igneous rock mass discovered near Schuylerville, New York, to which the name Stark's Knob is given.

8. The Brandon clays.
   Describes the fuel value, occurrence, and geologic relations of the lignites in the Brandon clays of Vermont, and discusses fossil fruits occurring in them.

9. Pleistocene geology of Mooers quadrangle, being a portion of Clinton County, including parts of the towns of Mooers, Champlain, Altona, Chazy, Dannemora, and Beekmantown, N. Y.
   Describes in detail the character, occurrence, and relations of various Glacial deposits and other Glacial phenomena, and discusses the presence of beaches and marine Pleistocene deposits and their origin.

10. Ancient water levels of the Champlain and Hudson valleys.
    N. Y. State Mus., Bull. 84, 265 pp., 28 pls. and map (in pocket), 33 figs., 1905.
    Describes the physiography of the Hudson and Champlain valleys, the occurrence and character of glacial deposits, and the Pleistocene history of the region.

Woolman (Lewis).

1. Artesian wells. [New Jersey.]
   Gives sections of many artesian wells.

2. Artesian wells.
   Contains records of wells and notes on the strata passed through.


Woolsey (Lester H.).

   Describes occurrence, character, and utilization of the clays of this region.

2. Extra-morainic pebbles in western Pennsylvania.

   Describes the physiography, the occurrence, character, and relations of Carboniferous strata and Pleistocene deposits, the geologic and physiographic history of the quadrangle, and the economic resources, coal, clays, petroleum, and natural gas being the most important.

Wooster (L. C.).

1. The Carboniferous rock system of eastern Kansas.
   Describes the occurrence, character, thickness, and economic resources of the various Carboniferous formations present in Kansas.
Wooster (L. C.)—Continued.

2. Some notes on Kansas geology.
   Brief notes on the occurrence, relations, and character of Carboniferous strata in Kansas.

Wortman (J. L.).

   Describes the characters of the skull and the relations of the Amphicyon group.

   Discusses the relations of the Carnivora and Creodonta, and describes the characters of some forms of Canidae, including a few new species.

   Describes Viverravus Marsh, V. gracilis Marsh, minutus n. sp., and Oōdectes herpestoides n. gen. et sp.


   Gives the important characters by which the Creodonta are distinguished from the Carnassidentia, and describes Harpagolestes macrocephalus n. gen. et sp., and Dromocyon vorax Marsh.

   Continues description of Dromocyon vorax Marsh.


   Describes two new species of Sinopa, discusses certain relations of the creodonts, and gives a summary of the author's previous papers on the Eocene Carnivora in the Marsh collection.

   Describes Mesonyx obtusidens Cope and discusses the origin of the tribucular molar.

    Discusses the character and habits of Patriofelis ferox Marsh.


    Describes Sinopa rapax Leidy and S. agilis Marsh.

    Discusses characters, relationships, classification, origin, and distribution of primates, and gives descriptions of forms belonging to the Cheiromyidae.


Wright (Albert A.).

1. New evidence upon the structure of Dinichthys.
Wright (Albert A.)—Continued.
2. Ohio boulders containing "huronite."

Wright (Charles W.).
1. The Porcupine placer mining district, Alaska.
   Describes briefly the general geology and the occurrence and mining of placer gold.
2. The Porcupine placer district, Alaska.
   U. S. Geol. Surv., Bull. no. 236, 35 pp., 10 pis., 4 figs., 1904.
   Describes the general geology, the character and occurrence of placer gold deposits, and the mining operations.

Wright (Charles W.), Wright (F. E.) and.
   See Wright (F. E.) and Wright (C. W.), 1.

Wright (Fred Eugene).
1. A new combination wedge for use with the petrographical microscope.
2. Two microscopic-petrographical methods.
   Describes methods of determining index of refraction and optical character of minerals.
3. Der Alkalisyenit von Beverly, Massachusetts, U. S. A.
   Describes crystallographic characters and composition of an alkali-syenite from Beverly, Massachusetts.
   Describes the field work of 1903 and gives notes upon the geology.
5. The determination of the optical character of bi-refracting minerals.
   Houghton, 1905. 105 pp., 2 pis., 11 figs.

Wright (F. E.) and Wright (C. W.).
   Describes the general geology and the character and occurrence of placer gold deposits.

Wright (Frederick Bennett).
1. The mastodon and mammoth contemporary with man.

Wright (G. Frederick).
   Ohio State Acad. Sci., 2d Ann. Rept., pp. 5-10 [1894].
   Discusses source and distribution of glacial boulders.
   Ohio State Acad. Sci., 3d Ann. Rept., pp. 6-7 [1896].
   Discusses distribution and source of glacial boulders in Ohio.
3. The rate of lateral erosion at Niagara.
   Am. Geol., vol. 29, pp. 140-143, 1 pl., 2 figs., 1902.
   Gives the results of measurements to determine the rate at which the face of the gorge crumbles away under the influence of sub-aerial agencies.
4. The age of the Lansing skeleton.
5. Glacial man.
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Wright (G. Frederick)—Continued.
6. The Lansing skull and the early history of mankind.
   Bibliotheca Sacra, 73d yr., pp. 28-32, 1903.
7. The revision of geological time.
   Bibliotheca Sacra, 73d yr., pp. 578-582, 1903.
   Reviews and discusses the evidence for the length of post-Glacial time.
8. The problem of the loess in the Missouri Valley compared with that in Europe
   and Asia.
9. Evidence of the agency of water in the distribution of the loess in the Missouri
   Valley.
   Am. Geol., vol. 33, pp. 205-222, 3 pls., 1904.
   Discusses the distribution of the loess and the evidences of its deposition by the agency of
   water. Includes a note by Professor Lane on the flow of flooded rivers.
10. Another Glacial wonder.
   Describes the occurrence of Glacial boulders in the vicinity of Tuscumbia, Mo., and gives an
   explanation as to how they came there, and its bearing on the origin of the loess.
11. Prof. Shimek’s criticism of the aqueous origin of loess.
12. Albert Allen Wright.
   Am. Geol., vol. 36, pp. 65-68, 1 pl. (por.), 1905.
   Includes a list of his published writings.
13. The physical conditions in North America during man’s early occupancy.
   Records of the Past, vol. 4, pp. 15-26, 9 figs., 1905.
14. Recent date of lava flows in California.
15. The ancient gorge of Hudson River.

Wuensch (A. F.).
1. The Arizpe meteorite [Mexico].

Yates (J. A.).
1. The Ottawa [Kansas] gas wells.
   Describes the exploration for natural gas and gives a record of the borings.

Yates (Lorenzo Gordin).
1. Prehistoric California.
   137, 2 pls., 1902; vol. 2, pp. 145-155, 2 pls.; pp. 17-22, 3 figs.; pp. 44-51, 4 pls.; pp. 74-75, 1 pl.;
   pp. 87-93, 3 pls.; pp. 97-101, 2 pls.; pp. 113-118, 2 pls., 1903; vol. 3, pp. 6-10, 1 pl., 1904.
   Describes physiography and general geologic structure and history of southern California, and
   the character of the flora and fauna during Tertiary time, and gives lists and figures of and
   notes upon fossil plants and animals.

Yates (William).
1. Natural history, meteorological and geological notes from Burford township
   [Ontario].
   Includes observations upon glacial phenomena in this region.

Young (George A.).
1. Geology of Yamaska Mountain [Québec].
Young (George A.)—Continued.
2. On surveys between Rabbit and Temagami lakes [Ontario].
   Gives observations on the geology and petrology of the region examined.

Young (L. E.), Beyer (S. W.) and.
1. Geology of Monroe County, Iowa.
   See Beyer (S. W.) and Young (L. E.), 1.

Yung (Morrison B.) and McCaffery (Richard S.).
1. The ore deposits of the San Pedro district, New Mexico.
   297–299, 4 figs., 1903.
   Describes the general geology of the region, and the occurrences, geologic relations, and
   character of the copper, silver-lead, and gold deposits.

Zirkel (Ferdinand).
1. Ueber die gegenseitigen Beziehungen zwischen der Petrographie und angrenzen-
   den Wissenschaften.
   Discusses the scope and methods of petrography and relations to connected sciences.
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Barytes, Pratt, 159.
Barytes, Pratt, 160.
Economic products described—Continued.

Building stone, Buckley and Buehler, 1.
Building stone, Campbell (M. R.), 8.
Building stone, Crosby and Loughlin, 1.
Building stone, Darton and Keith, 1.
Building stone, Ells (R. W.), 8.
Building stone, Fuller and Clapp, 2.
Building stone, Gilpin, 2.
Building stone, Gould, 5, 8.
Building stone, Hopkins (T. C.), 9.
Building stone, Keith, 9, 12.
Building stone, Knight (N.), 2.
Building stone, Lakes, 12, 13.
Building stone, Lazo and Ordóñez, 1.
Building stone, Lofmann, 1.
Building stone, Leonard, 3.
Building stone, Merrill (G. P.), 11.
Building stone, Miller (B. L.), 1.
Building stone, Norton, 1.
Building stone, Perkins, 2.
Building stone, Prosser and Beede, 1.
Building stone, Pratt, 5, 10, 11.
Building stone, Reid (J. A.), 2.
Building stone, Russell, 2.
Building stone, Sarle, 3.
Building stone, Schrader and Haworth, 2.
Building stone, Smith (A. J.), 1.
Building stone, Smith (G. O.), 7.
Building stone, Smith and McCulley, 1.
Building stone, Taff, 3, 6.
Building stone, Todd (J. E.), 5, 9-11.
Building stone, Wells (J. W.), 3.
Cement plaster, Slosson and Moudy, 1.
Centred, Merrill (G. P.), 3.
Chalk, Merrill (G. P.), 3, 12.
Chalk, Taff, 5.
Chalkstone, Todd (J. E.), 9.
Chromite, Merrill (G. P.), 3.
Chrome, Mathews, 1.
Chromite, Day, 7-9.
Chromite, Diller, 10.
Chromite, Keith, 9.
Chromite, Lindgren, 4.
Chromite, Merrill (G. P.), 3, 12.
Clay, Ashley, 2.
Clay, Babcock, 1.
Clay, Harbour (E. H.), 8.
Clay, Berkey, 3.
Clay, Beyer and Williams, 1, 2.
Clay, Beyer and Young, 1.
Clay, Bishop (J. P.), 2.
Clay, Blatchley, 5.
Clay, Bleininger, 1.
Clay, Buckley, 1.
Clay, Campbell (M. R.), 8.
Clay, Darton and Keith, 1.
Clay, Day, 6-11.
Clay, Eckel, 18.
Clay, Fass, 2.
Clay, Fuller and Clapp, 2.
Clay, Gould, 5.
Clay, Gould and Fisher, 1.
Clay, Gregory (W. M.), 1.
Clay, Hice, 2.
Clay, Hopkins (T. C.), 1, 2, 9.
Clay, Keith, 9.
Clay, Kümmel and Knapp, 1.
Clay, Landes, 2, 5.
Clay, Lee, 21, 34, 39.
Clay, Leonard, 3.
Clay, Leverett, 3.
Clay, Lindgren, 4.
Clay, Loughlin, 1.
Clay, Martin (G. C.), 2.
Clay, Mason, 1.
Clay, Mathews, 1.
Clay, Merrill (G. P.), 3, 5, 12.
Clay, Miller (B. L.), 1.
Clay, Newland, 2.
Clay, Pratt, 8, 10, 11.
Clay, Ries, 1, 5, 6, 12, 13.
Clay, Sarle, 3.
Clay, Schrader and Haworth, 2.
Clay, Smith and McCulley, 1.
Clay, Taff, 5.
Clay, Todd (J. E.), 5, 11.
Clay, Udden, 2, 3.
Clay, Wells (J. W.), 4.
Clay, Wilder, 3.
Clay, Woolsey, 1, 3.
Coal, Adams (T. K.), 1.
Coal, Aguilera, 3.
Economic products described—Continued.

Coal, Althouse, 1.
Coal, Armstrong, 1.
Coal, Arnold, 5.
Coal, Ashley, 1, 3, 4, 7.
Coal, Babcock, 1.
Coal, Bache, 1.
Coal, Bailey (L. W.), 8.
Coal, Bain, 3.
Coal, Ball and Smith, 1.
Coal, Barbour (E. H.), 8.
Coal, Becker, 1.
Coal, Beyer and Young, 1.
Coal, Blakemore, 1, 3.
Coal, Brewer (W. M.), 2, 4, 6–8, 11.
Coal, Brooks, 3, 14.
Coal, Burritt, 1.
Coal, Burrows, 1.
Coal, Bush, 1.
Coal, Butts, 3–7.
Coal, Calvin, 1.
Coal, Campbell (M. R.), 2, 5, 6, 8, 11, 16–18, 20, 21.
Coal, Carter (O. S. C.), 2.
Coal, Catlett, 1.
Coal, Clark (W. B.), 8.
Coal, Clark, Martin, and Rutledge, 1.
Coal, Collier, 2, 3, 4, 6.
Coal, Cooper, 3.
Coal, Corless, 1.
Coal, Crane, 1, 2, 4–7.
Coal, Darton, 1, 14, 18, 20, 26.
Coal, Darton and O’Harra, 1.
Coal, Day, 5, 7–11.
Coal, Denis, 1.
Coal, Diller, 4, 11, 21.
Coal, Dowling, 7, 9, 10, 11.
Coal, Duffield, 1.
Coal, Vanvosen, 1.
Coal, Eilts (R. W.), 3, 23.
Coal, Emerson (H.), 1.
Coal, Elyias (A. W.), 1.
Coal, Fisher (C. A.), 4, 5.
Coal, Fletcher, 4, 6.
Coal, Fluck, 1.
Coal, Fowler, 1.
Coal, Fuller and Alden, 1.
Coal, Fuller and Ashley, 1, 2.
Coal, Fuller and Clapp, 2.
Coal, Gay, 1.
Coal, Gilpin, 1, 3.
Coal, Gould, 5.
Coal, Gregory (W. M.), 1, 2.
Coal, Griffith, 2–4.
Coal, Griswold, 3.
Coal, Guppy, 1.
Coal, Gwillim, 4, 5.
Coal, Harrington (D.), 1.
Coal, Haseltine, 1, 2.
Coal, Hayes (C. W.), 6, 7, 12.
Coal, Hayes, Vaughan, and Spencer, 1.
Coal, Henretta, 1.
Coal, Heuerter, 1.
Coal, Hills, 1.
Coal, Hoesa, 1.
Coal, Howley, 2.
Coal, Ingall, 1.

Economic products described—Continued.

Coal, Jacobs, 2.
Coal, Johnson (D. W.), 4.
Coal, Kemp, 17.
Coal, Keyes, 13, 22, 43.
Coal, Knight (W. C.), 7.
Coal, Laquemenno, 1.
Coal, Landes, 3.
Coal, Landes and Ruddy, 1.
Coal, Lane, 14, 15, 39, 49.
Coal, Leach (W. W.), 1.
Coal, Leonard, 3.
Coal, Lindgren, 4.
Coal, Ludlow, 1.
Coal, McCallie, 1.
Coal, McCallie, 9.
Coal, McEvoy, 2.
Coal, McLaughlin, 1.
Coal, Martin (G. C.), 2, 3, 11, 15, 16.
Coal, Merrill (G. P.), 12.
Coal, Miller (B. L.), 1.
Coal, Parsons and Liddell, 1.
Coal, Payne, 1.
Coal, Phillips (W. B.), 6, 12, 13.
Coal, Plotts, 1.
Coal, Plumb, 1.
Coal, Poole, 2, 3, 8–10.
Coal, Pratt, 8, 10, 11.
Coal, Pultz, 1.
Coal, Purinton, 1.
Coal, Randolph, 1.
Coal, Rengan, 4.
Coal, Richardson (G. B.), 3.
Coal, Rickert, 1.
Coal, Ries, 9, 14.
Coal, Robinson (N.), 1.
Coal, Rockwell, 1.
Coal, Rowe, 2, 6.
Coal, Scholz, 2.
Coal, Scharber, 3.
Coal, Sheridan, 1.
Coal, Smith (F. B.), 1.
Coal, Smith (G. O.), 6, 13.
Coal, Smith (W. D.), 1.
Coal, Smith and McCalley, 1.
Coal, Smith and White, 1.
Coal, Spurr, 20.
Coal, Stoess, 1.
Coal, Stoeck, 1.
Coal, Stone (R. W.), 1, 5, 6–9.
Coal, Stoneham, 1.
Coal, Storrs (A. H.), 1.
Coal, Storrs (L. S.), 1.
Coal, Sutton, 1.
Coal, Taff, 3, 4, 7–11, 14.
Coal, Todd (J. E.), 5.
Coal, Trumbull, 1.
Coal, Turnbull, 1.
Coal, Vicaire, 1.
Coal, Von Rosenberg, 1.
Coal, White (D.), 7, 12.
Coal, White (I. C.), 7.
Coal, Wigmore, 1, 2.
Coal, Wilder, 3.
Coal, Williams (I. A.), 1.
Coal, Woodworth, 4.
Coal, Woolsey, 3.
Coal series, Merril (G. P.), 3.
Cobalt, Caballero, 1.
Cobalt, Day, 5, 7–9.
Cobalt, Dickson, 4.
Cobalt, Merril (G. P.), 12.
Cobalt, Miller (W. G.), 8, 11, 13.
Cobaltite, Day, 5, 7–11.
Columbite, Merril (G. P.), 3.
Columbite, Merril (G. P.), 3.
Cobaltite, Merril (G. P.), 3.
Cobalt, Caballero, 1.
Cobalt, Day, 5, 7–9.
Cobalt, Dickson, 4.
Cobalt, Merrill (G. P.), 12.
Cobalt, Miller (W. G.), 8, 11, 13.
Cobaltite, Merrill (G. P.), 3.
Coke, Day, 5, 7–11.
Columbia, Merril (G. P.), 3.
Columbia, Day, 11.
Columbia and tantalite, Merrill (G. P.), 3.
Copper, Abercrombie, 1.
Copper, Aguilera, 3.
Copper, Austin, 3.
Copper, Bagg, 5.
Copper, Bailey (F.), 1.
Copper, Bain and Ulrich, 1, 2.
Copper, Barlow, 6, 8.
Copper, Barnum, 1.
Copper, Becker, 1.
Copper, Bell (Ralston), 1.
Copper, Bell (R. N.), 3.
Copper, Biddle, 1.
Copper, Blake (W. P.), 16.
Copper, Bond, 1.
Copper, Boutwell, 10, 12–14.
Copper, Brewer (W. M.), 4, 11, 13–16.
Copper, Brook, 8.
Copper, Brook, 3.
Copper, Brooks, 4.
Copper, Byrne, 3.
Copper, Carter (W. E. H.), 1.
Copper, Catherinet, 1.
Copper, Crosby, 16.
Copper, Crowther, 1.
Copper, Davenport, 18, 26.
Copper, Day, 5, 7–11.
Copper, Diller, 5, 6, 13, 16.
Copper, Dresser, 7, 10, 12, 13, 15.
Copper, Ellis (R. W.), 17, 20, 22.
Copper, Emmens, 1.
Copper, Emmons (S. F.), 3, 16, 20, 21.
Copper, Franke, 1.
Copper, Goodwin, 1.
Copper, Grant (U. S.), 1.
Copper, Hayes, Vaughan, and Spencer, 1.
Copper, Hill (R. T.), 4, 11, 12.
Copper, Hitchcock (C. H.), 10.
Copper, Irving and Emmens, 1.
Copper, Jackson (J. F.), 1.
Copper, Jacobs, 1.
Copper, Jagger and Palache, 1.
Copper, Jennings (E. P.), 1.
Copper, Johnston (R. A. A.), 2.
Copper, Kemp, 32, 33.
Copper, Kirby, 2.
Copper, Kusch, 1.
Copper, Klumel, 2, 3.
Copper, Lakes, 64.
Copper, Lane, 8, 28, 44.
Economic products described—Continued.
Desclozite, Merrill (G. P.), 3.
Diamond, Hobbs, 4, 8.
Diamond, Kunz, 2.
Diamond, Pratt, 8.
Diaspore, Merrill (G. P.), 3.
Diatom-earth, Blake (W. P.), 10.
Diatomaceous earth, Merrill (G. P.), 12.
Diatomaceous or infusorial earth, Merrill (G. P.), 3.
Dolomite, Merrill (G. P.), 3.
Elaterite, mineral caoutchouc, Merrill (G. P.), 3.
Emerald, Kunz, 2.
Emerald, Eckel, 2.
Emerald, Fuller (H. T.), 1.
Emerald, Magnus, 1.
Emerald, Merrill (G. P.), 12.
Emerald, Newland, 2.
Epsomite, Epsom salts, Merrill (G. P.), 3.
Erythrite or cobalt bloom, Merrill (G. P.), 3.
Feldspar, Day, 6-11.
Feldspar, Ells (R. W.), 7, 8.
Feldspar, Hopkins (T. C.), 1.
Feldspar, Mathews, 1.
Feldspar, Merrill (G. P.), 3, 12.
Feldspar, Miller (W. G.), 6.
Feldspar, Newland, 2.
Feldspar, Pratt, 8.
Fireclay, Campbell (M. R.), 6.
Fireclay, Darton, 18.
Fireclay, Hopkins (T. C.), 2, 5.
Fireclay, Martin (G. C.), 2.
Fireclay, Mathews, 1.
Flagstone, Fuller and Alden, 2.
Flint, Barbour (E. H.), 8.
Flint, Day, 7-11.
Flint, Hopkins (T. C.), 1.
Flint, Mathews, 1.
Flint, Merrill (G. P.), 3.
Fluorite, Aguilera, 3.
Fluorite, Merrill (G. P.), 3.
Fluorite, Miller (A. M.), 4.
Fluor spar, Bain, 6, 12, 19.
Fluor spar, Burk, 1.
Fluor spar, Day, 6-11.
Fluor spar, Harwood, 1.
Fluor spar, Smith (W. S. T.), 3.
Fluor spar, Ulrich and Smith, 1.
Franklinite, Merrill (G. P.), 3.
Fuller's earth, Cook, 1.
Fuller's earth, Darton, 1, 18.
Fuller's earth, Day, 6-8, 11.
Fuller's earth, Merrill (G. P.), 12.
Fuller's earth, Vaughan, 15, 18.
Gadolinite, Day, 11.
Gadolinite, Merrill (G. P.), 3.
Garnet, Aguilera, 3.
Garnet, Keith, 9.
Garnet, Magnus, 1.
Garnet, Merrill (G. P.), 3.
Garnet, Newland, 2.
Garnet, Pratt, 8.
Garnet gems, Pratt, 8.
Gem minerals, Pratt, 8.
Gibbsite, hydargillite, Merrill (G. P.), 3.
Gilsonite, Merrill (G. P.), 12.
Glass sand, Campbell (M. R.), 8.
Glass sand, Day, 9-11.
Glauberite, Merrill (G. P.), 3.
Glaucodot, Merrill (G. P.), 3.
Gneiss, Watson (T. L.), 8.
Gold, Abercrombie, 1.
Gold, Aguilar, 3.
Gold, Arnold, 8.
Gold, Atkin, 1, 2.
Gold, Austin, 5.
Gold, Bancroft, 1.
Gold, Beardie, 1.
Gold, Becker, 1.
Gold, Bel, 1, 2.
Gold, Bell (R.), 2, 3.
Gold, Bell (R. N.), 3.
Gold, Blake (W. P.), 5, 8.
Gold, Blatchford, 1.
Gold, Berdeau, 1.
Gold, Boutwell, 2, 8, 12, 13.
Gold, Brent, 1.
Gold, Brewer (W. M.), 14, 16.
Gold, Brock, 4, 5, 7.
Gold, Brooks, 4, 7, 9, 12.
Gold, Brooks and others, 1.
Gold, Burgess, 2.
Gold, Chalmers, 2.
Gold, Chance, 1.
Gold, Church, 1.
Gold, Clarke (C. H.), 1.
Gold, Clerc, 1.
Gold, Coleman, 3.
Gold, Collier, 1, 3, 10.
Gold, Comstock (T. B.), 1.
Gold, Crosby, 4.
Gold, Cummings, 1.
Gold, Darton, 18, 20.
Gold, Day, 5, 7-11.
Gold, Dorninlan, 1, 2.
Gold, Douglas, 11.
Gold, Draper, 1.
Gold, Dresser, 14.
Gold, Easton, 1.
Gold, Eckel, 15, 16.
Gold, Ells (R. W.), 20.
Gold, Eammons (S. F.), 3.
Gold, Eammons (W. H.), 1.
Gold, Farisbuch, 1-4.
Gold, Flaker, 1, 2.
Gold, Fowey, 1.
Gold, Furman, 1.
Gold, Garrison, 4.
Gold, Gilpin, 1.
Gold, Gottschalk, 1.
Gold, Gunther, 1.
Gold, Guppy, 1.
Gold, Gwillim, 1, 2.
Gold, Hall (C. W.), 1.
Gold, Hayes, Vaughan, and Spencer, 1.
Gold, Hershey, 7.
Economic products described—Continued.

Gold, Hewett, 2.
Gold, Hjør, 1.
Gold, Hill (R. T.), 7, 14, 15.
Gold, Hilt, 4.
Gold, Howley, 1.
Gold, Irving, 2-4, 6, 7.
Gold, Irving and Emmons, 1.
Gold, Jaggar and Palache, 1.
Gold, Keele, 1.
Gold, Keith, 4.
Gold, Keyes, 33.
Gold, Kinzie, 1, 2.
Gold, Kirby, 2.
Gold, Knapp (S. A.), 1.
Gold, Knight (W. C.), 3.
Gold, Knox, 1.
Gold, Kolderup, 1.
Gold, Laird, 1.
Gold, Lakes, 1, 43, 44, 51, 68.
Gold, Lane, 35.
Gold, Lee (H. A.), 1.
Gold, L’Hame, 1, 2.
Gold, Lindgren, 4, 6, 7, 8, 12, 14, 16, 21, 25, 28.
Gold, Lindgren and Drake, 1, 2.
Gold, Lindgren and Ransome, 1, 2.
Gold, Lovewell, 1, 2.
Gold, Lowry, 1.
Gold, McConnell, 2, 4-6.
Gold, MacDonald, 1.
Gold, Mallory, 1.
Gold, Martin, 12, 13.
Gold, Mendenhall, 1, 3, 8.
Gold, Mendenhall and Schrader, 1.
Gold, Miers, 1.
Gold, Miller (W. G.), 4, 6, 10.
Gold, Moffitt, 2-4.
Gold, Moore (F.), 1.
Gold, Nichols (J. C.), 1.
Gold, O’Harra, 1-3.
Gold, Palache, 2.
Gold, Parsons and Liddell, 1.
Gold, Penrose, 1.
Gold, Pratt, 5, 6, 8, 10, 11.
Gold, Prichard (W. R.), 1.
Gold, Prindle, 1, 2.
Gold, Prindle and Hess, 1.
Gold, Purington, 1, 3, 5-7, 8, 9.
Gold, Queneau, 1.
Gold, Ransome, 1, 6, 13, 16, 17.
Gold, Rickard (F.), 1.
Gold, Rickard (T. A.), 2, 6, 11, 12.
Gold, Ritter, 1.
Gold, Schrader, 3.
Gold, Schrader and Brooks, 1.
Gold, Schrader and Spencer, 1.
Gold, Smith (A. H.), 1.
Gold, Smith (J. T.), 2.
Gold, Smith (G. D.), 4, 9, 13.
Gold, Smith and McCalley, 1.
Gold, Spencer (A. C.), 9, 11, 13, 14.
Gold, Spurr, 9, 11-13, 18, 19, 22, 25-27, 29, 31.
Gold, Spurr and Garrey, 1.
Gold, Storms, 1, 3, 5.
Gold, Stretch, 2.

Economic products described—Continued.

Gold, Sutton, 1.
Gold, Thomas, 2.
Gold, Titcomb, 1.
Gold, Turner, 12, 14, 15.
Gold, Vicaire, 1.
Gold, Villalillo, 9.
Gold, Washburne, 2, 3.
Gold, Weatherby, 1.
Gold, Weed, 3, 5, 14, 19, 29, 35.
Gold, Weeks, 2.
Gold, Winchell (H. V.), 5.
Gold, Woodman, 3, 4.
Gold, Wright (F. E. and C. W.), 1.
Gold, Wright (C. W.), 1, 2.
Gold, Yung and McCaffery, 1.
Grahamite, Eldridge, 1.
Grahamite, Merrill (G. P.), 3.
Graphite, Eckel, 6.
Graphite, Finlay (G. L.), 3.
Graphite, Mathews, 1.
Graphite, Newland, 2.
Graphite, Perkins, 1, 6.
Graphite, Pratt, 8.
Graphite, Richardson (C. H.), 2.
Graphite, Shedd, 2.
Graphite, Smith (G. O.), 17.
Graphite, Taft, 3.
Graphite, Watson (T. L.), 8.
Graphite, Bateman, 1.
Graphite, Brumell, 1.
Graphite, Carter (W. E. H.), 1.
Graphite, Day, 6-11.
Graphite, Ellis (R. W.), 8, 18, 20.
Graphite, Ke’th, 12.
Graphite, Kemp, 27.
Graphite, Merrill (G. P.), 12.
Graphite, Miller (W. G.), 6.
Graphite, Newland, 2.
Graphite, Ogilvie, 6.
Graphite, O’Harra, 2.
Graphite, Pratt, 8, 10, 11.
Gravel, Sarle, 3.
Greensand marl, Day, 8.
Grindstones, whetstones, and hones, Merrill (G. P.), 3.
Guano, Merrill (G. P.), 12.
Gum copal, Merrill (G. P.), 3.
Gypsum, Adams (G. L.), 14.
Gypsum, Bell (J. M.), 2.
Gypsum, Blake (W. P.), 14.
Gypsum, Boutwell, 3, 6.
Gypsum, Brady, 1.
Gypsum, Darton, 1, 14, 15, 18.
Gypsum, Darton and O’Harra, 1.
Gypsum, Day, 6-11.
Gypsum, Diehl, 1.
Gypsum, Eckel, 19, 22, 23.
Gypsum, Fairbanks, 6.
Gypsum, Gould, 10, 11.
Gypsum, Gregory (W. M.), 1-3.
Gypsum, Grimsley, 4-7, 8.
Gypsum, Herrick (C. L.), 6.
Gypsum, Herrick (H. N.), 1.
Gypsum, Hill (J. F.), 3.
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California n. sp., Gabb, Arnold, 2.

beyrichii var. alata Seguenza, Bagg, 6.

dilatata Reuss, Bagg, 9.

dilatata var. angusta Egger, Bagg, 9.

punctata d'Orbigny, Bagg, 9.

punctata var. substriata Egger, Bagg, 9.

textilarioides Reuss, Bagg, 9.
FOR THE YEARS 1901–1905, INCLUSIVE.

Paleontology—Continued.

Genus and species described—Continued.

Bradorcura perspicator n. sp., Matthew (G. F.), 13, 20.

perspicator mut. magna, Matthew (G. F.), 20.

perspicator mut. major, Matthew (G. F.), 20.


spectator var. acuta, Matthew (G. P.), 20.

spectator mut. oquata, Matthew (G. P.), 20.

spectator mut. spinosa, Matthew (G. F.), 20.


globulus n. sp., Perkins, 13, 17.

Brimonosaurus Leidy, Williston, 14.

Brongniartia trentonensis (Simpson) 1.

aqulonius n. sp., Whiteaves, 17.

ekwanesis n. sp., Whiteaves, 17.

lunatus Bill., Weller, 6.

lunatus Billings, Ruedemann, 2.

niagarensis Hall, Grabau, 1.

Brontosaurus, Osborn and Granger, 1.

Brontosaurus, Hatcher, 2, 8.

Brontosaurus, Gregory (W. K.), 1.

Brontosaurus, Matthew (W. D.), 4.

Brontosaurus, Osborn, 51.

sp., Osborn, 32.

Brontotherium bucco Cope, Osborn, 10.

curtum Marsh, Osborn, 10.

dolichoceras Scott and Osborn, Osborn, 10.

gigas Marsh, Osborn, 10.

hypoceras Cope, Osborn, 10.

leidyi n. sp., Osborn, 10.

Bryograptus Lapworth, Ruedemann, 2.

Bryograptus Lapworth, Ruedemann, 2.

Buccinofusus parilis Conrad, Martin, 5.

Buccinum? sp., Dall, 10.

Bulimina affinis d’Orbigny, Bagg, 9.

Bullinula subglobosus n. sp., Weaver, 1.

Bulliopsis Integrat Conrad, Martin, 5.

Bulliopsis Integrat Conrad, Martin, 5.

Bullotryphus diversicostatus n. sp., White (D.), 1.

Bunostegus, Matthew (W. D.), 21.

Bunostegus, Matthew (W. D.), 21.

Bythocypris cylindrica Hall sp., Ruedemann, 2.

Bythocypris cylindrica Hall sp., Ruedemann, 2.

Bythocypris gracilis Hall, Grabau, 1.

Bythocypris gracilis Hall, Grabau, 1.

Cadoceras Fischer, Pompeckj, 1.

catostoma n. sp., Pompeckj, 1.

crassum n. sp., Madsen, 1.

grewingki n. sp., Pompeckj, 1.

petelini n. sp., Pompeckj, 1.

stenocephaleSn. sp., Pompeckj, 1.

wessensensi Grew, sp., Pompeckj, 1.

sp., Pompeckj, 1.

sp. indet., Pompeckj, 1.

Cadulus Philippi, Arnold, 2.

abruptus Meyer and Aldrich, Clark and Martin, 2.

newtonensis Meyer and Aldrich, Martin, 5.

nitentior Carpenter, Arnold, 2.

thallus (Conrad), Martin, 5.

Cacum Fleming, Arnold, 2.

californicum Dall, Arnold, 2.
Paleontology—Continued.

Genera and species described—Continued.
Cecum calvertense n. sp., Martin, 5.
cubricinctum Carpenter, Arnold, 2.
greenboroense n. sp., Martin, 5.
magnum Stearns, Arnold, 2.
patuuentum n. sp., Martin, 5.
Cenopus persistsens n. sp., Osborn, 34.
Casalpinia ovalifolia n. sp., Hollick, 10.
Caleccrinus alleni n. sp., Rowley, 3.
granuliferus n. sp., Rowley, Green, 7.
Californites n. gen., Hyatt and Smith, 1.
caledonius bellatula Hall, Parks, 5.
californicus bellatula Hall, Kindle, 1.
calinus nitelliferus (Hall and Whitf.), Kindle, 1.
california Callistoma Swainson, Arnold, 2.
annulatum Martyn, Arnold, 2.
apheleum Dall, Martin, 5.
bellum (Conrad), Martin, 5.
calverntatum n. sp., Martin, 5.
caniclellumaturn Martyn, Arnold, 2.
costatum Martyn, Arnold, 2.
distans (Conrad), Martin, 5.
ecolueum (Wagner), Martin, 5.
gemmatum Carpenter, Arnold, 2.
humilis (Conrad), Martin, 5.
marylandicum n. sp., Martin, 5.
paralveatum (Conrad), Martin, 5.
philanthropus (Conrad), Martin, 5.
philanthropus var., Martin, 5.
reclusum (Conrad), Martin, 5.
tricolor Gabb, Arnold, 2.
william (Conrad), Martin, 5.
wagneri Dall, Martin, 5.
sp., Clark and Martin, 2.
Callistoma Callistula Poll, Arnold, 2.
(Amiantis) callosa Conrad, Arnold, 2.
novomexicana Gabb, Arnold, 2.
subdijaflana Carpenter, Arnold, 2.
subdiaphana Pedroana, n. var., Arnold, 2.
Callithaca Ball, Dall, 8.
Callocardia A. Adams, Dall, 8.
(Agiropoma) gatunensis n. sp., Dall, 8.
gatunensis var. multiflora Dall, Dall, 8.
(Pitaria) kincidi n. sp., Dall, 10.
(Agiropoma) morchuna Linsley, Dall, 8.
(Agiropoma) parkeria Glenn, Dall, 8.
(Agiropoma) prunensis n. sp., Glenn, 6.
(Agiropoma) sayana (Conrad), Glenn, 6.
(Agiropoma) sayana Conrad, Dall, 8.
(Agiropoma) sinceræ n. sp., Dall, 8.
(Agiropoma) subsanata (Conrad), Glenn, 6.

Paleontology—Continued.
Genera and species described—Continued.
Callocardia (Agiropoma) subsanata Conrad, Dall, 8.
Callocystites Hall, Grabau, 1.
Callocystites Hall, Schuchert, 11.
caledonius (Billing), Schuchert, 11.
jevettii Hall, Schuchert, 11.
jevettii Hall, Grabau, 1.
Callognaptus Hall, Ruedemann, 8.
cf. dianthus Hall, Ruedemann, 8.
salteri Hall, Ruedemann, 8.
Callogenmata Carpenter, Arnold, 2.
Callonema bellatula Hall, Parks, 5.
bellatula Hall, Kindle, 1.
clarki Nettleroth, Kindle, 1.
conus n. sp., Kindle, 1.
flora n. sp., Hall, Clarke, 19.
imitator (Hall and Whitz), Kindle, 1.
chelas Hall, Kindle, 1.
Callopora Hall, Grabau, 1.
elegantula Hall, Grabau, 1.
multitubulate U!. Sardeson, 3.
multitubula (Ulich), Nickles, 6.
notulosa (Nicholson), Nickles, 6.
sigillarioides (Nicholson), Nickles, 6.
sp. undet., Weller, 6.
Callopina n. gen., Ulrich and Bassler, 2.
parva n. sp., Ulrich and Bassler, 2.
Calucina Dall, Dall, 8.
Calycites alatus n. sp., Hollick, 11.
Calymene Brongt., Grabau, 1.
blumenbachi niagrensis Hall, Grabau, 1.
camerata, Con., Weller, 6.
niagrensis Hall, Clarke and Ruedemann, 1.
platys Green, Kindle, 1.
platys Green, Parks, 5.
enaria Con., Weller; 6.
cf. vogesii Foerste, Kindle and Breger, 1.
Calypgtena Dall, Dall, 8.
Calyptraea aperta (Solander), Clark and Martin, 2.
aperta (Solander), Martin, 5.
centra (Conrad), Martin, 5.
greenboroense n. sp., Martin, 5.
Calyptraphorus Jacksoni Clark, Clark and Martin, 2.
trinodiferus Conrad, Clark and Martin, 2.
trinodiferus var. (?), Clark and Martin, 2.
Camarella bernensis n. sp., Sardeson, 9.
inornata n. sp., Weller, 6.
owatoneassa n. sp., Sardeson, 9.
Cameroeceras protiforme (Hall), Weller, 6.
Camurocrinus Hall, Schuchert, 11.
saffordi Hall, Schuchert, 11.
stelatus Hall, Schuchert, 11.
ulrichi Schuchert, Schuchert, 11.
Paleontology—Continued.

Camarocrinus ulrichi n. sp., Schuchert, 6.

ulrichi stellifer n. var., Schuchert, 11.

Camarophorella lenticularis (W. and W.), Weller, 2.

Camarophoria caput-testudinis (White), Weller, 2.

Camarospira eucharis Hall, Kindle, 1.

Camarotcechia Hall and Clarke, Gra-hau, 1.

acinus Hall 1863, Beecher, 1.

acinus Hall, Grabau, 1.

cf. acinus Hall, Kindle and Breger, 1.

carolina Hall, Kindle, 1.

congregata (Conrad), Kindle, 1.
ekwanaensis n. sp., Whiteaves, 12.
heteropsis (Win.), Weller, 2.
hudsonica n. sp., Grabau, 9.

indianensis Hall, Clarke and Ruedemann, 1.

Indiansinus Hall 1863, Beecher, 1.

major n. sp., Raymond (P. E.), 7.

metallica White, Girty, 3.

neglecta Hall 1852, Beecher, 1.

neglecta Hall, Grabau, 1.

nitida n. sp., Kindle, 1.

obtusiplicata Hall, Grabau, 1.

pacilicata n. sp., Wood (Elvira), 1.

persinuata (Win.), Weller, 2.

pristina n. sp., Raymond (P. E.), 7.

prolifica (?) Hall, Wood (Elvira), 1.

sappho Hall, Kindle, 1.

tethys (Billings), Kindle, 1.

whitii Hall 1863, Beecher, 1.

Cameosaurus Cope, Riggs, 2.

(Proterocameroceras) branneri! Whitfield (sp.), Ruedemann, 9.

Campeloma Rafinesque, Letson, 1.

decisus Say, Letson, 1.

harlowensis n. sp., Stanton, 4.

jovenatiana n. sp., Clarke and Martin, 2.

joaquinensis n. sp., Anderson, 7.

lunata Conrad, Martin, 5.

trifida n. sp., Anderson, 7.

vespertina n. sp., Anderson, 7.

Campylophycus rhombicum n. sp., Ulrich, 4.

Cancer Linne', Arnold, 2.

breweri Gabb, Arnold, 2.

proavitus Packard, Cushman, 6.

? sp., Weaver, 1.

Campode, Matthew (W. D.), 19.

Canis indianensis Leldy, Merriam (J. C.), 7.

Cannartidium sp., Martin, 8.

Cannartiscus amphicylindricus Haeckel, Martin, 8.

Cannelaria biplicifera Conrad, Martin, 5.

(Cancellariella) neritoidea n. sp., Martin, 5.

pacificus n. sp., Anderson, 7.

(Sveltia) parvexcens n. sp., Martin, 5.

(Prionodon) egertoni (Agassiz), Eastman, 18.

Incidens n. sp., Eastman, 18.

Capromeryx furcifer n. gen. and sp., Matthew (W. D.), 8.

Capromeryx Matthew, Matthew (W. D.), 14.

Capulus Cassensis n. sp., Kindle, 1.

Carcharias collata n. sp., Eastman, 18.

Carabocrinus geometricus n. sp., Hudson, 1.

Carcarias collata n. sp., Eastman, 18.

Trionodon egeroni (Agassiz), Eastman, 18.

Incidentes n. sp., Eastman, 18.
Paleontology—Continued.
Genera and species described—Continued.
Carcharias laevissimus (Cope), Eastman, 18.
magna (Cope), Eastman, 18.
Carcharodon auriculatus (Blainville), Eastman, 1.
megalodon (Charlesworth), Eastman, 18.
Cardiocardita Anton, Dall, 8.
Cardiocaris, Clarke, 8.
Cardiocephalus sternbergi n. gen. and sp., Broili, 2.
Cardioceras canadense nom. prov., Whiteaves, 9.
Cardiomorpha missouriensis Shumard, Beede, 1.
Cardiomya A. Adams, Dall, 8.
Cardiopsis crassicostata Hall and Whiteaves, 1.
section Cardita s. s. Dall, 8.
section Carditamera Conrad, Dall, 8.
section Glans, Megerle, Dall, 8.
aldrichi n. sp., Casey, 4.
(Carditamera) arata Conrad, Dall, 8.
(Carditamera) catharia n. sp., Dall, 8.
(Carditamera) guppyi Dall, Dall, 8.
(Carditamera) prestoni n. sp., Dall, 8.
protracta (Conrad), Glenn, 6.
(Carditamera) recta Conrad, Dall, 8.
(Carditamera) tegea n. sp., Dall, 8.
(Carditamera) vaughani n. sp., Dall, 8.
Carditamera Conrad, Dall, 8.
Carditella E. A. Smith, Dall, 8.
Cardites Link, Dall, 8.
Carditopsis Smith, Dall, 8.
Carex clarkii n. sp., Berry, 10.
Cardium (Linné) Lamarck, Arnold, 2.
section Cardium s. s. Conrad, Dall, 8.
section Glans, Megerle, Dall, 8.
(Ceriocardia) procerum Sowerby, Arnold, 2.
(Trachycardium) quadrigenarium Conrad, Arnold, 2.
(Lavocardium) substratum Conrad, Arnold, 2.
(Protocardia) texanum Conrad, Shattuck, 8.
(Protocardia) vaughani n. sp., Shattuck, 8.
Carticella pyruloides (?), (Conrad), Clark and Martin, 2.
Carinopsis carinata Hall, Ruedemann, 2.
deleta n. sp., Sardeson, 9.
(or Bellerophon) phalera n. sp., Sardeson, 9.
Carpenteroblastus n. gen., Rowley, 1.
(Carpites) Schimper, Perkins, 13.
(alatus n. sp., Knowlton, 18.
inequals n. sp., Perkins, 13.
judithae n. sp., Knowlton, 18.
inmutulus Lesq., Berry, 6.
ovalis n. sp., Perkins, 13.
pruni n. sp., Knowlton, 18.
trigonus n. sp., Perkins, 13.
(Carpothes) Schoelthim, Perkins, 13.
brandonianus Lx., Perkins, 13.
brandonianus Lesquerues, Knowlton, 11.
confinis D. W., White (D.), 18.
elongatus n. sp., Perkins, 13.
emarginatus n. sp., Perkins, 13.
grandis n. sp., Perkins, 13.
hitchcockii n. sp., Perkins, 13.
juglandiformis Berry, Berry, 7.
lunatus Dn., White (D.), 18.
mucronatus n. sp., Perkins, 13.
opus n. sp., Perkins, 13.
ovo n. sp., Perkins, 13.
parvus n. sp., Perkins, 13.
simplex n. sp., Perkins, 13.
solidus n. sp., Perkins, 13.
vermontanus n. sp., Perkins, 13.
Carpolithes bucklandii Williamson, 'Fontaine, 1.
cilifloraeformis n. sp., Berry, 5.
douglasensis n. sp., Fontaine, 1.
dubius n. sp., Berry, 5.
elongatus n. sp., Fontaine, 1.
juglandiformis n. sp., Berry, 5.
marylandicus n. sp., Hollick, 3.
var. rugosus n. var., Hollick, 3.
mattewanensis n. sp., Berry, 6.
olallensis Ward n. sp., Fontaine, 1.
oregonensis n. sp., Fontaine, 1.
sophoraeformis nom. nov., Berry, 6.
Carstenia n. gen., Hyatt, 1.
Carychium bermudense n. sp., Gulick, 1.
Caryocaris Saltier, Ruedemann, 8.
oblongus Gurley, Ruedemann, 8.
Caryocrinus Say, Grabau, 1.
orlatus Say, Grabau, 1.
Paleontology—Continued.

Genera and species described—Continued.

Caryophyllia arnoldi Vaughan, Arnold, 2.
  california Vaughan n. sp., Arnold, 2.
  pedroensis Vaughan n. sp., Arnold, 2.
Cassidulina californicus n. sp., Anderson.
Cassis calata Conrad, Martin, 5.
  sp. Dall, 10.
Castalia stantoni n. sp., Knowlton, 18.
Catopterus J. H. Redfield, Eaton, 1.
  gracilis H. Redfield, Eastman, 20.
Caulinites inquirendus n. sp., Hollick, 11.
Caulopteris magnifica n. sp., Herzer, 2.
Cavaria dumosa n. sp., Ulrich, 2.
Cavulicina Fischer, Dall, 8.
Celastrophyllum acutidens Fontaine, 5.
  albedomus' Ward n. sp., Fontaine, 5.
  brockianum Hollick, Fontaine, 5.
  brookense Fontaine?, Fontaine 5.
  elegans, n. sp., Berry, 5, 6.
  hunteri Ward, Fontaine, 5.
  latifolium Fontaine, Fontaine, 5.
  marylandicum n. sp., Fontaine, 5.
  obovatum Fontaine, Fontaine, 5.
  ? saliciforme Ward n. sp., Fontaine, 5.
Celastrus arctica Heer, Hollick, 11.
Cenosphera porosissima Vinassa, Martin, 8.
Ceramopora, Hall, Grabau, 1.
  imbrica Hall, Grabau, 1.
  incurvata Hall, Grabau, 1.
Ceratoderma Mo'rcb, Arnold, 2.
Ceratiocaris McCoy, Grabau, 1.
  acuminata Hall, Grabau, 1.
  (Phasganocaris?) deweyi Hall, Grabau, 1.
  (Limnocaris) precedens n. sp., Clarke, 12.
Ceratites de Haan, Hyatt and Smith, 1.
  de Haan, Smith (J. P.), 5.
  (Gymnotoceras) blakei Gabb, Smith (J. P.), 5.
  humboldtensis n. sp. (Gra­
  vanigen), Greene, 2.
  conglomerata n. sp., Greene, 4.
  flabellata n. sp., Greene, 4.
  nanae n. sp., Greene, 4.
  recurvirostra n. sp., Greene, 4.
Ceratops Marsh, Stanton and Hatcher, 1.
  hieroglyphus Cope, Stanton and Hatcher, 1.
  hieroglyphus Cope, Stanton and Hatcher, 1.
Ceratocephalus contescens n. sp., Van
  Ingen, 2.
  goniatita Warder, Van Ingen, 2.
  goniatita Warder, kindle and Breger, 1.
  nodulata n. sp., Van Ingen, 2.
Ceratops eruciferus Cope, Stanton and
  Hatcher, 1.
  recurvicoberus Cope, Stanton and Hatcher, 1.
Paleontology—Continued.

Genera and species described—Continued.
Ceratopus hudsoni n. sp., Raymond (P. E.), 5.

(Crotalocephalus) niagarensis Hall, Kindle and Breger, 1.
pleuraxanthemus Green, Weller, 6.
pomphilus Billings, Raymond (P. E.), 5.

Ceriocrinus craigi (Worthen), Beede, 1.

harshbargeri n. sp.; Beede, 4.
heinisphericus (Shumard), Beede.

rnissouriensis (Miller and Gurley), Beede, 1.

? monticulatus Beede, Beede, 1.

? prisca n. sp., Rowley, Greene, 11.

Cerion (Strophiops) agassizii Dall, 15.

(Strophiops) blandi Pilkey and Vanatta, Dall, 15.

(Strophiops) eleuthere 1. and V., var. drupium Dall nov., Dall, 15.

(Strophiops) glans Küster, Dall, 15.

(Strophiops) grayi Maynard, Dall, 15.

(Strophiops) lentiginosum, Maynard, Dall, 15.

(Strophiops) maynardi Pilkey and Vanatta, Dall, 15.

(Strophiops) rhyssum n. sp., Dall, 7.

Ceriopora micropora Goldfuss, Ulrich, 2.

Cerithidea Swainson, Arnold, 2.

californica Haldemann, Arnold, 2.

Cerithiopsis calvertensis n. sp., Martin, 5.

subulata (Montagu), Martin, 5.

Cerithium arcuferum n. sp., Cragin, 5.

harveyi n. sp., Whiteaves, 12.

Cerithimonas n. sp., Ball, 10.

Cerithium Willcoxi Ball, Ball, 10.

Cervalces americanus (Harlan), Osborn, 36.

Cetophis heteroclitus Cope, Case, 9.

Cetotherium cephalum Cope, Case, 9.

megalophysum Cope, Case, 9.

parvum Trouessart, Case, 9.

Chesnoidiola Holzapfel, Clarke, 15.

Chesnomya leavenworthensis (Meek and Hayden), Beede, 1.

Chlamys springerensis n. sp., Knowitton, 15.

Chetopodora aculeata (Say) Martin, 5.

Cheirodus orbicularis (Newberry and Worthen), Eastman, 10.

Cheirurus mars n. sp., Hudson, 1.

Cheirotheroides E. Hitchcock, Lull, 2.

pigilatus E. Hitchcock, Lull, 2.

Chelonoides E. Hitchcock, Lull, 2.

Chelonoides E. Hitchcock, Lull, 2.

Chelodina apiculata (Say) Martin, 5.

Cheloceras sp., Clarke, 19.

Chione Megerle, Arnold, 2.

Cheystosaurus Cope, Osborn, 19.

Chonopeneus Cope, Stanton and Hatcher, 1.

Chonopus Cope, Osborn, 19.

Chondracanthus Cope, Osborn, 19.

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Chondracanthus Cope, Osborn, 19.
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Paleontology—Continued.

Genera and species described—Continued.

Chione (Lirophora) latilirata Conrad, Dall, 8.

latilirata (Conrad), Glenn, 6.

(Lirophora) mactropsis Conrad, Dall, 8.

(Chamelea) nuciformis Heilprin, Dall, 8.

parkeria n. sp., Glenn, 6.

(Chamelea) rhodia n. sp., Dall, 8.

(Chamelea) spada n. sp., Dall, 8.

(Lirophora) ulocyma Dall, Dall, 8.

(Lirophora) victoria n. sp., Conrad, Dall, 8.

sp. indet., Dall, 8.

Chlonella Cossmann, Dall, 8.


Chilotrypa Ulrich, Grabau, 1.

ostiolata (Hall), Grabau, 1.

Chlamys Bolten, Arnold, 2.

Chlidouophora Dall, Dall, 8.

Chlorostoma Swainson, Arnold, 2.

aureotinctum Forbes, Arnold, 2.

brunnenm. 1'hilippi, Arnold, 2.

funebrale A. Adams, Arnold, 2.

funebrale A. Adams var. subaper-tatum Carpenter, Arnold, 2.

gallina Forbes, Arnold, 2.

montereyi Kiener, Arnold, 2.

(Omphallus) viridulum var. ligu-latum Menke, Arnold, 2.

Choffaticeras n. gen., Tyatt, 1.

Chomatodus inconstans St. John and Worthen, Eastman, 10.

Chondrites alpestris Heer, Ulrich, 4.

divaricatus Fischer-Ooster, Ulrich, 4.

Chondrodonta n. gen., Stanton, 2.

glabra n. sp., Stanton, 2.

Chonetes Fischer de Waldheim, Grabau, 1.

arcatus Hall, Kindle, 1.

arcatus Hall, Weller, 6.

burlingtonensis n. sp., Weller, 2.

cinctatus n. sp., Herzer, 5.

coronatus Conrad, Raymond (P. E.), 3, 4.

coronatus (Con.)?, Weller, 6.

cornutus (Hall), Grabau, 1.

cornutus Hall, Kindle and Breger, 1.

flemingi Norwood and Pratten, Girty, 3.

flemingi var. verneuiliana Norwood and Pratten, Girty, 3.

gleitzianus Waagen, Girty, 3.

glaber Geinitz, Beede, 1.

granulifer Owen, Beede, 1.

granulifer Owen, Girty, 3.

gregarius n. sp., Weller, 2.

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*snailensis Whiteaves, Whiteaves, 12.*

Cypricardinia? carbonaria Meek, Beede, 1.

*carbonaria Meek, Gilty, 3.*

*catacaracta Conrad, Kindle, 1.*

? *cylindrica H. and W., Kindle, 1.*

*indenta Conrad, Kindle, 1.*

*sublamellosa Hall, Weller, 6.*

Cypricardites descriptus n. sp., Sardeson, 1.

*dignus n. sp., Sardeson, 1.*

*finitimus n. sp., Sardeson, 1.*

*(Vanuxemia) fragosus n. sp., Sar­

deson, 1.*

*lucentus n. sp., Sardeson, 9.*

*minnesotensis n. sp., Sardeson, 9.*

*triangularis n. sp., Sardeson, 9.*

*vicinus n. sp., Sardeson, 9.*

Cypridina antiqua n. sp., Jones (T. R.), 3.

Cypriceria Conrad, Dall, 8.

*lens Whiteaves, Whiteaves, 12.*

? *sulcata n. sp., Johnson (D. W.), 5.*

Cyprina? anthracicola n. sp., Whit­

eaves, 12.

*coterol Castillo and Aguillera, Cra­

gin, 2.*

*denmanensis n. sp., Whiteaves, 12.*

? *streeruvitzii Cragin, Cragin, 2.*

*albertensis n. sp., Whiteaves, 6.*

(Corbicula) dumblei n. sp., Ander­

son, 7.

(Pseudocyrena) duplinianna n. sp., Dall, 8.

*Cyrena* (Pseudocyrena) floridana Con­

rad, Dall, 8.

*gravesi Deshayes, Rayn, 1.*

*pompholyx Dall, Dall, 8.*

*cyrenestrum Bourguignat, Dall, 8.*

*cyrenodonax Dall, Dall, 8.*

*cyrenolda Joannis, Dall, 8.*

*caloosaensis Dall, Dall, 8.*

*cyrtina Davidson, Grabau, 1.*

*acutirostris (Shum.), Welser, 2.*

*crassa Hall, Kindle, 1.*

*hamiltonensis Hall, Raymond (1', E.), 3, 4.*

*hamiltonensis Hall, Weller, 6.*

*hamiltonensis Hall, Kindle, 1.*

*var. recta Hall, Kindle, 1.*

*hamiltonensis Hall, mut. pygmea nov., Loomis, 4.*

*magnaplicata n. sp., Weller, 6.*

*pyramidalis (Hall), Grabau, 1.*

*rostrata Hall, Weller, 6.*

*varia Clarke, Weller, 6.*

*sp. undet., Welser, 6.*

*cyrtoceras Goldfuss, Grabau, 1.*

*arcticameratum Hall, Clarke and Ruedemann, 1.*

*bovinum n. sp., Clarke and Ruedemann, 1.*

*cf. brevicorne Hall, Clarke and Ruedemann, 1.*

*bolivianum n. sp., Herzer, 5.*

*crecescens n. sp., Herzer, 5.*

*dresbachense n. sp., Sardeson, 2.*

*expansum n. sp., Kindle, 1.*

*graclus n. sp., Cieland, 3.*

*orodes Billings, Clarke and Ruedemann, 1.*

*subcampanulatum Hall, Grabau, 1.*

? *winonicum n. sp., Sardeson, 2.*

*sp. undet., Kindle, 1.*

*cyrtodonta billingsi Ulr., Weller, 6.*

*canadensis Bill., Weller, 6.*

? *lamellosa n. sp., Hudson, 1.*

*solitaria n. sp., Raymond (P. E.), 7.*

*tranceps n. sp., Raymond (P. E.), 7.*

*cyrtolites bennetti n. sp., Rowley, 1.*

oratus var. minor U. & S. Welser, 6.

*sinatus H. & W., Welser, 8.*

*cytonella mitella Hall, Weller, 6.*

*cyrtorhizoceras curvicameratum n. sp., Clarke and Ruedemann, 1.*

*cyrtospira attenuata n. sp., Ruedemann, 2.*

*cystelasma quinqueseptatum n. sp., Ul­

rich, 8.*

*cysthiphyllum Goldfuss, Grabau, 1.*

* solitude n. sp., Greene, 2.*

*cythiphryllum Goldfuss, Grabau, 1.*
Paleontology—Continued.  
*Genera and species described—Continued.* 
Cyrtophyllum Lonsdale, Lambe, 2.  
aggregatum Billings, Lambe, 2.  
basalis n. sp., Herzer, 5.  
clavatum n. sp., Greene, 12.  
conspicuum n. sp., Greene, 15.  
crenatum n. sp., Greene, 15.  
discoideum n. sp., Herzer, 5.  
diversum n. sp., Greene, 1.  
expansum n. sp., Greene, 1.  
fulcratum n. sp., Greene, 12.  
gemmiferum n. sp., Greene, 15.  
hydraulicum Simpson, Grabau, 1.  
louisvillensis n. sp., Greene, 1.  
maritimum Billings, Lambe, 2.  
multicrenatum n. sp., Greene, 2.  
miagarensi Hall (sp.), Lambe, 2.  
periamellosum n. sp., Herzer, 5.  
prostratum n. sp., Herzer, 5.  
retorsum n. sp., Herzer, 5.  
sphyus n. sp., Herzer, 5.  
sulcatum Billings, Lambe, 2.  
vesiculosum Goldfuss (sp.), Lambe, 2.  
vesiculosum Phillips, Greene, 15.  
Cystodictya Ulrich, Condra, 2.  
anisopora u. sp., Condra, 1, 2.  
inequamarginata Rogers, Condra, 2.  
lophodes n. sp., Condra, 1, 2.  
Cytherea Bolten, Dall, 8.  
Cystodictya Ulrich, Condra, 2.  
anisopora n. sp., Condra, 1, 2.  
inequamarginata Rogers, Condra, 2.  
lophodes n. sp., Condra, 1, 2.  
Cythere burmii n. sp., Ulrich and Bassler, 3.  
calverti n. sp., Ulrich and Bassler, 3.  
clarkana n. sp., Ulrich and Bassler, 3.  
clarkana var. minuscula n. var., Ulrich and Bassler, 3.  
dorsicornis n. sp., Ulrich and Bassler, 3.  
dorsicornis var. bicornis n. var., Ulrich and Bassler, 3.  
evax n. sp., Ulrich and Bassler, 3.  
evax var. oblongula n. var., Ulrich and Bassler, 3.  
exanthemata n. sp., Ulrich and Bassler, 3.  
franchea n. sp., Ulrich and Bassler, 3.  
inequivalvis n. sp., Ulrich and Bassler, 3.  
llenkenklasli n. sp., Ulrich and Bassler, 3.  
martini n. sp., Ulrich and Bassler, 3.  
marylandica n. sp., Ulrich, 1.  
micula n. sp., Ulrich and Bassler, 3.  
nitidula n. sp., Ulrich and Bassler, 3.  
nitidula var. calvertensis n. var., Ulrich and Bassler, 3.  
pyaipunctata n. sp., Ulrich and Bassler, 3.  
Cythereidella ashermani n. sp., Ulrich and Bassler, 3.  
cylindrica n. sp., Ulrich and Bassler, 3.
FOR THE YEARS 1901–1905, INCLUSIVE.

Paleontology—Continued.

Genera and species described—Continued.

Cytherideis longula n. sp., Ulrich and Bassler, 3.
sonicircularis n. sp., Ulrich and Bassler, 3.
subaequalis n. sp., Ulrich and Bassler, 3.
Cytheropteron nodusom n. sp., Ulrich and Bassler, 3.

Dacentrurus nov. nom., Lucas, 11.

Dadoxylon antiquum Dn., Penhallow, 1.
edwardanum Dn., Penhallow, 1.
proseri n. sp., Penhallow, 1.

Daedalus Roualt, Sarle, 4.

Dsemonelix, Peterson, 3.

Daemonelix, Jennings (O. E.), 1.

Dalmanella Hall and Clarke, Grabau, 1.
elegantula Dalman, Kindle and Breger, 1.
elegantula Dalman, Grabau, 1.
elegantula Dalman 1827, Beecher, 1.
cf. elegantula Dalman (sp.), Clarke and Ruedemann, 1.
cf. hybrida Sowerby (sp.), Clarke and Ruedemann, 1.

Dalmanites Barrande, Grabau, 1.

achates Billings, Ruedemann, 2.

(Chasmops) ageria Hall, Kindle, 1.
(Chasmops) anchio (Green), Kindle, 1.

(Symphoria) arkansanus n. sp., Van Ingen, 2.
asphelona n. sp., Weller, 6.
(Cryphaeus) booth var., callites Green (H. and C.), Kindle, 1.

(Cryphaeus) calypso H. and W., Kindle, 1.
dentatus Barrett, Weller, 6.
electra (Bill.), Weller, 6.
limulurus (Green), Grabau, 1.

lunatus n. sp., Lambert, 1, 2.

(Cryphaeus) piolone Hall and Clarke, Kindle, 1.
pleuroptyx (Green), Weller, 6.
(Hausmannia) pleuroptyx Green (Hall?), Kindle, 1.

(Chasmops) solenurus (Hall and Clarke), Kindle, 1.

(Symphoria) vigilans Hall, Kindle and Breger, 1.
(Symphoria) vigilans Hall, Van Ingen, 2.
sp. cf. anchio (Green), Weller, 6.
sp. undet. Weller, 6.

Dalmanites acicularis n. sp., Knowlton, 18.


cliffwoodensis, Hollick, Berry, 5.

northportensis n. sp., Hollick, 11.

Danneopsis storiell n. sp., Fontaine, 1.

Danubites Mojsisovics, Hyatt and Smith, 1.

strongi n. sp., Hyatt and Smith, 1.

Damonella Mojsisovics, Smith (J. P.), 5.
dubia Gabb, Smith (J. P.), 5.

Daphænus Leidy, Hatcher, 10.
dodgel Scott, Hatcher, 10.
felini Scott, Hatcher, 10.

Dawsonia Nicholson, Ruedemann, 8.

monodon Gurlie, Ruedemann, 8.

Dawsonoceras annulatum Sowerby var. americanum Pood, Clarke and Ruedemann, 1.

Delnodon Leidy, Osborn, 50.

Delnodon Leidy, Stanton and Hatcher, 1.

 explanatus Cope (sp.) Lambe, 3.
horridus Leidy, Lambe, 3.

Dekayella, Cumings, 7.

Dekayella Ulrich, Ulrich and Bassler, 2.

foliacea n. sp., Ulrich and Bassler, 2.
trentonensis (Ulrich), Nickies, 6.
ulrichi (Nicholson), Nickies, 6.

Dekayia, Cumings, 7.

Dekayia Edwards and Halme, Ulrich and Bassler, 2.
aspera Edwards and Halme, Nickies, 6.
cystata n. sp., Cumings, 3.
magnan. sp., Cumings, 3.

perfrondosa n. n., Cumings, 7.

subfrondosa n. sp., Cumings, 7.
ulrichi-lotata n. var., Cumings, 7.

Delphinodon Leidy, Case, 9.
leidy (Hay), Case 9.
memento Cope, Case, 9.

Delphinoida Brown, Arnold, 2.
coronadoensis n. sp., Arnold, 2.

Delphinosaurus, Herr (J. C.), 13.
perrini, Herr (J. C.), 13.

Delphnula stantoni n. sp., Cragin, 2.

Deltthyris consobrinus d’Orbigny, Raymond (P. E.), 3, 4.
rarecosta Conrad, Kindle, 1.

sculptilis Hall, Kindle, 1.

Deltoodus Newberry and Worthen, Brans on, 1.
angularis Newberry and Worthen, Eastman, 10.
attenuatus n. sp., Brans on, 1.
contortus (St. John and Worthen), Eastman, 10.

costatus (Newberry and Worthen), Eastman, 10.
occidentalis (Leidy), Eastman, 10.

spatulatus Newberry and Worthen, Eastman, 10.
Paleontology—Continued.

Genera and species described—Continued.

Deltodus spatulatus Newberry and Worthen, Branson, 3.

Dendrograptus Hall, Ruedemann, 7.

Dentalium Linne, Arnold, 2.

Dentifera Linear, Arnold, 2.

D. attenuatuni Say, Martin, 5.

D. caduloide ball, Martin, 5.

D. danai Meyer, Martin, 5.

D. grandavum Win., Weller, 2.

D. hexagonum Sowerby, Arnold, 2.

D. indinator Carpenter, Arnold, 2.

D. minutistratum Gabb, Clark and Martin, 2.

D. mississippiensis Gabb, Clark and Martin, 2.

D. opaculum n. sp., Casey, 4.

D. polygonum n. sp., Casey, 4.

D. pseudohexagonum ball, Arnold, 2.

D. sublaeve Hall, Girty, 3.

D. zephyrinum n. sp., Casey, 4.

D. sp., Ball, 10.

D. berbya Waagen, Beede, 1.

D. bennetti Hall and Clarke, Beede, 1.

D. crassa (Meek and Hayden), Beede, 1.

D. crassa Meek and Hayden, Girty, 3.

D. cymbula Hall and Clarke, Beede, 1.

D. cymbula Meek and Hayden, Girty, 3.

D. cymbula Hall, Grabau, 1.

D. niagarense Hall, Grabau, 1.

D. perforatum n. sp., Whiteaves, 17.

D. pugnus n. sp., Clarke, 19.

D. (Naticopsis) rotundatum n. sp., Clarke, 19.

D. Diastoma Deshayes, Arnold, 2.

D. Diatrype gigantea, Lucas, 15.

D. Diectonurus Hall, Walcott, 12.

D. appalachia n. sp., Walcott, 12.

D. danai Meyer, Martin, 5.

D. danai Win., Weller, 2.

D. diameopora Hall, Grabau, 1.

D. dichotoma Hall, Grabau, 1.

D. biaphorostoma niagarense Hall, Grabau, 1.

D. perforatum n. sp., Clarke and Ruedemann, 1.

D. pectenoides Whitfield, Walcott, 12.

D. politus Hall, Walcott, 12.

D. Diceratops Lull, Lull, 7.

D. Diceratops hatcheri Lull, n. gen. and sp., Hatcher, 22.

D. Dichocrinus inoratus Wachsmuth and Springer, Grabau, 8.

D. Dichocryptus Salter, Ruedemann, 8.

D. octobrachiatus Hall (sp.), Ruedemann, 8.

D. Dicraea montanensis n. sp., Fontaine, 4.

D. ortogonensis n. sp., Fontaine, 1, 2.

D. pachyphylia n. sp., Fontaine, 3, 4.

D. saportana Heer, Fontaine, 2.

D. Dicranograptus ramosus (Hall), Weller, 6.

D. Dictyoccephalus Leidy, Branson, 2.

D. Dictyocoryne profunda Ehrenberg, Martin, 8.

D. Dictyomella Hall, Grabau, 1.

D. coralifera Hall, Grabau, 1.

D. Dictyonema Hall, Grabau, 1.

D. Dictyonema Hall, Ruedemann, 8.

D. flabelliforme Eichwald (sp.), Ruedemann, 8.

D. furciferum n. sp., Ruedemann, 8.

D. rectilinatum n. sp., Ruedemann, 8.

D. Dictyopyge Egerton, Eastman, 20.


D. Dictyoretmon n. gen., Whitfield, 8.

D. Didymograptus McCoy, Ruedemann, 8.

D. acutidenis Lapworth ms., Elles and Wood em., Ruedemann, 8.

D. bifidus Hall sp., Ruedemann, 8.

D. (Isograptus) cudceus Salter em., Ruedemann, Ruedemann, 8.

D. ceadceus Salter nanus n. mut., Ruedemann, 8.

D. cancerinus Hopkinson, Ruedemann, 8.

D. cancellatus Hopk. (sp.), Ruedemann, 8.

D. intricatus n. sp., Ruedemann, 8.

D. Dewalquea greelandica Heer, Berry, 5.

D. Dextobla hall Win., Weller, 2.

D. ovata (Hall), Weller, 2.

D. Diacranodus texensis Cope, Broili, 3.

D. Diadectidse Cope, Case, 12.

D. Diamesopora Hall, Grabau, 1.

D. dichotoma Hall, Grabau, 1.

Diaphorostoma Fischer, Grabau, 1.

D. desmatum Clarke, Shimer, 5.

D. lineatum Conrad, mut. bellal

Clarke, Loomis, 4.
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Paleontology—Continued.

Genera and species described—Continued.

Diodemograpthus gracilis Tornquist, Ruedemann, 8.

filiformis Tuliberg, Ruedemann, 8.

forcipifromis n. sp., Ruedemann, 8.

icertus n. sp., Ruedemann, 8.

nanus Lapworth, Ruedemann, 8.

nicholsoni Lapworth var. planus Elles and Wood, Ruedemann, 8.

nittidus Hall sp., Ruedemann, 8.

patulus Hall sp., Ruedemann, 8.

similis Hall sp., Ruedemann, 8.

spinulosus n. sp., Ruedemann, 8.

tornquisti n. sp., Ruedemann, 8.

Dielasma, Beecher, 1.

bovidens (Morton), Beede, 1.

bovidens Morton?, Girty, 3.

? pediculus n. sp., Rowley, 1.

schucherti n. sp., Beede, 8.

zellei (Win.), Weller, 2.

Dileneria n. gen., Hyatt and Smith, 1.

arthaberi n. sp., Hyatt and Smith, 1.

Dilectites Wood, Dall, 8.

Dilecalocephalus minnesotensis Owen, Sardeson, 2.

newtonensis n. sp., Weller, 6.

Dimeripteris incerta (Dn.) D. W., White (D.), 18.

recurva (Dn.) D. W., White (D.), 18.

Dimetrodon, Sternberg, 2.

Dimetrodon, Case, 7, 8, 11.

gigas Cope, Case, 7, 11.

incisivus Cope, Broili, 2.

sp. near incisivus Cope, Case, 11.

Dimorpbocercus, Hyatt and Smith (J. P.), 3.

texamim n. sp., Smith (J. P.), 3.

Dinarites Mojsisovics, Hyatt and Smith (J. P.), 3.

bona-vista n. sp., Hyatt and Smith, 1.

Dinichthys, Clark (W.), 1.

Dinichthys, Wright (A. A.), 1.

clarki Claypole, Hussakof, 2.

curtus Newb., Hussakof, 2.

intermedius Newb., Hussakof, 1.

pustulosus, Eastman, 8.

Dinctis, Matthew (W. D.), 19.

bombifrons Adams, Matthew (W. D.), 2.

fortis Adams, Matthew (W. D.), 2.

squalidens Cope, Matthew (W. D.), 2.

Dinobolas conradi Hall, Kindle and Breger, 1.

Dinocelurus hollandi n. gen. and sp., Peterson, 4.

Dinocyon (Borophagus) diversidens (Cope), Matthew (W. D.), 5.

(B o r o p h a g u s) gidielyi n. sp., Matthew (W. D.), 3.

(D o r o p h a g u s) mammarius (Hatcher), Matthew (W. D.), 5.

ostiragus n. sp., Dowchass, 8.

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Paleontology—Continued.

Genera and species described—Continued.

Dinonyx (n. u.), for Dinocherus, Peterson, 5.

Dinorthis pectinella (Emm.), Weller, 6.

subquadrata (Hall), Hayes and Ulrich, 1.

Dionoites buchanianus (Ettingshausen).

Bornemann, Fontaine, 3, 5.

buchanianus abietinus (Göppert).

Ward n. comb., Fontaine, 3, 5.

buchanianus rarinervis Fontaine?, Fontaine, 3.

Dipteropus (Göppert) Miquel, Fontaine, 3.

Diopeus leptocephalus, Case, 6.

Diospyros elliptica n. sp., Knowlton, 14.

judithis n. sp., Knowlton, 18.

primavera Heer, Berry, 6.

Diphyodus longirostris n. sp., Lambe, 3.

Diphyphysis Lonsdale, Lambe, 2.

arundinaceaum Billings, Lambe, 2.

bilingis n. sp., Greene, 6.

integumentum Barrett, Weller, 6.

cassipitum Hall (sp.), Lambe, 2.

dilatum n. sp., Greene, 15.

multicorne Hall (sp.), Lambe, 2.

rugosum Milne Edwards and Haine (sp.), Lambe, 2.

simcoense Billings (sp.), Lambe, 2.

strictum Milne Edwards and Haine (sp.), Lambe, 2.

verneualnum Milne Edwards and Haine (sp.), Lambe, 2.

Diploclema Ulrich, Grabau, 1.

bursa (Hall), Grabau, 1.

Diplocaulus Cope, Broili, 1, 2.

Diplocaulus Cope, Case, 3.

copel n. sp., Broili, 2.

magnicornis, Broili, 1.

magncicornis Cope, Broili, 2.

puslilus n. sp., Broili, 2.

Diplodocus, Hatcher, 15.

Diplodocus (Marsh), Hatcher, 1.

Diplodocus Osborn and Granger, 1.

longus Osborn, 32.

Diplodonta Brown, Arnold, 2.

acclinis Conrad, Glenn, 6.

harfordi n. sp., Anderson, 7.

hopkinsensis Clark, Clark and Martin, 2.

maritoborensis n. sp., Clark and Martin, 2.

orbein Gould, Arnold, 2.

sericata Reeve, Arnold, 2.

shilohensis Dall, Glenn, 6.

subverex (Conrad), Glenn, 6.

sp., Dall, 10.

Diploraptus McCoy, Ruedemann, 8.

angustifolius (Hall), Weller, 6.

dentatus Bronnstriart sp., Ruedemann, 8.

foliacus (Murch.), Weller, 6.

inutilis Hall, Ruedemann, 8.

laxus n. sp., Ruedemann, 8.
Paleontology—Continued.  

Genera and species described—Continued.

Diplograptus longicaudatus n. sp., Ruedemann, 8.

Diplomoceras notabile n. sp., Whiteaves, 12.

Diploneis microtatos var. christianii Cleve, Boyer, 1.

Diplophyllum Hall, Grabau, 1.

cspitosum Hall, Grabau, 1.

cspitosum Hall, Clarke and Ruedemann, 1.

Diploria labyrinthiformis (Linn.) emend Esper, Vaughan, 2.

Diplotrypa limitaris Ulr., Sardeson, 3.

Diplurus Newberry, Eastman, 20.

clongicaudatus Newberry, Eastman, 20.

Diploides Jäger, Matthew and Gidley, 1.

tortus (Leidy), Matthew and Gidley, 1.

Discina concordensis n. sp., Sardeson, 9.

Discinisca lugubris Conrad, Dall, 8.

lugubris (Conrad), Martin, 6.

Discinocaris, Clarke, 8.

Discohelix californicus n. sp., Weaver, 1.

costatus n. sp., Weaver, 1.

Discorbina Parker and Jones, Bagg, 6.

allomorphoides (Reuss), Bagg, 9.

bertheloti (d'Orbigny), Bagg, 1.

orbicularis (Terquem), Bagg, 6.
turbo (d'Orbigny), Bagg, 1.

Discosaurus Leidy, Williston, 14.

costatus n. sp., Wood (Elvira), 3.
costatus W. and Sp., Rowley, Greene, 8.
costatus W. & S., Rowley, Greene, 8.
costatus var. incarinatus n. var., Rowley, Greene, 10.
costatus n. sp., Wood (Elvira), 3.
curriei n. sp., Rowley, Greene, 9.
elegantulus n. sp., Rowley, Greene, 8.

Dolatocrinus Lyon, Wood (Elvira), 3.


aplatus M. & G., Rowley, Greene, 8.


arrosus var. cognatus n. var., Rowley, Greene, 8.


asterias n. sp., Wood (Elvira), 3.
celatus M. & G., Rowley, Greene, 11.

charlestownensis M. & G., Rowley, Greene, 10.

charlestownensis Miller and Gurley, Wood (Elvira), 3.
corbuliformis n. sp., Rowley, Greene, 10.
corpuscorpus var. concinnus n. var., Rowley, Greene, 10.
costatus n. sp., Wood (Elvira), 3.
curcie n. sp., Rowley, Greene, 9.
elegantulus n. sp., Rowley, Greene, 8.
exicavatus W. and Sp., Rowley, Greene, 14.
exicavatus Wachsmuth and Springer, Wood (Elvira), 3.
exicavatus W. & S., Rowley, Greene, 8.
exicavatus var. incarinatus n. var., Rowley, Greene, 7.
fungiferus n. sp., Rowley, Greene, 8.
greenii M. & G., Rowley, Greene, 11.
greenii Miller and Gurley, Wood (Elvira), 3.
hammelli Miller and Gurley, Wood (Elvira), 3.
major Wachsmuth and Springer, Wood (Elvira), 3.
marsli Lyon, Rowley, Greene, 11.
multibrachiatus n. sp., Rowley, Greene, 9.
multinodosus n. sp., Rowley, Greene, 10.
nodosus M. & G., Rowley, Greene, 11.
noduliferus n. sp., Rowley, Greene, 9.
ornatus Meek, Wood (Elvira), 3.
preciosus M. & G., Rowley, Greene, 10.
pulchellus M. & G., Rowley, Greene, 6.
salebrosus Miller and Gurley, Wood (Elvira), 3.
spinulosus M. & G., Rowley, Greene, 11.
springeri n. sp., Rowley, Greene, 8.
triadactylus Barris, Wood (Elvira), 3.
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Genra and species described—Continued.

Dolatocrinus venustus M. & G., Rowley, Greene, 11.

wachamuthi n. nom., Wood (Elvira), 3.

welleri n. sp., Rowley, Greene, 9.

sp. ?, Rowley, Greene, 6.

sp., Wood (Elvira), 3.

Dolcereris pennsylvanica Dn. sp., White (D.), 10.

Dolichobrachium gracile n. gen. and sp., Williston, 23.

Dolichopterus Hall, Grabau, 1.

macrocrothallus Hall, Grabau, 1.

Dolichorynchops Williston, Williston, 14.

osborni Williston, Williston, 14.

osborni n. sp., Williston, 9.

Dolichotoma Bellardi, Arnold, 2.

Donacopsis Sandberger, Dall, 8.

Dolichorhynchops Williston, Williston, 9.

Dolichopterus Hall, Grabau, 1.

Dolichopterus Hall, Grabau, 1.

Dolichopterus Hall, Grabau, 1.

Dolichopterus Hall, Grabau, 1.

Dolichopterus Hall, Grabau, 1.

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Dolichopterus Hall, Grabau, 1.

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Dolichopterus Hall, Grabau, 1.
Paleontology—Continued.  
Genera and species described—Continued.  
Echinocaris clariki n. sp., Beecher, 8.  
randalli n. sp., Beecher, 8.  
socialis, Beecher, 8.  
Echinocanthera Fischer, Dall, 8.  
antiquata n. sp., Dall, 8.  
arcinella Linné, Dall, 8.  
Ephora Conrad, Martin, 5.  
quadrastata (Say), Martin, 5.  
quadrastata var. umbilicata (Wagner), Martin, 5.  
tampensis (Dall), Martin, 5.  
tricostata n. sp., Martin, 5.  
Edaphosaurus pogonias, Case, 6.  
Edestus, Eastman, 6, 8, 13, 22.  
heinrichi N. & P., Eastman, 6.  
Edmondia (? ) arcuata n. sp., Cleland, 3.  
aspinallensis Meeck, Beede, 1.  
? dockeri n. sp., Weller, 6.  
gibbsa Geinitz, Girty, 3.  
mortonis Meeck, Girty, 3.  
nebrascensis (Meeck), Girty, 3.  
nuptialis Win., Weller, 2.  
strigilata Win., Weller, 2.  
subtruncata Meeck, Girty, 3.  
Ecorthes (7 sp.), Girty, 3.  
Ediocrinus Hall, Talbot, 2.  
Eoelastodus Cope, Williston, 14.  
Eleutheroblastus, Hambach, 1.  
Eleutherocrinus cassedayi Y. & S., Rowley, 11.  
? aspinwallensis Meek, Beede, 1.  
gibbosa Geinitz, Girty, 3.  
mortonensis Geinitz?, Girty, 3.  
tricostata n. sp., Martin, 5.  
? sp., Girty, 3.  
Egleria dolosy, Dall, 8.  
section Egleria s. s., Dall, 8.  
section Prosephleria Dall, 8.  
paradoxa (Born.), Dall, 8.  
Elastatium n. gen., Clarke, 19.  
? arcuata n. sp., Cleland, 3.  
aspinallensis Meeck, Beede, 1.  
gibbsa Geinitz, Girty, 3.  
mortonis Meeck, Girty, 3.  
nebrascensis (Meeck), Girty, 3.  
nuptialis W., Weller, 2.  
strigilata W., Weller, 2.  
subtruncata Meeck, Girty, 3.  
Eoelastodus Cope, Williston, 14.  
Eleutheroblastus, Hambach, 1.  
Eleutherocrinus cassedayi Y. & S., Rowley, 11.  
cassedayi Shumard and Yandell, 11.  
Eoelastodus Cope, Williston, 14.  
Eleutheroblastus, Hambach, 1.  
Eleutherocrinus cassedayi Y. & S., Rowley, 11.  
cassedayi Shumard and Yandell, 11.  
Eoelastodus Cope, Williston, 14.  
Eleutheroblastus, Hambach, 1.  
Eleutherocrinus cassedayi Y. & S., Rowley, 11.  
cassedayi Shumard and Yandell, 11.  
Eoelastodus Cope, Williston, 14.  
Eleutheroblastus, Hambach, 1.  
Eleutherocrinus cassedayi Y. & S., Rowley, 11.  
cassedayi Shumard and Yandell, 11.  
Eoelastodus Cope, Williston, 14.  
Eleutheroblastus, Hambach, 1.  
Eleutherocrinus cassedayi Y. & S., Rowley, 11.  
cassedayi Shumard and Yandell, 11.  
Eoelastodus Cope, Williston, 14.  
Eleutheroblastus, Hambach, 1.  
Eleutherocrinus cassedayi Y. & S., Rowley, 11.  
cassedayi Shumard and Yandell, 11.  
Eoelastodus Cope, Williston, 14.  
Eleutheroblastus, Hambach, 1.  
Eleutherocrinus cassedayi Y. & S., Rowley, 11.  
cassedayi Shumard and Yandell, 11.  
Eoelastodus Cope, Williston, 14.  
Eleutheroblastus, Hambach, 1.  
Eleutherocrinus cassedayi Y. & S., Rowley, 11.  
cassedayi Shumard and Yandell, 11.
Paleontology—Continued.

Genera and species described—Continued.

Enclis directus (Conrad), Glenn, 6.

Enclisiformis Conrad, Glenn, 6.

Entelethes hemiplicata (Hall), Beede. 1.

hemiiplicata Hall, Girty, 3.

Enteroelasma Simpson, Grubau, 1.

caliculus (Hall), Grubau, 1.

ci. caliculus Hall (sp.), Clarke and Ruedemann, 1.

Entodesma Philippi, Dall, 8.

Entolium aviculatum (Swallow), Beede, 1.

Entomis prosephina nov., Loomis, 4.

serratostrata Sandberger, Clarke, 19.

vairasistra Clarke, Clarke, 19.

Entophtyes rostratus n. sp., Sinclair, 6.

Enslis directus (Conrad), Glenn, 6.

Enslisiformis Conrad, Glenn, 6.

Enteletes hemiplicata (Hall), Beede. 1.

uemiplicatus Hall, Girty, 3.

Enterolasma Siinpson, Grabau, 1.

caliculus (Hall), Grabau, 1.

ci. caliculus Hall (sp.), Clarke and Ruedemann, 1.

Entodesma Philippi, Dall, 8.

Entolium aviculatum (Swallow), Beede, 1.

Entomis prosephina nov., Loomis, 4.

serratostrata Sandberger, Clarke, 19.

vairasistra Clarke, Clarke, 19.

Entophtyes rostratus n. sp., Sinclair, 6.

Equisetum phillipsii (Bunker) Brongniart, Fontaine, 4.

texense Fontaine?, Fontaine, 3.

? sp., Fontaine, 1.

Eospongia Billings, Seely, 3.

? sp., Knowlton, 14.

Equus barccmei Cope, Gidley, 1.

complicatus (Leidy), Gidley, 1.

conversidens Owen, Gidley, 1.

crenidens Cope, Gidley, 1.

fraternus Leidy, Gidley, 1.

giganteus n. sp., Gidley, 1.

occidentalis Leidy, Gidley, 1.

pachicus Leidy, Gidley, 1.

pectinatus (Cope), Gidley, 1.

scotti Gidley, Gidley, 1.

Eosurcula n. gen., Casey, 5.

cconcina n. sp., Casey, 5.

helicoidea n. sp., Casey, 5.

obesa n. sp., Casey, 5.

Eospongia Billings, Seely, 3.

varius Billings, Seely, 3.

Eostrophomena n. subg. of Strophomena, Walcott, 12.

Eoscurula n. gen., Casey, 5.

concina n. sp., Casey, 5.

helicoidea n. sp., Casey, 5.

moorei Gabb, Casey, 5.

pulcherrima Helip., Casey, 5.

tuomeyi Ald., Casey, 5.

Eotomaria areyi n. sp., Clarke and Ruedemann, 1.

dorhamensis Whiteaves (sp.), Clarke and Ruedemann, 1.

galtensis Billings (sp.), Clarke and Ruedemann, 1.

kayseri n. sp., Clarke and Ruedemann, 1.

obsoletum n. sp., Raymond (P. E.), 7.

Ephedrites? vernonensis n. sp., Fontaine, 5.

Ephedrites? vernonensis n. sp., Fontaine, 5.

Eriphyla Gabb., Ball, 8.

Eriphyla Gabb., Ball, 8.

Eridotrypa briareus (Nicholson), Nickles, 6.

mutabilis Ulr., Sardeson, 3.

Eridotrypa briareus (Nicholson), Nickles, 6.

mutabilis Ulr., Sardeson, 3.

Eritoma Risso, Arnold, 2.

columella Menke, Arnold, 2.

Eretmocrinus brevis n. sp., Rowley, 2.

nodosus, Rowley, 4.

Eretmocrinus brevis n. sp., Rowley, 2.

nodosus, Rowley, 4.

Erisocrinus megalobrachius Beede, Beede, 1.

Eryphyla Gabb., Ball, 8.

Eryops Cope, Case, 5.

latus n. sp., Case, 5.

megacephalus, Sternberg, 2.

megacephalus Cope, Case, 3.
Paleontology—Continued.

Genera and species described—Continued.

Escasona, Matthew (G. F.), 20.

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Eugyrichnites minutus n. gen. and sp., Aml, 46.

Euhaplos platyceps n. gen. and sp., Peterson, 3.

Gallima Risso, Arnold, 2.

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Eupachycrinus magister Miller and Gurley, Beede, 1.

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Eupalamosphyllum var., Kinddle and Breger, 1.

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Eupalympachys grangeri, Kinddle and Breger, 1.

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Eupaleitherium n. gen., Sinclair and Furlong, 1.

collinsum n. sp., Sinclair and Furlong, 1.

collinsum Furlong and Sinclair, 7.

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Euchilodon Gabb, Casey, 5.

crenocrinatum Hulpe, Casey, 5.

gabbianum n. sp., Casey, 5.

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Euhaplos platyceps n. gen. and sp., Peterson, 3.

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Eupalaemopus Hay, Lull, 2.

dananus (E. Hitchcock), Lull, 2.

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Eupatagaposia bicarinata McChesney, Girty, 3.

taggarti Meek, Girty, 3.

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Euvampyrion australis n. sp., Hudson, 1.

cretaceum Whiteaves, Whiteaves, 12.

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Euphegma nodocarinatum Hall, Girty, 3.

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Euphegma subpapillosus White?, Girty, 3.

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Euphyllopidae var., Kinddle and Breger, 1.

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Euphyllum var., americanus n. var., Kinddle and Breger, 1.

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Euphegma nodocarinatum Hall, Girty, 3.

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Euphyllopidae var., americanus n. var., Kinddle and Breger, 1.

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Euphyllopidae var., americanus n. var., Kinddle and Breger, 1.
Paleontology—Continued.

Genera and species described—Continued.

Eupodiscus inconspicuus Rattray, Boyer, 1.
Euprotogonia puercensis (Cope), Douglass, 3.
puercensis (Cope), Marsh, Osborn, 36.
Eupsammia conradi Vaughan, Vaughan, 1.
elaborata (Conrad). Vaughan, 1.
Euryacodon lepidus Marsh, Wortman, 14.
Eurychilina bulbifera n. sp., Ruedemann, 2.
dianthus n. sp., Ruedemann, 2.
Eurypterus De Kay, Grabau, 1.
dekayi Hall, Grabau, 1.
Eutbydesma Hall, Clarke, 19.
s threatile Hall, Clarke, 19.
Eutivela Dall, Ball, 8.
Eutomoceras Hyatt, Hyatt and Smith, 1.
Eutomoceras Hyatt, Smith (J. P.), 5.
dunni n. sp., Smith (J. P.), 5.
Eutypomys n. gen., Mathew (W. D.), 22.
thomsoni n. sp., Matthew (W. D.), 22.
Evalen A. Adams, Arnold, 2.
Eoxenampe E. Hitchcock, Luell, 2.
arcata E. Hitchcock, Luell, 2.
minima E. Hitchcock, Luell, 2.
oruna E. Hitchcock, Luell, 2.
Exogyra clarkei n. sp., Shattuck, 8.
potosina Castillo and Agullera, Cragin, 2.
subplicifera Felix, Cragin, 2.
Falsifusus n. gen., Grabau, 16.
? apicallis (Johnson) Grabau, 16.
? houstonensis (Johnson), Grabau, 16.
ludovicianus (Johnson), Grabau, 16.
meyeri (Aldrich), Grabau, 16.

Paleontology—Continued.

Genera and species described—Continued.

Fasciolaria crookiana n. sp., Whittfield, 13.
rondi n. sp. Mather, 1.
Fasciopora subramosa n. sp., Ulrich, 2.
Favia Oken, 1815, Vaughan, 2.
Favosites Lamark, Grabau, 1.
clusius Rominger, Greene, 12.
constriterius (Hall), Grabau, 1.
corrugatus n. sp., Weller, 6.
cystoides n. sp., Herzer, 5.
favosus, Hayes and Ulrich, 1.
forbesi Edwards and Halme, Clarke and Ruedemann, 1.
gibsoni n. sp., Parks, 5.
gothis Ulmark, Clarke and
Ruedemann, 1.
heldberggic Hall, Shimer, 5.
heldberggic Hall, Weller, 6.
heldberggic precedens, n. var.,
Schuchert, 4.

bisnigeri Edwards and Halme,
Clarke and Ruedemann, 1.
iouisillenensis n. sp., Greene, 14.
niagarensis Hall, Clarke and Ruedemann, 1.
niagarensis Hall, Grabau, 1.
parasiticus (Hall), Grabau, 1.
pyriformae (Hall), Weller, 6.
pyriformis (Hall), Grabau, 1.
seanami n. sp., Greene, 4.
sphericus Hall, Shimer, 5.

Feistmantelia virginica n. sp., Fontaine, 5.

Felida, Matthew (W. D.), 19.

Fenestella, Cumings, 9, 10.

Fenestella Lonsdale, Grabau, 1.

Fenestella Lonsdale, Condra, 2.
binodata n. sp., Condra, 1, 2.
conradi Ulrich, Condra, 2.
conradi var. compactis n. var.,
Condra, 1, 2.
cyclofensuetra n. sp., Condra, 1, 2.
granilles n. sp., Condra, 1, 2.
kansanensis Rogers, Condra, 2.
limbata Foerste, Condra, 2.
mimica Ulrich, Condra, 2.
puripora n. sp., Condra, 1, 2.
puregans Meek, Condra, 2.
polyoporoites n. sp., Condra, 1, 2.
silicosa n. sp., Condra, 1, 2.
subarctica n. sp., Whitcaves, 17.
sufrutes n. sp., Condra, 1, 2.
tenax Ulrich, Ulrich, 8.
tenax Ulrich (?), Condra, 2.
tenax Ulrich, Hayes and Ulrich, 1.
cf. tenax Ulrich, Glrty, 3.
sp., Glrty, 3.
sp. (?), Condra, 1.

Fenestrella st. ludovicl Prout, Ulrich, 8.

Ficopsis angustulata n. sp., Weaver, 1.
Flcus atavina Heer, Berry, 7.
daphnogenlides (Heer), Berry, 14.
Paleontology—Continued.

Genera and species described—Continued.

Ficus myricoides Hollick, Fontaine, 5.
neurocarpa n. sp., Hollick, 6.
proteoides Lesq., Hollick, 9.
sapidifolia sp., Hollick, 11.
uncata Lesq., Johnson (D. W.), 5.
woolsoni Newb., Berry, 5.

Finkelnburgia n. subg. of Orthis, Walt.

Fissipedia Matthew (W. D.), 19.
Fissodus St. John and Worthen, Eastman, 10.
dentatus n. sp., Eastman, 10.
equalis (St. John and Worthen), Eastman, 10.

Fissurella volcano Reeve, Arnold, 2.
Tissuridea Swainson, Arnold, 2.
alticosta (Conrad), Martin, 5.
aspera Eschscholtz, Arnold, 2.
griscomi (Conrad), Martin, 5.
inaequalis Sowerby, Arnold, 2.
infrequens n. sp., Aldrich, 2.
marilboroensis n. sp., Clark and Martin, 2.
marylandica (Conrad), Martin, 5.
murina (Carpenter) Ball, Arnold, 2.
nassula (Conrad), Martin, 5.
redimicula (Say), Martin, 5.

Fistulipora McCoy, Condra, 2.
carbonaria Ulrich, Condra, 2.
carbonaria Ulrich, Girty, 3.
carbonaria (Ulrich), Sardeson, 3.
carbonaria var. nebrascensis n. var., Condra, 1, 2.
nodulifera Meek, Condra, 2.

Flabellaria magothiensis n. sp., Berry, 11.
Flabellum sp., Vaughan, 1.
Flemingites Waagen, Hyatt and Smith, 1.
Waagen, Smith (J. P.), 5.
russelli n. sp., Hyatt and Smith, 1.
russelli Hyatt and Smith, Smith (J. P.), 5.

Floydia n. gen., Webster, 1.
concentrica n. sp., Webster, 1.
Fluminicola columbiana (Hemphill) Plabry, Stearns (R. E. C.), 2.

Forbeslocrinus, Springer (F.), 2.
Fordinla troynsis Walcott, Sears, 1.

Fossarvs Philippi, Arnold, 2.
(Isapis) dallii (Whitfield), Martin, 5.
(Isapis) fenestrata Carpenter, Arnold, 2.
Fraxinus integrifolia Newb., Knowlton, 14.
Paleontology—Continued.

Genera and species described—Continued.

Galeocerdo contortus Gibbes, Eastman, 18.
latidens Agassiz, Eastman, 1, 18.
triqeter n. sp., Eastman, 18.
Galesaurus, Case, 6.
Gastrioceras Hyatt, Smith (J. P.), 3.
branneri Smith, Smith (J. P.), 3.
carbonarium von Buch, Smith (J. P.), 3.
compressum Hyatt, Smith (J. P.), 3.
etonogonum Gabb, Smith (J. P.), 3.
triqueter n. sp., Eastman, 18.
latidens Agassiz, Eastman, 18.
Galeocerdo contortus Gibbes, Eastman, 18.

Paleontology—Continued.

Genera and species described—Continued.

Gennecocrinus kentuckiensis (Shumard), Wood (Elvira), 3.
sculptus, n. sp., Rowley, Greene, 6.
simulans, n. sp., Rowley, Greene, 6.
Genota riversiana n. sp., Raymond (W. J.), 2.
Gephyrocera cf. domicenica Holzapel, Clarke, 19.
Gerablattina arcuata n. sp., Sellards, 8.
Gerasaphes ulrichana Clarke, Rueckemann, 2.
Gerhardtia n. gen., Hyatt, 1.
Gervillia cinderella n. sp., Cragin, 2.
corrugata n. sp., Cragin, 2.
Gerviliopsis invaginata (?) White, Shattuck, 8.
Gibbula glandula (Conrad), Clark and Martin, 2.
Gilbertina n. gen., Ulrich, 4.
spiralis n. sp., Ulrich, 4.
Gigandipus E. Hitchcock, Lull, 2.
Gibbula arcuatus (Cope), Stewart, 1.
digitata (Brougalart) Heer, Fontaine, 1, 2.
huttoni (Sternberg) Heer, Fontaine, 1, 2.
huttoni magnifolia Fontaine n. var., Fontaine, 1, 2.
leida, Heer, Fontaine, 1.
pusilla Dn., Penhallow, 4.
siberica Heer, Fontaine, 1.
sp., Fontaine, 1.
sp., Knowlton, 14.
Galeocerdo contortus Gibbes, Eastman, 18.
latidens Agassiz, Eastman, 18.
triqeter n. sp., Eastman, 18.
Galesaurus, Case, 6.
Gastrioceras Hyatt, Smith (J. P.), 3.
branneri Smith, Smith (J. P.), 3.
carbonarium von Buch, Smith (J. P.), 3.
compressum Hyatt, Smith (J. P.), 3.
etonogonum Gabb, Smith (J. P.), 3.
triqueter n. sp., Eastman, 18.
latidens Agassiz, Eastman, 18.
Paleontology—Continued.

Genera and species described—Continued.

Globoblastus Hambach, 1.
magnificus n. sp., Hambach, 1.
ornatus n. sp., Hambach, 1.
spathatus n. sp., Hambach, 1.
Glossina spilota (Hall)?, Weller, 6.
trianulata Nettleroth, Kindle, 1.
Glossarcopelites n. gen., Perkins, 17.
elongatus (Lesquereux) Perkins,
Perkins, 17.
Globosptagus Emmons, Ruedemann, 8.
ehinatus n. sp., Ruedemann, 8.
hystrix n. sp., Ruedemann, 8.
Glotheid Dall, Arnold, 2.
albida Hinds, Arnold, 2.
Glycymeris Da Costa, Arnold, 2.
barbarensis Conrad, Arnold, 2.
idoneus (Conrad), Clark and Martin,
parilis (Conrad), Glenn, 6.
septemtrionalis Middendorf, Arnold,
subovata (Say), Glenn, 6.
Glyptodoma n. sp., Whiteaves, 12.
Glyptocrinus decadactylus Hall, Hayes
and Ulrich, 1.
dyeri Meek, Springer (F.), 3.
insperatus n. sp., Rowley, 3.
isperatus? var. carinatus n. var.,
Rowley, 3.
isperatus var. pentagonus n. var.,
Rowley, 3.
plumosus Hall, Grabau, 1.
Glyptodesma cancellata Nettleroth,
Kindle, 1.
Glyptocrinus decadactylus Hall, Hayes
and Ulrich, 1.
dyeri Meek, Springer (F.), 3.
isperatus n. sp., Rowley, 3.
isperatus? var. carinatus n. var.,
Rowley, 3.
isperatus var. pentagonus n. var.,
Rowley, 3.
plumosus Hall, Grabau, 1.
Glyptodesma cancellata Nettleroth,
Kindle, 1.
Glyptocrinus decadactylus Hall, Hayes
and Ulrich, 1.
dyeri Meek, Springer (F.), 3.
isperatus n. sp., Rowley, 3.
isperatus? var. carinatus n. var.,
Rowley, 3.
isperatus var. pentagonus n. var.,
Rowley, 3.
plumosus Hall, Grabau, 1.
Glyptodesma cancellata Nettleroth,
Kindle, 1.
ecretum Hall, Kindle, 1.
occidentale Hall, Kindle, 1.
Glyptostrobus (Taxodium) brookensis
(Fontaine), Ward, Fontaine, 5.
brookensis? angustifolius (Fontaine)
Knowlton, Fontaine, 5.
europeanus ungeri Heer, Knowlton,
ungeri Heer, Knowlton, 12.
Glyptotherium texanum n. gen. and sp.
Osborn, 16.

Paleontology—Continued.

Genera and species described—Continued.

Glyptotoma n. gen., Casey, 5.
conradiana Aid., Casey, 5.
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_Mesostryx_ angularis n. sp., Ulrich and Bassler, 2.
echinata n. sp., Ulrich and Bassler, 2.

_Metablastus_ bipyramidalis Hall, Rowley, 4.
bipyramidalis ? Hall, Rowley, Greene, 5.
bipyramidalis Hall, Rowley, Greene, 11.
lineatus Shumard, Rowley, 4.
nitidulus M. and G., Rowley, Greene, 1.

_Metachelomys_ marshi n. gen. and sp., Wortman, 13.

_Metamynodon_?, Douglass, 8.

_Metaplasia_ plicata n. sp., Weller, 6.

_Pleurotoma_ (Hall), Weller, 6.

_Metasigaloceras_ n. gen., Hyatt, 1.

_Metatis_? _harrisi_ Aid., Casey, 4.

_Metacyclus_ Meek and Worthen, Lambe, 9.

discus Meek and Worthen, Lambe, 9.

_Microcyclos_ Meek and Worden, Lambe, 2.

_discus Meek and Worthen, Lambe, 2.

_Microcerus_ Conrad, Dall, 8.

_Microcorella_? _bifoliata_ n. sp., Ulrich and Bassler, 4.

_Inflata_ n. sp., Ulrich and Bassler, 4.

elongatula n. sp., Casey, 4.

_Glyphostoma_ harrisi Ald., Casey, 4.

_Pleurotomona_ infans Meyer, Casey, 4.

_Pleurotomona_ lerchi Vgn., Casey, 4.

_minutissima_ n. sp., Casey, 4.

_robustula_ n. sp., Casey, 4.

_rostratula_ n. sp., Casey, 4.
solidula n. sp., Casey, 4.

_vicksburgella_ n. sp., Casey, 4.

_Microcyclos_ Meek and Worthen, Lambe, 9.

_Microcerus_ Conrad, Dall, 8.

_Microcorella_? _bifoliata_ n. sp., Ulrich and Bassler, 4.

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_Microcyclos_ Meek and Worthen, Lambe, 2.

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_vicksburgella_ n. sp., Casey, 4.

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_discus Meek and Worthen, Lambe, 2.

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_Inflata_ n. sp., Ulrich and Bassler, 4.

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_vicksburgella_ n. sp., Casey, 4.

_Microcyclos_ Meek and Worthen, Lambe, 2.

_discus Meek and Worthen, Lambe, 2.

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_rostratula_ n. sp., Casey, 4.
solidula n. sp., Casey, 4.

_vicksburgella_ n. sp., Casey, 4.
Paleontology—Continued.

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Mioclcenus acolytus (Cope), Douglass, 3.

Miodontiscus Dall, Dall, 8.

Miiolina Williamson, Bagg, 6.

Mildontopsis (Linné), Bagg, 6.

Milleaster n. gen., Ulrich, 6.

Miliolina macilenta, Guppy, 4.

Miliolina seminulum (Linne”), Bagg, 6.

Miiolina incrustans n. sp., Ulrich, 6.

Miiolina subramosus n. sp., Ulrich, 6.

Miolabis, Matthew (W. D.), 15.

Miantylopus (Paratylopus) cameloides, Matthew (W. D.), 15.

Miantylopus (Paratylopus) primsevus n. subg. and sp., Matthew (W. D.), 15.

Miantylopus sternbergi, Matthew (W. D.), 15.

Mirtomorpha A. Adams, Arnold, 2.

Mixodectes Cope, Wortman, 13.

Mixodectes crassiusculus Cope, Osborn, 11.

Mixosaurus, Merriam (J. C.), 6, 13.

Modiella sp. ?, Clarke, 19.

Modiolopsis fabaformis n. sp., Raymond (P. E.), 7.

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Modiolus Lamarck, Arnold, 2.

Modiolus mariana n. sp., Martin, 5.

Modiolus marylandica Clark, Clark and Martin, 2.

Modiolus maura Swalnson, Arnold, 2.

Modiolus mononokensis n. sp., Clark and Martin, 2.

Modiolus potomakensis n. sp., Clark and Martin, 2.

Modiolus alabamensis Aldrich, Clark and Martin, 2.

Modiolus alaskanus n. sp., Dall, 10.

Modiolus dalli n. sp., Glenn, 6.

Modiolus ducatellus Conrad, Glenn, 6.

Modiolus ferunicatus Carpenter, Arnold, 2.

Modiolus harrimani n. sp., Dall, 10.

Modiolus litoralis n. sp., Sardeson, 1.

Modiolus primigenia (Conrad), Grabau, 1.

Modiolus rectus Conrad, Arnold, 2.

Modiolus virginicus (Conrad), Glenn, 6.

Modiolus, Dall, 10.

Modiolus (Botula?) sp., Dall, 10.

Modiolus affinis Hall, Kindle, 1.

Modiolus alta Hall, Kindle, 1.

Modiolus charlestonensis Nettleroth, Kindle, 1.

Modiolus conceotrica Hall, Kindle, 1.

Modiolus myteloides Con., Kindle, 1.

Modiolus recta Hall, Kindle, 1.

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Modiolus alta Hall, Kindle, 1.
Paleontology—Continued.

Genera and species described—Continued.
Monoceros Lamarck, Arnold, 2.

Monocladodus Claypole, Claypole, 5.

Monoclonius Cope, Stanton and Hatcher, 1.

Monocraterion, Matthew (G. P.), 12.

Monomorella noveboracum n. sp., Clarke and Ruedemann, 1.

Monophyllites Mojsisovics, Hyatt and Smith, 1.

Monopterla alata Beede, Girty, 3.

Monotrypa corrugata n. sp., Weller, 6.

Monotrypella Ulrich, Ulrich and Bassler, 2.

Montacuta mariana Ball, Glenn, 6.

Monticulipora D'Orbigny, Ulrich and Bassler, 2.

Mopalia Gray, Arnold, 2.

Murex Linne, Arnold, 2.

Murchisonia argyrella n. sp., Sarde-

Murex Linne, Arnold, 2.

Murchisonia argyrella n. sp., Sarde-

Mya crassa Grewingk, Ball, 10.

Myalina? abstemia n. sp., Sardeson, 11.

Mycelium n. gen., Ulrich, 4.

Mycelium n. gen., Ulrich, 4.

Myeloophycus n. gen., Ulrich, 4.

Myeloophycus n. gen., Ulrich, 4.

Myeloophycus n. gen., Ulrich, 4.

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Myeloophycus n. gen., Ulrich, 4.

Myeloophycus n. gen., Ulrich, 4.

Myeloophycus n. gen., Ulrich, 4.
Paleontology—Continued.

**Genera and species described—Continued.**

Mylagaulodon angulatus n. gen. and sp., Sinclair, 3.

Mylagaulidae, Matthew (W. D.), 19.

Mylagaulus Cope, Douglass, 8.

(Mesogaulus) ballensis Riggs, Matthew (W. D.), 6.

laevis n. sp., Matthew (W. D.), 6.

monodon Cope, Matthew (W. D.), 2, 6.

panieus n. sp., Matthew (W. D.), 6.

? pristinus sp., Matthew, Douglass, 8.

proximus n. sp., Douglass, 8.

sesquipedalis Cope, Matthew (W. D.), 6.

Myledaphus bipartitus Cope, Lambe, 3.

Myliobatis Cuvier, Eastman, 18.

copeanus Clark, Eastman, 1.

frangens n. sp., Eastman, 18.

gigas, Eastman, 18.

magister Leidy, Eastman, 1.

Mylostoma Newberry, Dean, 2.

Mylosa crassa Lesq., Berry, 5.

elongata Newb., Hollick, 4.

Myrsne, Sellards, 3.

Myrsyna crassa Lesq., Berry, 5.

gelongata Newb., Hollick, 4.

Myrsus H. and A. Adams, Dean, 8.

Myxatopidites sp., Matthew (G. F.), 23.

Myrica brittoniana nov. nom., Berry, 6.

brookensis Fontaine, Fontaine, 5.

ciffwoodensis n. sp., Berry, 7.

heerli n. sp., Berry, 4.

oregoniana n. sp., Knowlton, 14.

? personata n. sp., Knowlton, 14.

Myriotheca, Sellards, 3.

Nageiopsis angustifolia Fontaine, Fontaine, 5.

heterophylla Fontaine, Fontaine, 5.

Nanopus caudatus Marsh, Matthew (G. F.), 25.

Nannites Mojsisovics, Hyatt and Smith, 1.

Nannitinae Diener, Hyatt and Smith, 1.

Nanno kingstonensis n. sp., Whiteaves, 19.

primus n. sp., Whiteaves, 19.

Nassa Lamarck, Arnold, 2.

arnoldi n. sp., Anderson, 7.

Natica (Adanson) Scopoli, Arnold, 2.

bilablata n. sp., Cragin, 2.

clausa Broderip and Sowerby, Arnold, 2.

ciffwoodensis Cope, Douglass, 8.

Natica (Clawson) Clausa Boederip and Sowerby, Arnold, 2.

ciffwoodensis Clark, Douglass, 8.

Natica (Natica) clausa Broderip and Sowerby, Arnold, 2.

Natica (Natica) clausa Weller, 6.

Natica (Sowerby) clausa Weller, 6.

Natica (Sowerby) clausa Weller, 6.

Natica (Sowerby) clausa Weller, 6.

Natica (Sowerby) clausa Weller, 6.
Paleontology—Continued.

Genera and species described—Continued.

Naticopsis monilifera White, Girty, 3.
sp., Beede, 8.
sp., Kindle, 1.
Nautilus burkarti Castillo and Aguilaria, Cragin, 2.
charlottensis Whiteaves, Anderson, 3.
gabbi n. sp., Anderson, 3.
hilli n. sp., Shattuck, 8.
maximus (Conrad), Kindle, 1.
nafragus n. sp., Cragin, 2.
texanus Shumard, Shattuck, 8.
Necera Gray, Arnold, 2.
pectinata Carpenter, Arnold, 2.
Neanites n. subg., Hyatt and Smith, 1.
Nebria abstract a n. sp., Scudder, 1.
Necromerus, Wortman, 14.
Nectosaurus halius n. gen. and sp., Mercian (J. C.), 15.
Nelumbo kempfi (Hollick), Hollick, 11.
primavera n. sp., Berry, 5.
Nematophy whole Caruthers, Grabau, 1.
crassus (Penhallow), Grabau, 1.
Nematophyton, Prosser, 8.
Neocardia Sowerby, Ball, 8.
Neocrassina Fischer, Dall, 8.
Neohipparion whitneyi n. gen. and sp., Gidley, 3.
Neolenus serratus Rominger sp., Woodward (H.), 1.
Neovulpavus washakius n. gen. et sp., Wortman, 2.
Nerinea circumvoluta n. sp., Cragin, 2.
dispar? Gabb, var., Whiteaves, 12.
goodellii n. sp., Cragin, 2.
Nerinea stantoni n. sp., Cragin, 2.
Nerita fimayensis n. sp., Cragin, 2.
nodiflora n. sp., Cragin, 2.
peroblena n. sp., Cragin, 2.
Neunkythus n. gen., Lambe, 3.
eximius n. sp., Lambe, 3.
eximius Lambe, Stanton and Hatcher, 1.
Neuropteris carceraria n. sp., White (D.), 10.
hastata n. sp., White (D.), 10.
lindahl n. sp., White (D.), 10.
raritervis Eumb, Sellards, cf. smithii, White (D.), 19.
Nerita rivae Risso, Arnold, 2.
Niclesia n. gen., Hyatt, 1.
Nileus vigilans Meek and Worthen, Finch (G. E.), 2.
Nelisia parvula (Heer) Fontaine n. comb., Fontaine, 1.
Nilosia parvula (Heer) Fontaine n. comb., Fontaine, 1.
polymera cretacea (Sch.), Penhallow, 4.
pterophyllodes Nathorst non Yokoyama, Fontaine, 1.
? sambucensis Ward n. sp., Fontaine, 3.
shaumburgensis (Dunker) Nathorst, Fontaine, 4.
stantoni Ward n. sp., Fontaine, 3.
Nisa lineata Conrad, Martin, 5.
Nisoschisma Risso, Arnold, 2.
Nisusia n. gen., Walcott, 12.
alia Walcott, Walcott, 12.
(Jamesella) amii n. sp., Walcott, 12.
(Jamesella) argenta n. sp., Walcott, 12.
(Jamesella) erecta n. sp., Walcott, 12.
festinata Billings, Walcott, 12.
festinata transversa Walcott, Walcott, 12.
(Jamesella) kuthani Pompeckj, Walcott, 12.
(Jamesella) perpasta Pompeckj, Walcott, 12.
(Jamesella) perpasta macra Pompeckj, Walcott, 12.
(Jamesella) perpasta subquadrata Pompeckj, Walcott, 12.
(Jamesella) utahensis n. sp., Walcott, 12.
(Jamesella) sp. und., Walcott, 12.
Nodicepsen Dall, Arnold, 2.
Nodophy whole halloformis n. gen. and sp., Herzer, 2.
Nodosaria abyssorum, Guppy, 4.
adolphina d'Orbigny, Bagg, 9.
affinis (d'Orbigny), Bagg, 1.
aramudinea, Guppy, 4.
bacillum Defrance, Bagg, 1.
communis (d'Orbigny), Bagg, 9.
consobrina d'Orbigny, Bagg, 9.
communis (d'Orbigny), Bagg, 9.
consobrina var. emacillata (Reuss), Bagg, 1.
consobrina var. emacillata Reuss, Bagg, 9.
farcimen (Soldani), Bagg, 9.
filiformis (d'Orbigny), Bagg, 9.
hispida, Guppy, 4.
lontiscata, Guppy, 4.
obliqua (Linné), Bagg, 1.
obliqua (Linné), Bagg, 9.
obliqua, Guppy, 4.
pauperata (d'Orbigny), Bagg, 9.
radicula (Linné), Bagg, 9.
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sandbergeri (Reuss), Bagg, 1.
soluta (Reuss), Bagg, 9.
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**Genera and species described—Continued.**

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Nomisoceras Hyatt, Smith (J. P.), 3.
Nodosoceras ? monroense Worthen, Smith (J. P.), 3.
Nodosoceras d'Orbigny, Bagg, 6.
affinis Reuss, Bagg, 1.
benea d'Orbigny, Bagg, 9.
communis d'Orbigny, Bagg, 9.
pomplioides (Fichtel and Moll), Bagg, 9.
umbilicata (Montagu), Bagg, 9.
scapha (Fichtel and Moll), Bagg, 6.

Nornorix Bayle, Arnold, 2.
norrisi Sowerby, Arnold, 2.
Nostharcus (Thinolestes) anceps Marsh, Osborn, 11.
(Telmatolestes) crassus Marsh, Osborn, 11.
(Hyssodus) gracilis Marsh, Osborn, 11.
nucleus Cope, Osborn, 11.
(Tomithereum) rostratum Cope, Osborn, 11.
tenebrosus Leidy, Osborn, 11.
(Limnotherium) tyrannus Marsh, Osborn, 11.
ventralis n. sp., Osborn, 11.
Notidanus primigenius Agassiz, Bastin, 18.
Notolacerta missouriensis Butts, Matthews (G. F.), 25.
Nucleocrinus angularis Lyon, Rowley, Greene, 4, 14.
cucullatus n. sp., Rowley, Greene, 4.
imperator n. sp., Rowley, Greene, 4, 14.
lucina Hall, Rowley, Greene, 14.
stichleri n. sp., Rowley, Greene, 4.
venustus M. & G., Rowley, Greene, 4.
verneuill Troost, Rowley, Greene, 4.
verneuill-var. inflatus n. var., Rowley, Greene, 4.
verneuill Troost, Rowley, Greene, 7.
verneuill var. pomum (?) Etheridge and Carpenter, Rowley, Greene, 4.
verneuill var. sulcatus n. var., Rowley, Greene, 4.
Nucleospira barrisi (White), Rowley, 1.
barrisi White, Weller, 2.
conchina Hall, Kindle, 1.
conchina Hall, mut. pygmaea nov., Loomis, 4.
plafonis Hall, Kindle and Berger, 1.
ventricosa Hall, Weller, 6.
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Nyssa laevigata Lx., Perkins, 13.

lamerlosa n. sp., Perkins, 13, 17.


microparla Lx., Perkins, 13.

multicostata n. sp., Perkins, 13.

ovata n. sp., Perkins, 13.

solea n. sp., Perkins, 13.

Obolella Billings 1861, Walcott, 1.

asiatica n. sp., Walcott, 12.

Obolella Billings 1861, Walcott, 1.

cf. chromatica Billings, Matthew (G. P.), 12.

lindstroemi n. sp., Walcott, 1.

inobergi n. sp. Walcott, 1.

(Lingulella) faviola Linnarssson, Walcott, 1.

Obolella Billings 1861, Walcott, 1.

asiatica n. sp., Walcott, 12.

Obolella Billings 1861, Walcott, 1.

(Lingulella) lens Matthew (G. F.), 12.

(Lingulella) faviola Linnarssson, Walcott, 12.

(Lingulella) lens var. longus n. var., Matthew (G. F.), 20.

(Lingulella) lens-primus, Matthew (G. F.), 16.

(Lingulella) lens var. longus n. var., Matthew (G. F.), 20.

(Lingulella) lens var. longus n. var., Matthew (G. F.), 20.

(Lingulella) lens var. longus n. var., Matthew (G. F.), 20.

(Lingulella) lens var. longus n. var., Matthew (G. F.), 20.

(Lingulella) lens var. longus n. var., Matthew (G. F.), 20.

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(Lingulella) lens var. longus n. var., Matthew (G. F.), 20.
FOR THE YEARS 1901–1905, INCLUSIVE.

Paleontology—Continued.

Genera and species described—Continued.

Oclnebra Leach, Arnold, 2.

barbarensis Gabb, Arnold, 2.

foveolata Hinds, Arnold, 2.

interfossa Carpenter, Arnold, 2.

keep! n. sp., Arnold, 2.

lurida Middendorf, Arnold, 2.

lurida Midd., var. aspera Baird, Arnold, 2.

lurida Midd., var. cancellina Philippi, Arnold, 2.

lurida Midd., var. cerritensis n. var., Arnold, 2.

lurida Midd., var. munda Carpenter, Arnold, 2.

micheli Ford, Arnold, 2.

perita Hinds, Arnold, 2.

poulsoni Nuttall, Arnold, 2.

Odontasplis cuspidata (Agassiz), Bastman, 18.

cuspidata (Agassiz), Case, Eastman, 1.

elegans (Agassiz), Eastman, 18.

elegans (Agassiz), Case, Eastman, 1.

macrota (Agassiz), Case, Eastman, 1.

Odontopleura arkansana n. sp., Van Ingen, 2.

tonio Foerste, Kindie and Breger, 1.


Odontopterus papilionacea n. sp., White (D.), 10.

Odostomia Fleming, Arnold, 2.

(Oscilla) aguleculpta Carpenter, Arnold, 2.

(Pyrugulina) calveriensis n. sp., Martin, 5.

conoida (Brocchi), Martin, 5.

crenulata n. sp., Brown (T. C.), 1.

? cretacea n. sp., Whiteaves, 12.

(Chrysallida) diegensis D. & B., n. sp., Arnold, 2.

? inornata n. sp., Whiteaves, 12.

(Evallea) gouldi Carpenter, Arnold, 2.

(Oscilla) grammatespira D. & B., n. sp., Arnold, 2.

(Evallea) mariana n. sp., Martin, 5.

(Symnola) marylandica n. sp., Martin, 5.

(Chrysallida) melanoide (Conrad), Martin, 5.

(Amaura) nuciformis, var. avelana Carpenter, Arnold, 2.

(Amaura) pupiform Carpenter, Arnold, 2.

semicostata n. sp., Brown (T. C.), 1.

(Evallea) stearnsii D. & B., n. sp., Arnold, 2.

tenuis-Carpenter, Arnold, 2.

(Ivara) terricula (Carpenter) D. & B., Arnold, 2.

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Paleontology—Continued.

Genera and species described—Continued.

Odostonia trapauquara (Harris), Clark and Martin, 2.

Ogyropsis klotzi Rom. sp., Woodward (H.), 1.

Ogmophus arenarum n. sp., Douglass, 8.

Olbodotes Osborn, Wortman, 13.

Olbodotes copei n. gen. and sp., Osborn, 11.

Olocostephannus maloniana n. sp., Craig, 2.

(? Simbruskites Pavlov and Lamplugh) n. sp., Madson, 1.

Olentius thompsoni (Hall), Weller, 6.


(Holmia) walcottanus n. sp., Wanner, 1.

Oligoporites Meek and Worthen, Klem, 1.

coreyi Meek and Worthen, Klem, 1.

dane Meek and Worthen, Klem, 1.

Oligoporites Meek and Worthen, Klem, 1.

? minutus Beede, Beede, 1.

mostissiensis Jackson, Klem, 1.

mutatus Keyes, Klem, 1.

nobilis Meek and Worthen, Klem, 1.

parvus Hambach, Klem, 1.

Oligosimus Leidy, Williston, 14.

Olistodus arcanum n. sp., Scudder, 1.

celatum n. sp., Scudder, 1.

dejectum n. sp., Scudder, 1.

Omonyx ameghini n. sp., Wortman, 14.

Ommatophora mariana n. sp., Martin, 5.

Ommatophora mariana n. sp., Martin, 5.

Onchosaurus Gervais, Eastman, 14.

Onoclea sensibilis fossilis Newb., Knowlton, 12.

Ontaria n. gen., Clarke, 19.

accincta n. sp., Clarke, 19.

affiliata n. sp., Clarke, 19.

clarkei Beushausen (sp.), Clarke, 19.

concentrica von Buch, Clarke, 19.

halli n. sp., Clarke, 19.

poniiaca n. sp., Clarke, 19.

suborbicularis Hall (sp.), Clarke, 19.

Onychiopsis psilotoidea (Stokes and Webb) Ward, Fontaine, 5.

psilotoidea (Stokes and Webb) Ward n. comb., Fontaine, 2.

Onychocardium n. gen., Whitfield, 11.

portlandicum n. sp., Whitfield, 11.
Paleontology—Continued.

Genera and species described—Continued.

Onychochilus (?) nitidulus? Clarke, Wood (Elvira), 1.

Ooedectes perpeetoides n. gen. et sp., Wofrman, 3, 4.

Opalia H. and A. Adams, Arnold, 2.

anomalia Stearns, Arnold, 2.

corealis Gould, Arnold, 2.

crenatoidees Carpenter var. in-

sculpta Carpenter, Arnold, 2.

varicostata Stearns, Arnold, 2.

Ophiceras Griesbach, Hyatt and Smith, 1.

dieneri n. sp., Hyatt and Smith, 1.

spenceri n. sp., Hyatt and Smith, 1.

Ophileta alturaensis n. sp., Sardeson, 2.

complanata Vanuxem, Cleland, 3.

levata Vanuxem, Cleland, 3.

? sp. undet., Weller, 6.

Ophioderma? sp., Clark (W. B.), 7.

Ophthalmosaurus, Gilmore, 3.

Ophthalmosaurus, Merriam, 6.

Opbioderma? sp., Clark (W. B.), 7.

Orbicella Dana 1846, Vaughan, 2.

acropora (Linnaeus), Vaughan, 2.

cavernosa (Linnaeus), Vaughan, 2.

tenuis Euncan, Vaughan, 2.

? texana n. sp., Vaughan, 17.

Orbiculoides ampla (Hall), Weller, 6.

cosvexa (Shumard), Beede, 1.

doria Hall, Kindel, 1.

jervensis Barrett, Weller, 6.

lamellosa (Hall), Weller, 6.

iodiogenes (Vanuxem)?, Kindel, 1.

manhattanensis (Meeck and Hay-

den), Beede, 1.

manhattanensis Meeck and Hayden,

Girty, 3.

missourienesis (Shumard), Beede, 1.

parva n. sp. (Rowley), Greene, 2.

sp., Girty, 3.

sp. undet., Weller, 6.

Orbiculus Megere, Dale, 8.

Oribuyella n. gen., Ulrich and Bassier, 2.

sublamellosa n. sp., Ulrich and Bassier, 2.

Orbitremites grandis n. sp., Rowley,

Greene, 5.

oppelti n. sp., Rowley, Greene, 5.

Orbulina universa d'Orbigny, Bagg, 9.

Orchestes avus n. sp., Rowley,

(tetragona) Newbould, 2.

rubustum n. sp., Douglas, 4.

uroboliix yavapai compactula n. subsp.,

Cockerell, 2.

Urocardius sheari Cope, Hay, 10.

tortus Cope, Hay, 10.

Oriostoma huntingtonensis n. sp., Kin-

dle and Breger, 1.

huntingtonensis var. alternatum n. var., Kindle and Breger, 1.

? opercula, Kindle and Breger, 1.

Paleontology—Continued.

Genera and species described—Continued.

Oriostoma plana n. sp., Kindle and Breger, 1.

sp. undet., Kindle and Breger, 1.

Orrnithichuites gallinuoids King,

Matthew (G. F.), 25.

Orrnithoides n. gen., Matthew (G. F.),

21, 30.

? adamsi n. sp., Matthew (G. F.),

30.

tridens Dawson, Matthew (G. F.),

30.

Orrnitholestes hermanni n. gen. and sp.,

Osborn, 16.

hermanni Osborn, Lambe, 9.

Orrnithomimus altus n. sp., Lambe, 3, 9.

dens Marsh, Lambe, 9.

Orrnithostoma, Lawley, 2.

Orrnithostoma, Lucas, 18.

Ings Williston, Lucas, 10.

Orodictes intermedius n. sp., Eastman, 10.

Orohippus? sp., Hatcher, 3.

Orophocrinus conicus? W. & Sp., Row-

ley, 4.

stelliformis O. & S., Rowley, 4.

Orophosaurus Cope, Williston, 14.

Orthidium lamellosa n. sp., Raymond

(P. E.), 7.

Othris Dalmian, Grabau, 1.

acutiplicata n. sp., Raymond (P. E.), 7.

corpulentæ n. sp., Sardeson, 9.

(Orusia?) eureknus Walcott, Walcott, 12.

(Finkelnburgia) finkelnburgi n.

sp., Walcott, 12.

fiabellites Foerste, Grabau, 1.

fiabellites Foerste, Kindle and Bre-

ger, 1.

fiabellites Foerste, Weller, 6.

Igncula n. sp., Raymond (P. E.), 7.

lenticularis Dalmian, Matthew (G. F.),

20.

(Orusia) lenticularis Wahlenberg,

Walcott, 12.

(Orusia) lenticularis atrypoïdes

Matthew, Walcott, 12.

(Orusia) lenticularis lyncloldes

Matthew, Walcott, 12.

macrior n. sp., Sardeson, 9.

minnesotensis n. sp., Sardeson, 9.

newtonensis n. sp., Weller, 6.

(Finkelnburgia) osceola n. sp.,

Walcott, 12.

(Finkelnburgia) osceola corrugata

n. var., Walcott, 12.

(Blillingsella) pepina Hall, Sardes-

ton, 2.

petrae n. sp., Sardeson, 9.

? punctostrata Hall, Grabau, 1.

rogata n. sp. or var., Sardeson, 9.

? subnodosa Hall, Kindle and Bre-

ger, 1.

tersus n. sp., Sardeson, 9.

(Dalmianella) testudinarla, Hayes

and Ulrich, 1.
Paleontology—Continued.  
Genera and species described—Continued.  
Orthis tricenaria Conrad, Weiler, 6,  trecenaria Conrad, Ruedemann, 2.  
See also Plectothor.  
Orthisa alberta Walcott, Matthew (G. F.), 10.  
Orthoceras Breyn, Grabau, 1.  
Orthoceras Breyn, Hyatt and Smith, 1.  
algomense n. sp., Parks, 5.  
anulatum Sowerby, Grabau, 1.  
(Klonoceras) angulatum Wahlen-  
berg, Kindle and Breger, 1.  
(Dawsonoceras) cf. annulatum  
Sowerby, Kindle and Breger, 1.  
(Dawsonoceras) annulatum var.  
americannum Ford, Kindle and  
Breger, 1.  
caldwellensis Miller and Gurley,  
Kindle, 1.  
crebescens Hall, Clarke and Rued-  
emann, 1.  
(Klonoceras) dephiensis n. sp.,  
Kindle and Breger, 1.  
ekwamense n. sp., Whiteaves, 17.  
extremum n. sp., Parks, 5.  
Indianense Hall, Weller, 2.  
(Klonoceras) Kentlandensis n. sp.,  
Kindle and Breger, 1.  
marcellense Vanuxeni, Wood (El- 
vira), 1.  
medullare Hall, Grabau, 1.  
medullare Hall, Kindle and Breger,  
1.  
minnesotense n. sp., Sardeson, 1.  
multipectum Hall, Grabau, 1.  
(Gelsonoceras) nagaronense Hall,  
Kindle and Breger, 1.  
natium Hall, Loomis, 4.  
(Klonoceras) ornus Hall, Kindle  
and Breger, 1.  
primigenium Vanuxen, Cieiden, 3.  
pulcher n. sp., Parks, 5.  
rectum Worten, Clarke and  
Ruedemann, 1.  
sentilla Hall (?), mut. mephisto  
Clarke, Loomis, 4.  
shastense n. sp., Hyatt and Smith,  
1.  
sulcatum Hall, mut. pygmaeum  
nov., Loomis, 4.  
tenuistratum (Hall), Weller, 6.  
tenuistextum (Hall), Weller, 6.  
thoas Hall, Kindle, 1.  
trusitum n. sp., Clarke and Ruede-  
mann, 1.  
sp., Parks, 5.  
sp., Kindle, 1.  
sp. undet., Sandersen, 1.  
sp. undet., Weller, 6.  
Orthodactylus E. Hitchcock, Lull, 2.  
floriferus E. Hitchcock, Lull, 2.  
introvergens E. Hitchcock, Lull, 2.  
linearis E. Hitchcock, Lull, 2.  
Orthodesma canaliculatum Ulrich, Wel-  
er, 6.  
Paleontology—Continued.  
Genera and species described—Continued.  
Orthonychia formosa Keyes?, Girty, 3.  
bobus n. sp., Whiteaves, 17.  
Orthostrophia Hall, Grabau, 1.  
(?) fasciata Hall, Grabau, 1.  
stromphenooides (Hall), Weller, 6.  
Orthosulcata n. gen., Casey, 5.  
Orthotheca 'bayonet n. sp., Matthew (G. F.), 1.  
cylindrica Grabau, Sears, 1.  
enmonsi Ford, Sears, 1.  
pugio n. sp., Matthew (G. F.), 1.  
sica n. sp., Matthew (G. F.), 1.  
stillletto, Matthew (G. F.), 1.  
Orthothetes Fischer de Waldheim, Gra-  
baun, 1.  
bellulus Clarke, Raymond (P. E.),  
3, 4.  
chechungensis Conrad, Raymond  
(P. E.), 4.  
chemungensis var. arctistriatus  
Hall, Raymond (P. E.), 3.  
chemungensis arctistriatus Hall,  
Kindle, 1.  
chemungensis var. pectinacea Hall,  
Raymond (P. E.), 3.  
deckerensis n. sp., Weller, 6.  
hydraulicus Whitfield), Grabau, 1.  
incaquis (Hall), Weller, 2.  
incaquis (W. and W.), Weller, 2.  
incaquis Hall, Girty, 3.  
interstriatus (Hall), Weller, 6.  
mindus n. sp., Cumings, 2.  
pandora (Bill.), Weller, 6.  
subplanus Conrad, Kindle and Bre-  
ger, 1.  
subplanus Conrad 1842, Beecher, 1.  
subplanus (Conrad), Grabau, 1.  
woolworthani Hall, Shimer, 5.  
woolworthana (Hall), Weller, 6.  
sp. undet., Weller, 2, 6.  
Orthotichia schuchertensis n. sp., Girty,  
3.  
Oryctes n. subg. of Orthis, Walcott, 12.  
Oryctoceratites Leidy, Case, 9.  
crocodilinus (?) Cope, Case, 9.  
Oryctomya clabornensis Dall, Dall, 8.  
Osmeroides Agassiz, Loomis, 1.  
evolutus Cope?, Loomis, 1.  
polymerus Stewart, Loomis, 1.  
Osmunda montane{n. sp., Knowl-  
ton, 18.  
Osmundites skidegatensis n. sp., Pen-  
hallow, 3.  
skidegatensis Penh., Penhallow, 4.  
Osteoglyptes Cope, Wieland, 6.  
gibbi n. sp., Wieland, 6.  
Ostrea (Linne) Lamarck, Arnold, 2.  
anomala val. nanus n. var.,  
Johnson (D. W.), 5.  
arrosis n. sp., Aldrich, 5.  
aviculariformis n. sp., Anderson, 7.  
carolineus Conrad, Glenn, 6.  
compressirostra Say, Clark and  
Martin, 2.
Paleontology—Continued.

Genera and species described—Continued.

Ostrea var. alepitiota Ball, Clark and Martin, 2.
Ostrea eduliformis Schlotheim, Madsen, 1.
Ostrea lugubris Conrad, Johnson (D. W.), 5.
Ostrea lurida Carpenter, Arnold, 2.
Ostrea percrassa Conrad, Glenn, 6.
Ostrea sellasformis var. thomasii (Conrad), Glenn, 5.
Ostrea trigonalis Conrad, Glenn, G. v (Gryphaeostrea) vomer (Morton), Clark and Martin, 2.
Ostrea sp., Glenn, 6.
Ostrea sp., Shattuck, 8.
Ostrea sp., Cragin, 2.
Otidophyton hymenophylloides u. sp., White (D.), 18.
Otocoelidfe Cope, Case, 12.
Otodus obliquus Agassiz, Eastman, 18.
Otouphocps n. gen., Cushman, 1.
Otozamites oregonensis n. sp., Foutaine, 2.
Otozoum E. Hitchcock, Lull, 2.
Oxycena, Matthew (W. D.), 19.
Oxysenidffi, Matthew (W. D.), 19.
Oxyclsenidae, Matthew (W. D.), 19.
Oxydactylus n. gen., Peterson, 1.
Oxydactylus, Matthew (W. D.), 15.
Oxydiscus cristatus Safford, Hayes and Ulrich, 1.
Oxydiscus newberryanus Meek (not Gabb), Anderson, 3.
Pachydiscus osetocodens Stoliczka sp., Whiteaves, 12.
Pachydiscus otacodensis Stoliczka sp., Whiteaves, 12.
Pachydiscus sacramentoanus Meek sp., Lasswitz, 1.
Pachydystia foliata Ul., Sardeson, 4.
Pachymya austenensis (?) Shumard, Shattuck, 8.
Pachyphyllum Milne Edwards and Halme, Lambe, 2.
Otdophyton hymenophylloides n. sp., White (D.), 18.
Otocellide Cope, Case, 12.
Otodus obliquus Agassiz, Eastman, 1.
Otocephus n. gen., Cushman, 1.
Otozamites oregonensis n. sp., Fontaine, 2.
Otozoon E. Hitchcock, Lull, 2.
Oxydiscus cristatus Safford, Hayes and Ulrich, 1.
Oxydiscus newberryanus Meek (not Gabb), Anderson, 3.
Oxysenidffi, Matthew (W. D.), 19.
Oxydiscus curveus n. sp., Loomis, 1.
Oxydiscus brachyodontus n. sp., Peterson, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus longipes n. sp., Peterson, 1.
Oxydiscus longipes, Matthew (W. D.), 15.
Oxydiscus cristatus Safford, Hayes and Ulrich, 1.
Oxydiscus newberryanus Meek (not Gabb), Anderson, 3.
Oxysenidffi, Matthew (W. D.), 19.
Oxydiscus curveus n. sp., Loomis, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus longipes n. sp., Peterson, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus cristatus Safford, Hayes and Ulrich, 1.
Oxysenidffi, Matthew (W. D.), 19.
Oxydiscus curveus n. sp., Loomis, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus longipes n. sp., Peterson, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus cristatus Safford, Hayes and Ulrich, 1.
Oxysenidffi, Matthew (W. D.), 19.
Oxydiscus curveus n. sp., Loomis, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus longipes n. sp., Peterson, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus cristatus Safford, Hayes and Ulrich, 1.
Oxysenidffi, Matthew (W. D.), 19.
Oxydiscus curveus n. sp., Loomis, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus longipes n. sp., Peterson, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus cristatus Safford, Hayes and Ulrich, 1.
Oxysenidffi, Matthew (W. D.), 19.
Oxydiscus curveus n. sp., Loomis, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus longipes n. sp., Peterson, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus cristatus Safford, Hayes and Ulrich, 1.
Oxysenidffi, Matthew (W. D.), 19.
Oxydiscus curveus n. sp., Loomis, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Oxydiscus longipes n. sp., Peterson, 1.
Oxydiscus branchyodontus, Matthew (W. D.), 15.
Paleontology—Continued.
Palaenoglossus brachyodon n. sp., Matthew (W. D.), 6.
haydeni Cope, Matthew (W. D.), 6.
terminus Matthew, Matthew (W. D.), 2, 6.
temmudon n. sp., Douglass, 4.
temmudon Douglass, Matthew (W. D.), 6.
turgidus Cope, Matthew (W. D.), 6.
Palaenomeryx, Douglass, 1.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.
? borealis?, Douglass, 8.
borealis Cope, Matthew (W. D.), 14.
intermedius Matthew, Matthew (W. D.), 2, 6.
intermedius Douglass, Matthew (W. D.), 6.
turniens, Matthew (W. D.), 6.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
antipilin Thomas, Matthew (W. D.), 14.

Palaenomeryx, Matthew (W. D.), 14.
americanus n. sp., Douglass, 1.
americanus Douglass, Matthew (W. D.), 14.
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Sharpeiceras n. gen., Hyatt, 1.  
Shastasaurus, Merriam (J. C.), 4, 5, 6.  
alexandrea n. sp., Merriam (J. C.), 4.  
alitispinus 95 sp., Merriam (J. C.), 4.  
careyi n. sp., Merriam (J. C.), 4.  
emonti n. sp., Merriam (J. C.), 4, 13.  
pacificus n. sp., Merriam (J. C.), 4.  
percini n. sp., Merriam (J. C.), 4.  
Shastites n. subg., Hyatt and Smith, 1.  
Shepardia E. Hitchcock, Lull, 2.  
palmipes E. Hitchcock, Lull, 2.  
Shizocrania filosa (Hall), Weller, 6.  
Shumardites n. gen., Smith (J. P.), 3.  
simondsi n. sp., Smith (J. P.), 3.  
Sibirites Mojsisovics, Hyatt and Smith, 1.  
noetlingi n. sp., Hyatt and Smith, 1.  
Sibiritidae Mojsisovics, Hyatt and Smith, 1.  
Sibyllites Mojsisovics, Hyatt and Smith, 1.  
Siderastrea radians (Pallas), Vaughan, 2.  
siderea (Ellis and Solander), Vaughan, 2.  

Sela A. Adams, Arnold, 2.  
adamsii (H. C. Lea), Martin, 5.  
assimilata C. B. Adams, Arnold, 2.  
Selaginella marylandica n. sp., Fontaine, 5.  
Selenichnus E. Hitchcock, Lull, 2.  
breviusculus E. Hitchcock, Lull, 2.  
falcatus E. Hitchcock, Lull, 2.  
Selenoesteus kepleri n. gen. et sp., Dean, 1.  
Semele Schumacher, Arnold, 2.  
carinata (Conrad), Glenn, 6.  
carinata var. compacta Hall, Glenn, 6.  
declis Conrad, Arnold, 2.  
pulchra Sowerby, Arnold, 2.  
pulchra Sowerby, montereyi n. var., Arnold, 2.  
subovata (Say), Glenn, 6.  
Semicoscinium Prout, Grabau, 1.  
tenuiceps (Hall), Grabau, 1.  
Seminula argentia (Shepard) Hall, Beede, 5, 7.  
argentea (Shepherd), Beede, 1.  
claytoni Hall and Whittfield, Girty, 3.  
humilis Girty ?, Girty, 3.  
subquadruta Hall ?, Girty, 3.  
subtilita Hall, Girty, 3.  
Semionotidae, Eastman, 20.  
Semionotus Agassiz, Eastman, 20.  
agassizii (W. C. Redfield), Eastman, 20.  
brunii (Newberry), Eastman, 20.  
elegans (Newberry), Eastman, 20.  
fultus (Agassiz), Eastman, 20.  
fultus Agassiz, Eaton, 1.  
gigas (Newberry), Eastman, 20.  
lineatus (Newberry), Eastman, 20.  
marshi W. C. Redfield, Eaton, 1.  
micropterus Newberry, Eaton, 1.  
micropterus (Newberry), Eastman, 20.  
nilssonii Agassiz, Eastman, 20.  
ovatus W. C. Redfield, Eaton, 1.  
ovatus (W. C. Redfield), Eastman, 20.  
robustus (Newberry), Eastman, 20.  
tenueceps Agassiz, Eaton, 1.  
tenueceps (Agassiz), Eastman, 20.  
Septastrea marylandica (Conrad), Vaughan, 10.  
Septifer, Reclus, Arnold, 2.  
bifurcatus Conrad, Arnold, 2.  
Septopora Prout, Condra, 2.  
biseriata (Swall.), Sanderson, 4.  
biseriata (Swallow), Condra, 2.  
biseriata-nervata Ulrich, Condra, 2.  
castriensis Prout, Condra, 2.  
decipiens Ulrich, Condra, 2.  
multipora (Rogers), Condra, 2.  
pinnata Ulrich, Condra, 2.  
robusta Ulrich, Condra, 2.
Paleontology—Continued.

Genera and species described—Continued.

Siphonalia A. Adams, Arnold, 2.
? calvertana n. sp., Martin, 5.
? calvertana (Conrad), Martin, 5.
Siphonocetus clarkianus Cope, Case, 1.
Siphonospora compacta, Seely, 3.
Siphonopleura bretonensis n. sp., Mat­
they (G. P.), 20.
Siphonophoria cosmansi Hall, Kindle, 1.
Siphonofora bretonensis n. sp., Mat­
they (G. P.), 20.
? calveriana n. sp., Martin, 5.
? calveriana (Conrad), Martin, 5.
Kellettii Forbes, Arnold, 2.
Spathocharis emersoni Clark, Kindle, 1.
Spathocystites Hall, Schuchert, 6, 11.
Spathocystites minor n. sp., Ruedemann, 2.
Spathocystites bloomfleldensis n. sp., Schuchert, 11.
Spathocystites globularis n. sp., Schuchert, 5.
Spathocystites major n. sp., Ruedemann, 2.
Spathocystites bloomfleldensis n. sp., Schuchert, 11.
Spathocystites globularis n. sp., Schuchert, 6, 11.
Paleontology—Continued.

Genera and species described—Continued.

Sphaerocystites globularis ovalis n. var., Schuchert, 11.

multifasciatus Hall, Schuchert, 11.

Sphaerophthalum alatus Boeck, Matthew (G. F.), 20.

fletcheri n. sp., Matthew (G. F.), 9, 20.

Sphera nobia (H. C. Lea), Glenn, 6.

Sphenops Sandberger, Dall, 8.

Sphenodictya cornigera n. gen. and sp., Herzer, 3.

Sphenodiscus Meek, Hyatt, 1, beecheri n. sp., Hyatt, 1.

lenticularis (Owen), Hyatt, 1.

lenticularis var. mississippiensis, Hyatt, 1.

lobatus (Tuomey), Hyatt, 1.

pleurisept'a Conrad, Lasswitz, 1.

plenrisepta (Conrad), Hyatt, 1.

stantoni n. sp., Hyatt, 1.

Sphenodon Günther, Osborn, 19.

Sphenophyllum emarginatum minor D. W., White (D.), 10.

Sphenopteridium sp., White (D.), 18.

Sphenopteris filicula (Dn.) D. W., hoeninghausii, White (D.), 19.

Sphyrna prisca Agassiz, Eastman, 1, 18.

Spiloblattina, Sellards, 8.

Spirifer, Sowerby, Beede, 1.

Spirifer var. simplex Hall 1879, Beecher, 1.

(Reticularia) crispus var. simplex Hall, Kindle and Breger, 1.

cyclopteris Hall, Shimer, 5.

cyclopteris Hall, Weller, 6.

davius Nettleroth, Kindle, 1.

divaricatus Hall, Kindle, 1.

duodenarius (Hall), Kindle, 1.

eriensis Grabau, Grabau, 9.

eriensis Grabau, Schuchert, 4.

eriensis Grabau var., Grabau, 9.

fimbriatus Conrad, mut. pygmaeus nov., Loomis, 4.

fimbriatus Conrad, mut. simplicissimus nov., Loomis, 4.

focgi Nettleroth, Kindle and Breger, 1.

fornacula Hall, Kindle, 1.

granulosus Conrad, mut. pluto Clarke, Loomis, 4.

granulosus (Con.), Kindle, 1.

gregarius Clapp, Kindle, 1.

var. greeni n. var., Kindle, 1.

grieri Hall, Kindle, 1.

iowensis Owen, Kindle, 1.

lateralis, var. delicatus, n. var., (Rowley), Greene, 2.

macconathell Nettleroth, Kindle, 1.

macroleurus (Con.), Weller, 6.

macroythris Hall, Weller, 6.

macr Hall, Kindle, 1.

marionensis Shumard, Weller, 2.

marcy Hall, mut. pygmaeus nov., Loomis, 4.

medallia Hall, mut. pygmaeus nov., Loomis, 4.

modestus corallinensis (Grabau), Schuchert, 4.

mucronatus Conrad, Raymond (P. E.), 3, 4.

mucronatus var. arkonensis n. var., Shimer and Grabau, 1.

mucronatus Conrad, mut. hecate Clarke, Loomis, 4.

mucronatus var. thefordsensis n. var., Shimer and Grabau, 1.

murchisoni Castelnau, Shimer, 5.

murchisoni Castelnau, Weller, 6.

nearceri n. sp., Weller, 6.

niagarensis Conrad, Grabau, 1.

nobilis Barrande, Kindle and Breger, 1.

ocotocostatus Hall, Weller, 6.

peculiaris Shumard?, Girty, 3.

peculiaris Shum.? Weller, 2.

Pennatus (Atwater), Kindle, 1.

perlamellosus Hall, Weller, 6.

pikensis n. sp., Rowley, 2.

radialis Sowerby, Kindle and Breger, 1.

radius Sowerby 1825, Beecher, 1.

radialis Sowerby, Grabau, 1.

rockymontanus Marcou, Girty, 3.
Paleontology—Continued.
Genera and species described—Continued.
Spirifer segmentum Hall, Kindle, 1.
(Delthyris) sulcatus Hall, Grabau, 1.
tullius Hall, mut. behnegor Clarke, Loomis, 4.
vanguem Hall, Shimer, 5.
vanguem Hall, Grabau, 9.
vanguemi Hall, Weller, 6.
vanguem Hall, var. minor n. var., Weller, 6.
virgicus Hall, Kindle, 1.
vircosa var. hobbsi (Netterlooth), Kindle, 1.
sp., Girty, 3.
sp. undet., Weller, 6.
Spiriferina campestris White, Girty, 3.
cristata (Schlotheim), Beede, 1.
horizontalis n. sp. (Rowley), Greene, 2.
kentuckyensis Shumard, Girty, 3.
solidirostris White?, Girty, 3.
solidirostris (White), Weller, 2.
Spirogyphus lltuella Mörch, Arnold, 2.
Spiroloculina d'Orbigny, Bagg, 6.
grata Terquem, Bagg, 6.
tenuis (Czjzek), Bagg, 6.
tenuisepata, Guppy, 4.
Sproplecta clarkii Bagg, Bagg, 1.
Sprotopsis Sars, Arnold, 2.
Spirotrichus sawdawsoni Dawson, Girty, 3.
calvertensis n. sp., Martin, 7.
? dubius n. sp., Rowley, 1.
Ibricatus n. sp., Ulrich, 8.
sp., Girty, 3.
Spsila Gray, Arnold, 2.
callisteformis n. sp., Dall, 10.
(Hemimactra?) chesapeakeus n. sp., Glenn, 6.
(Hemimactra) confra (Conrad), Glenn, 6.
(Hemimactra) curtidens Dall, Glenn, 6.
(Hemimactra) delubris (Conrad), Glenn, 6.
(Hemimactra) marylandica Dall, Glenn, 6.
(Hemimactra) subparllis (Conrad), Glenn, 6.
sp., Glenn, 6.
Spongasteriscus marylandicus n. sp., Martin, 8.
Spondylius carlsensis n. sp., Anderson, 7.
(sp. uncertain), Whiteaves, 12.
sp., Shattuck, 8.
Sporangites jacksoni D. W., White (D.), 18.
Sportella patuxentia n. sp., Glenn, 6.
pex Dall, Glenn, 6.
pepositann Dall, Glenn, 6.
recessa n. sp., Glenn, 6.
whitefieldi Dall, Glenn, 6.
Paleontology—Continued.
Genera and species described—Continued.
Spyroceras anellus Conrad sp., Ruedemann, 2.
Squalodon atlanticus Leidy, Case, 9.
protervus Cope, Case, 9.
Squanularia Gemmellaro, Girty, 3.
perplexa McChesney, Girty, 3.
Squatina Dume"ril, Eastman, 18.
ocidentalis n. sp., Eastman, 18.
Stantonites n. subg., Hyatt and Smith, 1.
Stenococeras a gen., Johnson (D. W.), 5.
pseudocostatum n. sp., Johnson (D. W.), 5.
guadalupana Roemer (sp.) ?, Johnson (D. W.), 5.
Staurocystis Haackel, Schuchert, 11.
Staurograptus Emmons, Ruedemann, 8.
dichotomus Emmons, Ruedemann, 8.
dichotomus var. apertus n. var., Ruedemann, 8.
Stegoceras a gen., Lambe, 3.
Stegomus longipes, Emerson and Loomis, 1.
longipes, Lull, 3.
validus n. sp., Lambe, 3.
Stegopteria landerensis, Williston, 26.
Stegosaurus marshi n. sp., Lucas, 2.
Stellipora antheloidea Hall, Sardeson, 3.
Stemmatoecrinus? very? n. sp., Rowley, Greene, 8.
Stemmatopteris distans n. sp., Herzer, 4.
Steneofibcr Geoffrey, Matthew (W. D.), 6.
barbouri n. sp., Gilmore, 3.
complexus, Matthew (W. D.), 6.
complexus n. sp., Douglass, 4.
complexus Douglas, Peterson, 3.
fosor n. sp., Peterson, 3.
gradatus Cope, Peterson, 3.
gradatus, Matthew (W. D.), 6.
hesperus, Matthew (W. D.), 6.
hesperus n. sp., Douglass, 4.
hesperus-Douglas, Peterson, 3.
montanus, Matthew (W. D.), 6.
pansus Cope, Peterson, 3.
pansus Cope, Matthew and Gidley, 3.
pansus, Matthew (W. D.), 6.
peninsulatus, Matthew (W. D.), 6.
peninsulatus Cope, Peterson, 3.
Stenopteris? cretanac n. sp., Hollick, 5.
Stenonyx nom. nov., Lull, 2.
lateralis (E. Hitchcock), Lull, 2.
Stenopora Lonsdale, Condra, 2.
carbonaria (Worthen), Condra, 2.
carbonaria - conferta Ulrich, Condra, 2.
cestrifensis Ulrich, Girty, 3.
Paleontology—Continued.

Genera and species described—Continued.

Stenopora distans Condra, Condra, 1, 2.

heteropora Condra, Condra, 1, 2.

? polysphosa (provisional) Condra, Condra, 1, 2.

spinulosa Rogers, Condra, 2.

tuberculata (Prout), Condra, 2.

tuberculata, Prout, Girty, 3.

? sp., Girty, 3.

Stenosteus glaber n. gen. et sp., Dean, 1.

Stenotheca abrupta Shaler and Poerste (?), Sears, 1.

Stephanocrinus Conrad, Grabau, 1.

gregangulatus Conrad, Grabau, 1.

deformis n. sp., Rowley, Greene, 6.

gemmiformis Hall, Rowley, Greene, 6.

hammelli Miller, Rowley, Greene, 6.

osgoodensis Miller, Rowley, Greene, 6.

quinquepartitus n. sp., Rowley, Greene, 6.

Stephanopyxis corona (Ehrenberg), Boyer, 1.

Sterculia cliffwoodensis n. sp., Berry, 5.

elegans Fontaine?, Fontaine, 5.

niucronata Lesq., Berry, 5.

snowii bilobata var. nov., Berry, 5.

Stereocephalus tutus n. sp., Lainbe, 3.


Steropoides E. Hitchcock, Lull, 2.

elegans E. Hitchcock, Lull, 2.

infelix Hay, Lull, 2.

ingens E. Hitchcock, Lull, 2.

loripes (E. Hitchcock), Lull, 2.

uncus (E. Hitchcock), Lull, 2.

Stethaca’nthus Newberry, Eastman, 10.

altonensis (St. John and Wor-then), Eastman, 10.

depressus (St. John and Wor-then), Eastman, 10.

erectus n. sp., Eastman, 10.

productus Newberry, Eastman, 10.

Stibarus montanus n. sp., Matthew, (W. D.), 9.

Stichocapsa macropora Vinassa, Martin, 8.

Stictoporella cribrosa Ulr., Sardeson, 4.

Stigmatoria. Poole, 1.

Stigmatella n. gen., Ulrich and Bassier, 2.

clavis (Ulrich), Ulrich and Bassier, 2.

crenulata n. sp., Ulrich and Bassier, 2.

interporosa n. sp., Ulrich and Bassier, 2.

irregularis (Ulrich), Ulrich and Bassier, 2.

nana n. sp., Ulrich and Bassier, 2.

Paleontology—Continued.

Genera and species described—Continued.

Stigmatella nicklesi n. sp., Ulrich and Bassier, 2.

personata n. sp., Ulrich and Bassier, 2.

spinosa n. sp., Ulrich and Bassier, 2.

Stoliczkia ex. aff. dispar d’Orb., Lass-witz, 1.

Stoliczkia dispar (d’Orb.) Stoliczka, Anderson (F. M.), 3.

Stomatopora inflata, Hall, Ruedemann, 2.

Strabops thatcheri n. gen. et sp., Beecher, 3.

Straparollia harpa n. sp., Hudson, 1.

Straparollia cyclostomus (Hall), Kid-le, 1.

Stigmatella nicklesi n. sp., Ulrich and Bassier, 2.

personata n. sp., Ulrich and Bassier, 2.

spinosa n. sp., Ulrich and Bassier, 2.

Stoliczkia ex. aff. dispar d’Orb., Lass-witz, 1.

S. A. Miller, Seely, 3.

Streptidura subscalarina Heilprin, Clark and Martin, 2.

Streptelasma Hall, Lambe, 2.

calculus Hall, Lambe, 2.

corniculum Hall, Ruedemann, 2.

corniculum Hall, Weller, 6.

corniculum Hall, Lambe, 2.

latusculum var. trilobatum Whit- eaves, Lambe, 2.

prolificum Billings (sp.), Lambe, 2.

rectum Hall, Lambe, 2.

robusatum Whitewaves, Lambe, 2.

rusticum Billings (sp.), Lambe, 2.

selectum Billings (sp.), Lambe, 2.

strictum Hall, Weller, 6.

Streptomytilus n. gen., Kindle and Bre-ger, 1.
Paleontology—Continued.

Genera and species described—Continued.

Streptomytilus wabashensis n. sp., Kind
dle and Breger, 1.

Streptorhynchus subsulcatum n. sp.,
Sardeson, 9.

Striatomytilus bellistriata n. sp., Greenc, 7.

flexuosa Hall, Grabau, 1.

Striancostrophia elongata Rowley, 3.

missouriensis Rowley, Rowley, 3.

Striatum n. gen., Raymond (P. E.), 3.

Stribalocystis? elongatus Kowley, 3.

raissouriensis Rowlcy, Rowley, 3.

Striatopora Hall, Grabau, 1.

Stribroctonilla Sacco, Arnold, 2.

Stribrionatocerium Hall, Seely, 5.

Stribracon Hall, Weller, 6.

Stribracon bipartita (Hall), Weller, 6.

Stribracon concava Hall, Raymond (P. E.), 4.

Stribracon corrugata Conrad, Grabau, 1.

Stribracon demissa Hall, Raymond (P. E.), 4.

Stribracon demissa (Conrad), Kindle, 1.

Stribracon demissa var. chazianum, Seely, 5.

Stribracon elongata Saffiord, Hayes and Uli
rich, 1.

Stribracon flexuosa Hall, Seely, 5.

Stribracon? moniliferum n. sp., Seely, 5.

Stribracon pustulosum Saffiord, Hayes and Ul
rich, 1.

Stribracon rugosum Hall, Seely, 5.

Stribracon seton Hall, Grabau, 1.

Stribracon seton concentrica Goldfuss Hall, Grabau, 1.

Stribracon seton constellata Hall, Schuchert, 4.

Stribracon seton galtensis Dawson (sp.), Clarke and Ruedemann, 1.

Stribracon seton tubulifera n. sp., Parks, 5.

Stribracon stronglocentrotus Brandt, Arnold, 2.

Stribracon truncata Hall, Raymond (P. E.), 3.

Stribracon truncata Hall, nim. pygmae nov., Loomis, 4.

Stribracon truncata Hall, Grabau, 1.

Stribracon beckei Hall, Weller, 6.

Stribracon bipartita (Hall), Weller, 6.

Stribracon concava Hall, Raymond (P. E.), 4.

Stribracon corrugata Conrad, Grabau, 1.

Stribracon demissa Hall, Raymond (P. E.), 4.

Stribracon demissa (Conrad), Kindle, 1.

Stribracon demissa hemispherica Hall, Kindle, 1.

Stribracon demissa indenta (Con.), Weller, 6.

Stribracon inequiradiata Hall, Weller, 6.

Stribracon inequiradiata (Conrad), Kindle, 1.

Stribracon inequiradiata Conrad, Raymond (P. E.), 3.

Stribracon inequiradiata Hall, Raymond (P. E.), 4.

Stribracon inequiradiata (Conrad), Kindle, 1.

Stribracon inequiradiata Conrad, Raymond (P. E.), 3.

Stribracon inequiradiata Hall, Raymond (P. E.), 4.

Stribracon inequiradiata magnifica (Hall), Weller, 6.

Stribracon perplana Conrad, Raymond (P. E.), 3.

Stribracon perplana (Conrad), Kindle, 1.

Stribracon perplana Hall, Raymond (P. E.), 4.

Stribracon perplana (Con.), Weller, 6.

Stribracon planulata Hall, Weller, 6.

Stribracon planulata Hall, Kindle, 1.

Stribracon profunda Hall, Grabau, 1.

Stribracon varisstriata (Con.), Weller, 6.

Stribracon varisstriata (Conrad), Kindle, 1.

Stribracon varisstriata var. arata Hall, Shil
er, 6.

Stribracon varisstriata var. arata H., Weller, 6.
Paleontology—Continued.

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Genera and species described—Continued.

Syringopora aculeata Girty, Girty, 3.

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Paleontology—Continued.

Genera and species described—Continued.

Syringothyris carteri Hall, Girty, 3.

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Tellina aequistriata Say, Glenn, 6.

(Angelus) buttoni Dall, Arnold, 2.

(Aniscus) declivis Conrad, Glenn, 6.

(Aniscus) dupliniana Ball, Glenn, 6.

(Aniscus) idae Dall, Arnold, 2.

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Tellina agilis Hall, Weller, 2.

(Aniscus) bodegensis Hinds, Arnold, 2.

(Aniscus) declivis Conrad, Glenn, 6.

(Aniscus) dupliniana Dall, Glenn, 6.

(Aniscus) idae Dall, Arnold, 2.

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Telescopodaceae famili, Osborn, 33.

Telloina (Agulia) papryra, Conrad, 5.

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Tellina agilis Hall, Weller, 2.

(Aniscus) bodegensis Hinds, Arnold, 2.

(Aniscus) declivis Conrad, Glenn, 6.

(Aniscus) dupliniana Dall, Glenn, 6.
Paleontology—Continued.

**Genera and species described**—Continued.

Tellina pilsbryi n. sp., Casey, 4.

(Angulus) producta Conrad, Glenn, 6.

(Angulus) rubescens Hanley, Arnold, 2.

(Morelia) salmonica Carpenter, Arnold, 2.

(Angulus) umbræ Dall, Glenn, 6.

sp., Dall, 10.

(Angulus) virginiana Clark, Clark and Martin, 1.

(Peronidia?) williamsi Clark, Clark and Martin, 1.

Tellinocyclas Dall, Dall, 8.

Tellinomya absimilis n. sp., Sarsden, 1.

candens n. sp., Sarsden, 9.

(or Nucula) lepida n. sp., Sar­
dson, 9.

cf. nasuta Hall, Kindle and Bre­
ger, 1.

novitiosa n. sp., Sarsden, 1.

Tellinocyclas Dall, Dall, 8.

Tellinomya absimilis n. sp., Sarsden, 1.

candens n. sp., Sarsden, 9.

(or Nucula) lepida n. sp., Sar­
dson, 9.

cf. nasuta Hall, Kindle and Bre­
ger, 1.

novitiosa n. sp., Sarsden, 1.

Teoeculia acu1 Hall?, Weller, 6.

bellerus Hall (?) mut. stebos
Clarke, Loomis, 4.

dexitha Hall, Kindle, 1.

elagatous Hall, Weller, 6.

graci1striatus Hall, Clarke, 10.

graci1striatus Hall, mut. asmode­us Clarke, Loomis, 4.

grycanthus (Eaton), Weller, 6.

clariformis Hall, Kindle, 1.

tenuicnl tus F. A. Roemer, Clarke, 19.

Teonoma speleca n. sp., Sinclair, 7.

Terebellina n. gen., Ulrich, 4.

palaclie n. sp., Ulrich, 4.

Terebra Bruguëre, Arnold, 2.

coo1eri n. sp., Anderson, 7.

(Acus) curvilineata Dall, Martin, 5.

(Acus) curvilineata var. calvert­ensia n. var., Martin, 5.

(Acus) curvilineata var. dalli n.

var., Martin, 5.

(Acus) curvilineata var. whitfieldi
n. var., Martin, 5.

(Acus) curvillata Conrad, Mar­
tin, 5.

(Hastula) inornata Whitfield, Martin, 3.

juvenilcostata n. sp., Brown (T.

C.). 1.

(Hastula) patuxentia n. sp., Mar­
tin, 5.

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Paleontology—Continued.

**Genera and species described**—Continued.

Terebra (Hastula) simplex Conrad, Martin, 5.

(Acus) simplex Carpenter, Arnold, 2.

(Hastula) simplex var. sublirata, Conrad, Martin, 5.

(Acus) sincera Dall, Martin, 5.

unilineata Conrad, Martin, 5.

sp.?, Brown (T. C.), 1.

Terebratulæ Beecher, Arnold, 2.

hemphilli Dall, Arnold, 2.

smithi n. sp., Arnold, 2.

Terebratella harveyi n. sp., Whiteaves, 12.

Terebratula (Childonophora) filosa
Conrad, Dall, 8.

harlanl Morton, Clark and Martin, 3.

jucunda Hall, Kindle, 1.

obsoleta Dall, Beecher, 1.

wilmingtonensis Lyell and Sower­by, Dall, 8.

Teredo virginiana Clark, Clark and Martin, 2.

? sp., Dall, 10.

sp., Ravn, 1.

Terminonaris n. n., Osborn, 33.

Terrapene euryygla (Cope), Hay, 14.

Testudo atascosse n. sp., Hay, 14.


osborniana n. sp., Hay, 17.

Tetragonites timothyanus? Mayor,
Whiteaves, 12.

Tetragraptus Salter, Ruedemann, 8.

amill Lapworth ms., Elles and
Wood, em., Ruedemann, 8.

clarkei n. sp., Ruedemann, 8.

fruticosus Hall sp., Ruedemann, 8.

(Etagraptus) lentus n. sp., Ruede­mann, 8.

pends Elles, Ruedemann, 8.

pygneus n. sp., Ruedemann, 8.

quadribrachiatus Hall (sp.), Rue­demann, 8.

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