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UNITED STATES GEOLOGICAL SURVEY

J. W. POWELL, DIRECTOR

RECORD

OF

NORTH AMERICAN GEOLOGY FOR 1890

BY

NELSON HORATIO DARTON



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RECORD OF NORTH AMERICAN GEOLOGY FOR 1890.

BY NELSON HORATIO DARTON.

INTRODUCTORY.

This work is the continuation of the record for 1887-1889,¹ inclusive, and includes publications received during the year 1890.

The literary scope of this record includes geologic publications printed in North America, and publications on North American geology wherever printed. Purely paleontologic or mineralogic papers are not included.

The entries are comprised in the three following classes, all arranged in a single alphabetic sequence:

I. *Principal entries.*—Consisting of full titles of separate contributions classified by authors, together with an abbreviated reference to the containing publication and a short note descriptive of the geologic contents. Imprint dates are given only when other than 1890, and size of page when other than octavo. The extent of papers less than a page in length is indicated thus: $\frac{1}{2}$ p., $\frac{1}{4}$ col., 3 lines.

II. *Titles of containing publications.*—Entered as headings under which authors' names and short titles of the contained papers are listed in their order of precedence.

III. *Subject references.*—Each consisting of a condensed title of paper, and the author's name for cross-reference to a principal entry. These are essentially index references, but they are entered under a limited number of headings, of which a classified key is given below.

¹Bulletin U. S. Geol. Survey, No. 75, pp. 173. Washington, 1891.

CLASSIFIED KEY TO THE SUBJECT ENTRIES.

(1) GEOGRAPHIC SUBJECTS.

Alabama.
Alaska, and the other States and Territories.
Africa.
Asia.
Canada (including all of British Columbia).
Central America.
Europe.
Hawaiian Islands.
Mexico.
South America.

(2) STRATIGRAPHIC SUBJECTS.

Archean and Algonkian, with sub-headings as follows:

Eastern Canada.
Lake Superior to Lake Huron region.
New England.
New York to Georgia.
Western United States.
Nomenclature.

Cambrian, with sub-headings as follows:

Canada.
New York and New England.
Pennsylvania to Virginia.
Illinois.
Great Lakes region.
Western United States.
Nomenclature.

Carboniferous (including Permian), with sub-headings as follows:

Canada.
New England.
Appalachians to the Mississippi.
Iowa, Missouri, Kansas.
Arkansas to Mexico.
Rocky Mountain region.
Arizona.
Central America.
California.

Cretaceous, with sub-headings as follows:

- Atlantic Coast region.
- Canada.
- Great Plains and Rocky Mountain region.
- Texas region.
- Mexico.
- Kentucky.
- Pacific coast.
- South America.

Devonian, with sub-headings as follows:

- Alabama.
- Canada.
- Central America.
- England.
- Illinois.
- Iowa.
- Kentucky.
- Maine.
- Massachusetts.
- New Jersey.
- New York.
- Ohio and Indiana.
- Pennsylvania.
- Tennessee.
- Virginia and Maryland.
- Western United States.
- Nomenclature.

Jura-Trias, with sub-headings as follows:

- Canada.
- Central America.
- Newark formation (Connecticut to North Carolina).
- Western United States.
- Nomenclature.

Pleistocene, with sub-headings as follows:

- Alaska.
- Appalachians to Mississippi basin.
- Atlantic Coast region.
- Central America.
- General.
- Great Lakes region and eastern Canada.
- Mississippi basin to Rocky Mountains.
- Rocky Mountains to Pacific coast.
- Western Canada.

Silurian, with sub-headings as follows :

- Appalachians (Maine to Alabama).
- Canada.
- Central and Western States.
- Nomenclature.

Tertiary, with sub-headings as follows :

- Atlantic Coast plain.
- Gulf States (Florida to Texas).
- Arkansas to Kansas.
- British Columbia.
- Central and Western United States.
- California and Oregon.
- Mexico.
- Central America.
- South America.

(3) OTHER SUBJECTS.

Geologic philosophy, with sub-headings as follows :

- Petrology.
 - Glaciology.
 - Physiographic geology.
 - Earth crust deformation.
 - Chemical and chemico-organic deposition.
 - Geologic climate.
 - Volcanism.
 - Miscellaneous.
- Petrography.

LIST OF PUBLICATIONS EXAMINED.

- American Academy of Arts and Sciences, Proceedings, vol. 24.
American Association for the Advancement of Science, Proceedings, vol. 38. Salem, Mass.
American Geologist, vols. 5, 6. Minneapolis, Minn.
American Journal of Science, 3d series, vols. 39, 40. New Haven, Conn.
American Museum of Natural History, Bulletin, vol. 2, Nos. 3, 4; vol. 3, No. 1, pp. 1-194. New York, N. Y.
American Naturalist, vol. 23, November and December; vol. 24. Philadelphia, Pa.
American Philosophical Society, Proceedings, vol. 27, No. 131; vol. 28, Nos. 132-134. Philadelphia, Pa.
— Transactions, vol. 16, new series, part 3. Philadelphia, Pa.
Appalachia, vol. 6, Nos. 1, 2. Boston, Mass.
Boston Society of Natural History, Proceedings, vol. 24, pp. 355 to end; vol. 25, pp. 1-80. Boston, Mass.
British Association for the Advancement of Science, Report of fifty-ninth meeting. London.
California Academy of Science, vol. 2. San Francisco.
California, State Mineralogist, Ninth and Tenth Annual Reports. Sacramento.
Canada, Geological and Natural History Survey, Annual Report, new series, vol. 3, 1887-'88, 2 parts. Montreal.
Canada, Royal Society, Transactions, vol. 7. Montreal.
Canada, Report of Commission on Mineral Resources of Ontario.
Canadian Institute, Proceedings, 3d series, vol. 7. Toronto.
Canadian Record of Science, vol. 3, Nos. 7, 8; vol. 4, Nos. 1-4.
Cincinnati Society of Natural History, Journal, vol. 12, No. 4; vol. 13, Nos. 1-3. Cincinnati, Ohio.
Colorado Scientific Society, Proceedings, vol. 3, part 2. Denver.
Connecticut Academy of Arts and Sciences, Transactions, vol. 8, part 1. New Haven.
Denison University, Scientific Laboratories, Bulletin, vol. 5. Granville, Ohio.
Deutsche geologische Gesellschaft, Zeitschrift, vol. 40, No. 4; vol. 41, Nos. 1-3. Berlin.
Edinburgh Geological Society, Transactions, vol. 6, parts, 1, 2. Edinburgh.
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Essex Institute, Bulletin, vol. 21, Nos. 7-12; vol. 22, Nos. 1-6. Salem, Mass.
Engineering and Mining Journal, vol. 49, 50. New York.
Forum, 1890. New York.
Geological Magazine, new ser., decade III, vol. 7. London.
Geological Society of America, Bulletin, vol. 1. Washington, D. C.
Geological Society, Quarterly Journal, vol. 46. London.
Geologiska Föreningens i Stockholm, Förhandlingar, vol. 11, Nos. 5-7; vol. 12, Nos. 1-4.
Georgia, Bulletin Experiment Station, 1890.
Harvard College, Museum of Comparative Zoölogy, Bulletin, vol. 16, Nos. 5, 7, 8; vol. 17, No. 6; vol. 18; vol. 19, Nos. 1-4; vol. 20, Nos. 1-5, 7.
Iowa Academy of Science, Proceedings, 1887-'89.

- Iowa State University, Laboratories of Natural History, Bulletin, vol. 1, Nos. 2-4; vol. 2, No. 1. Iowa City.
- Johns Hopkins University, Circulars, Nos. 78-84. Baltimore, Md.
- Kansas Academy of Science, Transactions, vol. 12, part 1. Topeka.
- Liverpool Geological Association, Journal, vol. 9. Liverpool.
- Liverpool Geological Society, Proceedings, vol. 6, part 1. Liverpool.
- Liverpool Literary and Philosophical Society, Proceedings, vol. 41. Liverpool.
- Manchester Geological Society, Transactions, vol. 20, parts 9-17. Manchester.
- Missouri, Geological Survey, Bulletins Nos. 1-3. Jefferson City.
- National Geographic Magazine, vol. 2. Washington, D. C.
- Nature, 1890. London.
- Neues Jahrbuch, 1890. Stuttgart.
- New Brunswick Natural History Society, Bulletin, vol. 9. Saint John.
- New Jersey Geological Survey, Annual Report of the State Geologist for 1889. Trenton.
- New York Academy of Sciences, Annals, vol. 4, No. 12; vol. 5. New York.
— Transactions, vol. 9; vol. 10, Nos. 1-3. New York.
- New York, Commissioners of the State Reservation at Niagara, Sixth Report. Albany.
- New York State Museum, Annual Reports, 41-42. Albany.
— Bulletin, No. 7. Albany.
- Ohio Geological Survey, First Annual Report (3rd organization). Columbus.
- Ottawa Naturalist, vol. 3, No. 4; vol. 4, Nos. 1-9. Ottawa, Canada.
- Pennsylvania Geological Survey, Annual Report for 1887. Harrisburg.
— Seventh Report on Oil and Gas. Harrisburg.
- Philadelphia Academy of Natural Science, Proceedings, 1889, part 3; 1890, parts 1-2. Philadelphia, Pa.
- Popular Science Monthly, 1890. New York.
- School of Mines Quarterly, vol. 11, Nos. 2-4; vol. 12, No. 1. New York.
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- Scottish Geographical Magazine, vol. 6. Edinburgh.
- Smithsonian Institution, Annual Report, 1886, part 2; 1887, part 2, 1888, parts 1. 2.
- Société géologique de France, Bulletin, 3^e série, vol. 16, No. 10; vol. 17, Nos. 1-9. Paris.
- Société géologique du Nord, Annales, vol. 16, Nos. 5, 6; vol. 17, Nos. 1-3. Lille.
- Technology Quarterly, vol. 3, Nos. 1-3. Boston, Mass.
- Texas Geological Survey, Bulletin No. 4. Austin.
— First Annual Report. Austin.
- U. S. Geological Survey, Bulletins, Nos. 54-64, 66-70. Washington.
— Monographs, vols. 1, 15, 16. Washington.
— Annual Reports, J. W. Powell, Eighth and Ninth, 1886-'88.
- U. S. National Museum, Proceedings, vol. 12. Washington, D. C.
- Vassar College Institute, Transactions, vol. 5. Poughkeepsie, N. Y.
- Wagner Free Institute, Transactions, vols. 2, 3. Philadelphia.
- Warren's New Physical Geography.
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- Washington Philosophical Society, Bulletin, vol. 11, pp. 173-358. Washington, D. C.
- Wyoming, Report of the Territorial Geologist, January, 1890. Cheyenne.
- Yorkshire Geological and Polytechnic Institute, Proceedings, new series, vol. 11, part 2.

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ADAMS, F. D. Notes on the lithological character of some of the rocks collected in the Yukon district and adjacent northern portion of British Columbia.

Canada, Geol. Survey, Reports, vol. 3, new series, part 1, Report B, pp. 235-240. 1888.

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— [Summary of observations in 1887 in Montcalm and Joliette counties.]

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Includes a brief description of the relations of the anorthosite, and evidence as to its eruptive nature.

— [Account of explorations in the eastern townships of Quebec.]

Canada, Geol. Survey, Reports, vol. 3, new series, part 1, Report A, pp. 84-85. 1888.

Includes brief summary regarding the relations of the crystalline rocks.

Africa. Banket deposits of the Witwatersrand, CURTIS.

De Kaap Transvaal gold-fields, FURLONGE.

Nile and the desert, BOLTON.

AGASSIZ, Alexander. Note [on coral reefs of southern Florida, and their relation to the growth of the peninsula].

Harvard College, Mus. Comp. Zool., Bull., vol. 16, pp. 157-158.

Alabama. Analyses of dolomite and clay, HILLEBRAND.

Appomattox formation, MCGEE.

Building stones, MERRILL, G. P.

Pleistocene submergence, MCGEE. SPENCER.

Analyses of sand and white earth from Talladega, CATLETT.

Geology of Mon Louis island, LANGDON.

Alabama—Continued.

Macfarlane's Railway Guide, CAMPBELL. SMITH and GESNER.

Peculiarities in drainage, MCGEE.

Warren's geography, BREWER.

Alaska. Ice cliffs of Kowak river, RUSSELL. CANTWELL.

Surface geology, RUSSELL.

American Association for the Advancement of Science, vol. 38.

North American Mesozoic, WHITE, C. A.

Origin of gneiss, BELL.

Level of no strain in crust of the earth, CLAYPOLE.

Trap ridges of East Haven, Branford, Connecticut, HOVEY, E. O.

Devonian of Devonshire, WILLIAMS, H. S.

Ogishke conglomerate, WINCHELL, A.

Origin of Keewatin ores in Minnesota, WINCHELL, N. H. and H. V.

Eagle Flats formation and basin of Trans-Pecos, Texas, HILL.

Igneous rocks of central Texas, HILL and DUMBLE.

Staked Plains formation, Texas, HILL.

Valley of Upper Canadian, Texas-New Mexico, HILL.

Topographic features of Texas, HILL.

Zircon rocks in Archean of New Jersey, NASON and FERRIER.

Archean northwest of Lake Superior, LAWSON.

Petrography of certain dikes of Rainy Lake region, LAWSON and SHUTT.

Lake ridges of Ohio and glacial drainage in valley of Susquehanna, WRIGHT.

American Association, etc.—Cont'd.

Glacial phenomena, Illinois and Indiana, LEVERETT.

Topographic types of northeastern Iowa, MCGEE.

Petroleum belt of Terre Haute, WALDO.

Maquoketa shales in Iowa, JAMES.

Studies of hornblende schist, HITCHCOCK.

Cretaceous of northern Mexico, WHITE, C. A.

Pits and domes of Mammoth Cave, HOVEY, H. C.

AMERICAN GEOLOGIST. The Azoic system.

American Geologist, vol. 5, pp. 106-107, $\frac{3}{4}$ p.
Discussion of definition given in Century Dictionary.

— The pre-natal history of the geological society of America.

Am. Geologist, vol. 6, pp. 181-194.

— What constitutes the Taconic range of mountains?

Am. Geologist, vol. 6, p. 247, Pl. VI.

Excerpts, with maps, from various writers in regard to the location of the Taconic mountains.

— Quebec not in conflict with Taconic.

Am. Geologist, vol. 6, pp. 310-311.

Discussion of the status of the terms.

—, vol. 5.

Geographic features of the Texas region, HILL.

Laurentian as applied to Quaternary, JAMES.

Scolithus flattened by pressure, WANNER.

Extinct volcanoes in Colorado, LAKES.

Islands of Santa Barbara Channel, YATES.

North American Geology and Paleontology by Miller, DANA.

Geology of Rainy Lake Region, LAWSON.

Fossils from Cambro-Silurian of Manitoba, WHITEAVES.

Geological Survey of Minnesota, report for 1888, WINCHELL, A.

Rivers and valleys of Pennsylvania, DAVIS.

Structure of drumlins, UPHAM.

Fossils of the Trinity beds, HILL.

Kansas salt mine, HAY.

Silurian system, MURCHISON.

American Geologist, vol. 5—Continued.

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Origin of outlines of the Bermudas, FEWKES.

Extinction of species, MCCREERY.

Glacial lunoid furrows, PACKARD.

Azoic system, AM. GEOLOGIST.

Subaerial decay of rocks, RUSSELL.

Geology of Nantucket, SHALER.

Meeting of Geological Society of America.

Meeting of Boston Society of Natural History.

Well at Dixon, Illinois, TIFFANY.

Well at Le Mars, Iowa, TODD.

Dikes near Kennebunkport, Maine, KEMP.

Triassic traps of Nova Scotia, MARSTERS.

Training of a geologist, BRANNER.

Triassic flora of Richmond, Virginia, MARCOU.

Copper in Animikie rocks of Thunder Bay, LAWSON.

Quicksilver deposits of Pacific slope, BECKER.

Preglacial channels at the falls of the Ohio, BRYSON.

Level of no strain, DAVIS.

Use of terms Laurentian and Newark, HITCHCOCK.

Glacial geology of Irondequoit regions, DRYER.

Session of International Geological Congress, FRAZER.

History of the Quebec group, HUNT, T. S.

Making of Pennsylvania, CLAYPOLE.

Geology of Ontario, BELL.

Note on Duck and Riding Mountains, TYRRELL.

Report on James Bay country, LOW.

Geology of Quebec, ELLS.

Northern New Brunswick and Maine, BAILEY and MCINNES.

Surface geology of New Brunswick, CHALMERS.

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Drainage systems of New Mexico, TARR.

Artesian wells in Kansas, HAY.

American Neocomian, MARCOU.

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Survey of Concho country, CUMMINS and LERCH.

Maquoketa shales, JAMES.

Lower and middle Taconic, MARCOU.

Meeting of International Congress of Geologists, HERRICK.

Trenton limestone oil and gas, ORTON.

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A deserted gorge of the Mississippi, GRANT.

Permo-Carboniferous of Kansas, WOOSTER.

Huronian-Laurentian contact, BARLOW.

Artesian water from the drift, ROLFE.

Non-feldspathic intrusives of Maryland, WILLIAMS, G. H.

Ice cliffs of Kowak River, Alaska, RUSSELL. CANTWELL.

Quaternary history of Mono Valley, RUSSELL.

Use of terms Laurentian and Champlain, MARCOU.

Casts of crinoids from Burlington limestone, ROWLEY.

Sergipe-Alagoas basin of Brazil, BRANNER.

Check list of Cretaceous invertebrates of Texas, HILL.

On the name Laurentian, JAMES.

Carboniferous of central Texas, TARR.

Glaciation of the Cordillera, DAWSON, G. M.

Eruptive rocks of Lake Huron region, FAIRBANKS.

Pre-natal history of the Geological Society of America, AM. GEOLOGIST.

Characteristics of volcanoes, DANA.

Geographic development of northern New Jersey, DAVIS and WOOD.

Geology of Lassen Peak district, DILLER.

Geology of island of Mt. Desert, SHALER.

Thickness of rocks in Central New York, PROSSER.

Artesian wells in the Dakotas, UPHAM.

Cheyenne sandstone and Neocomian shales of Kansas, CRAGIN.

Coal measures of Indian Territory, CHANCE.

Glaciation of eastern Canada, CHALMERS.

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Exploration of the Indian Territory, HILL.

Texas Cretaceous, HILL.

The Wetwoods, BRYSON.

Taconic iron ores, WINCHELL, N. H. and H. V.

Pilot Knob, HILL. KEMP.

Extension of Iroquois beach, SPENCER.

Relations of State and National Surveys, BRANNER.

Quebec not in conflict with Taconic, AM. GEOLOGIST.

The Iroquois beach, SPENCER.

Glaciation of the Cordillera and Laurentide, CHALMERS.

Cause of the glacial period, UPHAM.

Great quartzite more recent than Olenus schist, HOLST.

Observations on some Canadian rocks, WINCHELL, A.

Reconnaissance in Kansas, HAY.

Geology of Eastern Maine and New Brunswick, BAILEY.

Glacial boundary—Pennsylvania to Illinois, WRIGHT.

Submergence of Isthmus of Panama, UPHAM.

Iroquois beach, DAVIS.

American Journal of Science, vol. 39.

Devonian system of Devonshire, WILLIAMS, H. S.

Zinciferous clays of Missouri, SEAMON.

Origin of normal faults, READE.

North American Geology and Paleontology, DANA.

12th Report Minnesota Survey, DANA.

Fossils in Columbia County, New York, BISHOP.

Cretaceous, San Carlos Mountain, Mexico, WHITE, C. A.

Fossils in Dutchess County, New York, DWIGHT.

Cretaceous plants from Martha's Vineyard, WHITE, D.

Review of Ells's report on Quebec, WALCOTT.

Tracks in Animikie rocks, SELWYN.

Hercynian fauna, WALCOTT.

Sedgwick and Murchison, Cambrian and Silurian, DANA.

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- Cretaceous of British Columbia, DAWSON, G. M.
 Recent rock flexure, CRAMER.
 Calciferous formation in Champlain Valley, BRAINERD and SEELY.
 Geological survey of Canada, Reports, vol. 3, DAWSON, G. M.
 Sandstones of Fernando de Noronha, BRANNER.
 Dikes in central Appalachian, Virginia, DARTON. DILLER.
 Soda-granite and quartz-keratophyre, Pigeon Point, BAYLEY.
 Topographic features of central Texas, TARR.
 Subaerial decay of rocks, DANA.
 Diatom beds in Yellowstone Park, WEED.
 Archean limestone in Norfolk, Conn., CORNISH.
 Glacial scratches in Norfolk, Conn., CORNISH.
 Characteristics of volcanoes, DANA.
 Elementary proof of the earth's rigidity, BECKER.
 Minerals of amphibole and pyroxene groups, CROSS.
 Archean axes of eastern North America, DANA.
 Metamorphic strata of southeastern New York, MERRILL, F. J. H.
 History of Mono Valley, California, RUSSELL.
 Lower Carboniferous in central Texas, TARR.
 Scapolite rock in New Jersey, NASON.
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 Southern extension of Appomattox formation, MCGEE.
 Goniolite in Comanche series of Texas, HILL.
 Fayalite in obsidian of Lipari, INDINGS and PENFIELD.
 Post-tertiary deposits of Manitoba, TYRRELL.
 Curious occurrence of vivianite, DUDLEY.
 Classification of glacial sediments of Maine, STONE.
 Silurian graptolites from Maine, DODGE.
 Siderite basins of Hudson River epoch, KIMBALL.

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- American Committees of International Congress, WILLIAMS, H. S.
 Potomac or younger Mesozoic flora, FONTAINE.
 Rocky Mountain protaxis, DANA.
 Cretaceous of Manitoba, TYRRELL.
 Geology of Mon Louis Island, LANGDON.
 Microscopic structure of oolite, BARBOUR and TORREY.
 Clinton group fossils, FOERSTE.
 Blandford's address to Geological Society of London, DANA.
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 Pre-glacial drainage and recent history of western Pennsylvania, FOSHAY.
 Long Island Sound in the Quaternary, DANA.
 Deformation of Iroquois Beach, SPENCER.
 Sand transportation by rivers, GRAHAM.
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 Fauna of rocks at Fort Cassin, Vermont, WHITFIELD, R. P.

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- Silver Lake of Oregon, COPE.

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- Excavations made by sea-urchins, FAWKES.
 Brecciated character of St. Louis limestone, GORDON.
 Erosive agents in the arid regions, TARR.
 Glacial phenomena in Beaver Valley, FOSHAY and HICE.
 Transitional drift of Iowa, WEBSTER.

- American Philosophical Society,**
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 BRANNER.
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- AMI, Henry M.** On the geology of Quebec City.
 Science, vol. 16, p. 317, 1½ col., 49.
 Abstract, Am. Geologist, vol. 7, p. 71, ¼ p., 1891.
 Discussion of the horizon of the strata.
- Appalachia, vol. 6, Nos. 1, 2.**
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 Ice age in North America, DAVIS.
 Volcanoes in Japan, HOLLAND.
- Archean and Algonkian.**
Eastern Canada, report on Quebec, ELLS.
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 Pre-Paleozoic surface in Canada,
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 Areas of continental progress in
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 Summary reports of Geological Survey
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- Archean and Algonkian—Continued.**
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 Copper in Animikie at Thunder Bay,
 LAWSON.
 Taconic iron ores of Minnesota, WINCHELL,
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- Analysis of novaculite from Marquette, HILLEBRAND.
- Analyses of rocks from Pigeon Point, EAKINS. HILLEBRAND. RIGGS. WHITFIELD, J. E.
- Analyses of rocks collected by R. D. IRVING. HILLEBRAND.
- Analyses of rocks from Penokee-Gogebic range, CHATARD. EAKINS.
- Macfarlane's Railway Guide, DAWSON, G. M. WINCHELL, A.
- Analysis of diabase from Michigan, CHATARD.
- Warren's geography, BREWER.
- Iron ores, HUNT, T. S.
- Northern and western British America,*
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- Mineral wealth of British Columbia, DAWSON, G. M.
- James Bay region, LOW.
- Lithology of rocks from Yukon district, ADAMS.
- Big bend of the Columbia, COLEMAN.
- Yukon district, DAWSON, G. M.
- Areas of continental progress in North America, DANA.
- Yukon and Mackenzie Rivers, MCCONNELL.
- Macfarlane's Railway Guide, DAWSON, G. M.
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- LAWSON, Andrew C.**—Continued.
 — Note on the mapping of the Archean northeast of Lake Superior. [Abstract.]
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 Brief notice of components and relations of upper and lower Archean.
- Note on the occurrence of native copper in the Animikie rocks of Thunder Bay.
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- [Petrographic descriptions of Huronian and Laurentian rocks from north of Lake Huron.]
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- LEVERETT, Frank.** Changes of climate indicated by interglacial beds and attendant oxidation and leaching.
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— Glacial studies bearing on the antiquity of man. [Abstract.]

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— Glacial phenomena of northeastern Illinois and northern Indiana. [Abstract.]

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Morainal structure and history.

[**LEWIS, H. C.**] [Note for vicinity of Blackville, Pennsylvania.]

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Lake Lahontan, MCLINTOCK.

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— [Report on explorations of the eastern coasts, islands, and rivers of Hudson Bay.]

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Distribution, characteristics, relations, and history from North Carolina to Mississippi with brief references to associated Columbia and Tertiary formations. Taxonomy. Exposition of methods of classification and correlation by "homogeny," illustrated by the formations of the coastal plain of the Atlantic slope.

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— Introduction.

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— [Remarks on pressure of rock gas, especially in Indiana.]

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— [Remarks on the extent of an early Pleistocene submergence of the Atlantic coast.]

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— [Remarks on the formations comprised under the term "orange sand," and on the relations of certain loams and gravels in the vicinity of Vicksburg and Grand Gulf.]

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Brief reference to relations of Columbia terraces and the terminal moraine.

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— Geology for 1887 and 1888.

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Description of the holes, and allusions to the schists in which they lie, topographic characteristics of region, date of currents by which they were produced, and existence of terraces in their vicinity.

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MARCOU, Jules. Reply to the questions of Mr. Selwyn on "Canadian geological classification for Quebec."

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— The Triassic flora of Richmond, Virginia.

Am. Geologist, vol. 5, pp. 160-174.

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Am. Geologist, vol. 5, pp. 315-317.

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— Use of the terms Laurentian and Champlain in geology.

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Sanborn boulder, SCOVILLE.

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— A note on the colored clays recently exposed in railroad cuttings near Morristania, New York.

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Description of an exposure exhibiting highly colored clays.

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New York Acad. Sci., Trans., vol. 9, pp. 45, 46, ½ p.

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— Some ancient shore-lines and their history.

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— Barrier beaches of the Atlantic coast.

Popular Science Monthly, vol. 37, pp. 736-745.

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— [Remarks regarding the interglacial deposits of the Delaware.]

Geol. Soc. Am., Bull., vol. 1, p. 477, ½ p.
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— [Remarks on the stratigraphy and structure of Gay Head.]

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Includes brief descriptions of principal quarries and stones of the United States and reference to notable foreign localities, and a short chapter on physical and chemical properties of rocks, illustrated by a plate of thin sections of the following: Granite, Hallowell, Maine; oolitic limestones, Caldwell County, Kentucky; marble, Rutland, Vermont; diabase, Weehawken, New Jersey; sandstones, Portland, Connecticut, and Potsdam, New York.

— Petrography for 1887 and 1888.

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— Notes on the serpentinous rocks of Essex County, New York, from aqueduct shaft 26, New York City, and from near Easton, Pennsylvania.

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MEZGER, A. The ore deposits and mines of Minas Geraes, Brazil.

Engineering and Mining Jour., vol. 50, pp. 233, 272, 273. 4°.

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MILLER, S. A. North American geology and paleontology for the use of amateurs, students, and scientists, pp. 664, Cincinnati.

Reviewed by J. D. Dana, Am. Jour. Sci., 3d series, vol. 39, p. 87, § p.

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MILLS, J. E. [Remarks on the history of Lake Winnepeg-Mississippi drainage.]

Geol. Soc. Am., Bull., vol. 1, p. 407, § p.

In discussion of paper by J. B. Tyrrell on "Post-Tertiary deposits of Manitoba."

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— [Remarks on certain questions of equivalency and structure of the crystallines of the Northwest.]

Geol. Soc. Am., Bull., vol. 1, pp. 390-391, 393.

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Vermont, Archean axes of eastern North America, DANA.

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W.

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U. S. Geol. Survey, 8th Report, J. W. Powell, pp. 174-178, 1889.

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— Report—Division of Paleozoic invertebrates.

U. S. Geol. Survey, 9th Report, J. W. Powell, pp. 115-120, 1889.

Includes a brief account of results of investigations in the Taconic region of Washington County, and of the Hudson terrane in the Hudson valley and Schoharie County, New York.

— A review of Dr. R. W. Ells's second report on the geology of a portion of the Province of Quebec; with additional notes on the "Quebec Group."

Am. Jour. Sci., 3d series, vol. 39, pp. 101-115.

Abstract, Am. Naturalist, vol. 24, p. 954, $\frac{1}{2}$ p.

Abstracts from the report, comparison of statements of various observers concerning the region and discussion of stratigraphy and faunal relations of the lower Silurian and Cambrian.

— Study of a line of displacement in the Grand Cañon of the Colorado in northern Arizona.

Geol. Soc. Am., Bull., vol. 1, pp. 49-64.

Abstract, Am. Naturalist, vol. 24, p. 110, 4 lines.

Description of the displacement phenomena and sketch of the various movements and their bearing on the geologic history of the region.

— The value of the term "Hudson River Group" in geologic nomenclature.

Geol. Soc. Am., Bull., vol. 1, pp. 335-353, 354, 355.

Abstracts, Am. Geologist, vol. 5, p. 120, 6 lines.

Am. Naturalist, vol. 24, p. 955, 6 lines.

Review of the application and taxonomic value of the term, and of the distribution, characteristics, and general stratigraphic relations of the group. P. 355 announces the discovery of Niagara fossils in Washington

WALCOTT, C. D.—Continued.

County, New York. Discussed by James Hall and W. M. Davis, pp. 354-355.

— [Remarks on the thickness and identity of the Calciferous formation from Canada to Tennessee.]

Geol. Soc. Am., Bull., vol. 1, pp. 512-513.

In discussion of paper by E. Brainerd and H. M. Seely on "The Calciferous formations in the Champlain valley."

[—] The Hercynian fauna of the northern Hartz in Germany.

Am. Jour. Sci., 3d series, vol. 39, pp. 155-156.

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Am. Geologist, vol. 5, pp. 35-38.

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— The discovery of fossil tracks, algæ, etc., in the Triassic of York County, Pennsylvania.

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With incidental descriptions of the containing beds.

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Include brief reference to paleontologic evidence as to age of sandy clays at Grove Point on Chesapeake Bay, Maryland.

— The geographical distribution of fossil plants.

U. S. Geol. Survey, Eighth Report, J. W. Powell, pp. 663-960, pl. Lxi, 1889.

Consists of an enumeration of localities all over the world, with references as far as practicable to the age of the containing formations.

Pages 848-931 and the map relate to the United States under which the geological horizon of plant bearing beds is in some cases briefly discussed.

WARD, Lester F.—Continued.

— Report—Division of paleobotany.

U. S. Geol. Survey, Ninth Report, J. W. Powell, pp. 128-131, 1889.

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— [Remarks on the age of the Laramie group.]

Geol. Soc. Am., Bull., vol. 1, pp. 529-532.

Am. Naturalist, vol. 24, pp. 564-568.

Discussion of paper by J. S. Newberry on "The Laramie group."

— [Remarks on the Cretaceous formation in Gay Head.]

Geol. Soc. Am., Bull., vol. 1, pp. 555-556, $\frac{3}{4}$ p.

Am. Naturalist, vol. 24, pp. 562-563.

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WARD, T. On the salt deposits of the United States of America and Canada, with notes on a visit to the more important of them.

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Includes some brief incidental geologic references, mainly from previous writers.

Warren's New Physical Geography,
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— Diatom beds and bogs of the Yellowstone National Park.

Botanical Gazette, vol. 14.

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School of Mines Quart., vol. 11, pp. 289-306.

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Popular Science Monthly, vol. 37, pp. 196-201.

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Engineering and Mining Jour., vol. 50, pp. 214-216, 2 cols., 4^o.

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WHITE, C. A. The North American Mesozoic.

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— Report—Division of Mesozoic paleontology.

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— On the geology and physiography of a portion of northeastern Colorado and adjacent points of Utah and Wyoming.

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— Remarks on the Cretaceous of northern Mexico. [Abstract.]

Am. Assoc. Adv. Sci., Proc., vol. 38, p. 252.

State of Chihuahua and adjacent parts of Texas and New Mexico. Thickness, equivalency of stratigraphic components, and relations of underlying Carboniferous.

— The lower Cretaceous of the San Carlos Mountains, New Mexico.

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WHITE, I. C. [Remarks on the history of the glacial deposits in the upper Ohio region.]

Geol. Soc. Am., Bull., vol. 1, pp. 477-478, 479-480.

In discussion of paper by T. C. Chamberlin on "Some additional evidence bearing on the interval between the glacial epochs."

— [Remarks on pressure of gas in western Pennsylvania region.

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In discussion of memoir by Edward Orton on "Origin of rock pressure of natural gas." [—] Pittsburg and Lake Erie Railroad.

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U. S. Geol. Survey, *Bull.* No. 64, p. 42, $\frac{1}{2}$ p. Pyroxenites.

— Geyserites from Rotorua, New Zealand. [Analyses.]

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— Eruptive rocks from northern California. [Analyses.]

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— The nonfeldspathic intrusive rocks of Maryland, and the course of their alteration.

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— Note on the eruptive origin of the Syracuse serpentine.

Geol. Soc. Am., Bull., vol. 1, pp. 533-534.

Abstracts, Am. Geologist, vol. 5, p. 118, $\frac{1}{2}$ p. Am. Naturalist, vol. 24, p. 211, 4 lines.

Description of new exposures exhibiting the relations of the dike and the occurrence of inclusions. Remarks by James Hall and J. F. Kemp, p. 534, $\frac{1}{2}$ p.

— Geological and petrographical observations in southern and western Norway.

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— [Notice of the results of studies in the Menominee and Marquette regions.]

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— North American paleontology for 1887 and 1888.

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[—] The American committee of the International Congress of Geologists.

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[—] [Geological notes in central and western New York.]

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Discussed by C. R. Van Hise, pp. 391-393.

— [Strength of the earth's crust.]

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With brief prefatory notes on its geology.

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— The geology of the Crazy Mountains, Montana.

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Pres. U.S. Geol. Surv. under

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