BIBLIOGRAPHY AND INDEX

OF

NORTH AMERICAN GEOLOGY, PALEONTOLOGY, PETROLOGY, AND MINERALOGY

FOR

THE YEAR 1896

BY

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WASHINGTON
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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY,
DIVISION OF GEOLOGY,
Washington, D. C., May 27, 1897.

Sir: I have the honor to transmit herewith the manuscript of a Bibliography and Index of North American Geology, Paleontology, Petrology, and Mineralogy for the Year 1896, and to request that it be published as a bulletin of the Survey.

Very respectfully,

F. B. Weeks.

Hon. CHARLES D. WALCOTT,
Director United States Geological Survey.
INTRODUCTION.

The method of preparing and arranging the material of the Bibliography and Index for 1896 is similar to that adopted for the previous publications on this subject (Bulletins Nos. 130, 135, and 146). A number of periodicals and transactions of societies not heretofore examined are included in the present work, and are given in the list of publications examined. Several papers that should have been entered in the previous bulletins are here recorded, and the date of publication is given with each entry (see page 98).

Bibliography.—The bibliography consists of full titles of separate papers, classified by authors, an abbreviated reference to the publication in which the paper is printed, and a brief summary of the contents, each paper being numbered for index reference. The extent of papers less than a single page in length is indicated as $\frac{1}{4}$ p., 51. (lines).

Index.—The subject headings, their subdivisions and arrangement, are shown in the Classified Key to the Index. They comprise geographic, geologic, mineralogic, paleontologic, and petrologic subdivisions. Under Economic Geology is given a list of useful minerals and ores described in publications examined; under Mineralogy, a list of minerals described in such publications; under Paleontology, a list of genera and species of fossils therein described, and under Petrology, a list of rocks described, reference being made in each case, by author's name and number of article in the Bibliography, to the paper in which the fossil, mineral, or rock is described.
LIST OF PUBLICATIONS EXAMINED.


American Paleontology: Bulletins, Nos. 1-3, 1895, Nos. 4-6, 1896. Ithaca, N. Y.


California State Mining Bureau: Bulletins Nos. 8-10; 13th Annual Report, 1896. Sacramento, Cal.


LIST OF PUBLICATIONS EXAMINED.


Indiana, Department of Geology and Natural Resources: 20th Annual Report, 1896. Indianapolis, Ind.


Mexico, Comision geologica: Bulletin, No. 1, 1895. City of Mexico.


LIST OF PUBLICATIONS EXAMINED.


St. Louis Academy of Science: Transactions, Vol. VII, No. 4, 1895, Nos. 5-9, 1896. St. Louis, Mo.


LIST OF PUBLICATIONS EXAMINED.


Zeitschrift für praktische Geologie, Parts 1-12, 1896. Berlin, Germany.
BIBLIOGRAPHY.

A.

1 Adams (A. N.). The geology of Vermont as developed along the western border in the oldest fossiliferous rocks of the continent. 


Reviews the history of geologic work in Vermont, describes the character and distribution of the Cambrian and Silurian rocks, and discusses the Taconic question and the stratigraphic succession of the older Paleozoic rocks.

2 Adams (Frank D.). Laurentian area in the northwest corner of the sheet (Montreal sheet, Canada).


Describes the character and distribution of the Laurentian rocks and the economic resources, and gives chemical analyses of granite, gneiss, slate, and iron ore, and the microscopic characters of anorthosite.

3 — On the Norian in "Upper Laurentian" formation of Canada.


Describes the general characters of the Laurentian rocks and the petrographic characters of the anorthosites in different parts of Canada. 

Gives a table of chemical analyses and a bibliography of the subject.

4 — [Review of "A handbook of rocks for use without the microscope," by J. F. Kemp.]


5 — and Harrington (B. J.). On a new alkali hornblende and a titaniferous andradite from the nepheline-syenite of Dunngannon, Hastings County, Ontario.


Describes the microscopic characters of the hornblende and garnet, and gives their chemical analyses.

6 Adams (George I.). A geologic section from Galena to Wellington [Kansas].


Describes the lithologic character and succession of the rocks forming the Carboniferous series in this region.
7 Adams (George I.). A section from Manhattan to Abilene [Kansas].
Univ. Geol. Surv. of Kans., vol. i, pp. 124-128, pl. vi, fig. 6, 1896.
Gives the sections at Manhattan, Fort Riley, and Abilene, Kans., of the Carboniferous and Permo-Carboniferous beds.

8 —— The extinct Felidæ of North America.
Describes the osteology of Hoplophoneus primaevus and gives a brief historical sketch, description, and figures of the several species of Hoplophoneus. Discusses the nomenclature, synonymy, dentition, succession of genera, and the present and proposed phylogeny of the Felidæ.

Describes the character and extent of the elevated reef of Florida and discusses its origin.

10 Aguilera (José G.). Fauna fossil de la Sierra de Catorce San Luis Potosí.
Comision geol. de Mexico, Bull., No. 1,55 pp., 24 pls., 1895.
Describes fossils from the Jurassic formation, with a brief discussion of the occurrence of the Jurassic in Mexico.

11 Aldrich (T. H.). New or little known Tertiary Mollusca from Alabama and Texas.
Describes fossils from Tertiary beds, including a number of new species.

12 Ami (Henry M.). Preliminary lists of the organic remains occurring in the various geological formations comprised in the southwest quarter sheet map of the Eastern Townships of the Province of Québec.

13 — Notes on the Canadian fossil Bryozoa.
Names the genera and species of Canadian fossil Bryozoa, including references to the literature.

14 — Notes on some fossils from the Trenton of Highgate Springs, Vt., near the Canadian boundary line.
Gives list of fossils collected at this locality.

15 — Note on Cardinia subangulata Dawson and Arca punctifer Dawson.
These names were preoccupied, and C. angustifera and A. puncticos-tata are proposed.
16 Ami (Henry M.). New species of graptolites from Canada.
   Gives lists of graptolites from Point Levis and other localities in Quebec.

17 Argall (Philip). [Geology of Cripple Creek district, Colorado.]
   In discussion of paper by Whitman Cross on the same subject. See No. 150.

18 Austin (W. L.). The nickel deposits near Riddles, Oregon.
   Read before the Colorado Scientific Society, in Denver, Colo., Jan. 6, 1896, 27 pp., 10 figs.
   Describes the geologic features of the region and the chemical and mineralogic characters and occurrence of the ores.

19 Bagg (R. M.). [Protozoa from the Eocene deposits of Delaware, Maryland, and Virginia.]
   Describes one species and gives a list of Eocene species occurring at various localities in the region.

20 —— Protozoa [Eocene fauna of the Middle Atlantic slope].
   Describes one new species and gives a list of other foraminifera.

21 —— The Cretaceous Foraminifera of New Jersey.
   Gives a list of the Foraminifera and describes new species.

   Describes the physiographic and general geologic features of the region.

23 —— Some Nova Scotian illustrations of dynamical geology.
   Describes sand hill dunes, glacial phenomena, metamorphism, and vein and contact phenomena.

24 Bain (Harry Foster). Geology of Washington County [Iowa].
   Iowa Geol. Surv., vol. v, pp. 112-173, pl. iii, figs. 9-15, 1896.
   Describes the physiography and drainage of the region, the character, distribution, and geologic structure of the Carboniferous and Pleistocene formations, including sections at typical localities, and the occurrence of clays, building stones, water supply, and road materials. Includes a geologic map of the county.
25 Bain (Harry Foster.). Geology of Woodbury County [Iowa].
Describes the physiography of the county, the stratigraphy of typical sections, the distribution and structure of the Cretaceous, pre-Glacial and Glacial deposits, and the occurrence of clay, cement, and water supply. Includes a geologic map of the county and one of the superficial deposits.

26 — Geology of Appanoose County [Iowa].
Iowa Geol. Surv., vol. v, pp. 363-438, pls. xi-xiv, figs. 52-72, 1896.
Describes the topography and drainage of the county, the lithologic character, distribution, and structure of the Carboniferous and Glacial strata, and the occurrence of coal and clays. Includes a geologic map of the county.


31 Bain (Harry Foster). Machine coal mining in Iowa.
Gives the sections of the Mystic coal beds.

32 Barbour (Erwin Hinckley). Progress made in the study of Daemonelix.
Describes and illustrates the progress of the author’s studies.

33 — The deposits of volcanic ash in Nebraska.
Describes the character, occurrence, and distribution of the volcanic ash beds.

34 — The diatomaceous deposits of Nebraska.
Describes the character and occurrence of the diatomaceous strata and presents a list of fossil diatoms determined by Clarence J. Elmore.

35 Barlow (Alfred E.). On some dykes containing “huronite.”
See Bibliography and Index for 1895, No. 28.

36 — Eells (R. W.) and. The physical features and geology of the route of the proposed Ottawa canal between the St. Lawrence River and Lake Huron.
See Eells (R. W.) and Barlow (A. E.) No. 193.
37 Barrell (Robert W.). Elkhorn Mountain and Rock Creek district of the Blue Mountains, Oregon.


Describes the occurrence of gold and silver ores in this region.

38 Barton (George H.). Evidence of the former extension of glacial action on the west coast of Greenland, and in Labrador and Baffinland.


Discusses the evidences of the former extension of the ice sheet in these regions.

39 Bartsch (Paul). Notes on the Cretaceous flora of western Iowa.


Gives a list of fossil plants collected at Holman Cut, Woodbury County, Iowa.

40 Bascom (Florence). Volcanic rocks of South Mountain, Pennsylvania.


Gives a historical review of geologic surveys in the region and list of bibliographic references. Describes the character, distribution, and age of the sedimentary and eruptive rocks, and the petrographic character of the Cambrian, acid eruptive and basic eruptive rocks, including a discussion of their nomenclature. Gives a list of papers on acid volcanics and devitrification and on spherulites.

41 — A pre-Tertiary nepheline-bearing rock.


Gives a description of the megascopic and microscopic characters of a glacial boulder from Ohio, and discusses the evidences of its age.

42 — Perido-steatite and diabase.


Comprises brief notes on the characters of these rocks from near Philadelphia, Pa.

43 Bashore (Harvey B.). Notes on Glacial gravels in the lower Susquehanna Valley [Pennsylvania].


Gives the results of recent observations on the Glacial geology of this region.

43a Bassler (R. S.), Harper (G. W.) and. Catalogue of the fossils of the Trenton and Cincinnati periods, occurring in the vicinity of Cincinnati, Ohio.

See Harper (G. W.) and Bassler (R. S.) No. 274a.

44 Bather (F. A.). [Review of “New and interesting species of Palaeozoic fossils,” by S. A. Miller and Wm. F. E. Gurley.]


Describes the occurrence of gold in the Trail Creek mining region, British Columbia.
BIBLIOGRAPHY AND INDEX OF N. A. GEOLOGY,  

46 Beadle (H. M.). British Columbia mines.  
Describes the gold ore bodies of Trail Creek region, British Columbia.

47 Becker (George F.). Schistosity and slaty cleavage.  
Jour. of Geol., vol. iv, pp. 429-448, figs. 1-5, 1896.  
This paper is a continuation of the discussion in a former paper on "Finite homogeneous strain, flow and rupture of rocks." Discusses the structure developed by the deformation of a "solid, homogeneous, viscous, isotropic, not infinitely brittle mass."

48 Beecher (Charles E.). The morphology of Triarthrus.  
Gives a summary of present knowledge of the structure of Triarthrus and presents a figure showing the natural position of the appendages.

49 — James Dwight Dana.  
Contains a biography and a list of the publications of Professor Dana.

50 — On a supposed discovery of the antennæ of trilobites by Linnaeus in 1759.  
Refers to the literature on the subject and gives a list of references.

51 — On the validity of the family Bohemillidae. Barrande.  
Discusses the characters and synonymy of Bohemilla stupenda.

52 — On the occurrence of Silurian strata in the Big Horn Mountains, Wyoming, and in the Black Hills, South Dakota.  
Am. Geol., vol. xviii, pp. 31-33, 1896.  
Discusses the occurrence of fossils of Niagara and Trenton facies and remarks on the necessity of a knowledge of the complete faunas for purposes of correlation.

53 Bell (Andrew). Notes on the building stones of eastern Ontario.  
Describes the building stones of the Laurentian, Potsdam, Trenton, and Calcareous formations.

54 Bell (Robert). Proofs of the rising of the land around Hudson Bay.  
Reviews the author’s observations in this region, which indicate that the country about Hudson Bay is continually rising.

55 Bennett (John). A geologic section along the Missouri Pacific Railway, from State Line, Bourbon County, to Yates Center [Kansas].  
Describes the limestones and shales which make up the Carboniferous series and mentions their contained fossils.
56 **Bennett** (John). A geologic section along the Kansas River from Kansas City to McFarland [Kansas].
Univ. Geol. Surv. of Kans., vol. i, pp. 107-124, pl. vi, fig. 5, 1896.
Gives the section of the Carboniferous strata at various localities and mentions the fossils collected.

57 — A preliminary catalogue of the invertebrate paleontology of the Carboniferous of Kansas (preliminary).

58 — **Haworth** (Erasmus) and. A geologic section from Baxter Springs [Kansas] to the Nebraska State line.
See Haworth (Erasmus) and Bennett (John), No. 295.

59 **Beyer** (Samuel Walker). Geology of Boone County [Iowa].
Iowa Geol. Surv., vol. v, pp. 177-232, pl. iv, figs. 16-31, 1896.
Describes the topography and drainage, the stratigraphy of typical sections, the distribution of the Carboniferous and Glacial deposits, and the occurrence of coal, building stone, clays, and soils. Includes a geologic map of the county and a map of the surface deposits.

60 — The spotted slates associated with the Sioux quartzites.
Describes the megascopic and microscopic characters of the slates overlying the Sioux quartzite in South Dakota.

61 **Bibbins** (Arthur). Notes on the paleontology of the Potomac formation.
Describes the general characteristics of the plant and animal remains, with detailed notes on certain localities in Maryland.

Describes the occurrence of cinnabar in western Texas and the character and relations of the associated Tertiary and Cretaceous strata.

63 — Notes and recollections concerning the mineral resources of northern Georgia and western North Carolina.
Describes the occurrence of gold in Georgia and copper in Tennessee, and mentions the occurrence of certain minerals in the southern Appalachians.

64 — Gold in granite and plutonic rocks.
Describes the occurrence of gold in Arizona, California, and South Dakota.

65 — Gypsum beds in southern Arizona.
Mentions occurrence of gypsum in this region.
66 **Blatchley** (W. S.). A preliminary report on the clays and clay industries of the coal-bearing counties of Indiana.  
Discusses the origin and classification of clays and describes their distribution and physical and chemical characters in the several counties in Indiana.

67 **Blauvelt** (Harrington). Mineral in basalt.  
Describes occurrence of silver and copper in basalt in Yavapai County, Ariz.

68 **Bolton** (H.). The metamorphism of coal.  
Discusses the origin of the metamorphism of coal.

69 **Brainerd** (Ezra) and **Seeley** (Henry M.). The Chazy of Lake Champlain [New York].  
Gives two vertical sections of the Chazy beds and list of fossils of the various beds, accompanied by geologic sketch maps.

70 **Branner** (John Casper). A bibliography of clays and the ceramic arts.  
Comprises an author's list of titles of publications.

71 **Thickness of the Paleozoic sediments in Arkansas.**  
Describes the distribution of Paleozoic rocks in Arkansas and gives the thicknesses of the different series.

72 **[Coal measures of Arkansas.]**  

73 **The phosphate deposits of Arkansas.**  
Describes the character of the Devonian strata in which the deposits occur and the occurrence and characteristics of the phosphate material, and discusses its origin. Gives chemical analyses.

Describes the topographic and geologic features of the region, mining operations, and occurrence of gold in the region.

75 **The gold regions of Georgia and Alabama.**  
Comprises an account of the present condition of the gold mining industry in Georgia and Alabama.
76 Brewer (William M.). Further notes on the Alabama and Georgia gold fields.
   Contains notes on the occurrence of gold ores and associated rocks in these States.

77 — Mineral resources along the line of the East Tennessee, Virginia, and Georgia division of the Southern Railway.
   Includes general remarks on the occurrence of bauxite, iron, lead, and zinc ores in this region.

78 — Gold mining in Alabama.
   Gives a general description of the occurrence of gold in certain regions of Alabama.

79 — The manganese ores of Georgia.
   Gives general notes on the manganese ore bodies in Georgia.

80 Broadhead (Garland O.). Coal Measures of Missouri.
   Describes the general character and distribution of the Coal Measure rocks of Missouri and gives several vertical sections.

81 — The Devonian of North Missouri, with notice of a new fossil.
   Mentions the Devonian fossils found in this region and describes Pleurotomaria providencis.

82 Brock (R. W.), Miller (W. G.) and. Some dikes cutting the Laurentian system, counties of Frontenac, Leeds, and Lanark, Ontario.
   See Miller (W. G.) and Brock (R. W.), No. 512.

83 Brooks (Alfred H.). Preliminary petrographic notes on some metamorphic rocks from eastern Alabama.
   Describes the petrographic characters of some metamorphic and igneous rocks.

84 — Taff (J. A.) and. Buckhannon folio, West Virginia.
   See Taff (J. A.) and Brooks (A. H.), No. 657.

85 Brown (Amos P.). The crystallization of molybdenite.
   Describes crystallographic characters of molybdenite.

86 Browne (David H.). Segregation in ores and mattes.
   Gives a brief description of the Sudbury, Ontario, copper ore deposits.

87 Bryson (John). Good Ground, Long Island [New York].
   Am. Geol., vol. xviii, pp. 329-331 (correspondence), 1896.
   Describes the glacial phenomena of the region.
88 Burdusal (C. W.). Cedar Canyon mining district [Washington].
Describes briefly the geology of the region and the occurrence of silver ores.

C.

89 Calvin (Samuel). Geology of Jones County [Iowa].
Describes the physiography, the stratigraphic features of the Niagara, Carboniferous, and Pleistocene deposits, including local details, and the occurrence of building stones, soils, lime, clays, road materials, and water supply. Includes geologic map of the county.

90 — The Le Claire limestone [Iowa].
Describes the character and distribution of the Le Claire limestone, a subdivision of the Niagara, and the phenomena of oblique bedding.

91 — The Le Claire limestone.
Iowa Acad. Sci., Proc., vol. iii, pp. 52-58, pls. i-ii, fig. 2, 1896.
Describes peculiar features of deposition in the Niagara strata in portions of Iowa, and discusses its origin.

92 — The Buchanan gravels; an inter-Glacial deposit in Buchanan County, Iowa.
Describes the occurrence of Glacial gravels.

93 — The Buchanan gravels; an inter-Glacial deposit in Buchanan County, Iowa.
Am. Geol., vol. xvii, pp. 76-78, pls. iv-v, 1896.

94 — Apparent anomalies of stratification in the Postville well [Iowa].
Describes the characteristics of the Galena and Trenton limestones of the region and discusses some of the peculiarities of deposition.

95 — The Cedar Valley quarry [Iowa].
Describes the occurrence of building stone at this locality, of Upper Silurian age.

96 Campbell (Marius R.). Pocahontas folio, Virginia and West Virginia.
Describes the physiographic features, the character and distribution of rocks of Cambrian, Silurian, Devonian, and Carboniferous age, the geologic structure of the region and occurrence of coal, iron ores, and soils. Includes topographic, geologic, and structure section maps and a sheet of columnar sections.
97 Campbell (Marius E.). Drainage modifications and their interpretation.
   Discusses the principles of drainage modification, the criteria for determining stream modifications, and the characteristics of Appalachian drainage.

98 — Rapid section work in horizontal rocks.
   Describes methods of studying areal geology in regions where the strata lie in a nearly horizontal position.

99 and Mendenhall (Walter C.). Geologic section along the New and Kanawha rivers in West Virginia.
   Describes the physiography, geologic structure, and stratigraphic features of the members of the Carboniferous series, and the occurrence of coal, and gives chemical analyses. Includes a sheet of geologic cross sections.

100 Carlyle (William A.). Report on Trail Creek Mining District, British Columbia.
   Describes briefly the occurrence of the gold, silver, and copper ores and the associated igneous rocks on pages 144-147.

   Describes the general geology of the region, the occurrence of the igneous rocks, and of the gold and silver lead ores.

   Discusses the character and formation of the South Carolina and Florida phosphate deposits.

   Describes the physiography, the character and distribution of the Pleistocene deposits, and glacial geology of the region. Discusses the evidences of Tertiary and post-Tertiary changes of level.

104 — Pleistocene marine shore lines on the south side of the St. Lawrence Valley.
   Describes the topographic character of the region and the occurrence of the terraces. Gives a table showing the elevation of the shore lines along the north side of Notre Dame range, south of the St. Lawrence.
105 Chamberlin (T. C.). Alternative interpretations. [Discussion of history of Lake Agassiz.]
U. S. Geol. Surv., Mon. xxv, pp. 244-251, 1896.
Discusses Upham’s interpretation of the glacial history of Lake Agassiz.

106 — [The age of the second terrace on the Ohio at Brilliant, Ohio.]
Jour. of Geol., vol. iv, pp. 219-221, 1896.
In discussion of a paper by G. Frederick Wright on the same subject.

107 Glacial studies in Greenland, IX.
Jour. of Geol., vol. iv, pp. 582-592, pls. 60-63, 1896.
Describes the Tuktoo glacier. This paper is a continuation of the description of the glaciers of Greenland in papers noticed in the Bibliography and Index for 1895.


109 — [Review of “Ice work, present and past,” by T. G. Bonney.]

110 Chamberlin (T. C.) Salient points concerning the geology of north Greenland.
Jour. of Geol., vol. iv, pp. 769-810, 33 figs., 1896.
Describes the glacial geology of the region.

111 — [Nomenclature of glacial deposits in the Mississippi Valley.]
Jour. of Geol., vol. iv, pp. 872-876, 1896.
Discusses the use of the terms, Kansan, Iowan, Wisconsin, Aftonian, and Albertan, with remarks on their correlation.

112 — [Review of “Ice work, present and past,” by T. G. Bonney.]

113 Chambers (R. E.). A Newfoundland iron deposit.
Describes briefly the geology of the region and the character of the ore bodies.

114 Chaney (L. W., jr.). Glaciers in the Montana Rockies.
Describes existing glaciers in northern Montana.

115 Chapman (Frederick). On some Pliocene Ostracoda from near Berkeley [California].
Univ. of Cal., Dept. of Geol., Bull., vol. ii, pp. 93-100, pl. 3, 1896.
Gives a description of the Ostracod-bearing beds, and describes and figures a number of new species.

116 Chase (Harvey S.). Southern magnétites and magnetic separation.
Describes the methods of treating nontitaniferous iron ores, and gives a table of chemical analyses of representative magnetic ores from North Carolina and Tennessee.
117 Chester (Albert H.). On caswellite, an altered biotite from Franklin Furnace, N. J.
Describes the occurrence and microscopic and chemical characters of the mineral.

118 Clark (William Bullock). The Eocene deposits of the Middle Atlantic slope in Delaware, Maryland, and Virginia.
Describes the general relations, distribution, character and stratigraphic and paleontologic characteristics of the Eocene strata of the region. Presents a bibliography, discusses the criteria to be employed in the correlation of the deposits, and describes a large number of species.

119 — The Potomac River section of the Middle Atlantic Coast Eocene.
Gives a columnar section and describes the lithologic character and fauna of the several beds of the Potomac River section, including a list of the fossils characteristic of the two faunal stages. Discusses the geologic and paleontologic criteria for the correlation of the deposits.

120 — Descriptions of the geological excursions made during the spring of 1895.
Describes the Cretaceous and Tertiary formations along the Potomac River, the Cambrian and Silurian limestones of the Great Valley of Virginia, and the Upper Silurian sandstone of Massanutten Mountain.

121 — Two new brachiopods from the Cretaceous of New Jersey
Describes two new species.

122 — Contributions to the Eocene fauna of the Middle Atlantic slope.
Johns Hopkins Univ., Circ., vol. xv, pp. 3-6, 1895.
Discusses the geologic and paleontologic criteria for the correlation of the Eocene deposits and describes many species, including a number of new ones.

123 — Additional observations upon the Miocene (Chesapeake) deposits of New Jersey.
Johns Hopkins Univ., Circ., vol. xv, pp. 6-8, 1895.
Describes the occurrence, relations, and lithologic character of the beds and discusses the correlation of the strata and the deformation of the region.


125 Clarke (John M.). The structure of certain Paleozoic barnacles.
Discusses some of the characters of the species of Lepidocoleus and describes two new species.
126 Claypole (E. W.). The timepiece of geology.
Discusses the relations of paleontologic and stratigraphic evidence in geologic science.

127 — A new Titanichthys.
Am. Geol., vol. xvii, pp. 166-169, pl. x, 1896.
Describes and figures Titanichthys brevis n. sp.

128 — The ancestry of the Upper Devonian placoderms of Ohio.
Gives a list of the genera and a number of species of placoderms occurring in the Cleveland (Devonian) shale of Ohio and compares them with European fish faunas and gives their vertical distribution.

129 — Dinichthys prentis-clarki.
Describes this species.

130 Clements (J. Morgan). Notes on the microscopical character of certain rocks from northeast Alabama.
Describes the petrographic characters of the rocks collected.

131 Codington (E. W.). The Florida pebble phosphates.
Gives a brief discussion of the origin of the pebble phosphate and a description of the methods of mining.

132 Coldwell (A. E.). Notes on the superficial geology of Kings County, N. S.
Describes the distribution of the Triassic trap, Cambrian and Glacial deposits.

Describes their geographic distribution in the region and their petrographic and chemical characters.

134 Cooper (W. F.). The Paleozoic formation.
Describes the general characters and distribution of the Paleozoic rocks.

135 Cope (E. D.). Sixth contribution to the knowledge of the marine Miocene fauna of North America.
Describes several new species.

136 — New and little known Mammalia from the Port Kennedy bone deposit [Pennsylvania].
Describes material from the locality named, including several new species of mammals.
137 **Cope** (E. D.). Permian land Vertebrata with carapaces.
   Includes brief remarks on the characters of the fossils and illustrations of two of the species.

138 **Cox** (E. T.). Geological sketch of Florida.
   Reviews the literature on the geology of Florida and describes the character and distribution of the Eocene and overlying deposits.

139 —— The Albion phosphate district [Florida].
   Gives a brief description of the phosphate deposits and the methods of mining.

140 **Cragin** (F. W.). The Plains Permian.
   Am. Geol., vol. xviii, pp. 131-132 (+ p.) (correspondence), 1896.
   Note on the use of the term Marion in the classification of the Permian.

141 —— The Choctaw and Grayson terranes of the Arietna.
   Reviews the nomenclature of the formations, describes the lithologic characters and fauna of the Choctaw limestone and Grayson marl in Texas, and discusses the relations of the fauna.

142 —— Descriptions of the invertebrate fossils from the Comanche series in Texas, Kansas, and Indian Territory.
   Describes a number of new species from the Cretaceous of northern Texas.

143 —— Vertebrate fossils from the Neocomian of Kansas.
   Describes five new species from the Cretaceous beds of Kansas.

143a —— The Permian system in Kansas.
   Gives the author’s classification of the Permian rocks of Kansas. Describes the character and distribution of the several subdivisions and gives lists of fossils from different horizons.

143b —— On the stratigraphy of the Platte series, or Upper Cretaceous of the Plains.
   Gives brief notes on the subdivisions of the Platte series.

143c —— Preliminary notice of three late Neocene terranes of Kansas.
   Describes briefly the characters of the three terranes in southwestern Kansas.

144 **Crane** (W. B.). “Horsebacks” in the Kansas Coal Measures.
   Describes the occurrences, character, and extent of the “horsebacks” and discusses their origin.
Contains notes on mines of the several counties of the State, yielding antimony, lead, asphalt, borax, chronic iron, coal, copper, gold, gypsum, iron, magnesite, manganese, mineral springs, natural gas, petroleum, quicksilver, silver, structural materials, and miscellaneous products.

146 Crosby (William O.). Englacidal drift. 
Discusses the early history of the Pleistocene ice sheet, the basal relations of a sedentary ice sheet, the relations of englacidal drift to modified drift, and the evidences of transportation. Compares the Pleistocene ice sheet with modern glaciers.

147 — Englacidal drift. 

148 — Mr. Bouve's [Thomas Tracy Bouvé] work in geology and mineralogy. 

Describes the geology and geologic relationships of the regions and the petrographic characters, occurrence and distribution of the gneiss, granite, dike rocks, and volcanic series. Furnishes a geologic map of the region. See Emmons (S. F.) No. 200.

150 — Geology of the Cripple Creek gold mining district, Colorado. 
Read before the Colorado Scientific Society, in Denver, Colo., June 4, 1894, 18 pp. 
Describes the general geology of the region and the occurrence and characters of the volcanic rocks. Discusses the relationships of the mineral deposits to the rock masses.

151 — Igneous rocks of the Telluride district, Colorado. 
Describes the general character and distribution of the igneous rocks and the occurrence of diorite stocks and of intrusive rocks in the Cretaceous shales. Includes description of the volcanic series of the western San Juan district.

152 — The San Miguel formation [Colorado]. 
Describes the character, relationships, and distribution of the formation, and discusses its Eocene or Upper Cretaceous age.

See Emmons (S. F.), Cross (W.), and Eldridge (G. H.). No. 202.

Describes the character and distribution of the limestone and igneous rocks, compares them with other Alaskan sections, and gives petrographic notes on the quartz diorites and schists.

155 On the existence of pre-Cambrian and post-Ordovician trap dikes in the Adirondacks.

Discusses the rock classification and describes the character and distribution of the dikes.

D.


Describes the structural features of the region and gives a bibliographic list of the author's descriptions of related phenomena in publications of the U. S. Geological Survey.


Describes the local occurrences of coal, the general Tertiary geology of Alaska, and includes notes on the occurrences of Silurian, Devonian, Carboniferous, and Mesozoic rocks.

158 Diagnoses of new Tertiary fossils from the southern United States.

Describes a large number of new species.


Describes the extent, occurrence, composition, and origin of artesian waters of the several counties of the region.

160 Catalogue and index of contributions to North American geology, 1732-1891.

Contains an author's list of titles of papers arranged chronologically under each author and a subject index.

161 Artesian well prospects in the Atlantic Coastal Plain region.

Gives the results of investigations of artesian well prospects in portions of the Middle and South Atlantic States, including records of well borings, and notes on the general geology of the region and on the Cretaceous and Tertiary deposits.
Describes the physiography, lithologic character and succession of the Pleistocene and Tertiary formations, the geologic history of the Coastal Plain, and the occurrence of marl and clay. Includes topographic, geologic, and artesian well maps.

163 — Franklin folio, Virginia and West Virginia.
Describes the geographic and stratigraphic features of the region, the character and distribution of the Silurian, Devonian, and Carboniferous rocks, the geologic structure, and the occurrence of iron, and the characters of the soils.

164 — Examples of stream robbing in the Catskill Mountains [New York].
Describes the phenomena and gives a map and cross section of the region.

165 — Notes on relations of lower members of the Coastal Plain series in South Carolina.
Describes the occurrence of the Potomac formation overlying the crystalline rocks and mentions the character and thickness of the other formations of the Coastal Plain series in this region.

166 — and **Taff** (Joseph A.). Piedmont folio, West Virginia and Maryland.
Describes the physiographic and drainage features, the character and distribution of Silurian, Devonian, and Carboniferous rocks, the geologic structure and the occurrence of coal, iron, and building stones. Includes topographic, geologic and structure section maps and a sheet of columnar sections.

167 **Davidson** (A. D.), **Weller** (S.) and. Petalocrinus mirabilis n. sp., and a new American fauna.
See Weller (S.) and Davidson (A. D.), No. 735.

168 **Davis** (William Morris). The quarries in the lava beds at Meriden, Conn.
Describes the several beds of the quarries and discusses the evidences of the tilting and faulting that has taken place.

169 — Bearing of physiography on uniformitarianism.
Discusses the origin and development of land forms in their bearing on the principles of uniformitarianism.

170 — Plains of marine and subaerial denudation.
Refers to the English and American authorities as to the origin of broad plains of denudation. Reviews the arguments and discusses the results of marine and of subaerial denudation.
171 Davis (William Morris). The outline of Cape Cod [Massachusetts].
Reviews previous descriptions of Cape Cod and discusses its origin and development.

172 Davison (John M.). Wardite; a new hydrous basic phosphate of alumina.
Describes the chemical and physical characters of an encrustation on decomposed massive variscite.

173 Dawson (George M.). Summary report on the operations of the Geological Survey for the year 1894 [Canada].
Gives a brief description of the field work in 1894 on the Tar sands of Athabasca, the cinnabar and gold ore deposits of British Columbia, reconnaissance surveys in the Northwest Territory, the Archean rocks of Ontario, the Ordovician rocks of Quebec and adjacent regions, reconnaissance surveys in the Northeast Territory, the Pleistocene and Glacial phenomena of New Brunswick, and the Triassic, Carboniferous, Devonian, and Silurian rocks of Nova Scotia.

174 — Report on the area of the Kamloops map-sheet, British Columbia.
Describes the physiography of the region and presents a table showing the nomenclature, lithologic character, and thickness of the Cambrian, Carboniferous, Juratris, Cretaceous, and Tertiary formation, and a comparative table of formations of the eastern border of the Rocky Mountains, in Selkirk range, and on the western side of the Rockies. Describes the distribution and relations of each of these formations. Gives an account of the glacial phenomena and of the occurrence of gold, cinnabar, iron, copper, coal, and building stones.

175 — (with the collaboration of R. G. McConnell.) Glacial deposits of southwestern Alberta in the vicinity of the Rocky Mountains.
Describes the physiography of the region and gives a summary of previous observations and sections on Belly and Oldman rivers. Describes the distribution of material derived from the Rocky Mountain and Laurentian glaciers. Includes a summary and discussion of results.

176 Dawson (J. William). On collections of Tertiary plants from the vicinity of the city of Vancouver, B. C.
Discusses the relations of the Tertiary beds of the region, with notes on the fossil plants.
Bull. 149——3
177 **Dawson** (J. William). Notes on the bivalve shells of the Coal formation of Nova Scotia.


Discusses the characters of the genus *Naiadites* and describes fossil shells from the Carboniferous strata of Nova Scotia, including new species.

178 — Notes on a specimen of *Beluga catodon* from the Leda clay, Montreal.


Describes the occurrence in Pleistocene rocks.

179 — Review of the evidence for the animal nature of *Eozoon canadense*.


Reviews the literature and discusses the petrologic, chemical, and biologic evidences of the animal nature of *Eozoon canadense*.

180 — Pre-Cambrian fossils.


Remarks on occurrence of fossils in pre-Cambrian rocks of North America.

181 **Dean** (Bashford). On the vertebral column, fins, and ventral armor of *Dinichthys*.


182 **De Kalb** (Courtenay). Onyx marbles.


Describes the commercial varieties of onyx marbles and their occurrence in different parts of the United States, Mexico, and other countries.

183 **Diller** (Joseph Silas). A geological reconnoissance in northwestern Oregon.


Describes the physiographic features and the character and distribution of the Cretaceous, Tertiary, and Pleistocene deposits of the region and the occurrence and character of the coal veins, iron ores, building stones, and gold.

184 **Dowling** (D. B.). Report on the country in the vicinity of Red Lake, and part of the basin of Berens River, Keewatin.


Describes the physiography of the region, the character and distribution of the Archean rocks and of the glacial phenomena.

185 **Dresser** (John A.). Petrographical notes on some Archean rocks from Chelsea, Quebec.

Ottawa Nat. vol. x, pp. 129-133, 1896.

Describes serpentine limestone, gneiss, and olivine diabase.
186 Earle (Charles). Tapirs, past and present.
Discusses the relations of recent and fossil tapirs.

Reviews descriptions of P. securiger by O. P. Hay, with remarks on
the retention of the name Petalodus alleghaniensis for P. securiger, P.
destructor, and P. alleghaniensis, all of which the author considers
identical.

188 — Preliminary note on the relations of certain body-plates in the
Dinichthyids.
Describes the character and relationships of new material from the
Cleveland shale of Ohio.

189 Edwards (Arthur M.). On the occurrence of Neocene marine
Diatomaceae near New York.
Describes the occurrence of strata containing Diatomaceae on Long
Island, N. Y. Gives a list of the forms.

190 Eldridge (George H.). The uintaite (gilsonite) deposits of Utah.
26-33, 1896.
Describes the classification and chemical relations of hydrocarbons,
the geology of the region, and the occurrence and character of the veins.
 Presents a geologic map of the country.

191 — Occurrence of uintaite in Utah.
Describes the veins of uintaite, cutting Tertiary strata in Utah, and
gives its chemical analysis.

192 — Emmons (S. F.), Cross (W.), and. Geology of the Denver
Basin in Colorado.
See Emmons (S. F.), Cross (W.), and Eldridge (G. H.), No. 202.

193 Ells (R. W.). Report on a portion of the Province of Quebec com­
prised in the southwest sheet of the “Eastern Townships”
map (Montreal sheet) [Canada].
Describes the character and distribution of the Devonian, Silurian,
Cambro-Silurian, Cambrian, pre-Cambrian, and the volcanic and pluton­
tic rocks of the region. Gives a brief account of the economic
minerals.

194 — The apatite-bearing rocks of the Ottawa district [Canada].
Describes the general features of Laurentian rocks, and the character,
occurrence, and origin of the apatite deposits.
Ells (R. W.) The geology of the Ottawa and Parry Sound railway [Ontario].
Describes the local geology along the route. The rocks are mainly Silurian.

and Barlow (A. E.). The physical features and geology of the route of the proposed Ottawa canal between the St. Lawrence River and Lake Huron.
Describes the drainage and physical features, and reviews the work of various geologists in this region.

Elmore (C. J.). Fossil Diatomaceae from Nebraska and their relations to modern species.
Describes the general features of the deposits, discusses the relation of the diatoms to modern species and gives a list of the species determined.

See Barbour (E. H.), No. 34.

Emerson (B. K.). Geology of Old Hampshire County, in Massachusetts.
Describes briefly the character and distribution of the pre-Cambrian, Triassic, and Quaternary rocks.

Emmons (Samuel Franklin). The mines of Custer County, Colorado.
Describes the character and mode of occurrence of the gold and silver-bearing ores and discusses their origin. Includes analyses of sinters and waters from 500 and 2,000 feet levels of the Geyser Mine. See Cross (W.) No. 149.

Some mines of Rosita and Silver Cliff, Colorado.
Describes the geologic history of the region, and the occurrence and character of the ore bodies in the principal mines. Discusses their origin. Gives chemical analyses of waters from deep levels in the Geyser mine and a discussion of the results.

Cross (Whitman), and Eldridge (George H.). Geology of the Denver Basin in Colorado.
Chapter I is a description of the physiography, and historical and structural geology of the region. Chapter II describes the lithologic characters, distribution, and structure of the Jurassic and Cretaceous subdivisions. Chapter III comprises an account of the stratigraphy and age of the Arapahoe, Denver, and Monument Creek formations. Chapter IV describes the character and distribution of the Pleistocene deposits. Chapter V is a description of the geological occurrence and petrographic characters of the igneous rocks. Chapter VI describes the occurrence of coal and clay and the artesian wells of the region. Includes topographic, geologic, structure section maps and columnar sections in pocket.


206 —— The geology of Point Sal [California]. Univ. of Cal., Dept. of Geol., Bull., vol. ii, pp. 1-92, pls. 1-2, 1896. Describes the characters of the Miocene and Knoxville beds, the petrographic characters of augite-teschenite, basalt, gabbro, peridotite, and serpentine, and discusses the age of these eruptions.

207 —— Notes on the geology of eastern California. Am. Geol., vol. xvii, pp. 63-74, pl. iii, 1896. Describes the topography of the portion of California east of the Sierra Nevada range and the character and distribution of the metamorphic, sedimentary, and igneous rocks.

208 —— The mineral deposits of eastern California. Am. Geol., vol. xvii, pp. 144-158. Describes the distribution and geologic relations of the gold and silver ores and the pyritiferous mineralization of the rocks. Discusses the origin of the gold and silver ore bodies.

209 —— The age of the California Coast ranges. Am. Geol., vol. xviii, pp. 271-282, 1896. Reviews the opinions of various writers as to the evolution of the Coast ranges and discusses the changes that have affected them during Jurassic, Cretaceous, and Tertiary times.

210 —— Stratigraphy at Slate's Springs, with some further notes on the relation of the Golden Gate series to the Knoxville. Am. Geol., vol. xviii, pp. 350-356, 1896. Discusses the evidence as to the Jurassic or Cretaceous age of the Golden Gate series and of its relations to the Knoxville beds.


214 — Note on a breathing gas well [California]. Science, new ser., vol. iii, pp. 693–694, 1896. Describes the peculiar features of this well and the character of the associated Cretaceous and Jurassic strata.


217 — Kame areas in western New York south of the Irondequoit and Sodus bays. Jour. of Geol., vol. iv, pp. 129-159, figs. 1–7, 1896. Describes the character and extent of massive deposits of sand and gravel of glacial origin. Compares these kame areas with the area at Rochester, N. Y., and discusses their manner of formation.


223 Finlay (J. Ralph), Smyth (H. L.) and. The geological structure of the western part of the Vermillion range, Minnesota. See Smyth (H. L.) and Finlay (J. R.), No. 640.
224 **Foerste** (Aug. F.). An account of the Middle Silurian rocks of Ohio and Indiana, including the Niagara and Ohio Clinton, and the bed at the top of the Lower Silurian strata, formerly considered the Medina.


Describes local details of the succession of Lower and Upper Silurian rocks at various places in southeastern Indiana and southwestern Ohio, and discusses the evidences as to correct separation of these two groups and the correlation of the several members.

225 **Fontaine** (William M.). The Potomac formation in Virginia.


Describes the character and occurrence of Potomac strata at various localities in Virginia and discusses the evidence as to the age of the formation.

226 — Notes on some Mesozoic plants from near Oroville, California.


Gives a list of the plants collected and discusses their bearing on the evidence as to the age of the deposits, which is considered to be Jurassic.

227 **Foote** (H. W.). On the occurrence of pollucite, mangano-columbite, and microlite at Rumford, Maine.


Gives a brief description of the occurrence of the minerals and the chemical composition of pollucite. Describes the crystallographic characters of mangano-columbite and microlite.

228 **Forbes** (E. H.). On the epidote from Huntington, Mass., and the optical properties of epidote.


Gives the chemical analysis of the epidote and describes its crystallographic characters.

229 — **Penfield** (S. L.) and **Forbes** (E. H.), No. 539.

230 **Fowke** (Gerard). Pre-Glacial and recent drainage channels in Ross County, Ohio.


Discusses the origin of certain drainage features and gives a map of the region.

231 **Frazer** (Persifor). Two supposed new trap dikes in Chester County, Pennsylvania.


Remarks on the occurrence of trap dikes in Chester County.


Describes the lithologic character of the strata, with notes on the occurrence of Calamites and Sigillaria.
233 Fultz (Francis M.). Recent discoveries of glacial scorings in southeastern Iowa.
Presents data showing that the Illinois ice lobe crossed the Mississippi into Iowa.

234 — Some facts brought to light by deep wells in Des Moines County, Iowa.
Gives brief notes on certain deep wells.

235 Gane (Henry Stewart). 'A contribution to the Neocene corals of the United States.
Johns Hopkins Univ., Circ., vol. xv, pp. 8-10, 1895.
Describes the distribution of Neocene corals and the characters of a number of new species.

236 Gesner (G. W.). Dr. Abraham Gesner. A biographical sketch.

237 Gilbert (Grove Karl). The underground waters of the Arkansas Valley in eastern Colorado.
Describes the character, distribution, and structure of the Jurassic and Cretaceous strata, the sands and gravels, and the general conditions of the artesian and ground waters.

238 — Laccolites in southeastern Colorado.
Jour. of Geol., vol. iv, pp. 816-825, 5 figs., 1896.
Describes the character of the laccolitic rocks, the structure of the region, and the lithologic character and distribution of the associated Dakota and Neocene beds.

239 — The origin of hypotheses, illustrated by the discussion of a topographic problem.
Describes the nature and origin of hypotheses as indicated by a study of the Coon Butte region in Arizona.

240 — [Review of "Elements of geology, a text-book for colleges and for the general reader," by Joseph Le Conte.]

241 — Age of the Potomac formation.
Discusses methods of correlation employed by Prof. Marsh in his paper on the Jurassic formation of the Atlantic Coast.

242 Gill (Thomas). Note on the Devonian Palaeospondylus.
Quotes Dr. Traquair's description of Palaeospondylus guinni and discusses briefly their relations.
243 **Gilpin** (E.). The iron ores of Nictaux, N. S., and notes on steel making in Nova Scotia.


Describes the character and extent of the iron ore bodies.

244 — The undeveloped coal fields of Nova Scotia.


Describes the character of the Carboniferous strata and the occurrence of coal in parts of Nova Scotia.

245 **Girty** (George H.). Mr. Sardeson and fossil tabulates.


246 **Glenn** (William). Chromic iron, with reference to its occurrence in Canada.


Gives a historical sketch of chromic iron and describes its occurrence in the United States and Canada.

247 — Chrome in the southern Appalachian region.


Gives a historical account of chromium, describes the occurrence of chromic iron in Maryland and Pennsylvania, and discusses its origin and relations to the associated serpentine.

248 — The form of fissure walls, as affected by subfissuring and by the flow of rocks.


Describes the form of certain fissures in the flow of rocks as shown by a section of the Appalachians in Maryland.

249 **Gordon** (Charles H.). A report on the Bevier sheet including portions of Macon, Randolph, and Chariton counties [Missouri].

Mo. Geol. Surv., vol. ix, Sheet Rept. No. 2, 75 pp., figs. 1-5, 1896.

Describes the physiographic character of the region, the lithologic characters of the Coal Measure and Quaternary beds, and the economic geology of the coal area.

250 — Syenite gneiss (leopard rock) from the apatite region of Ottawa County, Canada.


Describes the general geology of the region, the geologic occurrence of the syenite-gneiss and its megascopic and microscopic characters. Discusses the character, relations, nomenclature, and origin of the ellipsoidal structure of the rocks. Gives chemical analyses of the gneiss.

251 **Gould** (C. N.). A geologic section across the Flint Hills along the Missouri Pacific Railway, beginning near Cedarvale and extending to Winfield [Kansas].

Univ. Geol. Surv. of Kans., vol. i, pp. 31-34, fig. 1, 1896.

Gives a vertical section of the strata and describes briefly the lithologic character and fauna of the exposures examined.

252 **Grant** (C. C.). Geological notes.


Gives notes on the Upper Silurian fauna in the vicinity of Hamilton, Ontario.
253 **Grant** (C. C.). Additional notes regarding our local graptolites.
Hamilton Assoc., Jour. and Proc., No. 12, pp. 159-163, 1896.
Notes on localities in the vicinity of Hamilton, Ontario, where graptolites have been found.

254 **Grant** (U. S.), **Winchell** (N. H.) and. Volcanic ash from the north shore of Lake Superior.
See Winchell (N. H.) and Grant (U. S.), No. 766.

255 **Gratacap** (L. P.). Fossils and fossilization.
Describes the characters, preservation, and distribution of fossils.

256 —— [Review of "A dictionary of the names of minerals, including their history and etymology," by A. H. Chester.]

257 **Greenleaf** (James L.). The hydrology of the Mississippi.
Describes the drainage area of the Mississippi and its tributaries, the distribution and amount of rainfall, and the temperature and character of the flow of the streams.

258 **Greenlee** (W. B.). The amount of water in the earth’s crust.
Describes the author’s method of computing the amount of water in the earth’s crust.

259 **Gresley** (W. S.). Traces of organic remains from Huronian (?) series at Iron Mountain, Mich., etc.
Describes the characteristics of markings, considered to be of organic origin, from the ore bodies at this locality.

260 —— Observations regarding the occurrence of anthracite, with a new theory of its origin.
Am. Geol., vol. xviii, pp. 1-21, pl. i, 1896.
Discusses J. J. Stevenson’s theory as to the origin of Pennsylvania anthracite and the origin of the metamorphism in this region. Describes the conditions in other coal fields.

Am. Geol., vol. xviii, pp. 331-332 (correspondence), 1896.
Gives reasons for supposing this to be an erratic belonging to the Glacial period.

262 **Griswold** (Leon S.). Notes on the geology of southern Florida.
Describes the character of the Everglades and the occurrence of oolitic limestone. Discusses the origin of the oolite.

263 **Guentherodt** (J. J.). Twin lakes region [Colorado].
Describes the occurrence of gold placers and veins near Leadville, Colo.
   Describes the formation and method of growth of current, tidal, and
delta cusps at typical localitics on the Atlantic and Pacific coasts of the
United States.

265 **Gurley** (R. R.). North American graptolites, new species and
   vertical range.
   Mentions described species reported from American strata, giving their
generic reference and geologic range. The paper also includes descrip­
tions of new species, a list of American graptolites, and tables showing
their vertical and geographic range.

266 **Gurley** (William F. E.), **Miller** (S. A.) and. Descriptions of new
   and remarkable fossils from the Paleozoic rocks of the Mis­
   sissippi Valley.
   See Miller (S. A.) and Gurley (W. F. E.), No. 508.

267 — New species of crinoids from Illinois and other States.
   See Miller (S. A.) and Gurley (W. F. E.), No. 509.

268 — New species of Echinodermata and a new crustacean from
   the Paleozoic rocks.
   See Miller (S. A.) and Gurley (W. F. E.), No. 510.

269 — New species of Paleozoic invertebrates from Illinois and other
   States.
   See Miller (S. A.) and Gurley (W. F. E.), No. 511.

270 **Gwilliam** (J. C.). Gold and silver ores of the Slocan, B. C.
   Describes gold and silver ore deposits in British Columbia.

   General description.
   Describe the physiography and general geologic features and history
   of the region. Includes topographic and gelogic maps.

272 — The age of the igneous rocks of the Yellowstone National
   Park.
   Reviews the geologic history of the Park, mentions the fossil plant
   and invertebrate remains found in the Tertiary strata, and discusses the
   bearing of the data on the age of the igneous rocks and the character
   of the post-Laramie movement.

273 **Hall** (John G.). A geologic section from State Line, opposite Boi­
court, to Alma, principally along the Osage River [Kansas].
   Describes the limestones and shales which comprise the Carboniferous
   formation in the region.
274 Halse (Edward). The quicksilver mine and reduction works at Huitzucuo, Guerrero, Mexico.
   Describes the geologic features of the region, the character and occurrence of the ore and discusses its origin.

274a Harper (G. W.) and Bassler (R. S.). Catalogue of the fossils of the Trenton and Cincinnati periods occurring in the vicinity of Cincinnati, Ohio.
   Cincinnati, Ohio, 34 pp., 1896.

275 Harrington (B. J.). The chemical composition of andradite from two localities in Ontario.
   Gives chemical analyses of the material.

276 — Adams (Frank D.) and. On a new alkali hornblende and a titaniferous andradite from the nepheline-syenite of Dunganon, Hastings County, Ontario.
   See Adams (P. D.) and Harrington (B. J.), No. 5.

277 Harris (Gilbert D.). Claiborne fossils.
   Gives a list of Claiborne fossils and a description of three new species.

278 — Neocene Mollusca, of Texas, or fossils from the deep well at Galveston.

279 — The Midway stage.
   Gives a historical sketch of the study of the Midway stage and describes sections in Texas, Arkansas, Tennessee, Mississippi, Alabama, and Georgia. Includes descriptions of molluscan remains of Midway stage.

280 — New and interesting Eocene Mollusca from the Gulf States.
   The fossils described are from the Eocene of Alabama and Mississippi.

281 — See Say (Thomas), No. 599.

282 Hartzell (J. C., jr.). The history and principles of geology and its aim.
   Gives a historical sketch of the science of geology and discusses its principles and aims.

283 Hatcher (J. B.). Recent and fossil tapirs.
   Describes Protapirus validens n. sp., and discusses the osteology of the genus. Reviews the literature regarding the genera Colodon and Protapirus.
284 **Hatcher** (J. B.). Some localities for Laramie mammals and horned dinosaurs.

Describes localities in Wyoming where these fossils have been found, with remarks on the occurrence and fauna of the Laramie and Ceratops beds.

285 **Haworth** (Erasmus). A geologic section from Coffeyville to Lawrence [Kansas].

Describes the character of Carboniferous limestones and shales, and compares them with those of the Baxter Springs-Kansas City section.

286 — Résumé of the stratigraphy and correlations of the Carboniferous formations.

Describes the characters of the different subdivisions of the Carboniferous and Permo-Carboniferous formations in Kansas and gives a list of their characteristic fossils and a table showing thickness, lithologic character, and characteristic fossils of the Upper Paleozoic rocks of central Kansas.

287 — Physiographic features of the Carboniferous.

Describes the characteristic erosion features of the Carboniferous and Permo-Carboniferous areas of Kansas.

288 — The coal fields of Kansas (preliminary).

Describes the geographic and geologic distribution of the coal beds in Kansas and gives a résumé of the stratigraphy of the Coal Measure strata.

289 — Oil and gas in Kansas (preliminary).

Gives a historical account of the industry, describes their geographic extent, and the character of the Coal Measure strata in which the oil and gas occur, and discusses their origin and physical and chemical properties.

290 — Surface gravels of the Carboniferous area.

Describes the character and distribution of the surface gravels and discusses their origin.

291 — The Coal Measure soils (preliminary).

Describes the general characters of the Coal Measure soils of Kansas and discusses methods of fertilization.


Plates x-xxi are sections of deep wells in the Carboniferous area, plate xxii is a general vertical section of Carboniferous of Kansas and plate xxxi is a preliminary geologic map of Kansas.
293 **Haworth** (Erasmus). The crystalline rocks of Missouri.
   Discusses the classification of the crystalline rocks and describes the
   chemical and mineralogic characters of the dike rocks, granites, gran­
   ite porphyries, and porphyries.

294 Local deformation of strata in Meade County, Kans., and
   adjoining territory (preliminary).
   Discusses the geographic and geologic evidence of deformation of the
   region.

295 and **Bennett** (John). A geologic section from Baxter Springs
   [Kansas] to the Nebraska State line.
   Describes the lithologic character and succession, and mentions the
   fossils found in the various beds which make up the Carboniferous series
   in the region.

296 **Haworth** (Erasmus), **Nason** (F. L.), **Winslow** (A.) and.
   A report on the Iron Mountain sheet, including portions of Iron, St.
   Francois, and Madison counties [Missouri].
   See Winslow (A.), Haworth (E.), and Nason (F. L.), No. 769.

297 **Hay** (Robert). The geology of the Fort Riley military reservation
   and vicinity, Kansas.
   Describes the occurrence and gives a section of the Permian and
   Permo-Carboniferous beds and the physiography and hydrography of the
   region. Includes notes on the occurrence of Cretaceous, Tertiary,
   and Pleistocene beds, and on the Glacial phenomena.

298 On the eastern extension of the Cretaceous rocks in Kansas,
   and the formation of certain sandhills.
   Describes the characteristics of the Dakota Cretaceous beds in the
   region and considers certain sandhills are formed of the weathered
   Dakota sandstone.

299 The river counties of Kansas. Some notes on their geology
   and mineral resources.
   Describes the character and distribution of the Carboniferous formation
   in the counties of Kansas bordering on the Missouri River, the
   Glacial phenomena, and mineral resources. Gives the sections of several
   artesian wells.

300 A bibliography of Kansas geology, with some annotations.

301 **Hayes** (Charles Willard). Gadsden folio, Alabama.
   Describes the physiographic and stratigraphic features of the region,
   the occurrence, character, and distribution of the Cambrian, Silurian,
   Devonian, and Carboniferous rocks, the geologic structure and the occur­
   rence of coal, iron, and soils. Includes topographic, geologic, structure
   section maps and columnar sections, and a list of formation names.
301a Hayes (Charles Willard). The Tennessee phosphates.
Describes the general physiographic and stratigraphic features of the region and the character and distribution of the black and white phosphates. Discusses their origin.

302 — The white phosphates of Tennessee.
Describes the location, occurrence, and physical and chemical character of the phosphate deposits, and discusses their origin.

303 Helmhecker (R.) Sepiolite.
Describes the characteristics of the mineral and its occurrence in different countries.

304 Henrich (Carl). The Ducktown ore deposits and the treatment of the Ducktown copper ores [Tennessee].
Gives a historical sketch of mining in this region, describes the geologic structure of the ore deposits and the physical and chemical characters of the copper ores, and discusses the genesis of the ore deposits. The paper contains a sketch map and cross sections of the ore deposits.

305 — Faulting and accompanying features observed in glacial gravel and sand in southern Michigan.
Describes the character of the strata and the faulting which has taken place in these Glacial deposits.

Reviews the geologic history of the Great Lakes region.

307 Herrick (C. L.). The so-called socorro tripoli.
Describes the occurrence in Newton County, Mo., gives a chemical analysis of the material and discusses its origin.

308 Hershey (Oscar H.). The Silveria formation (Illinois).
Describes the lithologic character, occurrence, and the fossil flora, gives a section of the formation and discusses the evidence of the age of the formation.

309 — Ancient river deposits of the Spring River valley in Kansas.
Describes the author's observations in southeastern Kansas and discusses the geologic history of the region.

310 — Early Pleistocene deposits of northern Illinois.
Describes Glacial deposits in the valley of Yellow Creek and discusses their evidence as to the early Pleistocene history of the region.
311 **Hershey** (Oscar H.). Pre-Glacial erosion cycles in northwestern Illinois.
Am. Geol., vol. xviii, pp. 72-100, 1896.
Describes the several peneplains of the region, correlates them with others in different parts of the United States and discusses the origin of drainage lines.

312 **Hilgard** (E. W.). The geologic efficacy of alkali carbonate solution.
Describes its occurrence and efficacy as a geologic agent.

313 **Hill** (Robert T.). Notes on the geology of Cuba.
Describes the occurrence of pre-Tertiary metamorphic, igneous, and sedimentary rocks, the geologic history of the island as indicated by its topography, and the orogenic movements to which it has been subjected.

314 — A question of classification.
Discusses the correlation of the so-called Jurassic of the Atlantic Coast with the Wealden of Europe, and of the relative importance of the evidence presented by Prof. Marsh, of the Jurassic age of the Potomac formation.

315 — Fundamental geographic relations of the three Americas.
Describes orographic features of the regions.

316 **Hill** (Walter Hovey). The Little Giant mine at Warren, Idaho.
Gives a brief description of the gold veins of this vicinity.

317 **Hillebrand** (W. F.). Remarkable phosphorescence of wollastonite.
Brief note on the phosphorescence of wollastonite.

318 **Hills** (R. C.). Ore deposits of Camp Floyd district, Tooele County, Utah.
Read before the Colorado Scientific Society, in Denver, Colo., Aug. 6, 1894, 12 pp.
Describes the geologic features of the region and the mode of occurrence and character of the gold ores, and discusses their origin.

319 — The Costilla meteorite [New Mexico].
Read before the Colorado Scientific Society, in Denver, Colo., Jan. 7, 1895, 2 pp., 1 pi.
Describes the characteristics of the meteorite and gives chemical analyses of the material.

320 — [Geology of Cripple Creek district, Colorado.]
In discussion of paper by Whitman Cross on the same subject. See No. 150.

Correlates the divisions of the Ice Age by James Geikie with those of North America and describes the glacial phenomena of the Champlain epoch.
   Discusses the succession of the argillites, the characters of the horn
   blende schist and gneiss, and the correlation of certain beds.

323 The geology of New Hampshire.
   Reviews the work of the geological surveys of New Hampshire and
   gives a list of their publications. Discusses the character of the forma
   tions, the geologic structure, and the general features of the Glacial
   geology of the State.

324 Gotham's cave; or fractured rocks in northern Vermont.
   Describes openings or caves in a mica schist rock.

325 [Review of "Greenland ice fields and life in the North Atlant
   tic, with a discussion of the causes of the ice age," by G.
   Frederick Wright and Warren Upham.]

   Makes a correction of the crystallographic characters of the mineral
   described in a former paper.

327 Hoffman (G. Christian). Report of the section of chemistry and
   mineralogy [Canada Geol. Survey].
   Gives chemical analyses of certain ores, minerals, and rocks.

328 Hollick (Arthur). Contributions of John Strong Newberry to
   fossil botany.
   Gives a historical account of Prof. Newberry’s work in paleobotany,
   and a list of his publications relating to fossil plants.

329 Geological notes, Long Island and Nantucket [New York and
   Massachusetts].
   Describes the occurrence of marine Cretaceous and Yellow Gravel on
   Long Island and the character and fauna of post-Pliocene beds on Nan
   tucket. Includes notes on glacial phenomena.

330 The geology of Block Island [Rhode Island].
   Discusses Prof. Marsh’s statement as to the Jurassic age of certain
   Block Island and Long Island strata.

331 New species of leguminous pods from the Yellow Gravel at
   Bridgeton, N. J.
   Gives a list of the fossil leguminous pods of certain genera, discusses
   their relations to existing genera, and describes two new species.
Gives a list of the most prominently represented species and correlates the beds of the Amboy clays series. Remarks on the absence of lower Potomac strata.

333 Recent discovery of the occurrence of marine Cretaceous strata on Long Island.
Describes recent observations of the author's on Long Island and discusses their bearing on the extension of the Cretaceous formation.

334 See Newberry (J. S.), No. 519.

335 Holm (Theo.). Remarks upon Paleohillia, a problematic fossil plant.
Reviews Prof. Knowlton's description of this genus.

336 Holman (F. C.). Notes on certain water-worn vein specimens.
Describes an occurrence of water-worn quartz crystals occurring in a gold-bearing quartz vein, and discusses the origin of the attrition and deposition of the material.

337 Holmes (J. A.). Corundum deposits of the southern Appalachian region.
Describes the occurrence and distribution of corundum in the southern Appalachian region.

338 Notes on the kaolin and clay deposits of North Carolina.
Describes the occurrence of kaolin in dikes and of clay deposits containing residual material of dike decomposition. Gives chemical analyses of kaolin and fire clay.

339 Notes on the underground supplies of potable waters in the south Atlantic Piedmont plateau.
Describes the general distribution of underground waters in the region and gives a list of flowing wells in the Piedmont plateau of North and South Carolina.

340 Hoover (Herbert C.). Some notes on "crossings."
Describes the character and origin of certain vein phenomena in gold ore veins of California.

341 Mining geology of Cripple Creek, Colorado.

342 Hopkins (T. C.). The sandstones of western Indiana.
Describes the character and distribution of sandstones of the Carboniferous group in Indiana and gives several chemical analyses.
343 Hopkins (T.C.). The Carboniferous sandstones of western Indiana.  
Describes the varieties and distribution of sandstones, and the geologic history of the Indiana sandstones, including local details of the different quarries. Gives tables of statistics, analyses, two colored geologic maps of portions of western Indiana and a bibliography.

344 The sandstones of western Indiana.  
Describes sandstones of the Carboniferous formation and gives a chemical analysis.

345 Hoskins (Leander Miller). Flow and fracture of rocks as related to structure.  
Discusses the conditions of flow and structure, strain and stress, and their application to rock structure.

346 Hovey (Horace C.). The making of Mammoth Cave [Kentucky].  
Discusses the formation of the Mammoth Cave in Kentucky.

347 The colossal cavern of Kentucky.  
Describes a recently discovered cave in Kentucky.

348 Geological notes on the Isles of Shoals [New Hampshire].  
Gives a brief description of the island and of the occurrence of granite.

349 Hubbard (Lucius L.). The origin of salt, gypsum, and petroleum.  
Gives a brief description of the origin of these products.

Describes the relations of Mesozoic faunas of different localities.

351 Terminology proposed for description of the shell in Pelecypoda.  
Describes briefly the characteristics of some shells and gives the author's proposed terminology.

352 Iddings (Joseph P.). Igneous rocks [Yellowstone National Park].  
Describes the characters and distribution of the extrusive and intrusive rocks.

353 Extrusive and intrusive igneous rocks as products of magmatic differentiation.  
Describes the relations of the eruptive rocks of Electric Peak and Sepulcher Mountain to the whole series of eruptions occupying Tertiary time, and which spread out over large areas in Montana, Wyoming, and Idaho. Presents a map showing the extent of the volcanic area.
Describes the occurrence of phosphatic material in Juniata County, in the detrital material between the Oriskany sandstone and Lower Hel-derberg limestone.

355 Ingalls (Walter Rentou). The tin deposits of Durango, Mexico.
Prepresents a map of a portion of Mexico showing the location of the tin-ore deposits, describes the general geologic features and the character and distribution of the ore bodies, and discusses their origin.

356 Irving (John Duer). The stratigraphical relations of the Browns Park beds of Utah.
Gives a brief summary of previous work in the Tertiary strata of Utah, reviews certain descriptions of the Browns Park beds, and discusses the evidences as to their geologic age.

357 Jackson (Robert Tracy). Studies of Palæchinoidea.
Describes a number of new species from the sub-Carboniferous of the Mississippi basin. Includes discussion of general results and their bearing and a proposed new classification and a bibliography of Paleozoic Echin.

358 and Jagger (Thomas Agustus, jr.). Studies of Melonites multiporpus.
Describes the spines and the arrangement, development, structure, and variations of the ambulacra and interambulacral plates, and gives tables of plate arrangement.

359 Jagger (Thomas A., jr.), Jackson (R. T.) and. Studies of Melonites multiporpus.
See Jackson (R. T.) and Jagger (T. A., jr.), No. 358.

Continues descriptions of fossils from the Cincinnati group in former papers noticed in Bulletins Nos. 130-135 and 146.

361 —— Prof. Lesley's Final Report.

Am. Geol., vol. xviii, pp. 392-393 (correspondence), 1896.
Refers to certain errors in citations.
363 Johnson (Guy R.). The Embreville estate, Tennessee.
Describes the geology of the region and the occurrence of iron ores.

Discusses Weed and Pirsson's paper on the "Highwood Mountains of Montana."

365 Kain (Samuel W.). Bibliography of scientific publications relating to the Province of New Brunswick other than those contained in the Bulletins of the Society, 1896.

Describes the physiographic and stratigraphic features of the region, the character and distribution of certain rocks of unknown age and of the Cambrian, Silurian, Devonian, and Carboniferous strata, the geologic structure of the region, and the occurrence of coal and building stones. Includes topographic, geologic structure section maps and a sheet of columnar sections.

367 — Morristown folio, Tennessee.
Describes the physiographic and stratigraphic features of the region, the occurrence of Cambrian, Silurian, Devonian and Carboniferous rocks. Discusses the geologic structure and gives an account of the marble and building stone resources. Includes topographic, geologic, and structure section maps and a sheet of columnar sections.

368 — Briceville folio, Tennessee.
Describes the physical features of the Appalachian province, the topographic and stratigraphic features of the quadrangle, the character and distribution of the Cambrian, Silurian, Devonian, and Carboniferous strata, the geologic structure, and the occurrence of coal, marble, iron, clay, and building stones. Includes topographic, geologic, and structure section maps.

369 — Some stages of Appalachian erosion.
Describes the drainage features, surface forms, and variations of level in the southern Appalachians, and the peneplains of the Tennessee basin.

370 Kemp (James Furman). Titaniferous iron ores of the Adirondacks.
Gives a classification and a brief description of the forms and character of the ore bodies.
371 Kemp (James Furman). Illustrations of the dynamic metamorphism of anorthosites and related rocks in the Adirondacks.
Gives a brief description of intrusive gabbros associated with crystalline limestones and gneisses of sedimentary origin.

372 — Lecture notes on rocks.
Discusses the classification of rocks and the chemical and petrographic characters of igneous rocks. Describes the formation and character of sedimentary deposits and the rocks produced by contact and regional metamorphism.

372a — A handbook of rocks for use without the microscope.

373 — The great quartz vein at Lantern Hill, Mystic, Conn., and its decomposition.
Gives a brief statement of the occurrence of the vein and the microscopic character of the material.

374 — The pre-Cambrian topography of the Adirondacks.
Discusses briefly the evidences as to the general features of pre-Cambrian topography.

375 — [Review of "Geologic Survey of New Jersey. Annual report of the State geologist for the year 1894."]

376 — [Origin of ore deposits.]
Discusses briefly the origin of ore deposits in igneous magmas.

377 — An outline of the views held to-day on the origin of ores.
Reviews the published opinions of certain geologists on the origin of ore deposits.

378 Kempton (O. W.). The tin deposits of Durango [Mexico].
In discussion of paper on the same subject by W. R. Ingalls, mentions an occurrence of tin placers at Sain Alto, Zacatecas, Mexico.

Describes preexisting and present glacial phenomena in North America.

Describes the general plan of the organization, the progress of the work, prospective work, and the future operations of the Missouri Geological Survey.
381 **Keyes** (Charles Rollin). General geology of the Missouri crystalline area.

*Mo. Geol. Surv., vol. viii, pp. 84-101, 1895.*

Describes the geographic distribution, physiography, and the general character and geologic structure of the igneous rocks.

382 — Characteristics of the Ozark Mountains.


Describes the topographic and drainage features, the distribution of the Archean, Algonkian, Cambrian, Silurian, Devonian, Carboniferous and Cretaceous crystalline and sedimentary rocks, and the general features of the geologic structure and deformation. Discusses the age of the uplift.

383 — A report on Mine la Motte sheet including portions of Madison, St. Francois and Ste. Genevieve counties [Missouri].


Describes the physiography, the relations, lithologic character and structure of the Archean and Cambrian formations, and the occurrence of lead, iron, copper, manganese, nickel, cobalt, silver, building stone, and clay.

384 — Bibliography of Missouri geology.

*Mo. Geol. Surv., vol. ix, pp. 221-523, 1896.*

Comprises an author's list of titles, a title index and subject and cross references.

385 — The Mine la Motte sheet [Missouri].

*Mo. Geol. Surv., folio No. 4, 1896.*

Gives an abstract of the report and geologic and topographic maps of the region.

386 — Geographic relations of the granites and porphyries in the eastern part of the Ozarks.


Describes the general geology of the region and the lithologic characters of the granites and porphyries. Gives an account of former and recent investigations, discusses the origin, distribution, and age of the crystalline rocks and the physiography and erosion of the region.


*Jour. of Geol., vol. iv, pp. 221-240, 1896.*

388 — [Review of the following papers: “Stratigraphy of Kansas Coal Measures,” by Erasmus Haworth; “Classification of the Upper Paleozoic rocks of central Kansas,” by C. S. Prosser; and “Permian system of Kansas,” by F. W. Craig.]  

*Jour. of Geol., vol. iv, pp. 520-524, 1896.*
BIBLIOGRAPHY AND INDEX OF N. A. GEOLOGY, [BULL. 149.


Jour. of Geol., vol. iv, pp. 733-738, 1896.

391 — The Bethany limestone of western interior coal field.
Discusses the use of the terms Bethany and Erie limestone and gives a list of bibliographic references.

392 — Biographical sketch of Charles Wachsmuth.
Gives a sketch of the life of Wachsmuth and a list of his principal scientific publications.

393 — Thickness of the Paleozoic rocks in the Mississippi basin.
Discusses the evidences of the thickness of the Paleozoic series in Missouri, with special reference to the thickness of the Carboniferous series.

394 — Serial nomenclature of the Carboniferous.
Reviews the history of the nomenclature of the Carboniferous in the Mississippi Valley.

Discusses the value of biotic and of physical methods of correlation and of the practicability of defining stratigraphic succession by the succession of orographic movements.

396 — A gigantic orthoceratite from the American Carboniferous.
Science, new ser., vol. iii, pp. 94-95, 1896.
Describes briefly the occurrence of the Orthoceras group in Paleozoic rocks and the occurrence of O. fauslerensis in the Carboniferous rocks of Iowa.


398 — Note on the nature of cone-in-cone.
Describes specimens found in Iowa which contain a large percentage of lime.

399 — Two remarkable cephalopods from the upper Paleozoic.
Iowa Acad. Sci., Proc., vol. iii, pp. 76-78, fig. 4, 1896.
Describes Nautilus ponderosus and Orthoceras fauslerensis from the Coal Measures of Iowa.

Gives the classification of the Carboniferous beds of the Mississippi Valley and describes their characters and distribution.

401 — **Iowa gypsum.**


Describes the gypsum deposits and discusses the age of the strata.

402 — **Missouri building and ornamental stones.**


Describes the distribution and petrographic characters of granite, syenite, and porphyry suitable for building stones.

403 — **Central Maryland granites.**


See Bibliography and Index for 1895, No. 251.


Describes the character and occurrence of phosphate in this county.


Gives a historical sketch of the whetstone area, describes its topography and geologic features and the character and distribution of the beds. Includes a paper on the "Fossil plants of the Hindostan whetstone beds" by David White.


Reviews the previous work on the upper Devonian of New York, and describes sections in the vicinity of Ithaca, giving lists of fossils collected. Gives a list of fossils occurring in the Portage and Ithaca faunas and a list of important papers consulted, and describes two new species.


Remarks on the occurrence of Silurian fossils in erratics.


Describes the lithologic character and the succession of the Carboniferous rocks of the region.


Describes the character and distribution of the sands of this valley and discusses their origin.
Gives a historical sketch of the work of the U. S. Geological Survey and of the other National and State geological surveys.

Describes the succession of the Carboniferous and Permo-Carboniferous beds of the region.

411 Coal in Atchison County, Kans. 
Describes the occurrence of coal in the bluffs of the Missouri River, near the city of Atchison, and gives its chemical analyses.

412 Knight (F. C.). A suspected new mineral from Cripple Creek [Colorado]. 
Read before the Colorado Scientific Society, in Denver, Colo., Oct. 1, 1894, 6 pp. 
Describes the chemical character of the material.

413 Knight (Wilbur C.). The Salt Creek oil field, Wyoming. 
Describes briefly the Cretaceous strata in which the oil occurs.

414 The geology and technology of the Salt Creek oil field [Wyoming]. 
Describes the character and occurrence of the oil in Cretaceous strata.

415 Knowlton (F. H.). Report on the fossil plants collected in Alaska in 1895, as well as an enumeration of those previously known from the same region, with a table showing their relative distribution. 
Gives a list of fossil plants and localities from which they were collected, and a table showing their distribution.

416 The fossil plants of the Denver Basin [Colorado]. 
Gives a list of fossil plants from the Dakota group and a brief account of the flora of the Dakota, Laramie, and Denver beds.

417 Report on the flora of Independence Hill [California]. 
Gives a list of the fossils collected and discusses their relations with Tertiary faunas of other regions.
Gives a brief account of the geology of the Park, names the fossil plants found in the Tertiary beds, and discusses the relations of the present and Tertiary floras.

Gives a list of species collected in the Glacial beds of this locality.

420 — Description of a supposed new species of fossil wood from Montana.
Describes Pityoxylon pealei n. sp., from Miocene strata of Montana.

421 Kraatz (K. von). Note on the formation of gold ore.
Discusses the various theories as to the origin and deposition of gold-ore bodies.

422 Kümmel (Henry B.). Note on the glaciation of Pocono Knob and Mounts Ararat and Sugar Loaf, Pennsylvania.
Gives the author's recent observations on the glacial geology of the region.

423 Ladd (George T.). Notes on certain undescribed clay occurrence in Missouri.
Describes the occurrence of fireclay in the Paleozoic rocks of Missouri.

424 Lakes (Arthur). Sketch of a portion of the Gunnison gold belt, including the Vulcan and Mammoth Chimney mines [Colorado].
Describes the igneous rocks of the region and the occurrence of gold ores.

425 — Cripple Creek [Colorado].
Describes the occurrence of the gold ores of Cripple Creek, Colorado.

426 — The placers of North America.
Describes the character and distribution of placer deposits in different parts of North America.

427 — The Oquirrh Mountains or the Mercur mining district [Utah].
Describes the geologic features of the region and the occurrence of the gold and silver ores.
Describes the occurrence of the ore bodies and discusses their origin.

429 — Pikes Peak [Colorado].
Describes the character of the Pikes Peak granite and its disintegration.

430 — The Cripple Creek region. Epitome of the U. S. Geological Survey's report on the Cripple Creek mining region [Colorado].
Gives a résumé of this report.

431 — Summit district gold regions. An epitome of a description of the ore deposits of Summit district, Rio Grande County, Colorado, by R. C. Hills.
Describes the occurrence and character of the gold ores.

432 — The San Juan region [Colorado].
Describes the topographic and geologic features of the region.

433 — Victor (Cripple Creek), Colorado.
Colliery Eng., vol. xvii, pp. 210-211, 1896.
Describes the occurrence of gold at this locality.

434 Lambe (Lawrence M.). Description of a supposed new genus of Polyzoa from the Trenton limestone at Ottawa [Ontario].
Describes Astroporites ottawaensis n. sp.

435 Lane (Alfred C.). The geology of Lower Michigan, with reference to deep borings. Edited from notes of C. E. Wright, late State geologist.
Describes the character of the Silurian, Devonian, and Carboniferous formations as shown by a large number of artesian borings. Describes the occurrence of coal, gypsum, natural gas, and petroleum.

436 Langdon (Daniel W.). The Loop Creek, West Virginia, coal field.
Gives a section of the strata and a chemical analysis of the coal.

437 Lawson (Andrew C.). On malignite—a family of basic plutonic orthoclase rocks rich in the alkalies and lime, intrusive in the Coutchiching schists of Poohbah Lake [Ontario].
Univ. of Cal., Dept. of Geol., Bull., vol. ii, pp. 337-362, pl. 18, 1896.
Describes the field relations of the rocks occurring in the Province of Ontario and their petrographic characteristics.
438 Leach (J. C.). Report of the State natural gas supervisor [Indiana].
Describes the occurrence of natural gas in the Trenton limestones and
the general geologic features of the area, including a map of the natural
gas field of Indiana.

439 Leckie (R. G. E.). Notes on the Grand Lake coal field of New
Brunswick.
Describes the geologic features and occurrence and chemical charac­
ters of the coal.

440 Le Conte (Joseph). Elements of geology. A text-book for colleges
and for the general reader.

441 Leonard (A. G.). Lead and zinc deposits of Iowa.
Iowa Geol. Surv., vol. vi, 66 pp., 2 pls., 19 figs., 1896.
Describes the character and occurrence of the various members of the
Cambrian and Silurian series and the mode of occurrence of the lead
and zinc ore bodies, and discusses their origin.

442 — Lead and zinc deposits of Iowa.
Describes the occurrence of lead and zinc in the Galena limestone.

443 — Lead and zinc. A description of the mines of Iowa in the
Upper Mississippi region.
Describes the geology of the region and the occurrence of the ore
bodies.

444 Lesley (J. P.). Atlas to accompany Report F3 [Pennsylvania].
Contains a geologic map of Stone Mountain fault, geologic and topo­
graphic map of parts of Huntingdon, Mifflin, Center, and Union counties,
and a sheet of cross sections.

445 Leverett (Frank). The water resources of Illinois.
66-74, 1896.
Describes the physiographic and drainage features and the occurrence
and chemical composition of artesian waters. Includes a paper by J. A.
Udden on the Paleozoic rocks at Rock Island, Ill.

446 Lewis (J. Volney). Corundum of the Appalachian crystalline belt.
Reviews the literature on corundum, describes the character of the
peridotites and pyroxenites, amphibolites and secondary rocks of the
corundum region, and the character, mode of occurrence, and distribu­
tion of corundum. Includes a bibliography of the subject and a map
showing the location of the corundum deposits.
447 Lindgren (Waldemar). Nevada City special folio, California.
U. S. Geol. Surv., Geol. Atlas of U. S., folio No. 29, 1896; Abstract:
Describes the physiographic and general geologic features of the
quadrangle, the character and distribution of the Paleozoic, Neocene
and Pleistocene strata, and of the igneous rocks, and the occurrence of
auriferous gravels and gold quartz veins. Includes topographic, geo-
logical, and structure section maps.

448 — Pyramid Peak folio, California.
Includes a description of the geology of the gold belt of California.
Describes the topography, the character and distribution of the Carbon-
iferous and Jurassiac, Neocene, and Pleistocene formations and of the
igneous rocks and the occurrence of auriferous gravels. Includes
topographic, geologic, and structure section maps.

449 — The gold quartz veins of Nevada City and Grass Valley
districts, California.
Describes the character and distribution of the igneous and sediimen-
tary rocks and of the ore bodies. Discusses the origin of the ores and
of the vein systems, and includes detailed descriptions of mines.

449 — Age of the auriferous gravels of the Sierra Nevada. With a
report on the flora of Independence Hill [California].
Reviews the paleobotanical evidence of the age of the beds and dis-
cusses the post-Jurassic history of the Sierra Nevada and the correla-
tion of these beds with those of the Coast ranges.

450 — The gold quartz veins of California.
Am. Geol., vol. xvii, pp. 338-339 (correspondence), 1896.
Refers to an article by H. W. Fairbanks on “The mineral deposits of
eastern California,” and to certain criticisms on the author's former
paper on the gold quartz veins of California.

451 Loblery (J. Logan). The foldings of the rocks.
Describes the foldings of rocks in North America and in other parts of
the world.

452 Loring (Frank C.). Mineral resources of British Columbia.
Gives a brief note on the occurrence and extent of the Trail Creek ore
bodies.

453 Lucas (A. P.). The Avery Island salt mine and the Joseph Jefferr-
son salt deposit, Louisiana.
Describes the occurrence of salt and the system of mining.

454 Luquer (Lea McL.). The mineral of the pegmatite veins at Bed-
ford, N. Y.
Contains brief notes on the minerals occurring in these veins.
455 Luquer (Lea Mcl.). Optical mineralogy.
School of Mines Quart., vol. xvii, pp. 435-469, 29 figs., 1896.
Gives a brief sketch of elementary optics for optical mineralogy and describes the use of the petrographic microscope and the manner of studying the microscopic and optical characters of minerals.

456 — and Ries (Heinrich). The "augen"-gneiss area, pegmatite veins and diorite rocks at Bedford, N. Y.
Am. Geol., vol. xviii, pp. 239-258, pls. viii-ix, figs. 3-4, 1896.
Describes the characters of the pegmatite veins and diorite dike rocks, and the petrographic characters of the augen-gneiss, schists, and diorites.
Reviews the literature on the origin of augen-gneiss.

457 Lyman (Benjamin Smith). Note on the trap rock of the Palisades.
Brief note on the intrusive character of the trap of the Palisades.

458 — Folds and faults in Pennsylvania anthracite beds.
Gives a brief discussion of the folds and faults of the Appalachian region of Pennsylvania, illustrated by 177 cross sections made by the Pennsylvania Geological Survey.

459 McCalley (Henry). On the Tennessee Valley region [Alabama].
Describes the physiography of the region, the general features of the Silurian, Devonian, Carboniferous, Cretaceous, and Tertiary strata, and the occurrence of coal, iron, asphaltum, petroleum, natural gas, building stone, abrasive materials, clay, and mineral waters, and gives local geologic details by counties.

460 — The limonites of Alabama geologically considered.
Describes the occurrence of the limonite deposits of Alabama.

461 McCarn (H. L.). Pine Creek district, Colorado.
Describes the general geology of the region and the occurrence and character of the gold ores.

Describes the physiography of the region and includes notes on the occurrence of Archean, Cambrian, Carboniferous, Juratris, Tertiary rocks, and Glacial deposits.

463 — Glacial deposits of southwestern Alberta in the vicinity of the Rocky Mountains.
See Dawson (G. M.), No. 175.
Macfarlane (Graham). The eastern coal regions of Kentucky.
Gives a section showing the vertical distribution of the coal seams
and describes the general features of the Coal Measures of the region.

McGee (W. J.). Expedition to Seriland [Mexico].
Describes briefly the general geographic and geologic features of the
region.

Two erosion epochs. Another suggestion.
Discusses the evidences of the age of the deposition and degradation
of the Potomac and Lafayette formations.

MacKay (A. H.). A foraminiferous deposit from the bottom of
the North Atlantic.
Describes the character of the material and names the species deter­
mined.

Marbut (Curtis Fletcher). Dictionary of altitudes [Missouri].
Gives the altitudes of localities in various parts of the State and
along the several railway lines.

Physical features of Missouri.
Describes the hydrographic and physiographic features of Missouri
and discusses the age of the peneplain.

Woodworth (J. B.) and. The Queen's River moraine in
Rhode Island.
See Woodworth (J. B.) and Marbut (C. F.), No. 778.

Shaler (N. S.), Woodworth (J. B.), and. The glacial brick
clays of Rhode Island and southeastern Massachusetts.
See Shaler (N. S.), Woodworth (J. B.), and Marbut (C. F.), No. 612.

Marcou (Jules). The Jura of Texas.
Reviews the literature on the subject and discusses the paleontologic
evidence as to the age of certain areas in Texas.

The Jura in the United States.
Discusses briefly the age of the Potomac formation.

Margetie (Emmanuel de). Catalogue des Bibliographies géolo­

Marsh (Othniel C.). On the Pithecanthropus erectus from the
Tertiary of Java.
Abstract: Am. Jour. Sci., 4th ser., vol. i, pp. 475-482, pl. xiii, figs. 1-6,
1896.
476 Marsh (Othniel C.). A new belodont reptile (Stegomus) from the Connecticut River sandstone.


Describes and figures a new species of Belodontia from the Connecticut River sandstone at New Haven, Conn., and discusses its relations to other reptilian forms of this horizon.

476 — The geology of Block Island [Rhode Island].


Compares the clay beds of Block Island with those of the Potomac formation of Maryland and the Raritan clays of New Jersey. Discusses the origin of the clays, considers the clays of Marthas Vineyard are Jurassic and resemble the Block Island clays. In the second paper reviews the literature of the subject.

478 — Amphibian footprints from the Devonian.


Describes a footprint from upper Devonian strata of Pennsylvania.

479 — The Jurassic formation on the Atlantic Coast.


Describes the Baptanodon and Atlantosaurus beds of the West, and gives a general section showing the lithologic character and the horizons of vertebrate fossils of the Cenozoic and Mesozoic series. Describes the Placocellus beds and the Potomac formation. Discusses the relative importance of fossils, the age of the Wealden and the Laramie, and the position and character of the Jurassic, and reviews the work of early investigators.

480 — The dinosaurs of North America.


Describes the characters of the Jurassic and Triassic dinosaurs and discusses their affinities and classification.

481 — Vertebrate fossils [Denver Basin, Colorado].


Gives a brief account of the succession and distribution of the Jurassic, Cretaceous, and Tertiary beds, and the description of the vertebrata collected.

482 — The Jurassic formation on the Atlantic coast.


Gives a table of the geologic horizons of vertebrate fossils of the Mesozoic and Cenozoic eras and discusses the evidences of the Jurassic age of the Potomac beds.

483 — Restoration of some European dinosaurs, with suggestions as to their place among the Reptilia.

Abstract: Geol. Mag., dec. 4, vol. iii, pp. 1-9, pls. i-iv, 1896.

Noticed in Bibliography and Index for 1895.

484 — Classification of dinosaurs.


Noticed in Bibliography and Index for 1895.
485 **Mathews** (Edward B.). Notes on some flattened garnets from North Carolina.
   Describes the crystallographic characters of the material.

486 **Matthew** (G. F.). Notes on Cambrian fauna, the genus Microdiscus.
   Discusses the relations of the species of Microdiscus and describes M. schucherti n. sp.

487 --- Traces of the Ordovician fauna on the Atlantic coast.
   Describes a number of new species from Newfoundland and Cape Breton Island.

488 --- Organic remains of the Little River group. No. IV.
   Describes new genera and species from Cambrian rocks of New Brunswick.

489 --- On the occurrence of cirripedes in the Cambrian rocks of North America.
   Describes the occurrence of plates for which the name Cerripodites is proposed.

490 --- Faunas of the Paradoxides beds in eastern North America No. 1.
   Describes the characters of minute crustaceans and of the genera Agnostus and Microdiscus and their species.

491 --- Some features of the early Cambrian faunas.
   Remarks on the general characters and distribution of Cambrian trilobites, brachiopods, and of the Ostracoda.

492 **Mendenhall** (Walter C.), **Campbell** (Marius R.) and. Geologic section along the New and Kanawha rivers in West Virginia.
   See Campbell (M. R.) and Mendenhall (W. C.), No. 99.

493 **Merriam** (John C.). Sigmogomphius lecontei, a new castoroid rodent from the Pliocene, near Berkeley, Cal.
   Univ. of Cal., Dept. of Geol., Bull., vol. i, pp. 363-370, figs. 1-2, 1896.
   Gives a history of the Castoridae, a description of the fossil remains collected, and a comparison with other castoroid genera, and describes their geologic and geographic distribution.

494 --- Note on two Tertiary faunas from the rocks of the southern coast of Vancouver Island [British Columbia].
   Gives a list of the fossils of the two faunas and discusses their age and relationship.
Describes the general characters and occurrence of building stones in the Cambrian, Silurian, and Devonian strata, and the occurrence of clay, salt, abrasive materials, petroleum. Gives list of the quarries, clay manufacturers, producers of lime and cement, and mineral springs of New York.

Gives a section and list of contained fossils of beds formed of transported material in the island of Nantucket.

Describes two sections, and concludes they are post-Pliocene and are underlaid by Cretaceous sands and clays.

Describes the material from different parts of the United States, and suggests that the material used commercially is usually anthophyllite.

Describes the occurrence of the dike, and gives a mechanical analysis of the disintegrated rock and chemical analyses of fresh and disintegrated diabase. Compares these analyses with those of diabase from Venezuela and granite from the District of Columbia. Discusses the “time limit and extent of disintegration” and “the relative rapidity of rock weathering in high and low latitudes.”

Reviews some of the literature of the subject and describes the agencies that promote rock weathering.

Describes an occurrence of gold embedded in the clear glassy quartz and un fissured feldspars of a granite rock from Mexico.

Describes the occurrence, chemical composition, and optical characters of the meteorite.

503 — The onyx marbles: Their origin, composition, and uses, both ancient and modern. Stone, vol. xii, pp. 116-121, 228-236, 326-330, 425-429, 559-564; vol. xiii, pp. 9-12, 116-120, pls. 5-18, 1896.
See Bibliography and Index for 1895, No. 339.
504 Merrill (J. A.). Fossil sponges of the flint nodules in the Lower Cretaceous of Texas.
Describes the general character of the flint nodules and of the contained organisms, the preservation of the sponge spicules, and the specific characters of the specimens, including some new species.

505 Mezger (C. A.). The monazite districts of North and South Carolina.
Describes the occurrence of monazite in gneiss and mentions the associated minerals. Discusses the characters of argil-gneiss.

506 Miers (Henry A.). Precious stones.
Describes the optical properties of precious stones.

Describes the investigation as to the origin and nature of the Tennessee phosphate deposits, and gives chemical analyses of the Cyclora casts and of the rock in which they occur.

508 Miller (S. A.) and Gurley (William F. E.). Descriptions of new and remarkable fossils from the Paleozoic rocks of the Mississippi Valley.
The fossils described are mainly from the Carboniferous formation.

509 — New species of crinoids from Illinois and other States.
Describes crinoids from the Carboniferous series and two from the Upper Silurian of the Mississippi Valley.

510 — New species of Echinodermata and a new crustacean from the Paleozoic rocks.
The fossils described are mainly from the Burlington group of Missouri, Iowa, and Illinois.

511 — New species of Paleozoic invertebrata from Illinois and other States.
The fossils described are mainly from the Carboniferous of Illinois and Missouri.

512 Miller (W. G.) and Brock (B. W.). Some dikes cutting the Laurentian system, counties of Frontenac, Leeds, and Lanark, Ont.
Describes petrographic characters of basic dike rocks.
513 Mitchell (James A.). The discovery of fossil tracks in the Newark system (Juratrias) of Frederick County, Md.
Describes the distribution of the Juratrias in Maryland and the occurrence of the fossil tracks.

514 Moore (Charles J.) [Geology of Cripple Creek district, Colorado.]
In discussion of paper by Whitman Cross on the same subject. See No. 150.

515 Morris (Charles). Life before fossils.
Discusses the probable occurrence of life prior to the earliest known fossils.

516 Nason (Frank L.). The auriferous gravels of the Upper Columbia River [British Columbia].
Describes the auriferous gravels in this region.

517 — Winslow (Arthur), Haworth (E.), and. A report on the Iron Mountain sheet, including portions of Iron, St. Francois, and Madison counties [Missouri].
See Winslow (A.), Haworth (E.), and Nason (F. L), No. 769.

518 Neill (James W.). Camp Floyd district, Utah.
Describes the geologic features of the region and the occurrence of the gold ores.

Includes a discussion of the botanical characters and geographical distribution of the flora and descriptions of species.

520 Nicol (W.). Anhydrite in Ontario.
Describes mineralogic characters of a specimen and gives its chemical analysis.

Gives a brief description of the character and distribution of monazite.

522 — and Wilkens (H. A. J.). The present condition of gold mining in the southern Appalachian States.
Describes the geographic and geologic distribution of the gold belts and gives an account of the mining industry of the several States, and a description of the mining, milling, and metallurgical methods.
Norton (William Harmon). Variation in the position of the nodes on the axial segments of pygidium of a species of Encrinurus.

Describes Encrinurus punctatus, and gives a table showing the number of axial annulations in 43 specimens from the Niagara strata in Iowa.

Ordonez (Ezequiel). Las rocas eruptivas del Suroeste de la cuenca de Mexico.

Institute geologico de Mexico, Bull. No. 2, 46 pp., 1895.
Describes the general character of the valley of Mexico, the occurrence of the igneous rocks, the character of the volcanoes of Santa Catarina and of the Sierra de la Cruces, with a discussion of their petrographic characters.

Ortmann (Arnold E.). An examination of the arguments by Neumayr for the existence of climatic zones in Jurassic times.

Reviews the paleontologic and geologic evidences considered by Neumayr to indicate the existence of climatic zones in Jurassic time.

On separation, and its bearing on geology and zoogeography.

Discusses the causes of separation or isolation of animals and the evidences of its being a particular factor in the differentiation of species.

Osborn (Henry Fairchild). The cranial evolution of Titanotherium.

Discusses the evolution of the titanotheres of the White River beds and describes a number of species.

Patton (Horace B.). Concretions of chalcedony and opal in obsidian and rhyolite in Colorado.

Read before the Colorado Scientific Society, in Golden, Colo., Nov. 4, 1895, 6 pp., 2 pls.
Describes the occurrence of the concretions and their megascopic and microscopic characters.

Peculiar geological formations at the head waters of the Rio Grande, Colorado.

Read before the Colorado Scientific Society, in Golden, Colo., Nov. 4, 1895, 2 pp., 2 pls.
Describes erosion forms of volcanic conglomerates.
Describes the physiography and geologic history of the region, the
character and distribution of Archean, Algonkian, Cambrian, Devo­
nian, Carboniferous, Jurassic, Cretaceous, Tertiary, Pleistocene, and
igneous rocks. Includes a discussion of the geologic structure, the
economic features, and topographic, geologic, economic, and structure
section maps, and a sheet of columnar sections.

531 Pearce (Richard). The mode of occurrence of gold in the ores of
the Cripple Creek district [Colorado].
Read before the Colorado Scientific Society, in Denver, Colo., Jan. 8,
1894, 8 pp.
Describes the characters of the ores and discusses briefly their origin.

532 — Further notes on Cripple Creek ores [Colorado].
Read before the Colorado Scientific Society, in Denver, Colo., April 5,
1894, 7 pp., 1 pl.
Gives additional results of the author's study of these ores.

533 — Some notes on the occurrence of uraninite in Colorado.
Read before the Colorado Scientific Society, in Denver, Colo., Sept.
9, 1895, 3 pp.

534 — Notes on the occurrence of a rich silver and gold mineral con­
taining tellurium, in the Griffith lode, near Georgetown,
Clear Creek County, Colo.
Read before the Colorado Scientific Society, in Denver, Colo., Oct. 5,
1896, 2 pp.
Describes the characters of the mineral and gives its chemical com­
position.

535 — Notes on the occurrence of tellurium in an oxidized form in
Montana.
Read before the Colorado Scientific Society, in Denver, Colo., Nov. 2,
1896, 2 pp.
Describes the chemical characters of the material.

Describes the geologic occurrence of the brown hematite ores and the
extent of the mining developments.

537 Peckham (S. F.). What is bitumen?
Describes the character of bitumen and allied substances and their
occurrence in various parts of the world.

538 Penfield (S. L.). On pearceite, a sulpharsenite of silver, and on
the crystallization of polybasite.
Discusses the relations of the sulphantimonites and sulpharsenites of
silver. Proposes the name pearceite for the sulpharsenite species, and
describes the chemical composition and crystallization of material from
the Drumlummon mine, Montana. Describes the crystallization of poly­
basite from Colorado, and discusses the relations of pearceite and poly­
basite to each other and to other minerals.
539 Penfield (S. L.) and Forbes (E. H.). Fayalite from Rockport, Mass., and on the optical properties of the chrysolite-fayalite group and of monticellite.
Describes the occurrence and mineralogic and chemical characters of fayalite, hortonolite, and monticellite, and the optical properties of chrysolite.

540 — and Pratt (J. H.). On the occurrence of thaumasite at West Paterson, N. J.
Reviews previous descriptions of this mineral and discusses the chemical and mineralogic characters of material from New Jersey.

541 Penhale (Matthew.). Chrome ore in Quebec.

542 Penhallow (D. P.). Nematophyton crassum.
Describes this species from Upper Silurian strata of New York.

543 Penrose (R. A. F., jr.). The ore deposits of Cripple Creek, Colo.
Read before the Colorado Scientific Society, in Denver, Colo., June 4, 1894, 5 pp.
Describes the occurrence and character of the gold ores.

544 Perrine (Charles D.). Earthquakes in California in 1895.
U. S. Geol. Surv., Bull., No. 147, 22 pp., 1896.
Gives a chronologic record of earthquakes occurring in California in 1895.


546 — Geology of the Mussel-bearing clays of Fish House, N. J.
Describes the lithologic characters and paleontology of the beds and discusses the evidences of their Pleistocene age.

547 Pirsson (Louis V.). On the monchiquites or analcite group of igneous rocks.
Describes the petrographic and chemical characters of monchiquites from Montana.

548 — A needed term in petrography.
Discusses the use of the term anhedron for those "indeterminate forms without crystal planes in which minerals occur, especially in igneous rocks."

549 — Weed (W. H.) and. Geology of Castle Mountain mining district, Montana.
See Weed (W. H.) and Pirsson (L. V.), No. 723.
549a **Pirsson** (Louis V.), **Weed** (W. H.) and. The Bearpaw Mountains, Montana.

See Weed (W. H.) and Pirsson (L. V.), Nos. 724, 725.

549b —— Missourite, a new leucite rock from the Highwood Mountains of Montana.

See Weed (W. H.) and Pirsson (L. V.), No. 726.

549c —— The geology of the Little Rocky Mountains [Montana].

See Weed (W. H.) and Pirsson (L. V.), No. 727.

550 **Porter** (J. A.). The Smuggler-Union mines, Telluride, Colo.


551 —— The Smuggler-Union mines, Telluride, Colo.


552 **Powell** (J. W.). James Dwight Dana.

Science, new ser., vol. iii, pp. 181-185, 1896. Gives a sketch of Professor Dana’s work as a scientific investigator.

553 **Pratt** (J. H.). On northupite, pirssonite, a new mineral, gaylussite and hanksite from Borax Lake, San Bernardino County, Cal.


554 —— **Penfield** (S. L.) and. On the occurrence of thaumasite at West Paterson, N. J.

See Penfield (S. L.) and Pratt (J. H.), No. 540.

555 **Prest** (W. H.). Glacial succession in central Luneuburg, N. S.


556 **Price** (John M., jr.). Rock exposures about Atchison [Kansas].

Kans. Acad. Sci., Trans., vol. xiv, pp. 218-219, 1896. Describes the rock exposures in the vicinity of Atchison, and gives a vertical section showing the thickness and character of the strata.


561 **Pynchon** (W. H. C.). The great falls of the Mohawk at Cohoes, N. Y.

562 **Quille** (Den de). The geological age of gold.
Discusses the age of gold deposits in various parts of the United States.

563 **Ramsay** (George S.). The northeastern bituminous Coal Measures of the Appalachian system.
Describes the character and distribution of the Coal Measure rocks and the occurrence of coal seams in Pennsylvania, West Virginia, and Ohio.

564 **Rand** (Thomas D.). The serpentines of eastern Pennsylvania.
Brief note on the occurrence of serpentine.

Describes the great valley and its geologic evolution, and discusses the theory of isostasy as applied to other regions of elevation and subsidence.

566 —— [Review of “The Neocene stratigraphy of the Santa Cruz Mountains of California,” by George H. Ashley.]

567 **Raymond** (R. W.). [The distinction between schistosity and original bedding in crystalline schists.]
In discussion of paper by H. B. C. Nitze and H. A. J. Wilkins on “The present condition of gold mining in the southern Appalachian States.”

568 —— The monazite districts of North and South Carolina.
Discusses the use of the term augen-gneiss by C. A. Mezger in a paper on the same subject. See No. 505.

569 **Reid** (Harry Fielding.). Glacier Bay and its glaciers [Alaska].
Describes the glacial features of Glacial Bay and its vicinity, Alaska.
570 Reid (Harry Fielding). Notes on glaciers.
Brief remarks on the movements of existing glaciers in western North America.

571 — The mechanics of glaciers. I.
Discusses the flow, stratification, form of surface, and variations of glaciers.

572 — Variations of glaciers.
Discusses methods of observing glacial phenomena.

573 — The flow of glaciers.
Gives a brief summary of conclusions.

574 Rickard (T. A.). Vein walls.
Describes and illustrates the phenomena of vein walls in different mines and discusses the formation of ore bodies.

575 — Enterprise mine, Rico, Colo.
Describes the occurrence of the gold and silver ores and the character and structure of the vein system.

576 — [Geology of the Cripple Creek district of Colorado.]
In discussion of paper by Whitman Cross on the same subject. See No. 150.

577 — The Cripple Creek gold field [Colorado].
Describes the general geologic features of the region and the occurrence of the gold ores.

578 Ries (Heinrich). The limestone quarries of eastern New York, western Vermont, Massachusetts, and Connecticut.
Describes local details of Cambrian and Silurian limestones in the States named and gives a number of chemical analyses.

579 — The monoclinal pyroxenes of New York State.
Presents a bibliography of the subject, describes the crystallographic, optical, and chemical characters of the pyroxenes and discusses the genesis of New York pyroxenes.

580 — Luquer (Lea McI.) and. The "Augen"-gneiss area, pegmatite veins, and diorite rocks at Bedford, N. Y.
See Luquer (Lea McI.) and Ries (H.), No. 456.
Describes and figures the skull of Dinictis paucidens and compares it with other species of Dinictis.

582. Roberts (D. E.). Note on the Cretaceous formations of the eastern shore of Maryland.
Gives lists of fossils found at various localities.

Describes briefly the occurrence of lead and zinc in Wisconsin.

Iron and copper regions.
Describes the character and distribution of the granitic and dioritic rocks, the lithologic character, succession, and structure of the iron ore and Keweenawan groups. Includes descriptions of some of the iron and copper mines.

585. Ruedmann (R.). Note on the discovery of a sessile Conularia—Article I.
Describes material from the Utica shales and discusses the evidence indicating that the Conularia, with their cuneiform appendages and similar bodies attached to Trochonema, belong together.

586 —— Note on the discovery of a sessile Conularia—Article II.
Describes and figures the basal appendage of a Conularia gracilis.

Jour. of Geol., vol. iv, pp. 23-43, pls. i-iii, 1896. 
Describes an occurrence of igneous intrusions in sedimentary rocks, differing in form from either laccolites or volcanic rocks. Gives a detailed description of the several igneous masses.

588 —— On the nature of igneous intrusions.
Jour. of Geol., vol. iv, pp. 177-194, 1896. 
Describes the different forms of igneous intrusions as shown by intruded sheets, laccolites, plutonic plugs, and great dome-shaped uplifts, and discusses their origin.

Describes the occurrence of the phosphate material and the character of the Trenton formation in which it is found, and gives its chemical analysis.
  Describes the occurrence and character of the Miocene, Pensauken, and Jamesburg formations in certain portions of the State. Presents a map showing the distribution of the Pensauken formation in New Jersey.

591 — The Philadelphia brick clays et al.
  Discusses briefly the evidence as to the age of these clays, forming a part of the Columbia formation.

592 — Loess in the Wisconsin drift formation.
  Describes the characters and relations of the loess and drift beds in Wisconsin.

593 — Stratified drift.
  Jour. of Geol., vol. iv, pp. 948-970, 1896.
  Describes the origin and formation of stratified drift deposits and discusses their relations to unstratified drift beds:


595 Salisbury (Rollin D.). Volcanic ash in southwestern Nebraska.
  Describes volcanic ash beds near Ingham and Orleans, Nebr.

  Describes the distribution of the Carboniferous, Cretaceous, and Tertiary formations and crystalline rocks, and gives a list of Pliocene fossils collected by Professor Heilprin.

597 — Sobre la geografia fisica y la Geologia de la peninsula de Yucatan.
  Instituto geologico de Mexico, Bull. No. 2, 57 pp., 1896.
  Describes the character and distribution of the igneous, Cretaceous, Tertiary, and Pleistocene rocks of the regions. Includes a geologic map and cross section.

598 Sardeson (F. W.). The Galena and Maquoketa series.
  Defines the terms Galena and Maquoketa series, and gives tables of synonymy by each division and classification by authors generally.

599 Say (Thomas). A reprint of the paleontological writings of Thomas Say, with an introduction by G. D. Harris.
  Comprises a republication of the following papers: Fossil zoology, two papers; Fossil shells found in a shell mass from Anastasia Island; An account of some of the fossil shells of Maryland; and Crinoidea.
Prepresents a cross section of the mountain and gives the author's notes on the character and succession of the strata found in the several tunnels, of Devonian and Silurian age.

601 — Copper ores in the Permian of Texas.
Describes the stratigraphic and lithologic features of the district and the occurrence and character of the ore bodies.

602 — The oil boom of Tennessee.
Gives two sections of artesian wells in this region.

Gives a historical sketch of the collections of Paleozoic fossils and describes the relations and distribution of certain Devonian and Carboniferous forms. Includes a list of papers treating of Alaska Paleozoic fossils.

604 Schweinitz (E. A. de). A meteorite from Forsyth County, N. C.
Gives a brief description of the occurrence of this meteorite and its chemical composition.

605 Scott (W. B.). A question of priority.
Am. Geol., vol. xvii, p. 58 (correspondence), 1896.
Refers to a previous paper by W. F. Cummins concerning the use of the term "Goodnight beds" and to the association of certain faunas in the Loop Fork beds of Texas and Kansas.

606 — Paleontology as a morphological discipline.
Discusses some of the principles of paleontology and their relations to morphological investigations.

607 Scudder (Samuel H.). A caddis fly from the Leda clays of the vicinity of Ottawa, Canada.
Describes Phryganea ejecta n. sp.

608 Seeley (Henry M.), Brainerd (Ezra) and. The Ohazy of Lake Champlain [New York].
See Brainerd (E.) and Seeley (H. M.), No. 69.

609 Shaler (N. S.). Conditions and effects of the expulsion of gases from the earth.
Discusses the phenomena of expulsion of gases in earthquakes, volcanic eruptions, and in artesian wells.
610 Shaler (N. S.). The share of volcanic dust and pumice in marine deposits.


Discusses the amount and distribution of these materials in marine deposits.

611 — The economic aspect of soil erosion.


Describes the process of erosion.

612 — Woodworth (J. B.), and Marbut (C. F.). The Glacial brick clays of Rhode Island and southeastern Massachusetts.


Describes the origin and character of the clays, their geographical distribution, correlation, and the general features of the clays about Boston.


Describes the character and distribution of the Pleistocene, Tertiary, and Cretaceous beds of the region.

614 Shephard (James H.). The artesian waters of South Dakota.


Gives sections of the wells and chemical analyses of the waters.

615 — The shallow artesian wells of South Dakota.


Describes the occurrence of artesian waters and gives chemical analyses.

616 Sherborn (Charles Davies). An index to the genera and species of the Foraminifera.


Discusses the origin of the loess of the Mississippi Valley.

618 Simonds (Frederic W.). Floating sand: an unusual mode of river transportation.

Am. Geol., vol. xvii, pp. 29-37, 1896.

Describes the phenomena of floating sand on the Llano River in Texas and discusses its cause.

619 — Floating sand: an unusual mode of river transportation.


620 Simpson (Charles T.). Description of four new Triassic Unios from the Staked Plains of Texas.

Describes the occurrence of the ore shoots and their structural features.

Describes the chemical character and composition of the petroleum.

623 **Smith** (Eugene A.). Supplementary notes on the most important varieties of the metamorphic or crystalline rocks of Alabama: Their composition, distribution, structure, and microscopic characters.
Describes the distribution and general characters of the metamorphic or crystalline rocks and the occurrence of gold.

624 — The phosphates and marls of Alabama.
Describes the general relations of the Cretaceous and Tertiary rocks of Alabama and the geographic distribution of phosphates and marls in these beds.

625 — Notes on native sulphur in Texas.
Describes the occurrence of sulphur in the Guadalupe Mountains and discusses the origin of the deposits.

626 **Smith** (Frank Clemes). The occurrence and behavior of tellurium in gold ores, more particularly with reference to the Potsdam ores of the Black Hills, South Dakota.
Gives analyses of the ores, a description of the action of tellurium as a mineralizing agent and of the microscopic characters of the associated rocks.

627 **Smith** (George Otis). The volcanic series of the Fox Islands, Maine.
Describes the petrographic characters of the rocks, including porphyrites and spherulites.

628 **Smith** (James Perrin). Marine fossils from the Coal Measures of Arkansas.
Gives lists of fossils from localities in Arkansas, describes briefly the lithologic characters of the Coal Measures and compares them with Coal Measure formations of other countries and with the Pacific Carboniferous. Discusses the classification and correlation of the Arkansas Coal Measures and gives a correlation table and notes on the marine fossils.
629 Smith (James Perrin). Classification of the marine Trias.


Gives a description of the geographic distribution of the Trias and

table showing the classification of marine Trias sediments. Describes

distribution of the various subdivisions and mentions some of the

characteristic fossils.

630 — Supplementary notes on the metamorphic series of the Shasta

region of California.


Brief remarks on the fauna of these beds.

631 Smock (John C.). See Merrill (F. J. H.), No. 495.

632 Smyth (B. B.). The Topeka coal hole [Kansas].


Gives the section of the hole to a depth of 1,638 feet.

633 — The terminal bowlder belt in Shawnee County [Kansas].

Kans. Acad. Sci., Trans., vol. xiv, pp. 220-226, with map of the

terminal moraine, 1896.

Describes the glacial phenomena of the region and discusses the

causes of the Ice age.

634 Smyth (C. H., jr.). Metamorphism of gabbro in St. Lawrence

County, N. Y.


Describes the occurrence, secondary metamorphism and petrographic

characters of this rock.

635 — Note on recently discovered dikes of alnoite at Manheim,

N. Y.


Describes the occurrence of alnoite and the petrographic characters

of the dike rocks.

636 — The genetic relations of certain minerals of northern New

York.


Describes the occurrence of certain minerals and discusses the evi­
dences of their genesis.

637 — The genesis of the talc deposits of St. Lawrence County, N. Y.

School of Mines Quart., vol. xvii, pp. 333-341, 1896.

Discusses the relations of the gneiss and limestones of the region and

the origin of the talc.

638 — Fibrous talc and soapstone.


Describes the occurrence of talc in the Adirondack region of New York.

Bull. 149——6
639 Smyth (Henry Lloyd). Magnetic observations in geological mapping.
Describes the magnetic rock of the Lower Huronian series in the Upper Peninsula of Michigan, and the instruments and methods of work. Gives the results of tracing magnetic rocks by the disturbances produced in the instruments.

640 — and Finlay (J. Ralph). The geological structure of the western part of the Vermilion range, Minnesota.
Reviews the literature on this region, describes the character, relations, and distribution of the sedimentary and igneous rocks, and discusses the geologic structure, the origin of the conglomerate breccias, and the general features of the ore deposits.

Describes the deformation of the region and the character of the Silurian strata.

642 Spencer (J. W.). Geographical evolution of Cuba.
Describes the topography, hydrography, igneous and metamorphic rocks, and the history of the Cretaceous, Tertiary, and Pleistocene formations. Gives an account of the occurrence of terraces, sea caves, and modern coralline limestones or reefs, and a table showing the geologic succession in Cuba.

643 Geological canals between the Atlantic and Pacific oceans.
Brief statement regarding the occurrence of such phenomena on the Isthmus of Tehuantepec, Mexico.

644 Recent elevation of New England.
Discusses the origin of the terraces of the valleys of New England.

645 Niagara as a timepiece.
Describes the geologic history and erosion of Niagara River.

646 How the Great Lakes were built.
Describes the geologic history of the Great Lakes region.

647 Stanton (Timothy W.). The faunal relations of the Eocene and Upper Cretaceous on the Pacific Coast.
Gives an account of the local features and stratigraphy of the formations and describes some Lower Tejon species.
Describes the distribution, succession, and lithologic character of the Knoxville beds and discusses the relations of their fauna with other faunas and the age of the beds. Includes descriptions of new species.

Gives a columnar section of the Cretaceous strata and lists of fossils collected from the various beds.

650 Stevenson (John J.). Notes on the geology of Indian Territory.
Quotes Winslow's unpublished table of the succession of the Coal Measures in Arkansas, and describes their character and distribution in Indian Territory. Reviews recent work in the region and discusses its geologic structure.

651 The Cerillos coal fields near Santa Fe, N. Mex.
Describes the character of the eruptive rocks and Cretaceous deposits, and the occurrence and chemical composition of the coals. Discusses the cause of the metamorphism of the coal.

652 The Cerillos coal field of New Mexico.
Describes the Laramie rocks in which the coal occurs, the thickness of the coal seams, and discusses the origin of the coal.

653 [Review of "A summary description of the geology of Pennsylvania," by J. P. Lesley.]

654 Stewart (Alban). A geological section at Providence, Mo.
Describes the lithologic character and paleontology of the section, composed of Carboniferous and Devonian strata.

655 Strieby (William). The origin and use of the natural gas at Manitou, Colo.
In discussing the origin of natural gas, describes the geologic structure of the region mentioned.

Describes the physiography of the region and gives a vertical section of the Glacial beds.
657 Taff (Joseph A.) and Brooks (Alfred E.). Buckhannon folio, West Virginia.
Describes the physical features of the Appalachian province, the topography and stratigraphy of the quadrangle, the character and distribution of the Devonian and Carboniferous strata, the geologic structure, and the occurrence of coal and building stones. Includes topographic, geologic, and structure section maps.

658 — Darton (N. H.) and. Piedmont folio, West Virginia, Maryland.
See Darton (N. H.) and Taff (J. A.), No. 166.

659 Tarr (Ralph S.). A query concerning the origin of atolls.
Remarks on the subsidence of Bermuda Islands and discusses the mode of formation of atolls.

660 Taylor (Frank B.). Preliminary notes on studies of the Great Lakes made in 1895.
Am. Geol., vol. xvii, pp. 253-257 (correspondence), 1896.
Describes the author's observations on the glacial phenomena in Michigan and on the north shore of Lake Superior.

661 — The Algonquin and Nipissing beaches.
Am. Geol., vol. xvii, pp. 397-400 (correspondence), 1896.
Discusses the evidences as to the distinctness of these two beaches.

662 — Notes on the Quaternary geology of the Mattawa and Ottawa valleys [Ontario].
Describes the occurrence of old shore lines in the region.

663 Thies (Adolph). Present condition of gold mining in the southern Appalachian States.
In discussion of paper by H. B. C. Nitze and H. A. J. Wilkens on the same subject, remarks on the occurrence of certain clay slates in the Haile mine, S. C., previously called talcose slate.

664 Tight (W. G.). A pre-Glacial tributary to Paint Creek and its relation to the Beech flats of Pike County, Ohio.
Describes the drainage, discusses its origin, and presents a map of the region.

665 Tilton (J. L.). Geology of Warren County [Iowa].
Iowa Geol. Surv., vol. v, pp. 303-359, pls. vii-x, figs. 44-51, 1896.
Describes the physiography of the county, the lithologic character, distribution, and structure of the Glacial and Carboniferous deposits, and the occurrence of coal, water supply, building stones, and clays. Includes a geologic map of the county.
666 **Tilton (J. L.).** The area of slate near Nashua, N. H.


Describes the geologic features of the area and the gradations in the slate, schist, and gneiss. Accompanied by geologic map and cross section.

667 — Notes on the geology of the Boston basin [Massachusetts].


Gives a brief statement regarding the geologic work done in this field and a map of the southwestern part of the Boston basin.

668 **Todd (James Edward).** The moraines of the Missouri conterminous and their attendant deposits.


Describes the moraines in North and South Dakota between the Missouri and James rivers and other glacial phenomena. Includes brief notes on the Fox Hills and Pierre formations of the region.

669 — Formation of the Quaternary deposits [Missouri].


Describes the drift loess and alluvial deposits and gives a summary of the Quaternary history of Missouri.

670 — The Quaternary geology [Higginsville sheet, Missouri].


Describes the topography and the character and distribution of the Pleistocene deposits in the area of the Higginsville sheet, Missouri, accompanied by map showing their distribution.

671 — The Quaternary geology [Bevier sheet, Missouri].


Describes the topography and the character and distribution of the Pleistocene deposits in the area of the Bevier sheet, Missouri.

672 — Log-like concretions and fossils shores.

Am. Geol., vol. xvii, pp. 347-349, pl. xii, 1896.

Describes the occurrence of log-like concretions in the Laramie formation of South Dakota and discusses their origin.

673 — [Review of “The formation of the Quaternary deposits of Missouri,” by J. C. C.]

Jour. of Geol., vol. iv, p. 976 (§ p.), 1896.

674 **Tower (G. W.).** Naval erosion.


Describes the erosion of stream banks produced by a steamer in the Kennebec River, Maine.

675 **Turner (H. W.).** Further contributions to the geology of the Sierra Nevada.


Describes the character and distribution of the igneous and metamorphic rocks, the pre-Cretaceous sedimentaries, and the Cretaceous, Tertiary, and Pleistocene beds in various parts of the Sierra Nevada region. Gives an account of the occurrence of gold and a description of the petrographic and chemical characters of a large number of rock varieties. Discusses the rock classification.
676 Turner (H. W.). Notice of some syenitic rocks from California. 
Discusses the principles of nomenclature of rocks and describes the characters and chemical composition of syenitic rocks from different parts of California.

677 Tyrrell (J. Burr). The genesis of Lake Agassiz. 
Discusses the evidences as to the origin of Lake Agassiz, and describes glacial phenomena of Manitoba.

678 — Is the land around Hudson Bay at present rising?
Discusses the evidence indicating that the land in this region has reached an almost stable condition.

**U.**

679 Udden (J. A.). An account of the Paleozoic rocks explored by deep borings at Rock Island, Ill., and vicinity. 
Describes the stratigraphic features of the Devonian, Silurian, and Cambrian rocks of the region. Includes sections of the well drillings.

680 Upham (Warren). The glacial Lake Agassiz. 
*U. S. Geol. Surv., Mon. xxv*, 658 pp., 38 pls., 35 figs., 1896.
Describes the topography of the lake basin, the character and distribution of the Archean, Silurian, Devonian, and Cretaceous beds underlying the drift, and also of the drift deposits. Discusses the history of Lake Agassiz, the formation of the beaches and deltas, and of changes of the level of the beaches. Gives an account of the artesian wells of the Red River Valley and of the economic features of the region.

681 — Drumlins and marginal moraines of ice sheets. 
Refers to the papers in which drumlins in North America are described. Discusses the formation of drumlins and marginal moraines and the growth and decline of the Pleistocene deposition of drift. Compares the present ice action in Alaska and Greenland.

682 — Pre-Glacial and post-Glacial valleys of the Cuyahoga and Rocky rivers [Ohio]. 
Describes the extent of the pre-Glacial valleys, the post-Glacial erosion, the drift sections, the beach ridges in Cleveland and the temporary readvance of the ice sheet.

683 — Physical conditions of the flow of glaciers. 
*Am. Geol.*, vol. xvii, pp. 16-29, pl. ii, 1896.
Reviews the theories and discusses the cause of veined or ribboned structure in glaciers and of the flow of glacial molecules and grains.
Describes the characters and distribution of sublacustrine till in the northern United States and in Canada.

685 —— Beaches of Lakes Warren and Algonquin.
Am. Geol., vol. xvii, pp. 400-402 (correspondence), 1896.
Discusses a paper by F. B. Taylor on "The Algonquin and Nipissing Beaches."

686 —— Origin and age of the Laurentian lakes and of Niagara Falls.
Am. Geol., vol. xviii, pp. 169-177, fig. 1, 1896.
Describes the pre-Glacial condition and the Glacial lakes of the St. Lawrence basin, and discusses the evidences as to the outlets of Lakes Huron, Michigan, and Superior, and the duration of Niagara Falls and the post-Glacial period.

687 —— View of the Ice Age as two epochs. The Glacial and Champlain.
Noticed in Bibliography and Index for 1895. No. 494.

688 —— Causes, stages, and time of the Ice Age.
Discusses glacial phenomena and presents maps of the glaciated areas of North America and Europe.

V.

689 Van Diest (E. C. and P. H.). Notes on the geology of the western slope of the Sangre de Cristo range in Costillo County, Colo.
Read before the Colorado Scientific Society, in Denver, Colo., November 5, 1894, 5 pp.
Describes the Cambrian and Silurian strata and the occurrence of gold and silver ores.

690 Van Diest (P. H.). See Van Diest (E. C. and P. H.), No. 689.

Discusses the phenomena of deformation, cleavage and fissility, joints, faults, autoclastic rocks, metamorphism of sedimentary and igneous rocks, and stratigraphic features. Describes the succession and correlation of the Archean and Algonkian rocks in different parts of North America.

692 —— Summary of current pre-Cambrian North American literature.
693 Van Hise (Charles Richard). The relations of primary and secondary structures in rocks.

694 — A central Wisconsin base level.
Describes the general features of the base level and discusses its age.

695 — A northern Michigan base level.
Describes a base-leveled region in northern Michigan.

Describes the occurrence of petroleum at various localities in the State.

697 Van Ingen (Gilbert) and White (Theodore G.). An account of the summer's work in geology on Lake Champlain.
Describes the character of Ordovician strata near Lake Champlain in New York and Vermont.

698 Vaughan (T. Wayland). A brief contribution to the geology and paleontology of northwestern Louisiana.
Describes the character and distribution of the Cretaceous, Tertiary, and Pleistocene deposits and of the Sparta sands, a new formation name for deposits of undetermined age. Also proposes the name Cockfield Ferry beds. Gives lists of fossils at various localities and a bibliography of Louisiana paleontology. Describes a number of new species from the Tertiary beds.

699 — Coelenterata from the Eocene deposits of Delaware, Maryland, and Virginia.
Describes four species from these beds.

700 — Coelenterata [Eocene fauna of the Middle Atlantic slope].
Describes two new species.

701 — [Review of the "Fossil sponges of the flint nodules in the Lower Cretaceous of Texas," by J. A. Merrill.]
Jour. of Geol., vol. iv, pp. 112-116, 1896.

702 — Stanton (T. W.) and. Section of the Cretaceous at El Paso, Tex.
See Stanton (T. W.) and Vaughan (T. W.), No. 649.

703 Vogdes (Anthony W.). A bibliography relating to the geology, paleontology, and mineral resources of California.

Discusses the origin and mode of formation of eruptive ore bodies.


90 BIBLIOGRAPHY AND INDEX OF N. A. GEOLOGY, [BULL. 140.}


716 Washington (Henry S.). The magmatic alteration of hornblende and biotite. Jour. of Geol., vol. iv, pp. 257-282, 1896. Reviews the theories concerning the alteration of hornblende and biotite as due to the resorptivo action of a magma, describes the conditions under which the phenomena takes place, and discusses the author's proposed hypothesis and the origin of some augite andesites.


719 — The Fort Union formation. Am. Geol., vol. xviii, pp. 201-211, 1896. Reviews the early descriptions of the Fort Union group, and of the Laramie and the Livingston beds, gives two sections of Fort Union strata in Montana, and discusses the differences of the physical and faunal characters of the Laramie and Fort Union beds, and the evidences indicating that the Fort Union, as originally described, includes strata of distinct and separate formations.


722 — Notes on the geology of the Neihart mining district, Montana. Mining, vol. i, pp. 25-29, 1896. Describes the geologic structure of the region, the character of the igneous rocks, and the occurrence of the precious metals.

723 — and Pirsson (Louis V.). Geology of the Castle Mountain mining district, Montana. U. S. Geol. Surv., Bull. No. 139, 164 pp., 17 pls., 1896. Describes the geologic structure, the lithicologic character of the Algonkian, Cambrian, Silurian, Devonian, Carboniferous, Juratrias, Cretaceous, and Miocene rocks and the petrographic characters of the igneous rocks. Includes notes on the glacial geology, on the occurrence of the precious metals and copper, and on the minerals collected.
724 Weed (Walter Harvey) and Pirsson (Louis V.). The Bearpaw Mountains, Montana. [Part I.]


Describes the topography and geology of the region and the character and distribution of the extrusive and intrusive rocks. Describes the petrographic character, and chemical composition of the several rock types of an intrusive igneous mass, differentiated in place, including quartz syenite, yogoite, shonkinite, augite-syenite, trachyte, nepheline basalt, and leucitite. Compares the differentiation at this locality with that at Yogo Peak, Montana.

725 — Bearpaw Mountains of Montana. [Part II.]


Describes the occurrence of the tinguaitte dikes and the petrographic and chemical characters of the rocks.

726 — Missourite, a new leucite rock from the Highwood Mountains of Montana.


Describes the geologic occurrence, megascopic and microscopic characters and chemical analyses of the new rock type, Missourite.

727 — Geology of the Little Rocky Mountains [Montana].

Jour. of Geol., vol. iv, pp. 399-428, figs. 1-3, 1896.

Describes the physiography of the region, the geologic structure and the lithologic character and distribution of the Cambrian, Siluro-Devonian, Jurassic, and Cretaceous rocks, and mentions the fossils collected. Describes the occurrence and petrographic character of the igneous rocks, including granite, porphyry, and phonolite. Gives a brief account of the occurrence of the gold and silver ores.

728 Weeks (Fred Boughton). Bibliography and Index of North American geology, paleontology, petrology, and mineralogy for 1892 and 1893.


Contains an authors' list of titles of papers and a subject index.

729 — Bibliography and Index of North American geology, paleontology, petrology, and mineralogy for the year 1894.


730 — Bibliography and Index of North American geology, paleontology, petrology, and mineralogy for the year 1895.


731 Weller (Stuart). [Review of the "Thirteenth Annual report of the State Geologist (New York) for the year 1893," by James Hall.]


732 — [Review of "Neocene Mollusca of Texas, or fossils from the deep well at Galveston," by G. D. Harris.]

Jour. of Geol., vol. iv, p. 126 (12 l.), 1896.
733 Weller (Stuart). [Review of "Geological biology, an introduction to the geological history of organisms," by H. S. Williams.]
Jour. of Geol., vol iv, pp. 355-360, 1896.

Jour. of Geol., vol. iv, pp. 360-361, 1896.

735 and Davidson (A. D.). Petalocrinus murabilis n. sp. and a new American fauna.
Describes new species from the Niagara of Iowa, which are closely related to Goniophyllum and Crotalocrinus of the Gotland limestone of Sweden and Wenlock limestone of England.

736 Wells (G. M.). The Florida rock-phosphate deposits.
Presents two maps of Florida showing the location of the phosphate districts and describes the character and extent of the rock-phosphate beds.

737 Westgate (Lewis G.). The geology of the northern part of Jenny Jump Mountain, in Warren County, N. J.
Describes the occurrence and petrographic characters of the gneisses, pegmatites, epidote rock, amphibolites, and diabase. Discusses the distribution and petrographic characters of the crystalline limestones and discusses its age. Presents a geologic map of the region.

738 Weston (T. C.). Notes on concretions found in Canadian rocks.
Describes the characters of concretions from various geologic horizons in British Columbia.

739 — Notes on the geology of Newfoundland.
Describes the general features of the Archean, Algonkian, Cambrian, Silurian, Devonian, and Carboniferous rocks of Newfoundland.

740 Wheeler (H. A.). Clays and shales [Bevier sheet, Missouri].
Describes the economic features of the shales and clays occurring in the area of the Bevier sheet [Missouri].

741 White (Charles A.). Biographical sketch of Fielding Bradford Meek.
Am. Geol., vol. xviii, pp. 337-350, pl. xii, 1896.
Gives a sketch of the life and work of F. B. Meek and a catalogue of his published writings, arranged chronologically.

742 White (David). Fossil plants of the Hindostan whetstone beds [Indiana].
Gives a list of the fossils collected and discusses the correlation of the beds with others of the Carboniferous series.
743 White (I. C.). Origin of the high terrace deposits of the Monongahela River.
Describes the glacial phenomena along the river in Pennsylvania and West Virginia, and gives a chemical analysis of clay occurring at West Morgantown, W. Va.

744 White (Theodore G.). The original Trenton rocks [New York].
Describes the section at Trenton Falls, N. Y., and mentions the fossils found in different portions of the section.

745 —— The faunas of the upper Ordovician strata at Trenton Falls, N. Y.
Reviews the history of the term Trenton limestone and the original descriptions of the type section. Describes the stratigraphy and gives faunal lists of different localities, with remarks on the physical features. Presents a list of fossils for which Trenton Falls is the type locality and a table of faunas of the various zones.

746 —— Van Ingen (Gilbert) and. An account of the summer's work in geology on Lake Champlain.
See Van Ingen (G.) and White (T. G.), No. 696.

747 Whiteaves (J. F.). Notes on some of the Cretaceous fossils collected during Captain Palliser's explorations in British North America in 1857-60.
Gives brief notes on the fossils collected, with references to the literature, and figures a specimen of Inoceramus, species uncertain.

748 —— On some fossils from the Nanaimo group of the Vancouver Cretaceous.
Comprises a revision of the nomenclature of certain fossils of this group and description of new species.

749 —— Notes on some fossils from the Cretaceous rocks of British Columbia, with descriptions of two species that appear to be new.
Describes Aniscoceras vanconcereense, Heteroceras hornbyense, and H. perversum.

750 —— Description of eight new species of fossils from the (Galena) Trenton limestones of Lake Winnipeg and the Red River Valley.
Describes new species from the Ordovician rocks of Manitoba.
94 BIBLIOGRAPHY AND INDEX OF N. A. GEOLOGY, BULL. 149.

751 Whiteaves (J. F.). Canadian stromatoporoids.
    Refers to the literature of each of the species of stromatoporoids described from Canada.

752 Whitfield (Robert P.). Republication of descriptions of fossils from the Hall collection in the American Museum of Natural History, from the report of Progress for 1861 of the Geological Survey of Wisconsin, by James Hall, with illustrations from the original type specimens, not heretofore figured.
    The fossils described are mainly from the Trenton group of Wisconsin.

753 — Description of a new genus of fossil brachiopod from the Lower Helderberg limestones.
    Describes Lissopleura, n. gen.

754 — Notice and description of new species and a new genus of Phyllocaridae.
    Describes a new genus and three new species from the Lower Helderberg of Wisconsin.

    Describes the occurrence and characters of the fossil and gives a section of the strata in which the remains were found.

756 Wilkens (H. A. J.), Nitze (H. B. C.) and. The present condition of gold mining in the southern Appalachian States.
    See Nitze (H. B. C.) and Wilkens (H. A. J.), No. 522.

757 Williams (Edward H., jr.). The mammoth bed at Morea, Pa.
    Gives a section of the Coal Measures at this locality with remarks on the Glacial phenomena.

758 Williams (Henry Shaler). On the origin of the Choteau fauna.
    This paper is mainly a review of a paper by S. Weller on "A circum-insular Paleozoic fauna, with remarks on the modification of faunas due to a sinking of the land."

759 Willis (Bailey). The geology of the Cascade Mountains.
    Describes the history of the Cretaceous period in Washington and the Glacial phenomena of the region.

760 Williston (S. W.). On the skull of Ornithostoma.
    Describes characters of a skull recently found in western Kansas.
   Describes peculiar Glacial phenomena of the region and discusses their origin.

762 — Subdivisions of the Upper Silurian in northeastern Iowa.

763 Winchell (N. H.). Microscopic characters of the Fisher meteorite (Minnesota No. 1).
   Describes the microscopic characters of the material.

764 — The Black River limestone at Lake Nipissing.
   Gives a list of fossils collected from the limestone and describes its characteristics.

765 — The Arlington iron—Minnesota, No. 2.
   Describes the occurrence of the meteoric iron and gives a chemical analysis.

766 — and Grant (U. S.). Volcanic ash from the north shore of Lake Superior.
   Describes the occurrence and megascopic characters of the rock from Keweenawan strata in Minnesota.

767 Winslow (Arthur). The disseminated lead ores of southeastern Missouri.
   Describes the stratigraphic and lithologic features of the Archean and Ordovician strata, the geologic structure and the distribution and character of the ore bodies, with notes on the mines. Accompanied by a geologic map.

768 — A report on the Higginsville sheet, Lafayette County [Missouri].
   Describes the physiography of the region, the distribution and characters of the Carboniferous and Quaternary formations, and the occurrence and character of the coal seams.

769 — The Bevier sheet, including portions of Macon, Randolph, and Chariton counties [Missouri].
   Mo. Geol. Surv., sheet No. 2, 1893.
   Includes an abstract of accompanying report on the geology, a geologic and topographic map, and a sheet of columnar and structure sections.

770 — The Iron Mountain sheet, including portions of Iron, St. Francois, and Madison counties [Missouri].
   Mo. Geol Surv., sheet No. 3, 1894.
   Gives an abstract of accompanying report on the geology, a geologic map of the region, and a sheet of structure and columnar sections.
771 **Winslow** (Arthur), **Haworth** (Erasmus), and **Nason** (Frank L.). A report on the Iron Mountain sheet, including portions of Iron, St. Francois, and Madison counties [Missouri].
Describes the physiography of the area, the character of the Archean, Algonkian, and Paleozoic rocks and their structural relations, and the economic geology of the iron deposits and building stones.

772 **Wolff** (J. E.). On an occurrence of theralite in Costa Rica, Central America.
Describes the occurrence and petrographic characters of this rock variety.

773 **Woodhouse** (C. C., jr.). Coal fields of Washington.
Describes the extent and character of the coal fields and the geologic structure of the region.

774 **Woodward** (Henry). On some podophthalmatous crustacea from the Cretaceous formation of Vancouver and Queen Charlotte islands [British Columbia].
Gives lists of fossils described by various writers from the Cretaceous rocks of the region and describes four new species.

775 **Woodworth** (J. B.). The retreat of the ice sheet in the Narragansett Bay region.
Describes the different stages of the retreat of the ice sheet and discusses the evidences as to the time interval between these stages. Accompanied by geologic map.

776 — The ice sheet in Glacial Narragansett Bay.
Gives additional data as to the Glacial phenomena of the region.

777 — On the fracture system of joints, with remarks on certain great fractures.
Discusses the phenomena of joints as exhibited in the "Cambridge slates" of Massachusetts and gives a list of papers on the subject of joints.

778 — and **Marbut** (C. F.). The Queens River moraine in Rhode Island.
Jour. of Geol., vol. iv, pp. 691–703, figs. 1–7, 1896.
Describes the character and extent of this moraine in Rhode Island.

779 — **Shaler** (N. S.), and **Marbut** (C. F.). The Glacial brick clays of Rhode Island and southeastern Massachusetts.
See Shaler (N. S.), Woodworth (J. B.), and Marbut (C. F.), No. 612.
Woolman (Lewis). Report on artesian wells [New Jersey].
Gives the sections of a number of artesian wells penetrating Cretaceous and Tertiary strata.

Wortman (J. L.) Species of Hyracotherium and allied perissodactyls from the Wahsatch and Wind River beds of North America.
Describes perissodactyls from the horizons named in Wyoming and New Mexico.

Psittacotherium, a member of a new and primitive suborder of the Edentata.
Describes an anterior limb of Psittacotherium multifragrum Cope from New Mexico and discusses the relationships of this genus.

The North American origin of the edentates.
Discusses the origin and affinities of the edentates.

Wright (Fred B.). The origin of the wind gap, Pennsylvania.
Am. Geol., vol. xviii, pp. 120-123, 1896.
Describes the topography and drainage of the region.

Wright (G. Frederick). The age of the second terrace on the Ohio at Brilliant, near Steubenville [Ohio].
Discusses the age of certain Glacial deposits.

The age of the Philadelphia brick clay [Pennsylvania].
Reviews the evidence as to the age of these beds.

Y.

Youtz (L. A.). Clays of the Indianola brick, tile, and pottery works [Iowa].
Describes the physical and chemical characters of the clays at this locality.

Z.

Zittel (Karl von). Paleontology and the biogenetic law.
Discusses the relations of paleontology and biology.

Bull. 149—7
ADDENDA TO BIBLIOGRAPHIES FOR PREVIOUS YEARS.

The papers in the foregoing bibliography which have the following numbers were printed in 1894 and 1895, or bear one of these dates. A few were overlooked in compiling the literature of those years (Bulletins Nos. 135 and 146), but the greater portion were not received in time to be incorporated therein:

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- ottayanus n. sp., Stanton, No. 648
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**Astropecten**
- laeviusculus (Conrad), Gane, No. 235
- ottayanus n. sp., Stanton, No. 648
- laeviusculus var. diegensis n. var., Kindley, No. 406

**Astropecten**
- laeviusculus (Conrad), Gane, No. 235
- ottayanus n. sp., Stanton, No. 648
- laeviusculus var. diegensis n. var., Kindley, No. 406

**Astropecten**
- laeviusculus (Conrad), Gane, No. 235
- ottayanus n. sp., Stanton, No. 648
- laeviusculus var. diegensis n. var., Kindley, No. 406
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C. Cylicarinia rotundatus, Whitefield, No. 752.

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C. Cythera concentrica, Say, No. 599.

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(?) sp., Matthew, No. 688.

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(?) sp., Matthew, No. 688.

Eurypterus
(?) sp., Matthew, No. 688.

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(?) sp., Matthew, No. 688.
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- Dispar (?) Gabb, Whitfield, No. 748.

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- marcouana n. sp., Cragin, No. 142.

Neuropteris
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- polygona Eeuss, Bagg, No. 21.

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- gubbi n. sp., Stanton, No. 648.
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californicua Gabb?, Stanton, No. 648.
choctavensis n. sp., Aldrich, No. 11.
clarkeanus n. sp., Aldrich, No. 11.
complexicosta Gabb, Stanton, No. 648.
inconspicuus n. sp., Cragin, No. 142.

j effersonianus, Say, No. 599.
johnsoni n. sp., Clark, Nos. 118, 122.

madisonius, Say, No. 599.
rogeri n. sp., Clark, No. 118, 122.
septenarius, Say, No. 599.
sp., Clark, No. 118.
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Pectunculus, Harris, No. 279.
lesquereuxii Knowlton, Newberry, No.
519.
spatulata Hollick n. sp., Newberry, No. 519.

Perisphinctes sp.?, Aguilera, No. 10.
Perissolax blakei (Conrad), Stanton, No. 647.


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californicua Gabb?, Stanton, No. 648.
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clarkeanus n. sp., Aldrich, No. 11.
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j effersonianus, Say, No. 599.
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*Ps'eudolivia ostrarupis*, Harris, No. 279.

*Pseudechinus* n. gen., Wortman, No. 781.

*Ps'eudolivia ostrarupis*, Harris, No. 279.
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Pyramidella, Harris, No. 278.

Pyropsis perula, Harris, Nos. 279, 280.

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Ptcranodon, Marsh, No. 481.

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