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UNITED STATES GEOLOGICAL SURVEY

CHARLES D. WALCOTT, DIRECTOR

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BIBLIOGRAPHY AND INDEX

OF

NORTH AMERICAN GEOLOGY, PALEONTOLOGY,  
PETROLOGY, AND MINERALOGY

FOR

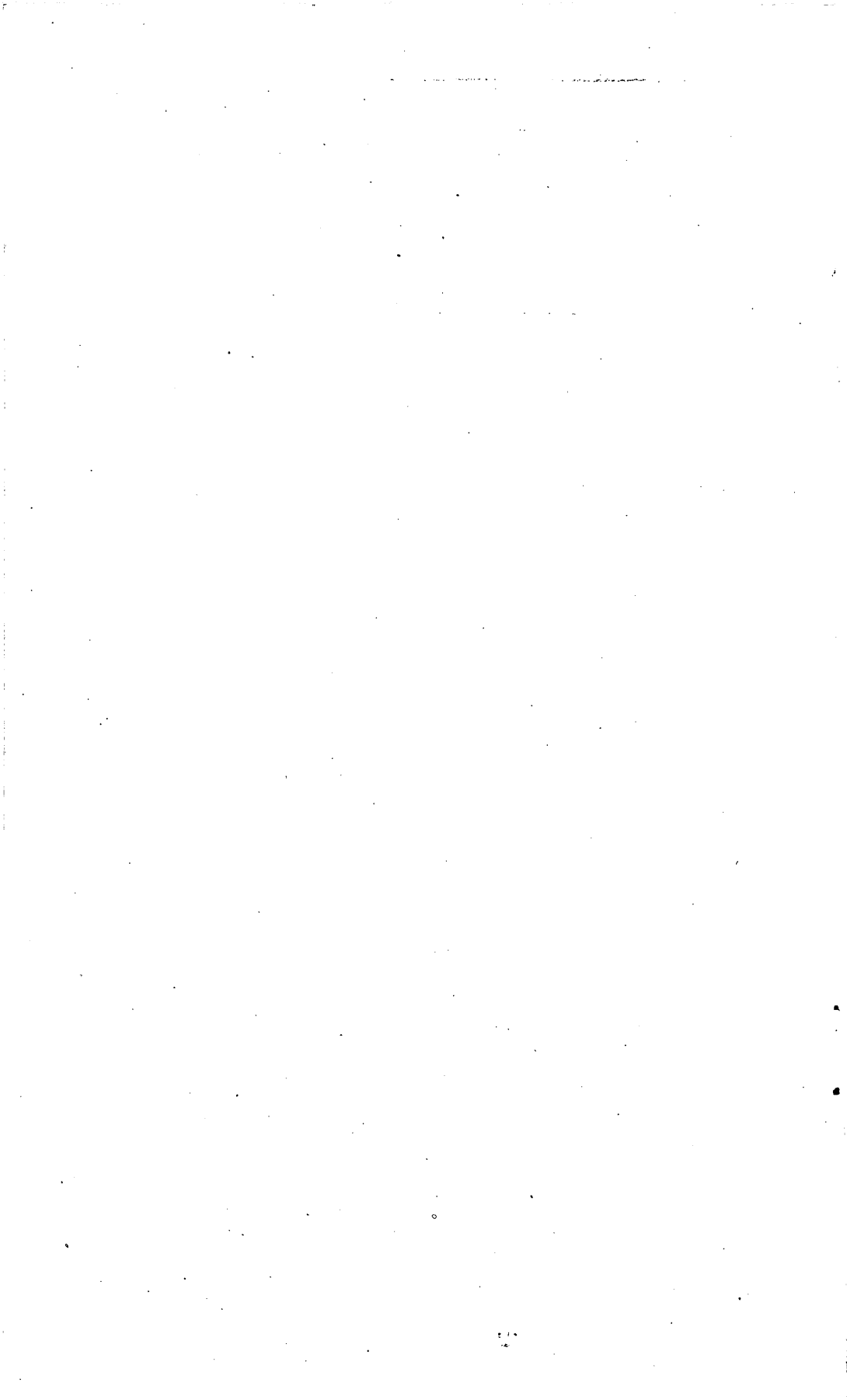
THE YEAR 1897

BY

FRED BOUGHTON WEEKS



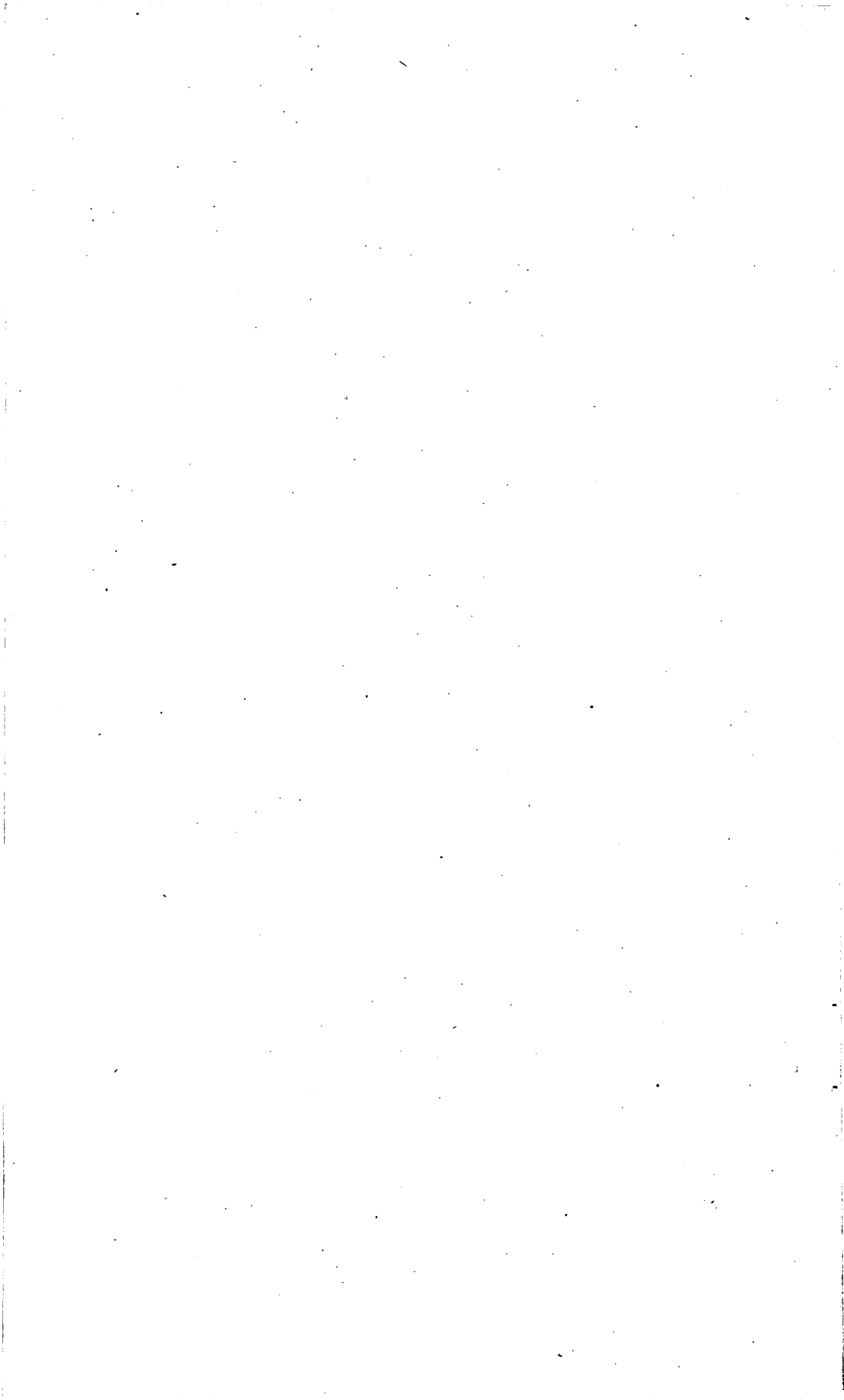
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## LETTER OF TRANSMITTAL.

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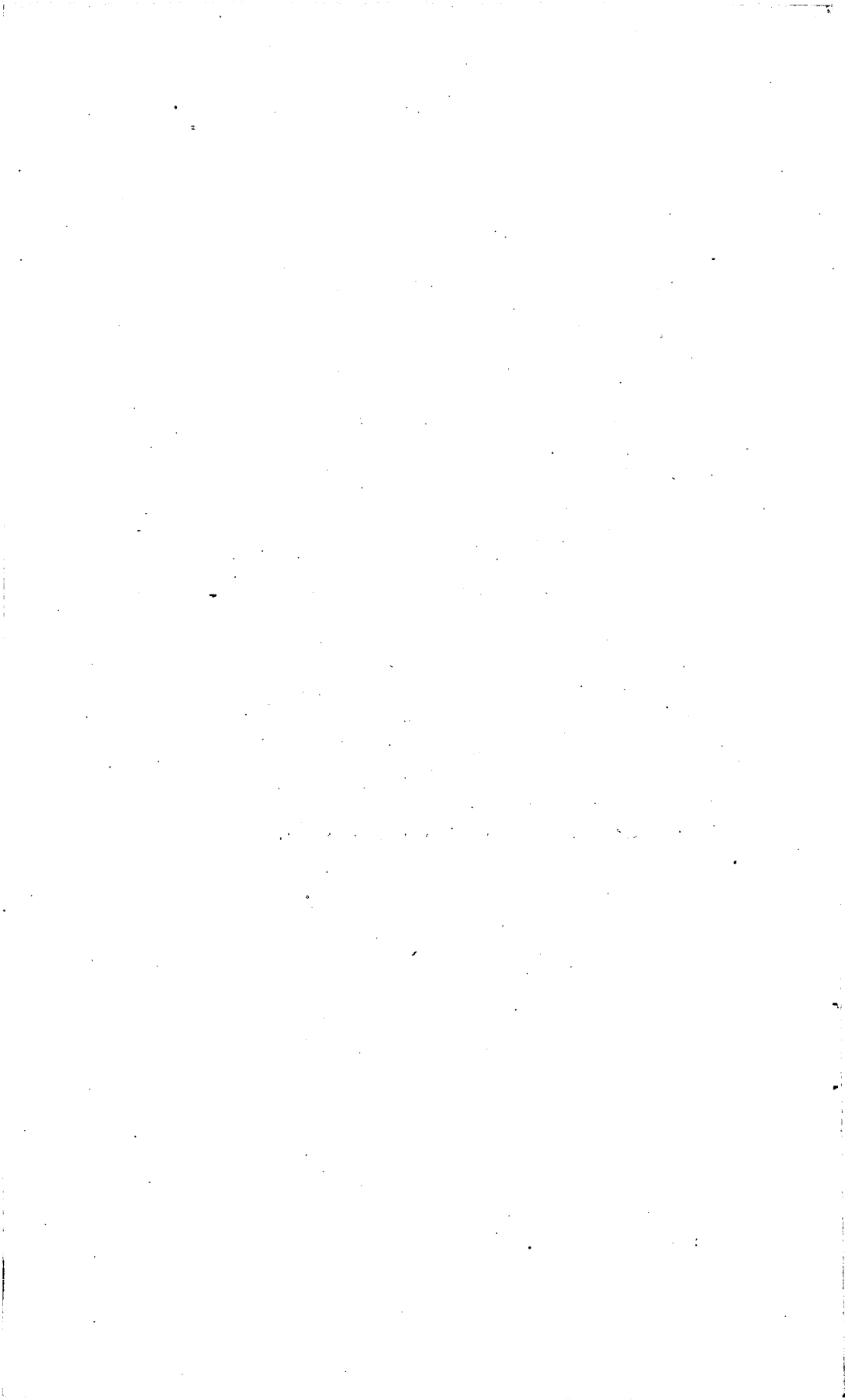
DEPARTMENT OF THE INTERIOR,  
UNITED STATES GEOLOGICAL SURVEY,  
DIVISION OF GEOLOGY,  
*Washington, D. C., August 1, 1898.*

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 1897, 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.*





# BIBLIOGRAPHY AND INDEX OF NORTH AMERICAN GEOLOGY, PALEONTOLOGY, PETROLOGY, AND MINERALOGY FOR THE YEAR 1897.

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By FRED BOUGHTON WEEKS.

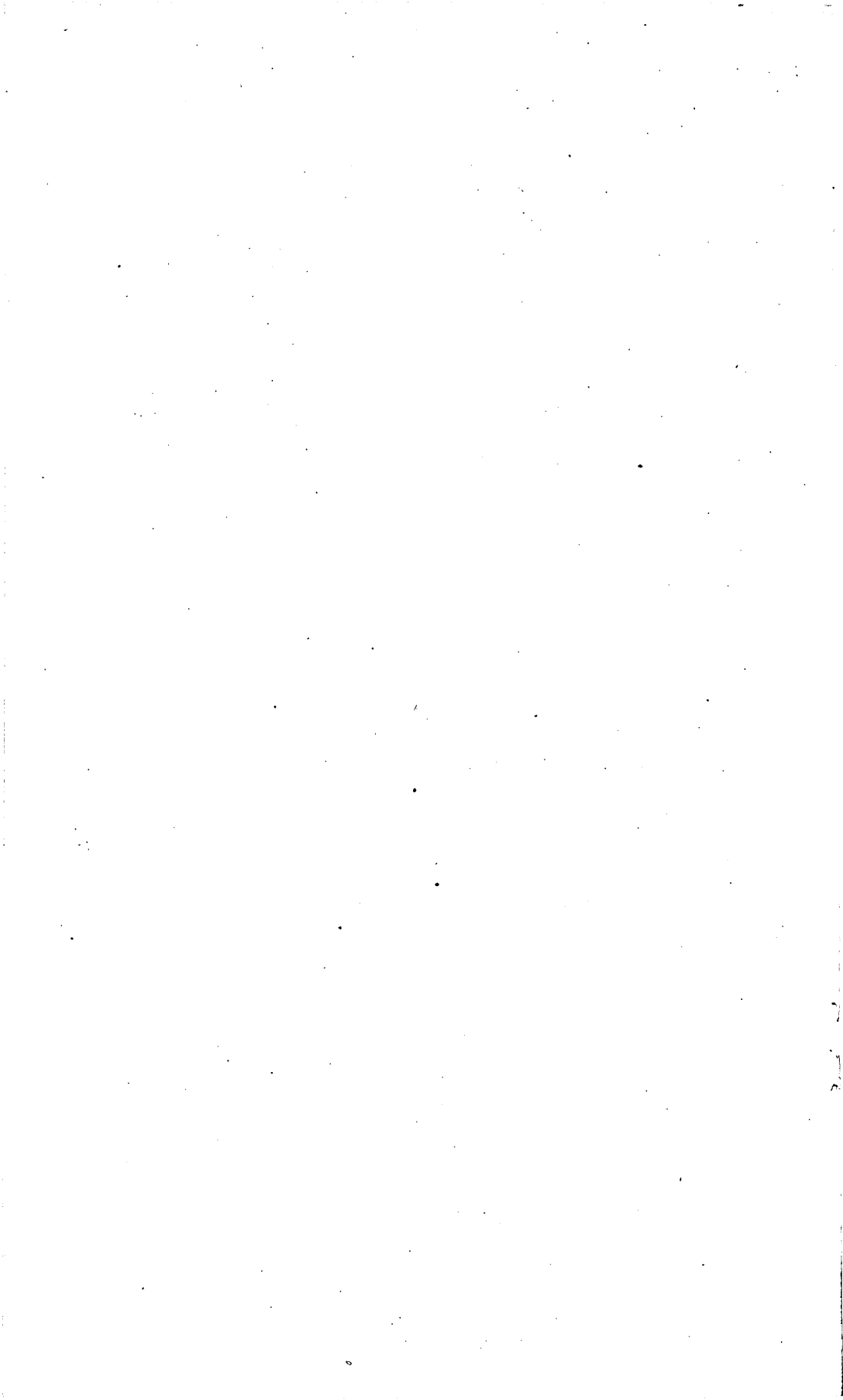
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## INTRODUCTION.

The method of preparing and arranging the material of the Bibliography and Index for 1897 is similar to that adopted for the previous publications on this subject (Bulletins Nos. 130, 135, 146, and 149). The geological papers printed in the Transactions of the American Institute of Mining Engineers, volume 27, were entered in Bulletin No. 149 (Bibliography and Index for 1896), although the publication bears the date 1897. These papers were printed and issued as separates in 1896, but without pagination or volume number. In order to make the bibliography complete for the calendar year these papers appear again in this bulletin. The same course has been followed with volume 28, which bears the date 1898. A few other publications, which bear the date 1898, are included for the same reason.

*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  $\frac{1}{2}$  p., 5 l. (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. The Index has been enlarged by the addition of the names of all geological subdivisions that are described in the publications examined. They are not grouped together, but occur in the regular alphabetical order.

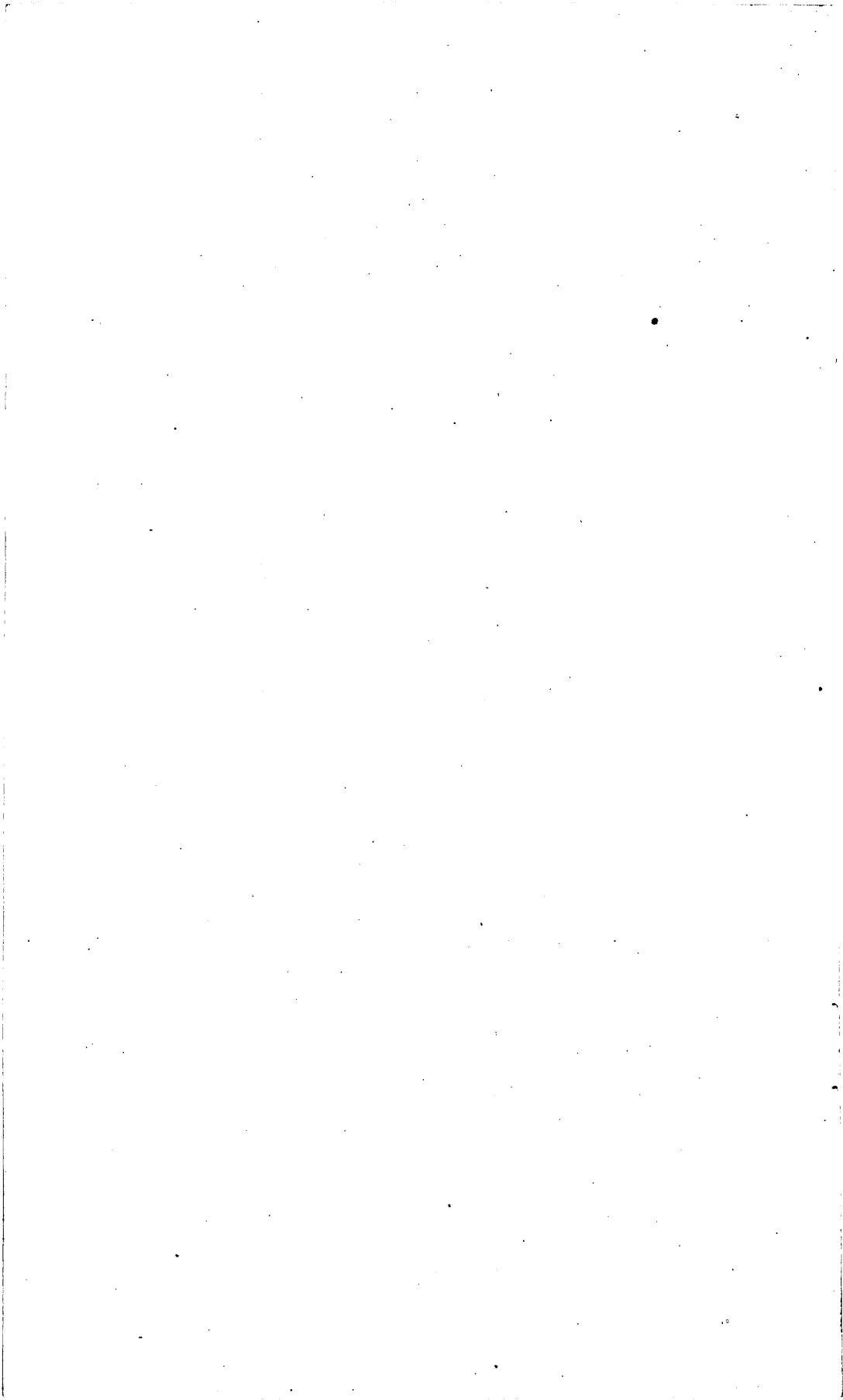


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- 58 — Morphology of the brachia.  
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- 59 — [Review of "Synopsis of American fossil Brachiopoda," by Charles Schuchert.]  
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- 60 — See **Kingsley** (J. S.), No. 337.
- 61 **Beede** (J. W.), **Haworth** (E.) and. The McPherson Equus beds [Kansas].  
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- 62 **Bell** (Robert). Evidence of northeasterly differential rising of the land along Bell River [Canada].  
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- 63 **Berkey** (C. P.). Chemical analysis of the Fisher meteorite.  
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 Describes its mineralogic and chemical characters.
- 64 — Geology of the St. Croix Dalles [Minnesota-Wisconsin].  
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- 65 **Beyer** (Samuel Walker). The Sioux quartzite and certain associated rocks.  
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 Describes the occurrence of Niobrara chalk, the character of the Sioux quartzite and slate, the petrographic characters of the olivine diabase, quartzite, and slate, and discusses their origin.
- 66 — Evidence of a sub-Aftonian till sheet in northeastern Iowa.  
 Iowa Acad. Sci., Proc, vol. iv, pp. 58-62, pls. ii-iii, 1897.  
 Discusses the evidence as to the line separating the various stages of the ice sheet in this region.
- 67 **Bibbins** (Arthur), **Clark** (W. B.) and. The stratigraphy of the Potomac group in Maryland.  
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- 68 **Blake** (William P.). Gold in granite and plutonic rocks.  
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- 69 — The Fortuna gold mine, Arizona.  
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- 70 **Blandy** (John F.). An Arizona copper deposit.  
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- 71 **Blatchley** (W. S.). The petroleum industry in Indiana.  
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- 72 — Indiana caves and their fauna.  
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 Describes the formations of caves in limestones and the character and fauna of the caves in southern Indiana. Includes a bibliography.

- 73 **Blue** (Archibald). Sixth report of the bureau of mines [Ontario].  
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Includes notes on the occurrence of building materials, petroleum, natural gas, mica, graphite, iron, nickel, copper, gold, and corundum and two geological maps.
- 74 **Bonney** (T. G.). [Review of "The glaciers of North America," by I. C. Russell.]  
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- 75 **Boss** (C. M.). Some dike features of the Gogebic iron range [Michigan-Wisconsin].  
Am. Inst. Mg. Engrs., Trans., vol. xxvii, pp. 556-563, 1898.  
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- 76 **Branner** (John Casper). Bacteria and the decomposition of rocks.  
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Discusses the agency of bacteria in the decomposition of rocks, and reviews some recent literature on the subject.
- 77 — The former extension of the Appalachians across Mississippi, Louisiana, and Texas.  
Am. Jour. Sci., 4th ser., vol. iv., pp. 357-371, two geological maps, 1897; Abstract, Brit. Assoc. Adv. Sci., Rept. 1897, pp. 643-644, 1898; Review by A. H. Purdue, Jour. of Geol., vol. v, pp. 759-760, 1897.  
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- 78 — The bauxite deposits of Arkansas.  
Jour. of Geol., vol. v, pp. 263-289, pls. i-ii, figs. 1-4, 1897.  
Describes the composition and structure of the bauxite material, and discusses the geologic age, origin, and forms of the deposits. Gives a bibliography of the subject.
- 79 — [Review of "The Bedford oolitic limestone of Indiana," by T. C. Hopkins and C. E. Siebenthal.]  
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- 80 — The phosphate deposits of Arkansas.  
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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.
- 81 — The cement materials of southwest Arkansas.  
Am. Inst. Mg. Engrs., Trans., vol. xxvii, pp. 42-63, figs. 1-6, 1898.  
Describes the occurrence of the chalk beds, and gives chemical analyses of the material.
- 82 — The introduction of new terms in geology.  
Science, new ser., vol. v, pp. 912-913, 1897.
- 83 — New terms in geology.  
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84 **Branner** (John Casper). See **Ashley** (George H.), No. 24.

85 — **Newsom** (J. F.) and. The Red River and Clinton monoclines.  
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86 **Bratnaber** (H.). The Klondike gold fields [British Columbia].  
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87 **Brewer** (William M.). Further notes on the Alabama and Georgia gold fields.  
Am. Inst. Mg. Engrs., Trans., vol. xxvi, pp. 464-472, 1897.  
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88 — Metal mining in Alabama.  
Eng. and Mg. Jour., vol. lxiii, p. 256, 1897.  
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89 — Gold mining in Georgia.  
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Describes the occurrence of gold in northwest Georgia.

90 — The Villa Rica mining district, Georgia.  
Eng. and Mg. Jour., vol. lxiii, p. 483, 1897.  
Describes the occurrence of gold in this district.

91 — Some auriferous quartz bodies in Alabama.  
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Describes the occurrence of gold in northern Alabama.

92 — Copper mining in Alabama.  
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93 — Gold fields of the South.  
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Describes the geologic formations and occurrence of gold in Georgia and Alabama.

94 **Brigham** (Albert Perry). Glacial flood deposits in Chenango Valley [New York].  
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95 **Brooks** (Alfred Hulse), **Wolff** (J. E.) and. The age of the Franklin White limestone of Sussex County, New Jersey.  
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96 **Brown** (Lucius P.). Phosphate mining in Tennessee.  
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- 97 **Brush** (George J.). Manual of determinative mineralogy, with an introduction of blowpipe analysis.  
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- 98 **Bryson** (John). The Hempstead Plains, Long Island [New York].  
*Am. Geol.*, correspondence, vol. xx, pp. 61-65, 1897.  
Describes the glacial phenomena.
- 99 **Buelna** (Ramon Felix y). Itinerarios geologicos. Estados de Durango, Chihuahua, Sonora y Sinaloa.  
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- 100 — The Copalquin and Lemon mineral zone, Durango, Mexico.  
*Eng. and Mg. Jour.*, vol. lxiv, p. 217, 1897.  
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- 101 **Burwash** (Edward M.). Geology of the Nipissing-Algoma line [Ontario].  
*Ontario Bureau of Mines, 6th Ann. Rept.*, pp. 167-184, 1897.  
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- 102 **Calvin** (Samuel). Memoir of Charles Wachsmuth.  
*Geol. Soc. Am., Bull.*, vol. viii, pp. 374-376, 1897.  
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- 103 — The State quarry limestone [Iowa].  
*Iowa Acad. Sci., Proc.*, vol. iv, pp. 16-21, 1897.  
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- 104 — Synopsis of the drift deposits of Iowa.  
*Am. Geol.*, vol. xix, pp. 270-272, 1897.  
Gives brief statements regarding the various stages of the Glacial epoch.
- 105 — Geology of Johnson County [Iowa].  
*Am. Geol.*, vol. xx, pp. 273, 1897.  
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- 106 **Campbell** (Marius R.). Erosion at base level.  
*Geol. Soc. Am., Bull.*, vol. viii, pp. 221-226, pl. 20, 1897.  
Describes local base-levels of the Appalachian region.
- 107 — Rapid section work in horizontal rocks.  
*Am. Inst. Mg. Engrs., Trans.*, vol. xxvi, pp. 298-315, pls. i-iv, 1897.  
Describes methods of studying areal geology in regions where the strata lie in a nearly horizontal position.



- 108 **Case** (E. C.). Foramina perforating the cranial region of a Permian reptile and on a cast of its brain cavity.  
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Describes the characters of *Dimetrodon incisivus* Cope and the occurrence of the foramina.
- 109 — On the osteology and relationships of *Protostega*.  
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Describes material from the Niobrara Cretaceous of Kansas.
- 110 — [Review of "The Dinosaurs of North America," by O. C. Marsh.]  
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- 111 **Catlett** (Charles). Some of the manganese deposits of the Valley of the Virginia.  
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- 112 **Chalmers** (Robert). The pre-Glacial decay of rocks in eastern Canada.  
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- 113 — The gold bearing deposits of the eastern townships of Quebec.  
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- 114 **Chamberlin** (T. C.). [Note on the former extension of the inland ice sheet of Greenland.]  
Jour. of Geol., vol. v, pp. 81-85, 1897.  
Reviews certain interpretations of the author's views on this subject.
- 115 — Glacial studies in Greenland, X.  
Jour. of Geol., vol. v, pp. 229-240, figs. 64-68, 1897.  
Continues the description of the author's observations of the glacial features of Greenland.
- 116 — [Review of "Glaciers of North America, a reading lesson for students in geography and geology," by Israel C. Russell.]  
Jour. of Geol., vol. v, pp. 302-303, 1897.
- 117 — [Review of "Former extension of Cornell glacier near the southern end of Melville Bay," by Ralph S. Tarr.]  
Jour. of Geol., vol. v, pp. 303-307, pl. 1, figs. 1-2, 1897.
- 118 — [Review of "Geological Survey of Canada, Annual Report, vol. viii, 1895."]  
Jour. of Geol., vol. v, pp. 641-642, 1897.
- 118a — [Review of "Iowa Geological Survey, vol. vi, Report on lead, zinc, artesian wells, etc."]  
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- 118*b* **Chamberlin** (T. C.). [Review of "Geology and Natural Resources of Indiana, 21st Annual Report."] *Jour. of Geol.*, vol. v, pp. 644-646, 1897.
- 118*c* — [Review of "Report on the valley regions, Part II. On the Coosa Valley," by Henry McCalley.] *Jour. of Geol.*, vol. v, pp. 646-647, 1897.
- 118*d* — [Review of "Glacial observations in the Umanak district, Greenland," by G. H. Barton.] *Jour. of Geol.*, vol. v, pp. 650-651, 1897.
- 119 — A group of hypotheses bearing on climatic changes. *Jour. of Geol.*, vol. v, pp. 653-683, 1897; *Brit. Assoc. Adv. Sci.*, Rept. 1897, pp. 644-647, 1898.  
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- 120 — Supplementary hypothesis respecting the origin of the loess of the Mississippi Valley. *Jour. of Geol.*, vol. v, pp. 795-802, 1897.  
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- 121 — Studies for students. The method of multiple working hypotheses. *Jour. of Geol.*, vol. v, pp. 837-848, 1897.  
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- 122 — [Review of "The Glacial Lake Agassiz," by Warren Upham.] *Jour. of Geol.*, vol. v, pp. 851-853, 1897.
- 123 — Former extension of Greenland glaciers. *Science*, new ser., vol. v, pp. 400-401, 1897.  
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- 124 — The former extension of ice in Greenland. *Science*, new ser., vol. v, p. 516, 1897.  
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- 125 — Former extension of Cornell glacier near the southern end of Melville Bay. *Science*, new ser., vol. v, pp. 748-753, figs. 1-3, 1897.  
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- 126 **Clark** (Maurice). Notes on mining in Oaxaca, Mexico. *Eng. and Mg. Jour.*, vol. lxiv, pp. 35-36, 1897.  
Describes occurrence of silver ores in this region.
- 127 **Clark** (William Bullock). Eocene deposits of the Middle Atlantic slope in Maryland, Delaware, and Virginia. *Jour. of Geol.*, vol. v, pp. 310-312, 1897.  
Review by C. R. Keyes.

- 128 **Clark** (William Bullock). (With the collaboration of R. M. Bagg and George B. Shattuck.) Upper Cretaceous formations of New Jersey, Delaware, and Maryland.

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- 128a — Historical sketch embracing an account of the progress of investigation concerning the physical features and natural resources of Maryland.

Md. Geol. Surv., vol. i, pp. 43-138, pls. ii-v, 1897.

- 129 — Outline of present knowledge of the physical features of Maryland, embracing an account of the physiography, geology, and mineral resources.

Md. Geol. Surv., vol. i, pp. 141-228, pls. vi-xiii, 1897.

Describes the physiographic features of the State, the character and distribution of the igneous and sedimentary rocks, and the mineral resources.

- 130 — and **Bibbins** (Arthur). The stratigraphy of the Potomac group in Maryland.

Jour. of Geol., vol. v, pp. 479-506, 1897.

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- 131 — and **Shattuck** (George B.). The geology of the sand hills of New Jersey.

Johns Hopkins Univ. Circ., vol. xvi, pp. 13-16, 1897.

Reviews the literature on this region and describes the stratigraphic relations and correlations of the deposits. Discusses the evidence of their age.

- 132 **Clarke** (F. W.) and **Hillebrand** (W. F.). Analyses of rocks with a chapter on analytical methods.

U. S. Geol. Surv., No. 148, 306 pp., 1897.

Includes analyses of a large number of igneous and sedimentary rocks from various parts of the United States.

- 133 **Clarke** (John M.). The Lower Silurian trilobites of Minnesota.

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Gives the terminology of the trilobites and notes on various species; also descriptions of new species.

- 134 — The Lower Silurian Cephalopoda of Minnesota.

Minn. Geol. and Nat. Hist. Surv., Paleontology, vol. iii, Pt. II, pp. 761-812, pls. xlvi-lx, figs. 1-9, 1897.

- 135 — [Review of "Paleozoic fossils, vol. iii, pt. iii. The fossils of the Galena-Trenton and Black River formations of Lake Winnipeg and its vicinity," by J. F. Whiteaves.]

Am. Geol., vol. xx, pp. 187-188, 1897.

- 136 **Clarke** (John M.). The morphology of graptolites.  
Am. Geol., vol. xx, pp. 188-189, 1897.  
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- 137 — A sphinctozoan calcisponge from the Upper Carboniferous of eastern Nebraska.  
Am. Geol., vol. xx, pp. 387-392, pl. xxiii, 1897.  
Describes the characters of the material.
- 138 **Claypole** (E. W.). A new *Dinichthys-Dinichthys kepleri*.  
Am. Geol., vol. xix, pp. 322-324, pl. xx, 1897.  
Describes and figures a new species from the Cleveland shale of Ohio.
- 139 — [Review of "Pleistocene features and deposits of the Chicago area," by Frank Leverett.]  
Am. Geol., vol. xx, p. 57, 1897.
- 140 — [Review of "Geological Survey of Canada, Annual Report for 1895."]  
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- 141 — [Review of "On the southern Devonian formation," by H. S. Williams.]  
Am. Geol., vol. xx, pp. 133-134, 1897.
- 142 — [Review of "Geological Survey of Mexico, Bulletins 4, 5, 6."]  
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- 143 **Coleman** (Arthur P.). Glacial and Interglacial deposits at Toronto [Canada].  
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Describes glacial phenomena of the vicinity.
- 144 — Third report on the West Ontario gold regions.  
Ontario Bureau of Mines, 6th rept., pp. 71-124, 1897.  
Describes the occurrence of gold in the region.
- 145 — Anthraxolite or anthracite carbon.  
Ontario Bureau of Mines, 6th rept., pp. 159-161, 1897.  
Describes its occurrence in Ontario.
- 146 — "Notes on the western Ontario gold fields."  
Can. Mg. Review, vol. xvi, pp. 115-116, 1897.
- 147 — The anorthosites of the Rainy Lake region [Ontario].  
Can. Rec. Sci., vol. vii, pp. 230-235, 1897.  
See Bibliography and Index for 1896, No. 133.
- 148 **Cooper** (J. G.). On some new Cretaceous (and Eocene?) Mollusca of California.  
Cal. Acad. Sci., Proc., vol. vi, pp. 330-336, pls. 47-48, 1897.  
Describes and figures five new species.

149 **Cope** (E. D.). On new Paleozoic vertebrata from Illinois, Ohio, and Pennsylvania.

Am. Phil. Soc., Proc., vol. xxxv, pp. 71-91, 3 pls., 1897.

Describes new species of fishes and batrachia from the Catskill and Coal Measure series of these States.

150 **Cragin** (F. W.). Discovery of marine Jurassic rocks in southwestern Texas.

Jour. of Geol., vol. v, pp. 813-820, 1897.

Discusses the fossil evidence of the occurrence of strata in southwestern Texas and names the beds the Malone formation.

151 — Observations on the Cimarron series.

Am. Geol., vol. xix, correspondence, pp. 351-363, 1897.

Describes the author's observations of this series in Kansas, Oklahoma, and Texas, and discusses the classification and nomenclature of the beds.

152 — Notes on some fossils of the Comanche series.

Science, new ser., vol. vi, pp. 134-136, 1897.

Includes notes on certain species and description of *Turritella belviderei* n. sp.

153 — Stratigraphic names for Caprina and Caprotina (or Requiencia) beds.

Science, new ser., vol. vi, p. 136, 1897.

Suggests that the name Barton Creek be abandoned, and proposes the name Stonewall limestone for it. Proposes the local names Granbury bed for the Caprotina limestone.

154 **Crook** (A. R.). Some geological causes of the scenery of the Yellowstone National Park.

Am. Geol., vol. xx, pp. 159-167, 1897.

Describes the general physiographic features and geological history of the Park.

155 **Crosby** (W. O.). Contribution to the geology of Newport Neck and Conanicut Island [Rhode Island].

Am. Jour. Sci., 4th ser., vol. iii, pp. 230-236, figs. 1-2, 1897.

Reviews previous descriptions of the geology of the region and describes the characters and relations of the Carboniferous and igneous rocks.

156 — The great fault and accompanying sandstone dikes of Ute Pass, Colorado.

Science, new ser., vol. v, pp. 604-607, 1897.

Describes the occurrence of the fault and discusses the origin of the dikes.

157 — and **Fuller** (M. L.). Origin of pegmatite.

Am. Geol., vol. xix, pp. 147-180, pls. viii-ix, 1897.

Describes the character of acid pegmatites and discusses the theories of their igneous and aqueo-igneous origin.

- 158 **Cross** (Whitman). Igneous rocks of the Leucite Hills and Pilot Butte, Wyoming.  
 Abstract, *Science*, new ser., vol. v, p. 361, 1897.  
 Describes the occurrence and petrographic and chemical characters of wyomingite, orendite, and madupite. Discusses the classification and nomenclature, and describes the inclusions in the Leucite Hills rocks.
- 159 — An analcite basalt from Colorado.  
*Jour. of Geol.*, vol. v, pp. 684-693, 1897.  
 Describes the petrographic and chemical characters of the material, and discusses its relations with closely allied rocks.
- 160 — and **Penrose** (R. A. F., jr.). Geology and mining industry of the Cripple Creek district, Colorado.  
*Jour. of Geol.*, vol. v, pp. 197-203, 1897.  
 Review by Arthur Winslow.
- 161 **Cushing** (H. P.). Notes on hypersthene andesite from Mt. Edgecumbe, Alaska.  
*Am. Geol.*, vol. xx, pp. 156-159, 1897.  
 Includes a letter from H. F. Reid describing its occurrence, and a discussion of the petrographic characters of the material.
- 162 **Dall** (William H.). A table of North American Tertiary horizons correlated with one another and with those of western Europe, with annotations.  
*U. S. Geol. Surv.*, 18th Ann. Rept., Pt. II, pp. 327-348, 1898.  
 Defines the main divisions of the Tertiary and includes notes on the table.
- 163 — **Guppy** (R. J. L.) and. Descriptions of Tertiary fossils from the Antillean region.  
 See Guppy (R. J. L.) and Dall (W. H.), No. 255.
- 164 **Daly** (Reginald Aldworth). Studies of the so-called porphyritic gneiss of New Hampshire.  
*Jour. of Geol.*, vol. v., pp. 694-722, figs. 1-2, pp. 776-794, 1897.  
 Reviews previous descriptions of the gneiss, describes its field relations and structure, and discusses the age of the intrusions.
- 165 **Darton** (Nelson Horatio). New developments in boring and irrigation in eastern South Dakota.  
*U. S. Geol. Surv.*, 18th Ann. Rept., Pt. IV, pp. 567-615, pls. xxxviii-xlvi, figs. 78-85, 1897.  
 Describes the progress of well sinking, the extent of the artesian basin, and the irrigation by artesian waters in 1896.
- 166 — Preliminary report on artesian waters of a portion of the Dakotas.  
*Am. Geol.*, vol. xix, pp. 274-276, 1897.  
 Review by J. E. T[odd].

- 167 **Davidson** (George). \* The submerged valleys of the coast of California, U. S. A., and of Lower California, Mexico.  
 Cal. Acad. Sci., Proc. Geol., 3d ser., vol. 1, No. 2, pp. 73-103, pls. iv-xii, 1897. Review by W. S. T. Smith, Jour. of Geol., vol. v, pp. 533-534, 1897.  
 Describes the submerged valleys of the coast of California, and presents a number of contour maps of the coast line.
- 168 **Davis** (William M.). The Triassic formation of Connecticut.  
 U. S. Geol. Surv., 18th Ann. Rept., Pt. II, pp. 9-192, pls. i-xx, figs. 1-52, 1898.  
 Describes the deposition, character, and occurrence of the Triassic strata, the occurrence and characters of the igneous rocks, and the deformation and denudation of the region.
- 169 — Is the Denver formation lacustrine or fluvialite?  
 Science, new ser., vol. vi, pp. 619-621, 1897.  
 Discusses the origin of the Denver formation.
- 170 **Dawson** (George M.). Are the boulder clays of the Great Plains marine?  
 Jour. of Geol., vol. v, pp. 257-262, 1897.  
 Describes the occurrence of Cretaceous marine organisms in the boulder clays of the Great Plains in British Columbia. Gives a list of the fossils determined by Mr. Joseph Wright.
- 171 — [Review of "Genesis of Lake Agassiz," by J. B. Tyrrell.]  
 Jour. of Geol., vol. v, pp. 78-81, 1897.
- 172 — Opening address. Section C, British Association for the Advancement of Science, 1897.  
 Brit. Assoc. Adv. Sci., Rept. 1897, pp. 628-640, 1897; Nature, vol. lvi, pp. 396-401, 1897; Sci. Am. Suppl., vol. xlv, pp. 18089-18090, 1897.  
 Discusses the relations of the pre-Cambrian rocks of Canada and other parts of North America.
- 173 — The physical geography and geology of Canada.  
 Toronto, 48 pp., 1897.  
 Gives a general outline of the physiography and geologic features of Canada.
- 174 **Dawson** (J. William). Note on Carboniferous Entomostraca from Nova Scotia, in the Peter Redpath museum, determined and described by Prof. T. Rupert Jones, F. R. S., and Mr. Kirkby.  
 Can. Rec. Sci., vol. vii, pp. 316-323, figs. 1-9, 1897.  
 Describes and figures a number of species.
- 175 — Additional notes on fossil sponges and other organic remains from the Quebec group of Little Metis; on the lower St. Lawrence. With notes on some of the specimens by G. J. Hinde.  
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- 176 **Dawson** (J. William). Note on cryptozoon and other ancient fossils.  
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- 177 **Day** (David T.). A suggestion as to the origin of Pennsylvania petroleum.  
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- 178 **Diller** (Joseph Silas). Crater Lake, Oregon.  
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- 179 ——— Hornblende-basalt in northern California.  
Am. Geol., vol. xix, pp. 253-255, 1897.  
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- 180 ——— The origin of Camas Swale.  
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- 181 **Dixon** (Roland B.) and **Drew** (Charles D.). Observations on the physiography of western Massachusetts.  
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- 182 **Drake** (Noah Fields). The topography of California.  
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- 183 **Draper** (Marshall). Hahn's Peak [Colorado].  
Colliery Engineer, vol. xvii, pp. 437-438, 1897.  
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- 184 **Dresser** (John A.). Geological report and map of the district about Montreal [Canada].  
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- 185 **Drew** (Charles D.), **Dixon** (Roland B.) and. Observations on the physiography of western Massachusetts.  
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- 186 **Duden** (Hans). Some notes on the black slate or Genesee shale of New Albany, Ind.  
Ind. Dept. of Geol. and Nat. Res., 21st Ann. Rept., pp. 108-119, pls. ii-iii, 1897.  
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- 187 **Dumble** (E. T.). Some Texas oil horizons.  
Abstract, *Science*, new ser., vol. vi, p. 72 ( $\frac{1}{2}$  p.), 1897.  
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- E.**
- 188 **Eastman** (C. R.). On *Ctenacanthus* spines from the Keokuk limestone of Iowa.  
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- 189 — **Tamiobatis vetustus**, a new form of fossil skate.  
*Am. Jour. Sci.*, 4th ser., vol. iv, pp. 85-90, pl. 1, fig. 1, 1897.  
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- 190 — On the characters of *Macropetalichthys*.  
*Am. Nat.*, vol. xxxi, pp. 493-499, pl. xii, 1897.
- 191 **Ellis** (W. Hodgson). Chemical composition of the anthraxolite.  
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- 192 **Ells** (R. W.). Problems in Quebec geology.  
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- 193 — Paleozoic outliers in the Ottawa River basin [Canada].  
*Can. Roy. Soc., Proc. and Trans.*, 2d ser., vol. ii, sec. iv, pp. 137-149, 1896.  
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- 194 — Memoir of N. J. Giroux.  
*Geol. Soc. Am., Bull.*, vol. viii, p. 377, 1897.  
Gives a sketch of his life.
- 195 — [Note on "Origin and relations of the Grenville-Hastings series of the Canadian Laurentian."]  
*Geol. Soc. Am., Bull.*, vol. viii, pp. 401-402, 1897.  
Describes briefly the characters of the series.
- 196 — See **Adams** (F. D.) and **Barlow** (A. E.), No. 5.
- 197 — **Adams** (F. D.), **Barlow** (A. E.) and. On the origin and relations of the Grenville and Hastings series in the Canadian Laurentian.  
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- 198 **Emerson** (B. K.). Diabase pitchstone and mud inclosures of the Triassic trap of New England.  
*Geol. Soc. Am., Bull.*, vol. viii, pp. 59-86, pls. 3-9, 1897.  
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- 199 **Emmons** (Samuel Franklin). Some mines of Rosita and Silver Cliff, Colorado.  
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- 200 — Origin of Green River.  
Science, new ser., vol. vi, pp. 19-21, 1897.  
Discusses the evidence as to the origin and development of this river.
- 201 — The geology of government explorations.  
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Science, new ser., vol. v, pp. 1-15, 42-51, 1897.  
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- 202 — and **Tower** (George Warren, jr.). Economic geology of the Butte Special district [Montana].  
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- 203 **Endlich** (F. M.). The Pearce mining district, Arizona.  
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- 204 **Engel** (George W.). Description of a peculiar fault in the Mammoth coal bed, Panther Creek basin, Pennsylvania.  
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- 206 — An interesting case of contact metamorphism.  
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- 207 — The tin deposits at Temescal, southern California.  
Am. Jour. Sci., 4th ser., vol. iv, pp. 39-42, 1897. Mg. and Sci. Press, vol. lxxv, p. 362, 1897.  
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- 208 **Fairbanks** (Harold W.). Oscillations of the coast of California during the Pliocene and Pleistocene.

Am. Geol., vol. xx, pp. 213-245, pl. xv, 1897.

Reviews previous opinions concerning the subject, and discusses the evidences of the separation of the Pliocene and Pleistocene, and the evidence of a post-Pliocene disturbance and uplift.

- 209 — Outline of the geology of California with reference to its mineral deposits.

Mg. and Sci. Press, vol. lxxiv, pp. 132, 152, 173, 193, 213, and 232, 1897.

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- 210 **Fairchild** (Herman LeRoy). Glacial geology of western New York.

Geol. Mag., dec. 4, vol. iv, pp. 529-537, with map, 1897; Brit. Assoc. Adv. Sci., Rept. 1897, p. 664, ( $\frac{1}{2}$  p.), 1898.

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- 211 — Lake Warren shore lines in western New York and the Geneva beach.

Geol. Soc. Am., Bull., vol. viii, pp. 269-284. pl. 30, 1897.

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- 212 **Farrington** (Oliver C.). Observations on Popocatepetl and Ixtacihuatl, with a review of the geographic and geologic features of the mountains [Mexico].

Field Col. Mus., Geol. ser., vol. 1, pp. 75-120, pls. vii-xviii, figs. 1-2, 1897.

Reviews the literature on the region, and describes the geographic, geologic, and glacial features.

- 213 — [Review of "Manual of determinative mineralogy, with an introduction on blowpipe analysis," by George J. Brush.]

Jour. of Geol., vol. v, pp. 86-87, 1897.

- 214 — The average specific gravity of meteorites.

Jour. of Geol., vol. v., pp. 126-130, 1897.

Reviews previous discussions of the subject, and gives the results of the author's studies.

- 215 — The eruptive rocks of Mexico.

Jour. of Geol., vol. v, pp. 467-468, 1897.

Gives a summary of recent work by Señor Ordonez on this subject.

- 216 **Fenderson** (W. C.). Turquoise mining in New Mexico.

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Describes the occurrence of turquoise in New Mexico.

- 217 **Ferrier** (W. F.), **Barlow** (A. E.) and. On the relations and structure of certain granites and associated arkoses of Lake Temiscaming, Canada.  
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- 218 **Finch** (Grant E.). Drift section at Oelwein, Iowa.  
Iowa Acad. Sci., Proc., vol. iv, pp. 54-58, pl. 1, 1897.  
Describes the local features of the drift beds.
- 219 **Foerste** (August F.). A report on the geology of the Middle and Upper Silurian rocks of Clark, Jefferson, Kipley, Jennings, and southern Decatur counties, Indiana.  
Ind. Dept. Geol. and Nat. Res., 21st Ann. Rept., pp. 213-288, pls. xiv-xvii, 1897.  
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- 220 **Foote** (H. W.), **Pratt** (J. H.) and. On wellsite, a new mineral.  
See Pratt (J. H.) and Foote (H. W.), No. 485.
- 221 — **Penfield** (S. L.) and. On bixbyite, a new mineral, and notes on the associated topaz.  
See Penfield (S. L.) and Foote (H. W.), No. 469.
- 222 — — Note concerning the composition of ilmenite.  
See Penfield (S. L.) and Foote (H. W.), No. 470.
- 223 **Foote** (Warren M.). Note on a new meteorite from the Sacramento Mountains, New Mexico.  
Am. Jour. Sci., 4th ser., vol. iii, pp. 65-66, pls. i-ii, 1897. *Nature*, vol. iv, pp. 572-573, figs. 1-2, 1897.  
Describes the mass and gives its chemical analysis.
- 224 **Fowke** (Gerard). The formation of natural bridges.  
Stone, vol. xiv, pp. 355-357, 1897.  
Discusses the mode of formation of natural bridges.
- 225 **Frazer** (Persifor). Tables for the determination of minerals by physical properties ascertainable with the aid of a few field instruments.  
J. B. Lippincott & Co., Philadelphia, 4th edition, 1897.  
Review by U. S. G[rant], *Am. Geol.*, vol. xix, pp. 221-222, 1897; Review by E. B. Mathews, *Science*, new ser., vol. v, pp. 624-625, 1897.
- 226 — Notes on the northern Black Hills of South Dakota.  
*Am. Inst. Mg. Engrs.*, Trans., vol. xxvii, pp. 204-231, 1898.  
Describes the general geology of the region and occurrence of the gold ores. Includes a bibliography.
- 227 **Fuller** (M. L.), **Crosby** (W. O.) and. Origin of pegmatite.  
See Crosby (W. O.) and Fuller (M. L.), No. 157.

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- 228 **Gemmell** (R. C.). The Camp Floyd mining district and the Mercur mine, Utah.

Eng. and Mg. Jour., vol. lxiii, pp. 403-404, 1897.

Describes the topographic and geologic features of the district.

- 229 **Gilbert** (Grove Karl). Recent earth movements in the Great Lakes region.

U. S. Geol. Surv., 18th Ann. Rept., pt. ii, pp. 601-647, pl. cv, figs. 93-101, 1898; Nat. Geog. Mag., vol. viii, pp. 233-247, figs. 1-7, 1897; Abstract, Nature, vol. lvii, pp. 211-213, fig. 1, 1897.

Describes the general features of the region and the methods of obtaining the data, and gives a discussion and summary of results.

- 230 — Pueblo folio, Colorado.

U. S. Geol. Surv., Geol. Atlas of U. S., Folio No. 36, 1897.

Describes the geologic history of the region, the character and occurrence of the Archean, Silurian, Carboniferous, Jura-Trias, Cretaceous, Neocene, and Pleistocene strata, the character and origin of the topographic features and the economic resources of the region. Includes topographic and geological maps.

- 231 — Old tracks of Erian drainage in western New York.

Abstract, Geol. Soc. Am., Bull., vol. viii, pp. 285-286, 1897.

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- 232 **Gill** (Theodore). Edward Drinker Cope, Naturalist. A chapter in the history of Science.

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Gives a sketch of the life of Prof. Cope and a review of his work as a naturalist.

- 233 **Gilpin** (E., jr.). The geological horizons of some Nova Scotia minerals.

Brit. Assoc. Adv. Sci., Rept. 1897, p. 663 (‡ p.). 1898.

Mentions the geologic horizons at which certain minerals occur.

- 234 — Some analyses of Nova Scotia coals and other minerals.

N. S. Inst. Sci., Proc. and Trans., 2d ser., vol. ii, pp. 246-254, 1897.

Gives analyses of coals and iron ore.

- 235 **Goodrich** (Harold Beach). Recent warpings as shown by drainage peculiarities [Alaska].

U. S. Geol. Surv., 18th Ann. Rept., pt. iii, pp. 276-289, 1898.

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- 236 — See **Spurr** (J. E.), No. 575.

- 237 **Gordon** (C. H.). [Review of "Correlation of Erie-Huron beaches with outlets and moraines in southeastern Michigan," by F. B. Taylor.]  
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- 238 **Grabau** (Amadeus W.). The sand plains of Truro, Wellfleet, and Eastham [Massachusetts].  
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- 239 **Grant** (U. S.). [Review of "Preliminary report on the Marquette iron-bearing district of Michigan," by C. R. Van Hise and W. S. Bayley. With a chapter on the Republic trough, by H. L. Smyth.]  
Jour. of Geol., vol. v, pp. 401-404, 1897.
- 240 — [Review of "Tables for the determination of minerals by physical properties ascertainable with the aid of a few field instruments," by Persifor Frazer.]  
Am. Geol., vol. xix, pp. 221-222, 1897.
- 241 — [Review of "Biennial report of the State geologist of Missouri," by C. R. Keyes.]  
Am. Geol., vol. xix, p. 350 ( $\frac{1}{2}$  p.), 1897.
- 242 — Lakes with two outlets in northeastern Minnesota.  
Am. Geol., vol. xix, pp. 407-411, 1897.  
Describes the occurrence of several lakes of this character, and discusses the evidences of their probable duration.
- 243 — [Review of "Treatise on rocks, rock-weathering and soils," by George P. Merrill.]  
Am. Geol., vol. xx, pp. 273-274, 1897.
- 244 — [Review of "Syllabus of general geology for students, with definition and references," by C. W. Hall.]  
Am. Geol., vol. xx, pp. 323-324, 1897.
- 245 — [Review of "Geology of Polk County, Iowa," by H. F. Bain.]  
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- 246 **Gratacap** (L. P.). Fossils and fossilization.  
Am. Nat., vol. xxxi, pp. 16-33, 191-199, 285, 293, 1897.  
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- 247 **Gregory** (J. W.). Some problems of Arctic geology. I. The polar basin.  
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- 248 — Some problems of Arctic geology. II. Former Arctic climates.  
Nature, vol. lvi, pp. 351-352, 1897.  
Discusses the evidences as to the nature of Arctic climates in former geologic ages.

- 249 **Gresley** (W. S.). Traces of organic remains from Huronian (?) series at Iron Mountain, Mich., etc.  
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- 250 **Grimsley** (G. P.). Gypsum deposits of Kansas.  
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- 251 — Gypsum in Kansas.  
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- 252 — The study of natural palimpsests.  
 Am. Geol., vol. xix, pp. 15-21, 1897.  
 Discusses the phenomena of metamorphism.
- 253 — [Review of "The University Geological Survey of Kansas," vol. ii.]  
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- 254 **Griswold** (Leon S.). Notes on the geology of Southern Florida.  
 Jour. of Geol., vol. v, pp. 312-313, 1897.  
 Review by J. Edmund Woodman.
- 255 **Guppy** (R. J. Lechmere) and **Dall** (William H.). Descriptions of Tertiary fossils from the Antillean region.  
 U. S. Nat. Mus., Proc., vol. xix, pp. 303-331, pls. xxvii-xxx, 1897.
- 256 **Gurley** (William F. E.), **Miller** (S. A.) and. New species of crinoids, cephalopods, and other Paleozoic fossils.  
 See Miller (S. A.) and Gurley (Wm. F. E.), No. 431.
- 257 **Gwillim** (J. C.) and **Johnson** (W. S.). Some ores and rocks of southern Slovan division, West Kootenay, British Columbia.  
 Can. Rec. Sci., vol. vii, pp. 293-302, 6 figs., 1897.  
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- 258 **Hall** (Christopher W.). Syllabus of general geology for students, with definitions and references.  
 The University Book Store, Minneapolis, Minn., 8vo, 127 pp., 1897.  
 Review by U. S. G[rant], Am. Geol., vol. xx, pp. 323-324, 1897.
- 259 **Hallock** (W.). Subterranean temperatures at Wheeling, W. Va., and Pittsburg, Pa.  
 School of Mines Quart., vol. xviii, pp. 148-153, 1897.  
 Gives notes on the temperatures in deep wells at these localities.

- 260 **Hanna** (George B.), **Nitze** (H. B. C.) and: Gold deposits of North Carolina.  
See Nitze (H. B. C.) and Hanna (G. B.), No. 445.
- 261 **Hardman** (John E.). Notes on some mining districts in British Columbia.  
Can. Mg. Review, vol. xvi, pp. 109-112, 1897.  
Describes briefly the occurrence of gold and silver in the Rossland, Nelson, and Fort Steele districts.
- 262 **Hatcher** (J. B.). *Diceratherium proavatum*.  
Am. Geol., vol. xx, pp. 313-316, pl. xix, 1897.  
Makes correction of error in original description, and discusses its assignment to the genus *Diceratherium* rather than *Aceratherium*.
- 263 **Haworth** (Erasmus). Underground waters of southwestern Kansas.  
U. S. Geol. Surv., Water-Supply and Irrigation Papers No. 6, 63 pp., pls. i-xii, figs. 1-2, 1897.  
Describes the physiography of the region, the character and occurrence of the Juratrias, Cretaceous, and Tertiary beds, and the water supply. Includes a geological map.
- 264 — Physiography of western Kansas.  
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Describes the stream erosion of the region.
- 265 — Physical properties of the Tertiary [Kansas].  
Kan. Univ. Geol. Surv., vol. ii, pp. 251-284, pls. xxxvi-xliv, 1897.  
Describes the physical character of the material forming the Tertiary deposits, and discusses their origin and mode of formation.
- 266 — The University Geological Survey of Kansas, vol. ii.  
Review by S. W. W[illiston], Jour. of Geol., vol. v, pp. 400-401, 1897;  
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- 267 — See **Logan** (W. N.), No. 388.
- 268 — and **Beede** (J. W.). The McPherson Equus beds [Kansas].  
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Describes the topographic features of the region, and the character, structure, and origin of the beds.
- 269 **Hayes** (C. W.). Solution of silica under atmospheric conditions.  
Geol. Soc. Am. Bull., vol. viii, pp. 213-220, pls. 17-19, 1897.  
Describes occurrence of this phenomenon and the chemical reactions involved.
- 270 — [Review of "Report on the Valley Regions of Alabama, Part II. On the Coosa Valley region." By Henry McCalley.]  
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- 271 — The geological relations of some Southern iron ores.  
Science, new ser., vol. v, p. 558, 1897.



272 **Head** (Jeremiah). The coal industry of the southeastern States of North America.

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Describes the character and occurrence of coal in the southern Appalachian region.

273 **Henrich** (Carl). Faulting and accompanying features observed in glacial gravel and sand in southern Michigan.

Am. Inst. Mg. Engrs., Trans., vol. xxvi, pp. 460-464, fig. 1, 1897.

Describes the character of the strata and the faulting that has taken place.

274 **Herrick** (C. L.). The geology of a typical mining camp in New Mexico.

Am. Geol., vol. xix, pp. 256-262, pls. xiii-xiv, 1897.

Describes the general geologic features of the Magdalena Mountains and the fault phenomena of the region.

275 **Hershey** (Oscar F.). The Florencia formation.

Am. Jour. Sci., 4th ser., vol. iv, pp. 90-98, 1897.

Describes the lithologic character, distribution, and relations of the formation in Illinois, and gives a list of fossils determined by W. H. Dall.

276 — Mode of formation of till as illustrated by the Kansan drift of northern Illinois.

Jour. of Geol., vol. v, pp. 50-62, fig. 1, 1897.

Describes the general glacial features of the region and the occurrence and mode of formation of the till.

277 — Eskers indicating stages of glacial recession in the Kansan epoch in northern Illinois.

Am. Geol., vol. xix, pp. 197-209, 237-253, pl. xi, 1897.

Describes the distribution of the stratified gravel and sand, its mode of deposition, and the occurrence of transported rock masses. Presents a map showing the Kansan stages of recession and gives the author's conclusions.

278 — The term Pecatonica limestone.

Am. Geol., vol. xx, correspondence, pp. 66-67, 1897.

Discusses the use of the term Pecatonica.

279 — The physiographic development of the upper Mississippi valley.

Am. Geol., vol. xx, pp. 246-268, 1897.

Describes the peneplains in southeastern Minnesota, northeastern Iowa, northwestern Illinois, and the canyon valleys of the upper Mississippi region.

280 — The inferior boundary of the Quaternary era.

Am. Nat., vol. xxxi, pp. 104-114, 1897.

Discusses the evidences of the beginning of the Quaternary epoch.

- 281 **Hershey** (Oscar F.). [Review of "The formation of the Quaternary deposits of Missouri," by James E. Todd.]  
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- 282 — The loess formation of the Mississippi valley.  
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Describes the character and origin of the loess.
- 283 **Hill** (Robert T.). Memoir of Robert Hay.  
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Gives a sketch of his life and a list of his published papers.
- 284 — The alleged Jurassic of Texas. A reply to Prof. Jules Marcou.  
Am. Jour. Sci., 4th ser., vol. iv, pp. 449-469, 1897.  
Reviews the work on the Cretaceous series of the southwest, with special reference to the work and publications of Prof. Marcou in the same region.
- 285 — The easternmost volcanoes of the United States.  
Science, new ser., vol. vi, pp. 594-595, 1897.  
Describes occurrence of volcanic flows in eastern New Mexico.
- 286 — The stratigraphic succession in Jamaica.  
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- 287 — and **Vaughan** (T. Wayland). Geology of the Edwards plateau and Rio Grande plain adjacent to Austin and San Antonio, Texas, with reference to the occurrence of underground waters.  
U. S. Geol. Surv., 18th Ann. Rept., Pt. II, pp. 199-321, pls. xxi-lxiv, figs. 53-76, 1898.  
Describes the physiography of the region, the character and occurrence of the Comanche and Gulf series, and the Eocene strata, and the occurrence of underground water.
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- 474 **Phillips** (Francis C.). On the genesis of natural gas and petroleum.  
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- 481 — **Weed** (W. H.) and. Geology and mineral resources of the  
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- 482 **Porter** (J. A.). The Smuggler-Union mines, Telluride, Colorado.  
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- 494 ——— [Review of "The geology of Santa Catalina island," by W. S. T. Smith.]

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- 495 **Reid** (Harry Fielding). Variations of glaciers.

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## 502 — The fuller's earth of South Dakota.

Am. Inst. Mg. Engrs., Trans., vol. xxvii, pp. 333-335, 1898.

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## 503 — The clays and clay working industry of Colorado.

Am. Inst. Mg. Engrs., Trans., vol. xxvii, pp. 336-340, 1898.

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504 **Rowley** (R. R.) and **Keyes** (C. R.). Vertical range of fossils at  
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505 **Ruedemann** (R.). Evidence of current action in the Ordovician  
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currents by which they were transported. Presents a geologic map of  
the region described.

506 — Development and mode of growth of *Diplograptus* McCoy.

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- 509 — **A reconnoissance in southeastern Washington.**  
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- 510 — **Principal features of the geology of southeastern Washington.**  
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- 512 — [Review of "Glacier Bay and its glaciers," by H. F. Reid.]
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Gives a summary description of the several beds and discusses their correlation with other Devonian strata in the Mississippi Valley.
- 625 — **Origin of the loess.**  
*Am. Geol.*, vol. xx, correspondence, pp. 274-275, 1897.  
Makes corrections of a report of a recent paper by the author on this subject.
- 626 **Ulrich** (E. O.). The Lower Silurian Lamellibranchiata of Minnesota.  
*Minn. Geol. and Nat. Hist. Surv., Paleontology*, vol. iii, pt. ii, pp. 475-628, pls. xxxv-xlvi, 1897.  
Gives the author's terminology, methods of study, and classification. Describes many new species.
- 627 — **The lower Silurian Ostracoda of Minnesota.**  
*Minn. Geol. and Nat. Hist. Surv., Paleontology*, vol. iii, pt. ii, pp. 629-693, pls. xliii-xliv, figs. 46-52, 1897.  
Gives a provisional classification of the Paleozoic Ostracoda, and describes many new species.
- 628 — and **Scotfield** (W. H.). The Lower Silurian Gastropoda of Minnesota.  
*Minn. Geol. and Nat. Hist. Surv., Paleontology*, vol. iii, pt. ii, pp. 813-1081, pls. lxi-lxxii, figs. 1-12, 1897.  
Discusses the general characters and classification of the gastropods and describes many new species.

- 629 **Ulrich** (E. O.), **Winchell** (N. H.) and. The Lower Silurian deposits of the Upper Mississippi province: A correlation of the strata with those in the Cincinnati, Tennessee, New York, and Canadian provinces, and the stratigraphic and geographic distribution of the fossils.  
See Winchell (N. H.) and Ulrich (E. O.), No. 730.
- 630 **Underhill** (James). Vein intersections in Clear Creek County, Colorado.  
Eng. and Mg. Jour., vol. lxiv, p. 339, figs. 1-5, 1897.  
Describes the vein phenomena.
- 631 — The Seaton mine, Colorado.  
Eng. and Mg. Jour., vol. lxiv, p. 550, figs. 1-4, 1897.  
Describes the vein system.
- 632 **Upham** (Warren). Cuyahoga pre-Glacial gorge in Cleveland, Ohio.  
Geol. Soc. Am., Bull., vol. viii, pp. 7-13, 1897.  
Gives the records of wells and discusses their bearing on the evidence of the pre-Glacial erosion of the region.
- 633 — Modified drift in Saint Paul, Minnesota.  
Geol. Soc. Am., Bull., vol. viii, pp. 183-196, pl. lv, 1897.  
Describes the glacial phenomena of the vicinity.
- 634 — [Review of "Sixteenth Annual Report of the United States Geological Survey."]  
Am. Geol., vol. xix, pp. 210-214, 1897.
- 635 — Relation of the Lafayette or Ozarkian uplift of North America to Glaciation.  
Am. Geol., vol. xix, pp. 339-343, 1897.  
Discusses the relation of these uplifts to the glaciation of North America.
- 636 — Rhythmic accumulation of moraines by waning ice-sheets.  
Am. Geol., vol. xix, pp. 411-417, 1897.  
Discusses the character and mode of formation of moraines.
- 637 — [Review of "Summary report of the Geological Survey department of Canada for the year 1896," by G. M. Dawson.]  
Am. Geol., vol. xix, pp. 417-418, 1897.
- 638 — [Review of "The water resources of Illinois," by Frank Leverett.]  
Am. Geol., vol. xix, pp. 418-419, 1897.
- 639 — [Review of "Iowa Geological Survey, vol. vi: Report on lead, zinc, artesian wells, etc."]  
Am. Geol., vol. xx, pp. 271-273, 1897.

- 640 **Upham** (Warren). [Review of "Geology of Johnson County, Iowa," by Samuel Calvin.]  
Am. Geol., vol. xx, p. 273, 1897.
- 641 — **The Glacial Lake Agassiz.**  
Review by F. L[everett], Am. Geol., vol. xx, pp. 324-328, 1897; Review by T. C. C[hamberlin], Jour. of Geol., vol. v, pp. 851-853, 1897.
- 642 — [Review of "The Glacial brick clays of Rhode Island and southern Massachusetts," by N. S. Shaler, J. B. Woodworth, and G. F. Marbut.]  
Am. Geol., vol. xx, pp. 328-329, 1897.
- 643 — [Review of "The moraines of the Missouri couteau and their attendant deposits," by J. E. Todd.]  
Am. Geol., vol. xx, p. 329, 1897.
- 644 — [Review of "Glacial observations in the Umanak district, Greenland," by George H. Barton.]  
Am. Geol., vol. xx, pp. 329-330, 1897.
- 645 — **Drumlins containing or lying on modified drifts.**  
Am. Geol., vol. xx, pp. 383-387, 1897.  
Discusses the origin of these drumlins.

## V.

- 646 **Van Hise** (Charles R.). Studies for students: Deformation of rocks V.  
Jour. of Geol., vol. v, pp. 178-193, figs. 1-6, 1897.  
Describes the deformation of rocks by folding and the relations of cleavage, jointing, and bedding.
- 647 — **Geology for quarrymen.**  
Stone, vol. xiv, pp. 134-142, 260-264, 349-355, 487-490, 586-589; vol. xv, pp. 42-46, 126-132, 274-279, 370-373, 1897.  
Extract from the 16th Annual Report of the U. S. Geological Survey.
- 648 — and **Bayley** (William Shirley). The Marquette iron-bearing district of Michigan. With atlas. Including a chapter on the Republic Trough by Henry Lloyd Smyth.  
U. S. Geol. Surv., Mon., vol. xxviii, 608 pp., pls. i-xxv, figs. 1-27, atlas sheets i-xxxix, 1897. Review by U. S. Grant, Jour. Geol., vol. v, pp. 402-404, 1897.  
Reviews the previous explorations and literature on the region; describes the occurrence and character of the subdivisions of the Basement complex, and the Upper and Lower Marquette series, the igneous rocks, and the geologic features and structures of the Republic trough. Includes a discussion of the general geology of the region.
- 649 **Vaughan** (T. Wayland). Additional notes on the outlying areas of the Comanche series in Oklahoma and Kansas.  
Am. Jour. Sci., 4th ser., vol. iv., pp. 43-50, with map, 1897.  
Describes sections in various parts of the region, giving lists of fossils collected, and discusses their bearing on the relation and age of parts of the Comanche series.

- 650 **Vaughan** (T. Wayland). The asphalt deposits of western Texas. U. S. Geol. Surv., 18th Ann. Rept., Pt. V (cont.), pp. 930-935, 1897. Describes its occurrence in the Cretaceous beds of the region.
- 651 — Geologic notes on Kansas, Oklahoma, and Indian Territory. Abstract, Science, new ser., vol. v, pp. 558-559, 1897.
- 652 — **Hill** (R. T.) and. Geology of the Edwards plateau and Rio Grande plain adjacent to Austin and San Antonio, Texas, with reference to the occurrence of underground waters. See Hill (R. T.) and Vaughan (T. W.), No. 287.
- 653 **Vogdes** (Anthony W.). Notes on Paleozoic crustacea, No. 5, Carboniferous trilobites from Missouri. Cal. Acad. Sci., Proc., vol. vi, pp. 197-198, 1897. Describes *Proetus placidus* n. sp., from the Chouteau limestone of Missouri.

## W.

- 654 **Wadsworth** (M. E.). The origin and mode of occurrence of the Lake Superior copper deposits. Am. Inst. Mg. Engrs., Trans., vol. xxvii, pp. 669-696. Discusses the phenomena of the alteration of rock masses, the formation of ore deposits, and the character and relations of the Keweenaw and Potsdam series, and the lava flows.
- 655 **Walcott** (Charles Doolittle). The post-Pliocene elevation of the Inyo range, and the lake beds of Waucobi embayment, Inyo County, California. Jour. of Geol., vol. v, pp. 340-348, figs. 1-5, 1897. Presents evidence as to the occurrence of recent orographic movement in the region and describes the character and occurrence of the lake beds.
- 656 — Note on the genus *Lingulepis*. Am. Jour. Sci., 4th ser., vol. iii, pp. 404-405, 1897. Describes *Lingulepis meeki* n. sp. from the Middle Cambrian.
- 657 — Cambrian Brachiopoda: Genera *Iphidia* and *Yorkia*, with descriptions of each and of the genus *Acrothele*. U. S. Nat. Mus., Proc. vol. xix, pp. 707-718, pls. lix-lx, 1897.
- 658 — Report of the Director U. S. Geological Survey for the fiscal year ending June 30, 1897. U. S. Geol. Surv., 18th Ann. Rept., Pt. I, pp. 11-440, pls. i-iv, figs. 1-2, 1897. Describes the work of the geologic, topographic, and paleontologic divisions of the United States Geological Survey and gives summaries of the results obtained by the various field parties.
- 659 **Walker** (T. L.). Geological and petrographical studies of the Sudbury nickel district [Canada]. London Geol. Soc., Quart. Jour., vol. liii, pp. 40-66, 1897; review by G. Maas, Zeit. für prak. Geol., Heft. 8, pp. 297-300, fig. 85, 1897. Describes the petrographic characters of the nickel-bearing and associated rocks and discusses the origin of the ore.

- 660 **Ward** (Lester F.). Professor Fontaine and Dr. Newberry on the age of the Potomac formation.  
 Science, new ser., vol. v, pp. 411-423, 1897.  
 Reviews certain papers and discusses the conclusions as to the evidences of the age of the Potomac formation.
- 661 — A new species of *Eucalyptus* from the Dakota group of southwestern Kansas.  
 Torrey Bot. Club, Bull., vol. xxiv, pp. 576-577, 2 figs., 1897.  
 Describes *Eucalyptus gouldii* n. sp.
- 662 — The Cretaceous formation in southwestern Kansas.  
 Abstract, Science, new ser., vol. vi, pp. 814-815, 1897.
- 663 **Waring** (W. George). The gold fields of Altar, Mexico.  
 Eng. and Mg. Jour., vol. lxiii, pp. 257-258, 1897.  
 Describes the occurrence of gold in western Mexico.
- 664 **Warren** (E. R.). Vein walls.  
 Eng. and Mg. Jour., vol. lxiii, p. 424, 1897.  
 Describes vein structure near Crested Butte, Colorado.
- 665 — Some mineral veins of Gunnison County, Colorado.  
 Eng. and Mg. Jour., vol. lxiii, pp. 597-598, 1897.  
 Discusses occurrence of silver-lead ore bodies near Crested Butte, Colo.
- 666 **Watson** (Thomas L.). Evidences of recent elevation of the southern coast of Baffinland.  
 Jour. of Geol., vol. v, pp. 17-33, 1897.  
 Describes the topographic features of the region, and the occurrence of raised beaches and their contained fossils. Discusses their occurrence as evidence of recent elevation. Gives a partial bibliography of the subject.
- 667 — [Review of "The relation of the fauna of the Ithaca group to the faunas of the Portage and Chemung," by Edward M. Kindle].  
 Am. Geol., vol. xix, pp. 140-141, 1897.
- 668 — Lakes with more than one outlet.  
 Am. Geol., vol. xix, pp. 267-270, 1897.  
 Reviews the literature describing such phenomena and describes occurrences in Baffinland.
- 669 — A bibliography of the geological, mineralogical, and paleontological literature of the State of Virginia.  
 Am. Pal., Bull., vol. 2, No. 7, p. 109, 1897.  
 Gives a list of journals consulted, and a bibliography arranged alphabetically by authors' names.
- 670 **Watts** (W. L.). Oil and gas yielding formations of Los Angeles, Ventura, and Santa Barbara counties [California].  
 Cal. State Mg. Bureau, Bull. No. 11, p. 94, 35 figs., 1897.  
 Describes the occurrence of oil and the character and structure of the Tertiary beds. Gives a list of fossils determined. Includes geological sketch maps of the several districts.

- 671 **Weaver** (W. J.). River adjustment in North Carolina.  
 Elisha Mitchell Sci. Soc., Jour., 1896, pt. i, pp. 13-24, figs. 1-2, 1896.  
 Discusses the changes in the drainage lines of North Carolina.
- 671a **Weed** (Walter Harvey). [Areal Geology, Butte quadrangle, Montana.]  
 U. S. Geol. Surv., Geol. Atlas of U. S., Folio No. 38, 1897.  
 Describes the physiography, igneous intrusions, and rocks of the region.
- 672 ——— Laccoliths in folded strata.  
 Abstract, Science, new ser., vol. v., pp. 811-812, 1897.
- 673 ——— and **Pirsson** (L. V.). Geology of Castle Mountain mining district, Montana.  
 Review, Jour. of Geol., vol. v, pp. 210-212, 1897.
- 674 ——— Geology and mineral resources of the Judith Mountains of Montana.  
 U. S. Geol. Surv., 18th Ann. Rept., Pt. III, pp. 446-616, pls. lxi-xlxxvi, figs. 32-54b, 1898.  
 Describes the physiography, geologic history, occurrence and character of the Paleozoic and Mesozoic rocks, the detailed geology, the character and occurrence of the igneous rocks, the dynamic and structural geology, and the mineral resources of the region.
- 675 **Weeks** (Fred Boughton). Bibliography and index of North American geology, paleontology, petrology, and mineralogy for 1896.  
 U. S. Geol. Surv., Bull. No. 149, 152 pp., 1897.  
 Contains a list of titles of papers arranged alphabetically by authors' names and a subject index.
- 676 **Weller** (Stuart). [Review of "Report on the Valley Regions of Alabama (Paleozoic strata) Part I. On the Tennessee Valley region" by Henry McCalley.]  
 Jour. of Geol., vol. v, pp. 307-308, 1897.
- 677 ——— [Review of "Final report on the geology of Minnesota, Paleontology, vol. iii, pt. ii."]  
 Jour. of Geol., vol. v, p. 308, 1897.
- 678 ——— [Review of "Bulletins of American Paleontology, vol. i."]  
 Jour. of Geol., vol. v, pp. 309-310, 1897.
- 679 ——— Correlation of the Devonian faunas in southern Illinois.  
 Jour. of Geol., vol. v, pp. 625-635, 1897.  
 Gives a list of fossils collected in Illinois on the Mississippi River, and discusses the relations of the Illinois, Iowa, and New York Devonian faunas.
- 680 ——— On the presence of problematic fossil Medusæ in the Niagara limestone of northern Illinois.  
 Jour. of Geol., vol. v, pp. 744-751, fig. a, and one plate, 1897.  
 Describes the general characters of the material and the characters of four new species.

- 681 **Weller** (Stuart). *Cryptodiscus* Hall.  
 Jour. of Geol., vol. v, pp. 803-808, pls. A. B., 1897.  
 Describes material from the Niagara limestone of Wisconsin, and discusses its correlation with *Callierinus*.
- 682 **Wells** (J. Walter). The mispickel gold ores of Deloro, Ontario.  
 Can. Mg. Rev., vol. xvi, pp. 120-121, 1897.  
 Describes the character of the gold ores and their geologic occurrence.
- 683 **Wheeler** (H. A.). Clay deposits.  
 Jour. of Geol., vol. v, pp. 398-400, 1897.  
 Review by H. F. Bain.
- 684 **White** (David). Age of the lower coals of Henry County, Missouri.  
 Geol. Soc. Am., Bull., vol. viii, pp. 287-304, 1897. Review by A. H[ollick], Torrey Bot. Club., Bull., vol. xxiv, pp. 316-317, 1897.  
 Describes the stratigraphy of the coal beds, the composition and distribution of the flora, and its bearing on the age of the beds. Includes a discussion of the early Carboniferous flora.
- 685 — [Review of "Zur palaozoischen Flora der Arktischen zone," by A. G. Nathorst, Stockholm, 1894.]  
 Am. Nat., vol. xxxi, pp. 43-45, 1897.
- 686 **White** (Theodore G.). A contribution to the petrography of the Boston Basin [Massachusetts].  
 Boston Soc. Nat. Hist., Proc., vol. xxv, pp. 117-156, 5 pls., 1897.  
 Describes the character and occurrence of the Cambrian slates, the petrographic characters of the granitoid, porphyritic, and felsitic rocks, and the occurrence of granite dikes and contact phenomena.
- 687 **Whiteaves** (J. F.). The fossils of the Galena-Trenton and Black River formations of Lake Winnipeg and its vicinity [Canada].  
 Canada Geol. Surv., Paleozoic Fossils, vol. iii, pt. iii, pp. 129-242, pls. 16-22, figs. 19, 1897. Review by J. M. Clarke, Am. Geol., vol. xx, pp. 187-188, 1897.  
 Describes the characters of the fossils collected, including a number of new species.
- 688 — Note on a fish tooth from the Upper Arisaig series of Nova Scotia.  
 Brit. Assoc. Adv. Sci., Rept. 1897, pp. 656-657, 1898.  
 Discusses its bearing on the age of the beds.
- 689 — Description of a new genus and species of cystideans from the Trenton limestone at Ottawa [Ontario].  
 Can. Rec. Sci., vol. vii, pp. 287-292, 3 figs., 1897.  
 Describes *Astrocytites ottawaensis* n. sp.
- 690 **Whitfield** (Robert P.). Note on the hypostome of *Lichas* (*Teratopsis*) *grandis* Hall.  
 Am. Mus. Nat. Hist., Bull., vol. ix, pp. 45-46, 3 figs., 1897.  
 Describes the characters of the material.



- 691 **Whitfield** (Robert P.). Description of new species of Silurian fossils from near Fort Cassin and elsewhere on Lake Champlain.  
 Am. Mus. Nat. Hist., Bull., vol. ix, pp. 177-184, pls. iv-v, 1897.  
 Describes fossils from the Fort Cassin beds of Vermont.
- 692 — Descriptions of species of Rudistæ from the Cretaceous rocks of Jamaica, W. I., collected and presented by Mr. F. C. Nicholas.  
 Am. Mus. Nat. Hist., Bull., vol. ix, pp. 185-196, pls. vi-xxii, 1897.  
 Describes a number of new species.
- 693 — Observations on the genus *Barrettia* Woodward, with descriptions of two new species.  
 Am. Mus. Nat. Hist., Bull., vol. ix, pp. 233-246, pls. xxvii-xxxviii, 1897.  
 Discusses the character of the genus and describes two new species.
- 694 **Whitten** (W. M.), **Bailey** (E. H. S.) and. On the chemical composition of some Kansas gypsum rocks.  
 See Bailey (E. H. S.) and Whitten (W. M.) No. 27.
- 695 **Wieland** (George R.). Eopaleozoic hot springs and the origin of the Pennsylvania siliceous oolite.  
 Am. Jour. Sci., 4th ser., vol. iv, pp. 262-264, fig. 1, 1897.  
 Discusses the origin of certain material.
- 696 **Williams** (E. H., jr.). Greenland glaciers.  
 Science, new ser., vol. v, p. 448, 1897.  
 Compares certain features of glaciation in Greenland and Pennsylvania.
- 697 **Williams** (Henry S.). On the southern Devonian formations.  
 Am. Jour. Sci., 4th ser., vol. iii, pp. 393-403, with map, 1897. Review by E. W. C[laypole], Am. Geol., vol. xx, pp. 133-134, 1897.  
 Describes the characteristics of the Devonian strata and discusses the author's hypothesis to explain the differences in the Devonian stratigraphy of eastern United States.
- 698 — [Review of "An introduction to geology," by W. B. Scott.]  
 Am. Jour. Sci., 4th ser., vol. iii, pp. 422-423, 1897; Science, new ser., vol. v, pp. 659-660, 1897.
- 699 **Willis** (Bailey). Some coal fields of Puget Sound [Washington].  
 U. S. Geol. Surv., 18th Ann. Rept., Pt. III, pp. 399-436, pls. lii-lxviii, figs. 26-31, 1898.  
 Describes the physiography, stratigraphic succession, and structure of the region. Discusses the age of the beds and gives an account of the occurrence of coal.
- 700 — Glaciation in the Puget Sound region [Washington].  
 Am. Geol., vol. xix, pp. 144-145, 1897; Abstract, Science, new ser., vol. v, pp. 238-239, 1897.  
 Gives brief notes on the glacial phenomena of the region.

- 701 **Willis** (Bailey). [Review of "Elementary geology," by Ralph S. Tarr.]  
Science, new ser., vol. vi, pp. 599-600, 1897.
- 702 — Drift phenomena of Puget Sound and their interpretation.  
Brit. Assoc. Adv. Sci., Rept. 1897, p. 653 ( $\frac{1}{4}$  p.), 1898.
- 703 **Williston** (S. W.). The Kansas Niobrara Cretaceous.  
Kan. Univ. Geol. Surv., vol. ii, pp. 237-246, pl. xxxv, 1897.  
Describes the general lithologic and faunal characters of the formation.
- 704 — The Pleistocene of Kansas.  
Kan. Univ. Geol. Surv., vol. ii, pp. 299-308, figs. 12-13, 1897.  
Gives notes on the occurrence of vertebrates in the Pleistocene of Kansas, and discusses evidences as to the age of the Equus beds and the occurrence of the Goodnight and Blanco beds.
- 705 — Restoration of Ornithostoma (Pteranodon).  
Kan. Univ. Quart., vol. vi, pp. 35-51, pl. ii, 1897.  
Gives the author's classification and describes the characters of Ornithostoma.
- 706 — Notice of some vertebrate remains from the Kansas Permian.  
Kan. Univ. Quart., vol. vi, pp. 53-56, figs. 1-4, 1897.  
Describes fragments of Cricotus.
- 707 — A new plesiosaur from the Kansas Comanche Cretaceous.  
Kan. Univ. Quart., vol. vi, p. 579, 1897.  
Describes Plesiosaurus gouldii, n. sp.
- 708 — Brachysaurus, a new genus of Mosasaurs.  
Kan. Univ. Quart., vol. vi, pp. 95-99, pl. viii, 1897.  
Describes the characters of a new genus from the Cretaceous of South Dakota.
- 709 — On the extremities of Tylosaurus.  
Kan. Univ. Quart., vol. vi, pp. 99-102, pls. ix-xii, fig. 1, 1897.
- 710 — Restoration of Kansas Mosasaurs.  
Kan. Univ. Quart., vol. vi, pp. 107-110, pl. xiii, 1897; Sci. Am. Suppl., vol. xliv, p. 18162, 3 figs., 1897.  
Describes restorations of Clidastes, Platecarpus, and Tylosaurus.
- 711 — Range and distribution of the Mosasaurs, with remarks on synonymy.  
Kan. Univ. Quart., vol. vi, pp. 177-185, pl. xx, 1897.  
Describes the geologic and geographic distribution of mosasaurs and discusses their synonymy.
- 712 — A new labyrinthodont from the Kansas Carboniferous.  
Kan. Univ. Quart., vol. vi, pp. 209-210, pl. xxi, 1897.  
Describes a tooth of particular interest, as it is from a lower horizon than hitherto recorded and the only one yet found in America.

- 713 **Williston** (S. W.). Vertebrates from the Kansas Permian.  
 Science, new ser., vol. v, p. 395 (½ p.), 1897.  
 Notes on discovery of vertebrate remains from near the base of the Permian.
- 714 — [Review of "The University Geological Survey of Kansas, Vol. II," by Erasmus Haworth and assistants.]  
 Jour. of Geol., vol. v, pp. 400-401, 1897.
- 715 **Winchell** (Alexander N.). The age of the Great Lakes of North America.  
 Am. Geol., vol. xix, pp. 336-339, 1897.  
 Gives a partial bibliography of the subject, with brief notes on the contents of each paper.
- 716 — The Koochiching granite.  
 Am. Geol., vol. xx, pp. 293-299, figs. 1-3, 1897.  
 Describes the megascopic and microscopic and chemical characters of the granite.
- 717 **Winchell** (Horace V.). The gold fields of the Rainy River district [Ontario].  
 Eng. and Mg. Jour., vol. lxiv, pp. 485-486, with geological map, 1897.  
 Describes the geologic features and occurrence of the ore veins.
- 718 **Winchell** (N. H.). [Review of "The ancient volcanic rocks of South Mountain, Pennsylvania," by Florence Bascom.]  
 Am. Geol., vol. xix, pp. 139-140, 1897.
- 719 — [Review of "Elementary Geology," by Ralph S. Tarr.]  
 Am. Geol., vol. xix, pp. 277-278, 1897.
- 720 — [Review of "Glaciers of North America," by I. C. Russell.]  
 Am. Geol., vol. xix, p. 278 (½ p.), 1897.
- 721 — Some new features in the geology of northeastern Minnesota.  
 Am. Geol., vol. xx, pp. 41-51, 1897.  
 Describes recent observations on the transition from crystalline schists to the Laurentian, the relations of the Stuntz conglomerate, and the nature and position of the coarse conglomerate in Puckwunge valley.
- 722 — [Review of "Papers and notes on the genesis and matrix of the diamond," by H. C. Lewis.]  
 Am. Geol., vol. xx, pp. 57-59, 1897.
- 723 — Light in the East.  
 Am. Geol., vol. xx, Editorial comment, pp. 128-129, 1897.  
 Discusses use of the term Taconic.
- 724 — [Review of "The Newark system, Report of progress," by H. B. Kimmell.]  
 Am. Geol., vol. xx, pp. 134-135, 1897.

- 725 **Winchell** (N. H.). [Review of "Twenty-First Annual Report of the Department of Geology and Natural Resources, Indiana."]  
Am. Geol., vol. xx, pp. 135-136 ( $\frac{1}{2}$  p.), 1897.
- 726 — [Review of development and mode of growth of *Diplograptus McCoy*," by R. Ruedemann.]  
Am. Geol., vol. xx, p. 136 ( $\frac{1}{2}$  p.), 1897.
- 727 — The Fisher meteorite, chemical and mineral composition.  
Am. Geol., vol. xx, pp. 316-317, 1897.  
Describes its microscopic characters.
- 728 — The Taconic according to Renevier.  
Am. Geol., vol. xx, Editorial Comment, pp. 405-407, 1897.  
Discusses the Taconic question.
- 729 — Minnesota quartzite.  
Stone, vol. xiv, pp. 122-125, 1897.  
Extracted from Minnesota Geological and Natural History Survey.
- 730 — and **Ulrich** (E. O.). The Lower Silurian deposits of the Upper Mississippi: A correlation of the strata with those in the Cincinnati, Tennessee, New York, and Canadian Provinces, and the stratigraphic and geographic distribution of the fossils.  
Minn. Geol. and Nat. Hist. Surv., Paleontology, vol. iii, pt. ii, pp. lxxxiii-cxxix, 1897.  
Discusses the evidence for the correlation of the various subdivisions of the Lower Silurian group in the areas named. Gives a list of fossils from different horizons in the several areas.
- 731 **Winslow** (Arthur). [Review of geology and mining industry of the Cripple Creek district, Colorado, by Whitman Cross and R. A. F. Penrose, jr.]  
Jour. of Geol., vol. v, pp. 197-203, 1897.
- 732 **Wolf** (J. E.). Report on Archean geology [New Jersey].  
N. J. Geol. Surv., Rept. 1896, pp. 91-94, pl. ix, 1897.  
Describes occurrence of elæolite-syenite.
- 733 — and **Brooks** (Alfred Hulse). The age of the Franklin White limestone of Sussex County, New Jersey.  
U. S. Geol. Surv., 18th Ann. Rept., pp. 431-457, pl. lxxxiii, fig. 77-81, 1898; Abstract, Geol. Soc. Am., Bull., vol. viii, p. 397, 1897.  
Gives a review of previous literature, a description of the lithologic character and structure of the formation, and a summary and conclusions.
- 734 **Woodman** (J. Edmund). [Review of "The elevated reefs of Florida," by Alexander Agassiz. With notes on the geology of southern Florida, by Leon S. Griswold.]  
Jour. of Geol., vol. v, pp. 312-313, 1897.
- 735 **Woodward** (A. Smith). Edward Drinker Cope.  
Nat. Science, vol. x, pp. 377-381, pl. iv, 1897.  
Gives a sketch of the life of Professor Cope.

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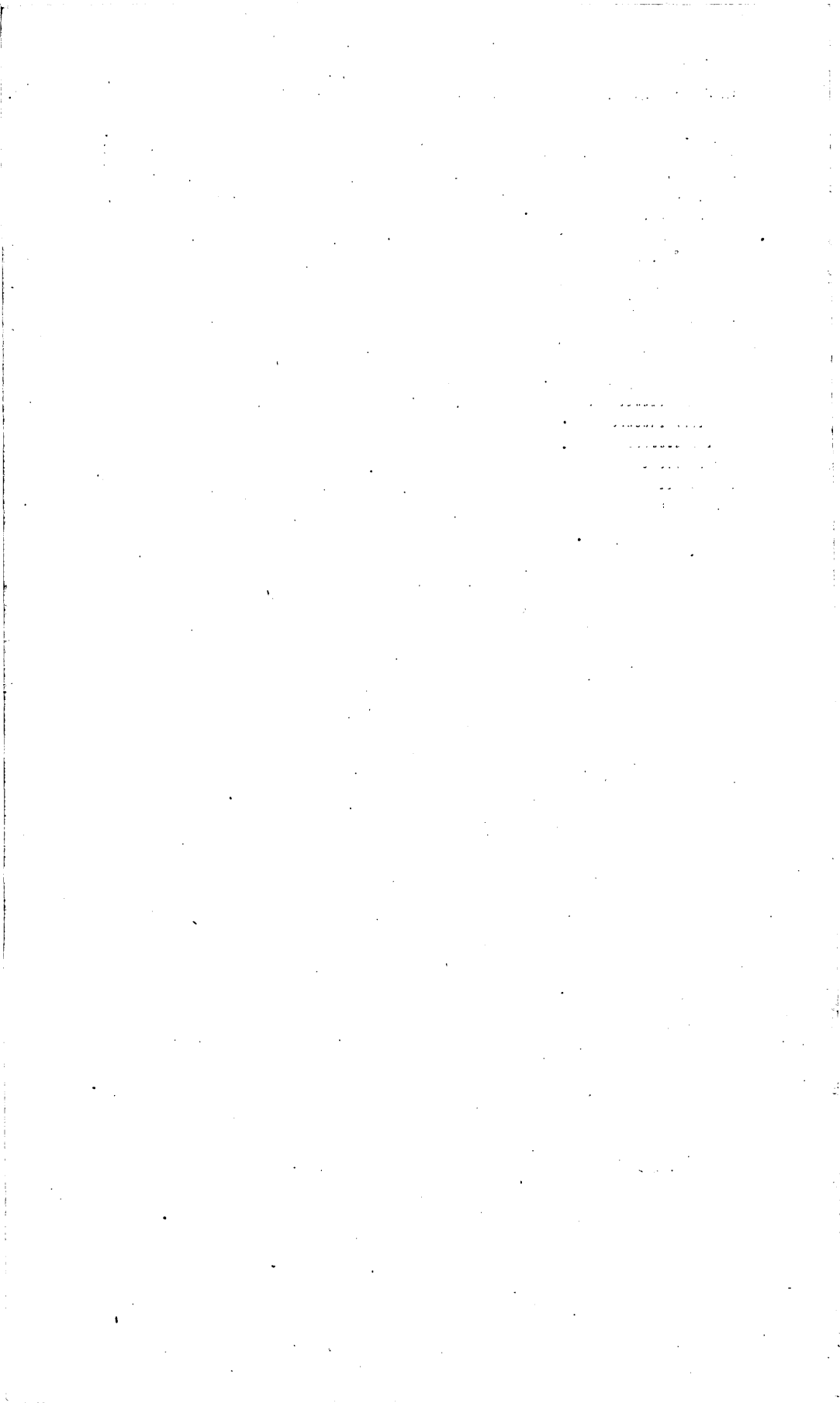
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*decipiens* n. sp., Walcott, No. 657.  
*Actæon*  
*cossmanni* n. sp., Aldrich, No. 18.  
*traskii* n. sp., Stearns, No. 581.  
*Actinoceras*  
*allumettense* Billings, Whiteaves, No. 687.  
*beloitense* Whitfield, 1877, Clarke, No. 134.  
*bigsbyi*? Bronn, Whiteaves, No. 687.  
*bigsbyi* Stokes, 1840, Clarke, No. 134.  
*remotiseptum* Hall, 1850, Clarke, No. 134.  
*richardsonii* Stokes, Whiteaves, No. 687.  
(*Sactoceras*?) *canadense* Whiteaves, Whiteaves, No. 687.  
*Actinocrinus senectus* n. sp., Miller and Gurley, No. 431.  
*Actinomya* n. gen., Ulrich, No. 626.  
*modioliformis* Meek and Worthen, Ulrich, No. 626.  
*subcarinata* n. sp., Ulrich, No. 626.  
*Agaricoerinus*  
*iowensis* n. sp., Miller and Gurley, No. 431.  
*keokukensis* n. sp., Miller and Gurley, No. 431.  
*Alaba turrita* n. sp., Guppy and Dall, No. 255.  
*Allodesma* n. gen., Ulrich, No. 626.  
*subellipticum* Ulrich, Ulrich, No. 626.  
*Amblysiophonella prosseri* Clarke, Clarke, No. 137.  
*Ambonychia* Hall, emend Ulrich, Ulrich, No. 626.  
*affinis* n. sp., Ulrich, No. 626.  
*amygdalina* Hall, Ulrich, No. 626.  
*bellistriata* Hall, Ulrich, No. 626.  
*planistriata* Hall, Ulrich, No. 626.  
*Amplexus* (?) *rockfordensis* n. sp., Miller and Gurley, No. 431.

## Paleontology—Continued.

*Genera and species described—Continued.*

- Anomalophyllites bridgetonensis* n. sp., Hollick, No. 302.  
*Anomia umbonata* n. sp., Guppy and Dall, No. 255.  
*Aparchites* Jones, Ulrich, No. 627.  
   *arrectus* n. sp., Ulrich, No. 627.  
   *chatfieldensis* n. sp., Ulrich, No. 627.  
   *ellipticus* n. sp., Ulrich, No. 627.  
   *fimbriatus* Ulrich, Ulrich, No. 627.  
   *granilabiatum* Ulrich, Ulrich, No. 627.  
   *millepunctatum* Ulrich, Ulrich, No. 627.  
   *minutissimum* Hall var. *trentonensis* n. var., Ulrich, No. 627.  
   *parvulus* Jones, Whiteaves, No. 687.  
   *whiteavessii* Jones, Whiteaves, No. 687.  
*Apodidæ* Burmeister (emend after Packard), Schuchert, No. 540.  
*Apodinæ* n. subfam., Schuchert, No. 540.  
*Archeozoon*, Dawson, No. 176.  
*Archinacella* n. gen., Ulrich and Scofield, No. 628.  
   *cingulata* n. sp., Ulrich and Scofield, No. 628.  
   *deleta* Sardeson sp., Ulrich and Scofield, No. 628.  
   *depressa* n. sp., Ulrich and Scofield, No. 628.  
   *instabilis* Billings var. *incurva*, n. var., Ulrich and Scofield, No. 628.  
   *perovalis* Whitfield sp., Ulrich and Scofield, No. 628.  
   *powersi* n. sp., Ulrich and Scofield, No. 628.  
   *richmondensis* n. sp., Ulrich and Scofield, No. 628.  
   *rotunda* n. sp., Ulrich and Scofield, No. 628.  
   *rugatina* n. sp., Ulrich and Scofield, No. 628.  
   *semicarinata* n. sp., Ulrich and Scofield, No. 628.  
   *simulatrix* n. sp., Ulrich and Scofield, No. 628.  
   *subrotunda* n. sp., Ulrich and Scofield, No. 628.  
   *valida* Sardeson sp., Ulrich and Scofield, No. 628.  
*Arges wesenbergensis* var. *paulianus* n. var., Clarke, No. 133.  
*Aristerella* n. gen., Ulrich, No. 626.  
   *nitidula* n. sp., Ulrich, No. 626.  
*Asaphus*  
   *gigas* DeKay, Whiteaves, No. 687.  
   (*Isotelus*) *susæ* Whitfield, Whiteaves, No. 687.  
*Ascoceras costulatum* Whiteaves, Whiteaves, No. 687.  
*Astrocystides ottawaensis* n. sp., Whiteaves, No. 689.  
*Aulacopella winnipegensis* Rauff, Whiteaves, No. 687.  
*Barrettia* Woodward, Whitfield, No. 693.  
   *multilirata* n. sp., Whitfield, No. 693.  
   *sparcilirata* n. sp., Whitfield, No. 693.  
*Bathyrurus*  
   *extans* Hall (sp.), 1847, Clarke, No. 133.  
   *perkinsi* n. sp., Whitfield, No. 691.  
   *schucherti* n. sp., Clarke, No. 133.  
   *spiniger* Hall (sp.), 1847, Clarke, No. 133.

## Paleontology—Continued.

*Genera and species described—Continued.*

- Batocrinus*  
   *douglassi* n. sp., Miller and Gurley, No. 431.  
   *reliquus* n. sp., Miller and Gurley, No. 431.  
   *reservatus* n. sp., Miller and Gurley, No. 431.  
   *rotuliformis* n. sp., Miller and Gurley, No. 431.  
   *rusticellus* n. sp., Miller and Gurley, No. 431.  
   (?) *rusticus* n. sp., Miller and Gurley, No. 431.  
   *scitulus* n. sp., Miller and Gurley, No. 431.  
   *senex* n. sp., Miller and Gurley, No. 431.  
   *sharonensis* n. sp., Miller and Gurley, No. 431.  
*Bellerophon* Montfort, Ulrich and Scofield, No. 628.  
   *bilineatus* n. sp., Ulrich and Scofield, No. 628.  
   *capax* n. sp., Ulrich and Scofield, No. 628.  
   *clausus* n. sp., Ulrich and Scofield, No. 628.  
   *mohri* Miller, Ulrich and Scofield, No. 628.  
   *platystoma* Meek and Worthen, Ulrich and Scofield, No. 628.  
   *recurvus* n. sp., Ulrich and Scofield, No. 628.  
   *similis* n. sp., Ulrich and Scofield, No. 628.  
   *subangularis* n. sp., Ulrich and Scofield, No. 628.  
   *subglobulus* n. sp., Ulrich and Scofield, No. 628.  
   *troosti* (d'Orbigny) Safford, Ulrich and Scofield, No. 628.  
     var. *burginensis* n. var., Ulrich and Scofield, No. 628.  
*Bellerophon* Montfort, Ulrich and Scofield, No. 628.  
*Benthonella turbinata* n. sp., Guppy and Dall, No. 255.  
*Betula*, Knowlton, No. 345.  
   *æqualis*? Lx., Knowlton, No. 345.  
*Beyrichia* McCoy, Ulrich, No. 627.  
   *initialis* n. sp., Ulrich, No. 627.  
   *nova scotica*, Dawson, No. 174.  
*Bittium* (*Styliferina*) *præformatum* n. sp., Guppy and Dall, No. 255.  
*Bollia* Jones and Holl, Ulrich, No. 627.  
   *unguloidea* n. sp., Ulrich, No. 627.  
   *subæquata* n. sp., Ulrich, No. 627.  
*Brachysaurus* n. gen., Williston, No. 708.  
   *overtoni* Williston, Williston, No. 708.  
*Bronteus lunatus* Billings, 1854, Clarke, No. 133.  
*Bucanella* Meek, Ulrich and Scofield, No. 628.  
*Bucania* Hall, Ulrich and Scofield, No. 628.  
   *champlainensis* n. sp., Whitfield, No. 691.  
   *crassa* n. sp., Ulrich and Scofield, No. 628.  
   *elliptica* n. sp., Ulrich and Scofield, No. 628.  
   *emmonsii* n. sp., Ulrich and Scofield, No. 628.  
   *frankfortensis* n. sp., Ulrich and Scofield, No. 628.  
   *halli* n. sp., Ulrich and Scofield, No. 628.  
   *lindsleyi* Safford, Ulrich and Scofield, No. 628.



**Paleontology—Continued.**

*Genera and species described—Continued.*

**Bucania—Continued.**

- miconema n. sp., Ulrich and Scofield, No. 628.
- minnesotensis n. sp., Ulrich and Scofield, No. 628.
- nana n. sp., Ulrich and Scofield, No. 628.
- var. subpatula n. var., Ulrich and Scofield, No. 628.
- nashvillensis n. sp., Ulrich and Scofield, No. 628.
- peracuta n. sp., Ulrich and Scofield, No. 628.
- punctifrons Emmons, Ulrich and Scofield, No. 628.
- rugatina n. sp., Ulrich and Scofield, No. 628.
- simulatrix n. sp., Ulrich and Scofield, No. 628.
- singularis n. sp., Ulrich and Scofield, No. 628.
- subangulata n. sp., Ulrich and Scofield, No. 628.
- sublata n. sp., Ulrich and Scofield, No. 628.

**Bucanopsis n. gen., Ulrich and Scofield, No. 628.**

- carinifera n. sp., Ulrich and Scofield, No. 628.

**Bullia buccinoides n. sp., Merriam, No. 425.**

**Bumastus**

- orbicaudatus Billings (sp.), 1859, Clarke, No. 133.
- trentonensis Emmons (sp.), 1842, Clarke, No. 133.

**Bythotrephis pergracilis Dawson, Dawson, No. 175.**

**Byssonychia n. gen., Ulrich, No. 626.**  
intermedia Meek and Worthen, Ulrich, No. 626.

tenuistriata n. sp., Ulrich, No. 626.

**Bythocypris Brady, Ulrich, No. 627.**

- cylindrica Hall, Ulrich, No. 627.
- (?) curta n. sp., Ulrich, No. 627.
- granti n. sp., Ulrich, No. 627.
- (?) robusta n. sp., Ulrich, No. 627.

**Cadulus parianus n. sp., Guppy and Dall, No. 255.**

**Calamodon Cope, Wortman, No. 742.**

**Calappaia canadensis Billings, Whiteaves, No. 687.**

**Callierinus, Weller, No. 681.**

**Calliostoma lignitica n. sp., Cooper, No. 148.**

**Calops**

- consors n. sp., Marsh, No. 410.
- cristatus, Marsh, No. 410.

**Calymmene callicephalo Green, 1832, Clarke, No. 133.**

**Camerocheras Conrad, 1839, Clarke, No. 134.**

- hennepini n. sp., Clarke, No. 134.
- proteiforme Hall, 1847, Clarke, No. 134.
- n. sp., Clarke, No. 134.

**Cancellaria**

- lanceolata n. sp., Aldrich, No. 19.
- marieana n. sp., Aldrich, No. 18.
- rowelli n. sp., Guppy and Dall, No. 255.

**Paleontology—Continued.**

*Genera and species described—Continued.*

**Canistocrinus Wachsmuth and Springer, James, No. 312.**

- pattersoni S. A. Miller, James, No. 312.
- richardsoni Wetherby, James, No. 312.

**Caprina jamaicensis n. sp., Whitfield No. 692.**

**Caprinella**

- occidentalis n. sp., Whitfield, No. 692.
- quadrangularis n. sp., Whitfield, No. 692.
- Caprinula gigantea n. sp., Whitfield, No. 692.

**Carbonia**

- bairdioides, Dawson, No. 174.
- elongata, Dawson, No. 174.
- fabulina, Dawson, No. 174.

**Cardita alticosta Gabb, Cooper, No. 147.**

**Carinaria caperata n. sp., Guppy and Dall, No. 255.**

**Carinaropsis Hall, Ulrich and Scofield, No. 628.**

- acuta n. sp., Ulrich and Scofield, No. 628.
- cunula Hall, Ulrich and Scofield, No. 628.
- cymbula Hall, Ulrich and Scofield, No. 628.
- explanata n. sp., Ulrich and Scofield, No. 628.

- minima n. sp., Ulrich and Scofield, No. 628.
- phalera Sardeson, Ulrich and Scofield, No. 628.

**Cassia obtusa n. sp., Knowlton, No. 345.**

**Celastrus lindgreni n. sp., Knowlton, No. 345.**

**Ceratopsis n. gen., Ulrich, No. 627.**

- chambersi Miller, Ulrich, No. 627.
- var. robusta n. var., Ulrich, No. 627.

**Ceraurus plerexanthemus Green, 1832, Clarke, No. 133.**

**Cerithiopsis**

- conica n. sp., Aldrich, No. 18.
- dalli n. sp., Aldrich, No. 18.
- fluviatilis n. sp., Aldrich, No. 18.

**Cerithium delicatulum n. sp., Aldrich, No. 18.**

**Chaetetes perantiquus n. sp., Whiteaves, No. 687.**

**Chondrites**

- cuneatus n. sp., Whiteaves, No. 687.
- cupressinus Whiteaves, Whiteaves, No. 687.
- gracillimus Whiteaves, Whiteaves, No. 687.
- metissicus n. sp., Dawson, No. 175.
- (Bythotrephis) patulus, Whiteaves, No. 687.

**Chriacus Cope, Matthew, No. 418.**

- baldwini (Cope), Matthew, No. 418.
- pelvidens (Cope), Matthew, No. 418.
- schlosserianus Cope, Matthew, No. 418.
- truncatus Cope, Matthew, No. 418.

**Chænodon Scott, Matthew, No. 418.**

- corrugatus (Cope), Matthew, No. 418.
- ferox (Cope), Matthew, No. 418.
- (?) protogonioides (Cope), Matthew, No. 418.

**Clathrospira n. gen., Ulrich and Scofield, No. 628.**

- conica n. sp., Ulrich and Scofield, No. 628.
- convexa n. sp., Ulrich and Scofield, No. 628.
- subconica Hall, Ulrich and Scofield, No. 628.

## Paleontology—Continued.

*Genera and species described*—Continued.

- Clathurella  
*amicta* n. sp., Guppy and Dall, No. 255.  
*vendryesiana* n. sp., Guppy and Dall, No. 255.
- Clementia (?) *teniosa* n. sp., Guppy and Dall, No. 255.
- Clidastes, Williston, No. 710.
- Clidophorus Hall, Ulrich, No. 626.  
*consuetus* Ulrich, Ulrich, No. 626.  
*neglectus* Hall, Ulrich, No. 626.
- Clinoceras *mumlaeforme* Whitfield, 1878, Clarke, No. 133.
- Clinopistha (?) *antiqua* n. sp., Whiteaves, No. 687.
- Clionychia Ulrich, Ulrich, No. 626.  
*erecta* Hall, Ulrich, No. 626.  
*lamellosa* Hall, Ulrich, No. 626.  
*nitida* n. sp., Ulrich, No. 626.  
*rhomboidea* Ulrich, Ulrich, No. 626.  
*undata* Emmons, Ulrich, No. 626.
- Clitambonites *diversa* Shaler, Whiteaves, No. 687.
- Cœlocaulus Æhler, Ulrich and Scofield, No. 628.  
*neglectus* n. sp., Ulrich and Scofield, No. 628.  
*œhlerti* n. sp., Ulrich and Scofield, No. 628.
- Colponya n. gen., Ulrich, No. 626.  
*demissa* n. sp., Ulrich, No. 626.
- Columnaria *alveolata* Goldfuss, Whiteaves, No. 687.
- Conolichas *cornutus* n. sp., Clarke, No. 133.
- Conoryctes Cope, Wortman, No. 742.
- Conradella n. gen., Ulrich and Scofield, No. 628.  
*bellula* n. sp., Ulrich and Scofield, No. 628.  
*dyeri* Hall, Ulrich and Scofield, No. 628.  
 var. *cellulosa* n. var., Ulrich and Scofield, No. 628.  
*elegans* Miller, Ulrich and Scofield, No. 628.  
*finbriata* n. sp., Ulrich and Scofield, No. 628.  
*grandis* n. sp., Ulrich and Scofield, No. 628.  
*imbricata* Meek and Worthen, Ulrich and Scofield, No. 628.  
*obliqua* n. sp., Ulrich and Scofield, No. 628.  
*similis* n. sp., Ulrich and Scofield, No. 628.  
*triangularis* n. sp., Ulrich and Scofield, No. 628.
- Conularia *asperata* Billings, Whiteaves, No. 687.
- Cornulina *armigera*, Aldrich, No. 18.
- Crangopsis *vermiformis* (Meek), Ortman, No. 456.
- Crania *chesterensis* n. sp., Miller and Gurley, No. 431.
- Crassatella *decliva*, Aldrich, No. 18.
- Crassatellites (Crassinella) *guppyi* n. sp., Guppy and Dall, No. 255.
- Cricotus, Williston, No. 706.
- Cryptodiscus Hall, Weller, No. 681.

## Paleontology—Continued.

*Genera and species described*—Continued.

- Cryptodiscus—Continued.  
*bilobus* n. sp., Weller, No. 680.  
*corrugatus* n. sp., Weller, No. 680.  
*digitatus* n. sp., Weller, No. 680.  
*hydei* n. sp., Weller, No. 680.
- Cryptozoon  
*boreale*, Dawson, No. 176.  
*occidentale* n. sp., Dawson, No. 176.
- Ctenacanthus  
*acutus* n. sp., Eastman, No. 188.  
*xiphias*, Eastman, No. 188.
- Ctenorpeton  
*alveolatum* n. gen. et sp., Cope, No. 149.  
*tenuicorno* Cope, Cope, No. 149.
- Ctenobolbina Ulrich, Ulrich, No. 627.  
*crassa* Ulrich, Ulrich, No. 627.  
*fulcrata* n. sp., Ulrich, No. 627.
- Ctenodonta Salter, Ulrich, No. 626.  
*albertina* n. sp., Ulrich, No. 626.  
*alta* Hall, Ulrich, No. 626.  
*calvini* n. sp., Ulrich, No. 626.  
*carinata* n. sp., Ulrich, No. 626.  
*compressa* Ulrich, Ulrich, No. 626.  
*fecunda* Hall, Ulrich, No. 626.  
*filistriata* n. sp., Ulrich, No. 626.  
*gibberula* Salter, Ulrich, No. 626.  
*hamburgensis* Walcott, Ulrich, No. 626.  
*intermedia* Ulrich, Ulrich, No. 626.  
*logani* Salter, Ulrich, No. 626.  
*longa* Ulrich, Ulrich, No. 626.  
*madisonensis* n. sp., Ulrich, No. 626.  
*medialis* n. sp., Ulrich, No. 626.  
*nasuta* Hall, Ulrich, No. 626.  
*nitida* Ulrich, Ulrich, No. 626.  
*obliqua* Hall, Ulrich, No. 626.  
*oviformis* n. sp., Ulrich, No. 626.  
*planodorsata* Ulrich, Ulrich, No. 626.  
*recurva* Ulrich, Ulrich, No. 626.  
*scofieldi* n. sp., Ulrich, No. 626.  
*similis* Ulrich, Ulrich, No. 626.  
*simulatrix* n. sp., Ulrich, No. 626.  
*socialis* n. sp., Ulrich, No. 626.  
*subnasuta* n. sp., Ulrich, No. 626.
- Cuneamya Hall and Whitfield, Ulrich, No. 626.  
*oblonga* n. sp., Ulrich, No. 626.  
*truncatula* n. sp., Ulrich, No. 626.
- Cyathophycus *quebecense* Dawson, Dawson, No. 175.
- Cybele *winchelli* n. sp., Clarke, No. 133.
- Cyclonema Hall, Ulrich and Scofield, No. 628.  
*bilix* Conrad, Ulrich and Scofield, No. 628.  
*gracile* n. sp., Ulrich and Scofield, No. 628.  
*humerosum* n. sp., Ulrich and Scofield, No. 628.  
*inflatum* n. sp., Ulrich and Scofield, No. 628.  
*mediale* n. sp., Ulrich and Scofield, No. 628.  
*pyramidatum* James, Ulrich and Scofield, No. 628.  
*simulans* n. sp., Ulrich and Scofield, No. 628.  
*transversum* n. sp., Ulrich and Scofield, No. 628.

## Paleontology—Continued.

*Genera and species described*—Continued.

## Cyclonema—Continued.

varicosum Hall, Ulrich and Scofield, No. 628.

(? *Holopea*) limatum n. sp., Ulrich and Scofield, No. 628.

Cylichna aldrichi, Aldrich, No. 18.

Cyphaspis galenensis n. sp., Clarke, No. 133.

Cyrtoceras Goldfuss 4832, Clarke, No. 134.

billingsi Salter 1859, Clarke, No. 134.

camurum Hall 1847, Clarke, No. 134.

corniculum Hall 1862, Clarke, No. 134.

featherstonhanghi n. sp., Clarke, No. 134.

hallianum d'Orbigny 1850, Clarke, No. 134.

houghtoni n. sp., Clarke, No. 134.

laticurvatum Whiteaves, Whiteaves, No. 687.

manitobense Whiteaves, Whiteaves, No. 687.

minneapolis n. sp., Clarke, No. 134.

neleus Hall 1861, Clarke, No. 134.

norwoodi n. sp., Clarke, No. 134.

scofieldi n. sp., Clarke, No. 134.

shumardi n. sp., Clarke, No. 134.

Cyrtocerina (?) schoolcrafti n. sp., Clarke, No. 134.

Cyrtodonta Billings, Ulrich, No. 626.

affinis n. sp., Ulrich, No. 626.

ampla n. sp., Ulrich, No. 626.

billingsi n. sp., Ulrich, No. 626.

canadensis Billings, Whiteaves, No. 687.

cingulata Ulrich, Ulrich, No. 626.

gibbera n. sp., Ulrich, No. 626.

glabella Ulrich, Ulrich, No. 626.

grandis Ulrich, Ulrich, No. 626.

janesvillensis n. sp., Ulrich, No. 626.

obesa n. sp., Ulrich, No. 626.

obliqua Meek and Worthen, Ulrich, No. 626.

oviformis Ulrich, Ulrich, No. 626.

parva n. sp., Ulrich, No. 626.

persimilis n. sp., Ulrich, No. 626.

rotulata n. sp., Ulrich, No. 626.

subovata n. sp., Ulrich, No. 626.

tenella Ulrich, Ulrich, No. 626.

Cyrtodontidae n. fam., Ulrich, No. 626.

Cyrtolites Conrad, Ulrich and Scofield, No. 628.

carinatus Miller, Ulrich and Scofield, No. 628.

(?) dilatatus n. sp., Ulrich and Scofield, No. 628.

disjunctus n. sp., Ulrich and Scofield, No. 628.

ornatus Conrad, Ulrich and Scofield, No. 628.

parvus n. sp., Ulrich and Scofield, No. 628.

retrorsus n. sp., Ulrich and Scofield, No. 628.

var. filmorensis n. var., Ulrich and Scofield, No. 628.

Cyrtometopus n. gen., Ulrich and Scofield, No. 628.

nitidula Ulrich, Ulrich and Scofield, No. 628.

scofieldi n. sp., Clarke, No. 133.

## Paleontology—Continued.

*Genera and species described*—Continued.

Cyrtospira n. gen., Ulrich and Scofield, No. 628.

bicurvata n. sp., Ulrich and Scofield, No. 628.

tortilis n. sp., Ulrich and Scofield, No. 628.

wyckoffensis n. sp., Ulrich and Scofield, No. 628.

## Cythara

gibba n. sp., Guppy and Dall, No. 255.

guppyi n. sp., Guppy and Dall, No. 255.

muconata n. sp., Guppy and Dall, No. 255.

obtusa n. sp., Guppy and Dall, No. 255.

## Cytherea

newcombei n. sp., Merriam, No. 425.

vancouverensis n. sp., Merriam, No. 425.

Cytherella Jones and Bosquet, Ulrich, No. 627.

(?) rugosa Jones, Ulrich, No. 627.

var. arcta n. var., Ulrich, No. 627.

(?) subrotunda n. sp., Ulrich, No. 627.

Daemonelix, No. 35.

Dalmanites achates Billings 1860, Clarke, No. 133.

Diceratherium proavatum, Hatcher, No. 202.

Dichocrinus bozemanensis n. sp., Miller and Gurley, No. 431.

Dicranella n. gen., Ulrich, No. 627.

bicornis n. sp., Ulrich, No. 627.

marginata n. sp., Ulrich, No. 627.

(?) simplex n. sp., Ulrich, No. 627.

spinosa n. sp., Ulrich, No. 627.

## Didymictis

haydenianus Cope, Matthew, No. 418.

protenus varaltidens Cope, Osborn, No. 458.

Dilobella n. gen., Ulrich, No. 627.

typa n. sp., Ulrich, No. 627.

Dimetrodon incisivus Cope, Case, No. 108.

Dimya grandis n. sp., Guppy and Dall, No. 255.

Dinichthys kepleri n. sp., Claypole, No. 138.

Dipeltinae n. subfam., Schuchert, No. 540.

Dipeltis Packard (emend), Schuchert, No. 540.

carri n. sp., Schuchert, No. 540.

diplodiscus Packard, Schuchert, No. 540.

Diphyphyllum stokesi, Edwards and Haime, Whiteaves, No. 687.

Discoceras canadense n. sp., Whiteaves, No. 687.

## Dissacus

navajovius Cope, Matthew, No. 418.

saurogathus Wortman, Matthew, No. 418.

Distichium capillaceum, Penhallow, No. 468.

Divaricella prevaricata n. sp., Guppy and Dall, No. 255.

Dolatocrinus neglectus n. sp., Miller and Gurley, No. 431.

Dorycrinus suboviformis n. sp., Miller and Gurley, No. 431.

Dosinia mercenaroides, Aldrich, No. 18.

Drepanella Ulrich, Ulrich, No. 627.

bigeneris n. sp., Ulrich, No. 627.

bilateralis n. sp., Ulrich, No. 627.

Dryopteris idahoensis n. sp., Knowlton, No. 345.

## Paleontology—Continued.

*Genera and species described*—Continued.

- Ecculiomphalus compressus* n. sp., Whitfield, No. 691.
- Eccyliomphalus* Portlock, Ulrich and Scofield, No. 628.
- contiguus* n. sp., Ulrich and Scofield, No. 628.
- undulatus* Hall, Ulrich and Scofield No. 628.
- subrotundus* n. sp., Ulrich and Scofield, No. 628.
- Eccylopterus* Remele, Ulrich and Scofield, No. 628.
- beloitensis* n. sp., Ulrich and Scofield No. 628.
- owenanus* Meek and Worthen, Ulrich and Scofield, No. 628.
- Edmondia* (?) *vetusta* n. sp., Whiteaves No. 687.
- Ecerinurus*
- cristatus* n. sp., Clarke, No. 133.
- (?) *raricostatus* Walcott 1877, Clarke, No. 133.
- vannulus* n. sp., Clarke, No. 133.
- Endoceras*
- subannulatum* Whitfield, Whiteaves, No. 687.
- (*Narthecoceras*) *crassiphonatum* Whiteaves, Whiteaves, No. 687.
- simpsoni* Billings, Whiteaves No. 687.
- Endodesma* n. gen., Ulrich, No. 626.
- compressum* n. sp., Ulrich, No. 626.
- cuneatum* n. sp., Ulrich, No. 626.
- orthonotum* Meek and Worthen, Ulrich, No. 626.
- postlatum* n. sp., Ulrich, No. 626.
- undosum* n. sp., Ulrich, No. 626.
- Eotomaria* n. gen., Ulrich and Scofield, No. 628.
- canalifera* n. sp., Ulrich and Scofield, No. 628.
- dryope* Billings, Ulrich and Scofield, No. 628.
- elevata* n. sp., Ulrich and Scofield, No. 628.
- labiosa* n. sp., Ulrich and Scofield, No. 628.
- supracingulata* Billings, Ulrich and Scofield, No. 628.
- vicina* n. sp., Ulrich and Scofield, No. 628.
- Equisetum* sp., Knowlton, No. 345.
- Equus complicatus* Leidy, Woolman, No. 741.
- Escharopora ramosa*? Ulrich, var. or n. sp., Whiteaves, No. 687.
- Estheria dawsoni*, Dawson, No. 174.
- Eucalyptus gouldii*, n. sp., Ward, No. 661.
- Eucoilodon creno-carinatus*, Aldrich No. 18.
- Euconospira planibasalis* n. sp., Ulrich and Scofield, No. 628.
- Eulima*
- egregia* n. sp., Guppy and Dall, No. 255.
- (*Liostraca*) *nobilis* n. sp., Guppy and Dall, No. 255.
- Euphemus McCoy*, Ulrich and Scofield, No. 628.
- Eurotorgia* Cope, Matthew, No. 418.
- minor* n. sp., Matthew, No. 418.
- puercensis* (Cope), Matthew, No. 418.
- Eurychilina* Ulrich Ulrich, No. 627.
- reticulata* Ulrich, Ulrich, No. 627.
- var. *incurva* n. var., Ulrich, No. 627.

## Paleontology—Continued.

*Genera and species described*—Continued.

- Eurychilina*—Continued.
- (?) *subaequata* n. sp., Ulrich, No. 627.
- subradiata* Ulrich, Ulrich, No. 627.
- (?) *symmetrica* n. sp., Ulrich, No. 627.
- ventrosa* n. sp., Ulrich, No. 627.
- Eurymya* n. gen., Ulrich, No. 626.
- plana* Hall, Ulrich, No. 626.
- Eurystomites*
- plicatus* Whiteaves, Whiteaves, No. 687.
- undatus* Emmons var. *occidentalis* Hall 1861, Clarke, No. 134.
- Fabella oblonga* n. sp., Aldrich, No. 18.
- Favosites prolificus* Billings, Whiteaves, No. 687.
- Ficus ungeri* Lx., Knowlton, No. 345.
- Fossarus (Gottoina) mundulus* n. sp., Guppy and Dall, No. 255.
- Fucus digitatus* n. sp., Penhallow, No. 468.
- Fulgur carica*, Woolman, No. 741.
- Fusispira* Hall, Ulrich and Scofield, No. 628.
- angusta* n. sp., Ulrich and Scofield, No. 628.
- var. *subplana* n. var., Ulrich and Scofield, No. 628.
- convexa* n. sp., Ulrich and Scofield, No. 628.
- inflata* Meek and Worthen, Ulrich and Scofield, No. 628.
- intermedia* n. sp., Ulrich and Scofield, No. 628.
- nobilis* n. sp., Ulrich and Scofield, No. 628.
- planulata* n. sp., Ulrich and Scofield, No. 628.
- schucherti*, n. sp., Ulrich and Scofield, No. 628.
- subbrevis* n. sp., Ulrich and Scofield, No. 628.
- subfusiformis* Hall, Ulrich and Scofield, No. 628.
- sulcata* n. sp., Ulrich and Scofield, No. 628.
- " *Fusus* " *marnochi*, Aldrich, No. 18.
- Fusus subflorus* n. sp., Aldrich, No. 18.
- Geracus tubifer* n. sp., Matthew, No. 416.
- Gerasaphes* n. subgen., Clarke, No. 133.
- ulrichiana* n. sp., Clarke, No. 133.
- Glyphioceras incisum* Hyatt, Smith, No. 566.
- Glyptocrinus* Hall, James, No. 312.
- decadactylus* Hall, James, No. 312.
- dyeri* Meek, James, No. 312.
- formshelli* S. A. Miller, James, No. 312.
- miamiensis* S. A. Miller, James, No. 312.
- sculptus* S. A. Miller, James, No. 312.
- shafferi* S. A. Miller, James, No. 312.
- subglobosus* Meek, James, No. 312.
- Gmelin*, Woolman, No. 741.
- Goniacodon* Cope, Matthew, No. 418.
- levisanus* (Cope), Matthew, No. 418.
- Gonioceras* Hall, 1847, Clarke, No. 134.
- anceps* Hall, 1847, Clarke, No. 134.
- occidentale* Hall, 1861, Clarke, No. 134.
- Gyronema* n. gen. or subgen., Ulrich and Scofield, No. 628.
- duplicatum* n. sp., Ulrich and Scofield, No. 628.
- liratum* n. sp., Ulrich and Scofield, No. 628.
- pulchellum* n. sp., Ulrich and Scofield, No. 628.

## Paleontology—Continued.

*Genera and species described*—Continued.

## Gyronema—Continued.

semicarinatum Salter, Ulrich and Scofield,  
No. 628.

Halichondrites confusus Dawson, Dawson,  
No. 175.

Halliella Ulrich, Ulrich, No. 627.

labiosa n. sp., Ulrich, No. 627.

Halysites catenularia L., var. gracilis, Whiteaves,  
No. 687.

Harpes cassinensis n. sp., Whitfield, No. 691.

## Harpina

minnesotensis n. sp., Clarke, No. 133.

cf. ottawensis Billings (sp.), Clarke, No.  
133.

rutrellum n. sp., Clarke, No. 133.

Helcionopsis n. gen., Ulrich and Scofield, No.  
628.

subcarinata n. sp., Ulrich and Scofield,  
No. 628.

striata n. sp., Ulrich and Scofield, No. 628.

Helicotoma Salter, Ulrich and Scofield, No.  
628.

declivis Safford, Ulrich and Scofield, No.  
628.

granosa n. sp., Ulrich and Scofield, No. 628.

marginata n. sp., Ulrich and Scofield, No.  
628.

planulata Salter, Ulrich and Scofield, No.  
628.

var. robusta n. var., Ulrich and Scofield,  
No. 628.

planulatoides n. sp., Ulrich and Scofield,  
No. 628.

subquadrata n. sp., Ulrich and Scofield,  
No. 628.

tennesseensis Safford, Ulrich and Scofield,  
No. 628.

umbilicata n. sp., Ulrich and Scofield, No.  
628.

verticalis n. sp., Ulrich and Scofield, No.  
628.

Hemiganus otariidens Cope, Wortman, No.  
742.

Hesperornis, Marsh, No. 408.

Heteracanthus uddeni n. sp., Lindahl, No.  
381.

Hipponyx tortilis n. sp., Guppy and Dall, No.  
255.

Holopea Hall, Ulrich and Scofield, No. 628.

ampla n. sp., Ulrich and Scofield, No. 628.

appressa n. sp., Ulrich and Scofield, No.  
628.

concinnum n. sp., Ulrich and Scofield, No.  
628.

excelsa n. sp., Ulrich and Scofield, No. 628.

insignis n. sp., Ulrich and Scofield, No. 628.

paludiformis, Ulrich and Scofield, No.  
628.

parvula n. sp., Ulrich and Scofield, No. 628.

pyrene Billings, Ulrich and Scofield, No.  
628.

rotunda n. sp., Ulrich and Scofield, No. 628.

similis n. sp., Ulrich and Scofield, No. 628.

supraplana n. sp., Ulrich and Scofield, No.  
628.

## Paleontology—Continued.

*Genera and species described*—Continued.

Holoptychius serrulatus n. sp., Cope, No. 149.

latus n. sp., Cope, No. 149.

flabellatus n. sp., Cope, No. 149.

Hormotoma Salter, Ulrich and Scofield, No.  
628.

bellicincta Hall, Ulrich and Scofield, No.  
628.

gracilis Hall, Ulrich and Scofield, No. 628.  
var., angustata Hall, Ulrich and Scofield,  
No. 628.

(?) var. goodhuensis n. var., Ulrich  
and Scofield, No. 628.

var. multivolvina n. var., Ulrich and  
Scofield, No. 628.

var. sublaxa n. var., Ulrich and Scofield,  
No. 628.

(?) major Hall, Ulrich and Scofield, No.  
628.

salteri n. sp., Ulrich and Scofield, No. 628.

subangulata n. sp., Ulrich and Scofield,  
No. 628.

trentonensis n. sp., Ulrich and Scofield,  
No. 628.

winnipegensis n. sp., Whiteaves, No. 687.

Hyalostelia metissica Dawson, Dawson, No.  
175.

Hypnum recurvans, Penhallow, No. 468.

## Illænus

americanus Billings 1859, Clarke, No. 133.  
cf. indeterminatus Walcott, Clarke, No.  
133.

Inocaulis canadensis n. sp., Whiteaves, No.  
687.

Iphidea Billings, Walcott, No. 657.

alabamaensis n. sp., Walcott, No. 657.

crenistrina n. sp., Walcott, No. 657.

logani n. sp., Walcott, No. 657.

pealci n. sp., Walcott, No. 657.

superba n. sp., Walcott, No. 657.

Isodectes punctulatus Cope, Cope, No. 149.

## Isotelus

canalis Whitfield sp., Clarke, No. 133.

maximus Locke, 1838, Clarke, No. 133.

gigas De Kay, 1824, Clarke, No. 133.

susæ Whitfield, 1882, Clarke, No. 133.

Jonesella Ulrich, Ulrich, No. 627.

obscura n. sp., Ulrich, No. 627.

Juglans hesperia n. sp., Knowlton, No. 345.

Kellia prima n. sp., Aldrich, No. 18.

Kokenia n. gen., Ulrich and Scofield, No. 628.

costalis n. sp., Ulrich and Scofield, No. 628.

Krausella n. gen., Ulrich, No. 627.

arcuata n. sp., Ulrich, No. 627.

inæqualis n. sp., Ulrich, No. 627.

Lambdotherium Cope, Osborn, No. 461.

popoagium Cope, Osborn, Nos. 458, 461.

Larix americana, Penhallow, No. 471.

Lasiotrix Hinde, Dawson, No. 175.

curvicostata Hinde, Dawson, No. 175.

flabellata n. sp., Dawson, No. 175.

Leaia leidyi, Dawson, No. 174.

Leda marieana n. sp., Aldrich, No. 18.

Leperditella n. gen., Ulrich, No. 627.

canalis n. sp., Ulrich, No. 627.

(?) dorsicornis Ulrich, Ulrich, No. 627.

## Paleontology—Continued.

*Genera and species described*—Continued.

## Leperditella—Continued.

*germana* Ulrich, Ulrich, No. 627.*macra* n. sp., Ulrich, No. 627.*persimilis* n. sp., Ulrich, No. 627.

## Leperditia Ronault, Ulrich, No. 627.

*fabulites* Conrad, Ulrich, No. 627.*okeni*, Dawson, No. 174.*Lepton* (?) *alabamensis* n. sp., Aldrich, No. 18.*Levifusus pagoda*, Aldrich, No. 18.*Lichas* (*Terataspis*) *grandis* Hall, Whitfield, No. 690.*Limopsis subangularis* n. sp., Guppy and Dall, No. 255.

## Lingula

*elongata* Hall, Whiteaves, No. 637.*iowensis* Owen, Whiteaves, No. 637.*obtusa* Hall, Whiteaves, No. 637.*Lingulepis meeki* n. sp., Walcott, No. 656.*Linuparus atavus* n. sp., Ortmann, No. 457.*Liospira* n. gen., Ulrich and Scofield, No. 628.*abrupta* n. sp., Ulrich and Scofield, No. 628.*americana* Billings, Ulrich and Scofield, No. 628.*angulata* n. sp., Ulrich and Scofield, No. 628.*angustata* n. sp., Ulrich and Scofield, No. 628.*decepiens* n. sp., Ulrich and Scofield, No. 628.*micula* Hall, Ulrich and Scofield, No. 628.*(?) mundula* n. sp., Ulrich and Scofield, No. 628.*obtusa* n. sp., Ulrich and Scofield, No. 628.*persimilis* n. sp., Ulrich and Scofield, No. 628.*progne* Billings, Ulrich and Scofield, No. 628.*rugata* n. sp., Ulrich and Scofield, No. 628.*subconcaeva* n. sp., Ulrich and Scofield, No. 628.*vitruvia* Billings, Ulrich and Scofield, No. 628.*Liottia veresimilis* n. sp., Guppy and Dall, No. 255.*Littorina subobesa* n. sp., Cooper, No. 148.*Lophospira* Whitfield, Ulrich and Scofield, No. 628.*abnormis* n. sp., Ulrich and Scofield, No. 628.*acuminata* n. sp., Ulrich and Scofield, No. 628.*ampla* n. sp., Ulrich and Scofield, No. 628.*augustina* Billings, Ulrich and Scofield, No. 628.*var. minnesotensis* n. var., Ulrich and Scofield, No. 628.*bicincta* Hall, Ulrich and Scofield, No. 628.*bowdeni* Safford, Ulrich and Scofield, No. 628.*centralis* n. sp., Ulrich and Scofield, No. 628.*concinnula* n. sp., Ulrich and Scofield, No. 628.*conoidea* n. sp., Ulrich and Scofield, No. 628.

## Paleontology—Continued.

*Genera and species described*—Continued.

## Lophospira—Continued.

*conradana* n. sp., Ulrich and Scofield, No. 628.*decursa* n. sp., Ulrich and Scofield, No. 628.*elevata* n. sp., Ulrich and Scofield, No. 628.*fillmorensis* n. sp., Ulrich and Scofield, No. 628.*helicteres* var. *wisconsinensis* n. var., Ulrich and Scofield, No. 628.*humilis* n. sp., Ulrich and Scofield, No. 628.*medialis* n. sp., Ulrich and Scofield, No. 628.*var. burginensis* n. var., Ulrich and Scofield, No. 628.*multigrama* Miller, Ulrich and Scofield, No. 628.*obliqua* n. sp., Ulrich and Scofield, No. 628.*oweni* n. sp., Ulrich and Scofield, No. 628.*peracuta* n. sp., Ulrich and Scofield, No. 628.*perangulata* Hall, Ulrich and Scofield, No. 628.*perforata* n. sp., Ulrich and Scofield, No. 628.*perlamellosa* n. sp., Ulrich and Scofield, No. 628.*procera* n. sp., Ulrich and Scofield, No. 628.*producta* n. sp., Ulrich and Scofield, No. 628.*pulchella* n. sp., Ulrich and Scofield, No. 628.*quadrilucata* n. sp., Ulrich and Scofield, No. 628.*saffordi* n. sp., Ulrich and Scofield, No. 628.*serrulata* Salter, Ulrich and Scofield, No. 628.*spironema* n. sp., Ulrich and Scofield, No. 628.*summerensis* Safford, Ulrich and Scofield, No. 628.*tenuistriata* n. sp., Ulrich and Scofield, No. 628.*(? Seelya) (?) knoxvillensis* n. sp., Ulrich and Scofield, No. 628.*lirata* n. sp., Ulrich and Scofield, No. 628.*(?) notabilis* n. sp., Ulrich and Scofield, No. 628.*(?) trochonemoides* n. sp., Ulrich and Scofield, No. 628.*Loxonema winnipegense* Whiteaves, Whiteaves, No. 637.

## Lucina

*astartiformis* n. sp., Aldrich, No. 18.*pauperata* n. sp., Guppy and Dall, No. 255.*textilis* n. sp., Guppy and Dall, No. 255.*Lyrodesma* Conrad, Ulrich, No. 626.*acuminatum* n. sp., Ulrich, No. 626.*cannonense* n. sp., Ulrich, No. 626.*Machærodus*, Smith, No. 9.*Maclurea* (*Leuseur*) Woodward, Ulrich and Scofield, No. 628.*affinis* Bill., Whitfield, No. 691.

## Paleontology—Continued.

*Genera and species described*—Continued.

## Maclurea—Continued.

- bigsbayi Hall, Ulrich and Scofield, No. 628.  
var. dixonensis n. var., Ulrich and Scofield, No. 628.
- crassa n. sp., Ulrich and Scofield, No. 628.  
var. macra n. var., Ulrich and Scofield, No. 628.
- depressa n. sp., Ulrich and Scofield, No. 628.
- knoxvillensis n. sp., Ulrich and Scofield, No. 628.
- nitida n. sp., Ulrich and Scofield, No. 628.
- Macluria (Maclurina) manitobensis Whiteaves, Whiteaves, No. 687.
- Maclurina n. gen., Ulrich and Scofield, No. 628.  
cuneata Whitfield, Ulrich and Scofield, No. 628.  
manitobensis Whiteaves, Ulrich and Scofield, No. 628.  
subrotunda Whitfield, Ulrich and Scofield, No. 628.
- Macronotella n. gen., Ulrich, No. 627.  
scotlandi n. sp., Ulrich, No. 627.
- Macropetalichthys, Eastman, No. 190.  
Major Ulrich, Ulrich, No. 626.
- Mangilia consentanea n. sp., Guppy and Dall, No. 255.
- Marginella  
amina n. sp., Guppy and Dall, No. 255.  
domingoensis n. sp., Guppy and Dall, No. 255.  
latissima n. sp., Guppy and Dall, No. 255.  
limonensis n. sp., Guppy and Dall, No. 255.  
(Percicula) arcuata n. sp., Guppy and Dall, No. 255.  
solitaria n. sp., Guppy and Dall, No. 255.
- Mariacrinus Hall, James, No. 312.  
harrisi S. A. Miller, James, No. 312.
- Matheria Billings, Ulrich, No. 626.  
rugosa Ulrich, Ulrich, No. 626.
- Mathilda  
plexita n. sp., Guppy and Dall, No. 255.  
regularis Meyer, Aldrich, No. 18.
- Meekospira n. gen., Ulrich and Scofield, No. 628.  
subconica n. sp., Ulrich and Scofield, No. 628.
- Megalomphala n. gen., Ulrich and Scofield, 628.
- Mesotrypa selkirkensis n. sp., Whiteaves, No. 687.
- Minoceras Hall, Ulrich and Scofield, No. 628.
- Mioclenus Cope, Matthew, No. 418.  
acolytus (Cope), Matthew, No. 418.  
inequidens (Cope), Matthew, No. 418.  
lemurouides n. sp., Matthew, No. 418.  
turgidunculus Cope, Matthew, No. 418.  
turgidus Cope, Matthew, No. 418.
- Mixodectes Cope, Matthew, No. 418.
- Modiolodon n. gen., Ulrich, No. 626.  
(?) gibbus n. sp., Ulrich, No. 626.  
patulus n. sp., Ulrich, No. 626.
- Modiolopsidae n. fam., Ulrich, No. 626.
- Modiolopsis Hall, Ulrich, No. 626.  
angustifrons n. sp., Whiteaves, No. 687.  
arguta n. sp., Ulrich, No. 626.

## Paleontology—Continued.

*Genera and species described*—Continued.

## Modiolopsis—Continued.

- chatfieldensis n. sp., Ulrich, No. 626.  
concava Ulrich, Ulrich, No. 626.  
concentrica Hall and Whitfield, Ulrich, No. 626.
- (?) consimilis n. sp., Ulrich, No. 626.  
excellens n. sp., Ulrich, No. 626.  
mytiloides Hall, Ulrich, No. 626.  
nan. n. sp., Ulrich, No. 626.  
obsoleta n. sp., Ulrich, No. 626.  
oweni n. sp., Ulrich, No. 626.  
parviuscula Billings, Whiteaves, No. 687.  
similis Ulrich, Ulrich, No. 626.
- Mogulia Waagen, Ulrich and Scofield, No. 628.
- Moorea Jones and Kirkby, Ulrich, No. 627.  
angularis n. sp., Ulrich, No. 627.  
(?) perplexa n. sp., Ulrich, No. 627.  
punctata n. sp., Ulrich, No. 627.
- Mycolopteris topekensis n. sp., Penhallow, No. 469.
- Myrica  
(?) idahoensis n. sp., Knowlton, No. 345.  
lanceolata n. sp., Knowlton, No. 345.
- Nanno aulena n. sp., Clarke, No. 134.
- Nassa newcombei n. sp., Merriam, No. 425.
- Nautilus perkinsi n. sp., Whitfield, No. 691.
- Nileus striatus n. sp., Whitfield, No. 691.  
vigilans, Meek and Worthen (sp.), 1875, Clarke, No. 133.
- Nimravus Cope, Smith, No. 9.
- Obolella (Linnarssonina) pretiosa Billings, Dawson, No. 175.
- Odontopleura parvula Wolcott (sp.), 1877, Clarke, No. 133.
- Odontostomia insignifica n. sp., Aldrich, No. 18.
- Oliva plicata n. sp., Guppy and Dall, No. 255.
- Olivella indivisa n. sp., Guppy and Dall, No. 255.
- Omospira n. gen., Ulrich and Scofield, No. 628.  
alexandra Billings, Ulrich and Scofield, No. 628.  
laticinnota n. sp., Ulrich and Scofield, No. 628.
- Oncocera  
carveri n. sp., Clarke, No. 134.  
douglasi n. sp., Clarke, No. 134.  
exiguum Billings, 1860, Clarke, No. 134.  
lycus Hall, 1861, Clarke, No. 134.  
magnum Whiteaves, Whiteaves, No. 687.  
(magnum? var.) intermedium, Whiteaves, No. 687.  
minnesotense n. sp., Clarke, No. 134.  
pandion Hall, 1861, Clarke, No. 134.  
whiteavosii Miller, Whiteaves, No. 687.
- Onychodectes Cope, Wortman, No. 742.
- Ophileta n. gen., Ulrich and Scofield, No. 628.  
angularis n. sp., Ulrich and Scofield, No. 628.  
sublaxa n. sp., Ulrich and Scofield, No. 628.
- Opis triangulata Cooper (Stanton), Cooper, No. 148.
- Oreodon culbertsonii Leidy, Stewart, No. 582.
- Ornithostoma ingens, Williston, No. 705.

## Paleontology—Continued.

*Genera and species described*—Continued.

- Ornithotarsus immanis* Cope, Woolman, No. 741.
- Orthis**  
*corpulenta* Sardeson, Sardeson, No. 525.  
*emacerata* Hall, Sardeson, No. 525.  
*futilis* n. sp., Sardeson, No. 525.  
*ignota* n. sp., Sardeson, No. 525.  
*meeki* S. A. Miller, Sardeson, No. 525.  
*multisecta* Meek, Sardeson, No. 525.  
*porrecta* n. sp., Sardeson, No. 525.  
*rogata* Sardeson, Sardeson, No. 525.  
*tersa* Sardeson, Sardeson, No. 525.  
*testudinaria* Sardeson, No. 525.
- Orthoceras**  
*cf. amplicameratum* Hall, 1847, Clarke, No. 134.  
*anellus* Conrad, 1843, Clarke, No. 134.  
*beltramii* n. sp., Clarke, No. 134.  
*bilineatum* Hall, 1847, Clarke, No. 134.  
*juncum* Hall, 1847, Clarke, No. 134.  
*leseuri* n. sp., Clarke, No. 134.  
*multicameratum* Emmons, 1842, Clarke, No. 134.  
*nicolleti* n. sp., Clarke, No. 134.  
*perroti* n. sp., Clarke, No. 134.  
*olorus* Hall, 1877, Clarke, No. 134.  
*selkirkensis* Whiteaves, Whiteaves, No. 687.  
*sociale* Hall, 1877, Clarke, No. 134.  
*tennistriatum* Hall, 1847, Clarke, No. 134.  
*winnipegense* Whiteaves, Whiteaves, No. 687.
- Orthodesma** Hall and Whitfield, Ulrich, No. 626.  
*affine* n. sp., Whiteaves, No. 687.  
*canaliculatum*, Ulrich, No. 626.  
*minnesotense* Ulrich, Ulrich, No. 626.  
*schucherti* n. sp., Ulrich, No. 626.  
*subnasutum* Meek and Worthen, Ulrich, No. 626.
- Oscilla indiscreta** n. sp., Guppy and Dall, No. 255.
- Owenella** n. gen., Ulrich and Scofield, No. 628.  
*antiquata* Whitfield sp., Ulrich and Scofield, No. 628.
- Oxyaena huerfanensis** n. sp., Osborn, No. 458.
- Oxyclænus** (Cope) Scott, Matthew, No. 418.  
*cuspidatus* Cope, Matthew, No. 418.  
*simplex* (Cope), Matthew, No. 418.
- Oxydiscus** Koken, Ulrich and Scofield, No. 628.  
*cristatus* Safford, Ulrich and Scofield, No. 628.  
*subacutus* n. sp., Ulrich and Scofield, No. 628.
- Palaemæa** Hall and Whitfield, Ulrich and Scofield, No. 628.  
*humilis* n. sp., Ulrich and Scofield, No. 628.
- Palaëster wyckoffi** n. sp., Miller and Gurley, No. 431.
- Palaëophycus** Hall, Duden, No. 186.  
*new-albanense* n. sp., Duden, No. 186.  
*lineare* n. sp., Duden, No. 186.
- Palaëopteria** n. gen., Whiteaves, No. 687.  
*parvula* n. sp., Whiteaves, No. 687.
- Palaëosaccus** Hinde, Dawson, No. 175.  
*dawsoni* Hinde, Dawson, No. 175.

## Paleontology—Continued.

*Genera and species described*—Continued.

- Palaëosyops boreatis** Cope, Matthew, No. 419.
- Parenchymophycus** n. gen., Duden, No. 186.  
*asphalticum* n. sp., Duden, No. 186.
- Pasceolus gregarius?** Billings, Whiteaves, No. 687.
- Patella geometrica** n. sp., Merriam, No. 425.
- Patellostium** Waagen, Ulrich and Scofield, No. 628.
- Paterula amii** n. sp., Schuchert, No. 539.
- Patriofelis** ultra Leidy, Osborn, No. 458.
- Periptychus**  
*carinidens* Cope, Matthew, No. 418.  
*coarctatus* Cope, Matthew, No. 418.  
*rhabdodon* (Cope), Matthew, No. 418.
- Phasianella** sp. ? Guppy and Dall, No. 255.
- Phenacodus primævus** Cope, Osborn, No. 459.
- Philine alabamensis** n. sp., Aldrich, No. 18.
- Pholadomya** (*Triplicostya*) *progressiva* n. sp., Cooper, No. 148.
- Pholidops greenei** n. sp., Miller and Gurley, No. 431.
- Phos**  
*fasciolatus* n. sp., Guppy and Dall, No. 255.  
*gabbii* n. sp., Guppy and Dall, No. 255.  
*metuloides* n. sp., Guppy and Dall, No. 255.  
 (Strongylocera) *chipolanus* n. sp., Guppy and Dall, No. 255.
- Phragmites aquehongensis** n. sp., Hollick, No. 299.
- Phyllites flexuosus** n. sp., Knowlton, No. 345.  
*obscurus* n. sp., Knowlton, No. 345.
- Picea nigra**, Penhallow, No. 471.
- Piloceras newton-winchelli** n. sp., Clarke, No. 134.
- Pinus** sp., Knowlton, No. 345.
- Platecarpus**, Williston, No. 710.
- Platyceras**  
 (?) *depressum* n. sp., Ulrich and Scofield, No. 625.  
*indianense* n. sp., Miller and Gurley, No. 431.  
*wisconsinensis* n. sp., Ulrich and Scofield, No. 628.
- Platycerinus**  
*bozemanensis* n. sp., Miller and Gurley, No. 431.  
*bridgerensis* n. sp., Miller and Gurley, No. 431.  
*sharonensis* n. sp., Miller and Gurley, No. 431.
- Platymetopus**  
*bicornis* Ulrich (sp.), 1892, Clarke, No. 133.  
*cucullus* Meek and Worthen (sp.), 1865, Clarke, No. 133.  
*robbinsi* Ulrich (sp.), 1892, Clarke, No. 133.
- Plesiosaurus gouldii** n. sp., Williston, No. 707.
- Plethocardia** Ulrich, Ulrich, No. 626.  
*suberecta* Ulrich, Ulrich, No. 626.  
*umbonata* Ulrich, Ulrich, No. 626.
- Plethospira** n. gen., Ulrich and Scofield, No. 628.  
*semele* Hall, Ulrich and Scofield, No. 628.  
*striata* n. sp., Ulrich and Scofield, No. 628.



## Paleontology—Continued.

*Genera and species described—Continued.*

- Pleurotoma**  
*pulcherrima*, Aldrich, No. 18.  
*venusta*, Aldrich, No. 18.
- Pleurotomaria**  
 (?) *margaritoides* n. sp., Whiteaves, No. 687.  
*muralis* D. D. Owen, Whiteaves, No. 687.  
*stokesiana* n. sp., Whiteaves, No. 687.
- Populus**  
*eotremuloides* n. sp., Knowlton, No. 345.  
*lindgreni* n. sp., Knowlton, No. 345.  
*occidentalis* n. sp., Knowlton, No. 345.
- Potamogeton**  
*pectinatus*, Penhallow, No. 471.  
*pusillus*, Penhallow, No. 471.
- Potrioceras**  
*apertum* Whiteaves 1889, Clarke, No. 134.  
*gracile* Whiteaves, Whiteaves, No. 687.  
*nobile* Whiteaves, Whiteaves, No. 687.
- Primitia** Jones and Holl, Ulrich, No. 627.  
*celestia* n. sp., Ulrich, No. 627.  
*duplicata* n. sp., Ulrich, No. 627.  
*gibbera* n. sp., Ulrich, No. 627.  
*mammata* n. sp., Ulrich, No. 627.  
*micula* n. sp., Ulrich, No. 627.  
*minutissima* n. sp., Ulrich, No. 627.  
*sancti pauli* n. sp., Ulrich, No. 627.  
*tumidula* n. sp., Ulrich, No. 627.  
*uphami* n. sp., Ulrich, No. 627.
- Primitiella** n. gen., Ulrich, No. 627.  
*constricta* n. sp., Ulrich, No. 627.  
*fillmorensis* n. sp., Ulrich, No. 627.  
*limbata* n. sp., Ulrich, No. 627.  
*simulans* n. sp., Ulrich, No. 627.  
*unicornis* Ulrich, Ulrich, No. 627.
- Proetus**  
*parvusculus* Hall 1866, Clarke, No. 133.  
 ?*placidus* n. sp., Vogles, No. 653.
- Prolobella** n. gen., Ulrich, No. 626.  
*striatula* n. sp., Ulrich, No. 626.
- Protarea** (*vetusta*? var.) *magna*, Whiteaves, No. 687.
- Protocaris** Walcott, Schuchert, No. 540.
- Protoceras**  
*celer* Marsh, Marsh, Nos. 407, 410.  
*comptus* Marsh, Marsh, No. 410.
- Protochriacus** Scott, Matthew, No. 418.  
*attenuatus* Osborn and Earle, Matthew, No. 418.  
*hyattianus* (Cope), Matthew, No. 418.  
*priscus* (Cope), Matthew, No. 418.
- Protogonodon** Scott, Matthew, No. 418.  
*stenognathus* n. sp., Matthew, No. 418.
- Protorthis**  
*cassinensis* n. sp., Whitfield, No. 691.  
*minima* n. sp., Whitfield, No. 691.
- Protoselene** n. gen., Matthew, No. 418.
- Protospongia**  
*coronata* Dawson, Dawson, No. 175.  
*cyathiformis* Dawson, Dawson, No. 175.  
*delicatula* Dawson, Dawson, No. 175.  
*mononema* Dawson, Dawson, No. 175.  
*polynema* Dawson, Dawson, No. 175.  
*tetrenema* Dawson, Dawson, No. 175.
- Protostega**, Case, No. 109.

## Paleontology—Continued.

*Genera and species described—Continued.*

- Protowarthia** n. gen., Ulrich and Scofield, No. 628.  
*cancellata* Hall, Ulrich and Scofield, No. 628.  
*concinna* n. sp., Ulrich and Scofield, No. 628.  
*granistriata* n. sp., Ulrich and Scofield, No. 628.  
*obesa* n. sp., Ulrich and Scofield, No. 628.  
*pervoluta* n. sp., Ulrich and Scofield, No. 628.  
*planodorsata* n. sp., Ulrich and Scofield, No. 628.  
*rectangularis* n. sp., Ulrich and Scofield, No. 628.  
*subcompressa* n. sp., Ulrich and Scofield, No. 628.
- Pseudosphærexochus** *trentonensis* n. sp., Clarke, No. 133.
- Psiloconcha** n. gen., Ulrich, No. 626.  
*minnesotensis* n. sp., Ulrich, No. 626.
- Psittacotherium** Cope, Wortman, No. 742.
- Pterygometopus**  
*callicephalus* Hall (sp.), Clarke, No. 133.  
*eboraceus* n. sp., Clarke, No. 133.  
*intermedius* Walcott (sp.) 1877, Clarke, No. 133.  
*schmidti* n. sp., Clarke, No. 133.
- Ptychocrinus** Wachsmuth and Springer, James, No. 312.  
*angularis* Miller and Dyer, James, No. 312.  
*parvus* Hall, James, No. 312.
- Ptychopyge** *ulrichi* n. sp., Clarke, No. 132.
- Pyramidella**  
 (*Longchaus*) *jamaicensis* n. sp., Guppy and Dall, No. 255.  
*forulata* n. sp., Guppy and Dall, No. 255.
- Pyrazisinus?** *haitensis*, n. sp., Guppy and Dall, No. 255.
- Quercus**  
*consimilis* Newby., Knowlton, No. 345.  
*idahoensis* n. sp., Knowlton, No. 345.  
*payettensis* n. sp., Knowlton, No. 345.  
*simulata* n. sp., Knowlton, No. 345.
- Radiolites**  
*adherens* n. sp., Whitfield, No. 692.  
*annulosus* n. sp., Whitfield, No. 692.  
*cancellatus* n. sp., Whitfield, No. 692.  
*macroplacatus* n. sp., Whitfield, No. 692.  
*rudis* n. sp., Whitfield, No. 692.  
 (*Lapeirosia*) *nicholasi* n. sp., Whitfield, No. 692.
- Rafinesquina** *lata* Whiteaves, Whiteaves, No. 687.
- Raphistoma** Hall, Ulrich and Scofield, No. 628.  
*peracutum* n. sp., Ulrich and Scofield, No. 628.  
*richmondensis* n. sp., Ulrich and Scofield, No. 628.
- Raphistomida** n. fam., Ulrich and Scofield, No. 628.
- Raphistomina** n. gen., Ulrich and Scofield, No. 628.  
*denticulata* n. sp., Ulrich and Scofield, No. 628.  
*lapicida* Salter, Ulrich and Scofield, No. 628.  
*modesta* n. sp., Ulrich and Scofield, No. 628.  
*rugata* n. sp., Ulrich and Scofield, No. 628.

## Paleontology—Continued.

*Genera and species described*—Continued.

- Remeleceras* *clarkense* n. sp., Miller and Gurley, No. 431.
- Remondia* Gabb, Stanton, No. 579.  
*furcata* Gabb, Stanton, No. 579.  
*robbinsi* (White), Stanton, No. 579.
- Reteocrinus* Billings 1859, James, No. 312.  
*cognatus* S. A. Miller, James, No. 312.  
*gracilis* Wetherby, James, No. 312.  
*magnificus* S. A. Miller, James, No. 312.  
*o'nealli* Hall, James, No. 312.
- Rhinidictya* n. sp., Whiteaves, No. 687.
- Rhinopora* *prima* n. sp., Whitfield, No. 691.
- Rhodocrinus*  
*bozemanensis* n. sp., Miller and Gurley, No. 431.  
*bridgerensis* n. sp., Miller and Gurley, No. 431.  
*douglassin* n. sp., Miller and Gurley, No. 431.
- Rhus* *payettensis* n. sp., Knowlton, No. 345.
- Rhynchonella* *anticostiensis* var., Whiteaves, No. 687.
- Rhytimya* Ulrich, Ulrich, No. 626.  
*recta* n. sp., Whiteaves, No. 687.  
*sinuata* n. sp., Ulrich, No. 626.
- Ringicula*  
*alabamensis* n. sp., Aldrich, No. 18.  
*biplicata*, Aldrich, No. 18.  
*butleriana*, Aldrich, No. 18.  
*butleriana* var. *liguitifera* n. var., Aldrich, No. 18.  
*claibornensis* n. sp., Aldrich, No. 18.  
*dalli*, Aldrich, No. 18.  
*lisbonensis*, n. sp., Aldrich, No. 18.  
*mississippiensis*, Aldrich, No. 18.  
*trapaquara*, Aldrich, No. 18.
- Rissoa* (*Alvania*) *pariana* n. sp., Guppy and Dall, No. 255.
- Rusophycus*  
*chesterense* n. sp., Miller and Gurley, No. 431.  
*montanense* n. sp., Miller and Gurley, No. 431.
- Saffordia* n. gen., Ulrich, No. 626.  
*modesta* Ulrich, Ulrich, No. 62.  
*sulcodorsata* Ulrich, Ulrich, No. 626.  
*ventralis* n. sp., Ulrich, No. 626.
- Sagenodus*  
*brownke* n. sp., Cope, No. 149.  
*conchiolepis* n. sp., Cope, No. 149.  
*foliatus* n. sp., Cope, No. 149.  
*gurleianus* n. sp., Cope, No. 149.  
*lacovianus* n. sp., Cope, No. 149.  
*magister* n. sp., Cope, No. 149.  
*occidentalis* Newb., Cope, No. 149.  
*quincunciaus* n. sp., Cope, No. 149.  
*reticulatus* Newberry, Cope, No. 149.
- Salix* *angusta* Al. Br., Knowlton, No. 345.
- Salpingostoma* Roemer, Ulrich and Scofield, No. 628.  
*buelli* Whitfield, Ulrich and Scofield, No. 628.  
*imbricatns* n. sp., Ulrich and Scofield, No. 628.  
*richmondensis* n. sp., Ulrich and Scofield, No. 628.  
*sculptilis* n. sp., Ulrich and Scofield, No. 628.

## Paleontology—Continued.

*Genera and species described*—Continued.

- Sanguinolaria* *unioides* n. sp., Guppy and Dall, No. 255.
- Sarcothraustes* Cope, Matthew, No. 418.  
*antiquus* Cope, Matthew, No. 418.
- Sauropleura* *latithorax* n. sp., Cope, No. 149.
- Scala*  
*exquisita* n. sp., Aldrich, No. 18.  
*octolineata* Con., Aldrich, No. 18.  
*unilineata*, Aldrich, No. 18.
- Scaphander* *ligniticus* n. sp., Aldrich, No. 18.
- Scenella* Billings, Ulrich and Scofield, No. 628.  
*affinis* n. sp., Ulrich and Scofield, No. 628.  
*beloitensis* n. sp., Ulrich and Scofield, No. 628.  
*compressa* n. sp., Ulrich and Scofield, No. 628.  
*magnifica* n. sp., Ulrich and Scofield, No. 628.  
*obtusa* Sardeson, Ulrich and Scofield, No. 628.  
*radialis* n. sp., Ulrich and Scofield, No. 628.  
*superba* Billings, Ulrich and Scofield, No. 628.
- Schizolopha* Ulrich, Ulrich and Scofield, No. 628.  
*moorei* n. sp., Ulrich and Scofield, No. 628.  
*textilis* n. sp., Ulrich and Scofield, No. 628.
- Schmidtella* Ulrich, Ulrich, No. 627.  
*affinis* n. sp., Ulrich, No. 627.  
*brevis* n. sp., Ulrich, No. 627.  
*crassimarginata* Ulrich, Ulrich, No. 627.  
*incompta* n. sp., Ulrich, No. 627.  
*subrotunda* n. sp., Ulrich, No. 627.  
*umbonata* n. sp., Ulrich, No. 627.
- Scintilla* *clarkeana* n. sp., Aldrich, No. 18.
- Seelya* n. gen., Ulrich and Scofield, No. 628.  
*mundula* n. sp., Ulrich and Scofield, No. 628.
- Sequoia* *angustifolia*? Lx., Knowlton, No. 345.
- Serpulites* *dissolutus* Billings, Whiteaves, No. 687.
- Sigaretus* *costatus* n. sp., Cooper, No. 148.
- Sistrum* (*Ricinula*?) *cretaceum* n. sp., Cooper, No. 148.
- Smilodon* (syn. *Dinobastis* Cope), Adams, No. 9.
- Solariella* *altiuscula* n. sp., Guppy and Dall, No. 255.
- Solariorbis*  
*clypeatus* n. sp., Guppy and Dall, No. 255.  
*subangulatus* Meyer var., Aldrich, No. 18.
- Solarium* sp.?, Guppy and Dall, No. 255.
- Solenospira* n. gen., Ulrich and Scofield, No. 628.  
*pagoda* Salter, Ulrich and Scofield, No. 628.  
*pagoda* Salter var. *occidentalis*, Whiteaves, No. 687.  
*prisca* Billings, Ulrich and Scofield, No. 628.
- Sphenolium* S. A. Miller, Ulrich, No. 626.  
*parallelum* n. sp., Ulrich, No. 626.  
*striatum* n. sp., Ulrich, No. 626.
- Sporangites* *radiatus* n. sp., Duden, No. 186.
- Sportella* *gregorioi* Coss., Aldrich, No. 18.

## Paleontology—Continued.

*Genera and species described—Continued.*

- Squama* n. gen., Logan, No. 389.  
*lata* n. sp., Logan, No. 389.  
*spissa* n. sp., Logan, No. 389.
- Stachella* Waagen, Ulrich and Scofield, No. 628.
- Stegancrinus*  
*albersi* n. sp., Miller and Gurley, No. 431.  
*blairi* n. sp., Miller and Gurley, No. 431.  
*griffithi* n. sp., Miller and Gurley, No. 431.  
*sharonensis* n. sp., Miller and Gurley, No. 431.
- Stenothea* Salter, Ulrich and Scofield, No. 628.  
*exerta* Sardeson, Ulrich and Scofield, No. 628.  
*unguiformis* n. sp., Ulrich and Scofield, No. 628.
- Stephanella hindii* n. sp., Dawson, No. 175.
- Stereocrinus indianensis* n. sp., Miller and Gurley, No. 431.
- Stomatopora canadensis* n. sp., Whiteaves, No. 687.
- Stramentum* n. gen., Logan, No. 389.  
*haworthi* n. sp., Logan, No. 389.  
*tabulatum* n. sp., Logan, No. 389.
- Streptelasma*  
*corniculum* Hall, Sardeson, No. 528.  
*profundum* (Owen), Sardeson, No. 528.  
*robustum* Whiteaves, Whiteaves, No. 687.
- Strombina mira* n. sp., Guppy and Dall, No. 255.
- Strombinella* Dall, Guppy and Dall, No. 255.  
*aciformis* n. sp., Guppy and Dall, No. 255.
- Strophostylus* Hall, Ulrich and Scofield, No. 628.  
*textilis* n. sp., Ulrich and Scofield, No. 628.
- Stylinodon*  
*cylindrifera* Cope, Wortman, No. 742.  
*mirus* Marsh, Wortman, No. 742.  
*mirus*, Marsh, No. 409.
- Subulites* Conrad, Ulrich and Scofield, No. 628.  
*beloitensis* n. sp., Ulrich and Scofield, No. 628.  
*canadensis* n. sp., Ulrich and Scofield, No. 628.  
*conradi*, n. sp., Ulrich and Scofield, No. 628.  
*dixonensis* n. sp., Ulrich and Scofield, No. 628.  
*nanus* n. sp., Ulrich and Scofield, No. 628.  
*parvus* n. sp., Ulrich and Scofield, No. 628.  
*pergracilis* n. sp., Ulrich and Scofield, No. 628.  
*regularis* n. sp., Ulrich and Scofield, No. 628.  
*sp. undet.*, Ulrich and Scofield, No. 628.
- Surecula gabbi*, Aldrich, No. 18.
- Talarocrinus patei* n. sp., Miller and Gurley, No. 431.
- Tamiobatis vetustis*, n. gen. et sp., Eastman, No. 189.
- Technophorus* Miller, Ulrich, No. 626.  
*divaricatus* Ulrich, Ulrich, No. 626.  
*extenuatus* Ulrich, Ulrich, No. 626.

## Paleontology—Continued.

*Genera and species described—Continued.*

- Technophorus—Continued.*  
*filistriatus* Ulrich, Ulrich, No. 626.  
*subacutus* Ulrich, Ulrich, No. 626.
- Tennochilus greenense* n. sp., Miller and Gurley, No. 431.
- "*Terebra*" *plicifera*, Aldrich, No. 18.
- Teredina* sp., Guppy and Dall, No. 255.
- Tetradella* Ulrich, Ulrich, No. 627.  
*lunatifera* Ulrich, Ulrich, No. 627.  
*quadrilirata* Hall and Whitfield, Ulrich, No. 627.
- Tetranota* n. gen., Ulrich and Scofield, No. 628.  
*bidorsata* Hall, Ulrich and Scofield, No. 628.  
*var. minor* n. var., Ulrich and Scofield, No. 628.  
*macra* n. sp., Ulrich and Scofield, No. 628.  
*obsoleta* n. sp., Ulrich and Scofield, No. 628.  
*sexicarinata* n. sp., Ulrich and Scofield, No. 628.  
*wisconsinensis* Whitfield, Ulrich and Scofield, No. 628.
- Thaleops ovata* Conrad, 1843, Clarke, No. 133.
- Thamnograptus affinis* nom. prov., Whiteaves, No. 687.
- Tillotherium fodiens* Marsh, Osborn, No. 458.
- Trapa*  
*americana* n. sp., Knowlton, No. 345.  
*(?) occidentalis* n. sp., Knowlton, No. 345.
- Tremanotus* Hall, Ulrich and Scofield, No. 628.
- Tricentes* Cope, Matthew, No. 418.  
*crassicolldens* Cope, Matthew, No. 418.  
*subtrigonus* (Cope), Matthew, No. 418.
- Trichospongia hystrix* n. sp., Whiteaves, No. 687.
- Triformis* sp. ?, Guppy and Dall, No. 255.
- Trisodon* Cope, Matthew, No. 418.  
*gaudrianus* (Cope), Matthew, No. 418.  
*heilpranus* Cope, Matthew, No. 418.
- Triplicosta* n. subgen., Cooper, No. 148.
- Triptoceras* sp. ?, Clarke, No. 134.  
*lambi* Whiteaves, 1891, Clarke, No. 134.  
*lambii* Whiteaves, Whiteaves, No. 687.  
*oweni* n. sp., Clarke, No. 134.  
*planoconvexum* Hall, 1861, Clarke, No. 134.  
*planodorsatum*, Whitfield, 1882, Clarke, No. 134.  
*semiplanatum* Whiteaves, Whiteaves, No. 687.
- Trochoceras* (?) *mccharlesii* Whiteaves, Whiteaves, No. 687.
- Trochonema* Salter, Ulrich and Scofield, No. 628.  
*altum* n. sp., Ulrich and Scofield, No. 628.  
*beachi*? Whitfield, Ulrich and Scofield, No. 628.  
*beloitense* Whitfield, Ulrich and Scofield, No. 628.  
*bellulum* n. sp., Ulrich and Scofield, No. 628.  
*eccentricum* n. sp., Ulrich and Scofield, No. 628.  
*fragile* n. sp., Ulrich and Scofield, No. 628.

## Paleontology—Continued.

*Genera and species described*—Continued.

## Trochonema—Continued.

- madisonense n. sp., Ulrich and Scofield, No. 628.  
 nota Hall, Ulrich and Scofield, No. 628.  
 retrorsum n. sp., Ulrich and Scofield, No. 628.  
 rugosum n. sp., Ulrich and Scofield, No. 628.  
 subcrassum n. sp., Ulrich and Scofield, No. 628.  
 umbilicatum Hall, Ulrich and Scofield, No. 628.  
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