neon or hydrogen. These lines have been repeatedly observed in specimens of helium from that day to this. Living and Dewar[2] had observed some "wild" lines in specimens of Bath gas and suggested the possibility of the presence of coronium. In this connection it is interesting to note that some of the faint lines observed by us visually do correspond closely in wave-length to the coronal lines. During the past winter we have been making rather careful visual observations and find that some of the stronger of these lines belong to the swan spectrum of carbon, and are evidently due to some compound of carbon which is not completely absorbed by cocoanut charcoal at liquid air temperatures. These carbon lines are recorded in the literature as bands, but under the conditions under which we observe them appear to be sharp lines. We are adding to our equipment a quartz spectrograph for photographic observations and have under way a systematic fractionation of helium, using a number of methods, with the hope of eliminating the troublesome carbon compounds and of concentrating the unknown source of these remaining fainter lines sufficiently to enable them to be identified and thus prove or disprove the presence of coronium.

Hamilton P. Cady,
Howard McKee Elsey
University of Kansas,
Lawrence, Kansas

THE IOWA ACADEMY OF SCIENCE

The Iowa Academy of Science held its meetings in the Chemistry recitation room of the Science building of the State Teachers College at Cedar Falls, beginning at 1:30 P.M., Friday, April 25. After the preliminary business session and the general program section meetings were held. President Beyer gave his address on "Some problems in conservation" at the general meeting on Friday afternoon.

The following officers were elected for the coming year: *President*, T. C. Stephens, Morningside College, Sioux City. *First Vice-president*, Nicholas Knight, Cornell College, Mt. Vernon; *Second Vice-president*, D. W. Morehouse, Drake University, Des Moines; *Secretary*, James H. Lees, Iowa Geological Survey, Des Moines; *Treasurer*, A. O. Thomas, State University, Iowa City.

At 6:45 Friday evening a special war film was exhibited for the benefit of the academy and following this the evening was devoted to a résumé of the work of members of the academy during the war. President and Mrs. Seerley held a reception for the academy members after the meeting.

Sectional meetings were resumed Saturday morning and the business session closed the meetings. The members lunched together at 1:30 P.M.

The Iowa Section, Mathematical Association of America, held its fourth annual meeting Saturday forenoon, beginning at nine o'clock.

TITLES OF PAPERS

Zoology and Allied Subjects

A list of the birds found in Marshall county, II.: Ira N. Gabrielson.

The resistance of streptococci to germicidal agents: Henry Albert.

The correlation of art and science in the museum: Homer R. Dill.

Variations in the branches of the coelic artery in the rabbit: H. R. Werner.

An ecological survey of Dry Run, a small prairie stream. (1) The fishes: E. L. Palmer.

Animal tracks, food and disposition: is there any relation? E. L. Palmer.

Some zoological notes from the Barbadoes-Antigua expedition: C. C. Nutting.

Some interesting insect habitats in the tropics: Dayton Stoner.

Grasshopper control in Iowa: H. E. Jaques.

Some notes on the Cercopidae with descriptions of new species: E. D. Ball.

Thomisidæ of the Ames region: Ivan L. Ressler.

Notes on the occurrence of warts on cotton-tail rabbits in Iowa: J. E. Guthrie.

Medical work in the war: D. J. Glomset.

Variations in the branches of the carotid artery in the rabbit: Francis Marsh Baldwin.

Botany

Notes on the distribution of grasses of Iowa, Wisconsin, Minnesota and the Dakotas with reference to rust: L. H. Pammel.

Notes on the barberry: L. H. Pammel.

The genus Lactuca in Iowa: R. I. Cratty.

The rust on mammoth clover: W. H. Davis.

The moss and lichen flora of western Emmet county: B. O. Wolden.

The flora of Mitchell county: Mrs. Flora May Tuttle.

A naturalist's glimpse of the Limberlost: MRS. FLORA MAY TUTTLE.

Seed formation in Utricularia: ROBERT B. WYLIE and ALICE E. YOCOM.

Notes on new or rare Iowa trees: B. SHIMEK.

A discussion of certain rare species, chiefly of the genera *Quercus*, *Fraxinus* and *Carya*.

The genus Ceanothus in Iowa: B. SHIMEK.

A discussion of the species and varieties found in Iowa.

Rosa pratincola Greene in Iowa: MISS EVELYN ENSIGN.

A taxonomic and ecological discussion of the common prairie rose.

The fern flora of Nebraska: T. J. FITZPATRICK.

Gives a short sketch of the seven physiographic regions of Nebraska, noting the ferns found in each; eight reasons are formulated to account for the paucity of ferns in the state. The annotated list is based upon the material in the herbarium of the University of Nebraska.

Supplemental list of plants from southeastern Alaska: J. P. ANDERSON.

Measurements of wood fiber: HENRY S. CONARD and WILBUR A. THOMAS.

Check-list of the plants of Grinnell: HENRY S. CONARD and FRANK E. A. THONE.

Study of a section of the Oregon coast flora: MORTON E. PECK.

Hybridization in Iris: MISS M. LOUISE SAWYER.

Studies upon the absorption and germination of wheat treated with formaldehyde. (1) Dipping method: A. L. BAKKE and H. H. PLAGGE.

Chemistry

A chemical examination of some dolomites: NICHOLAS KNIGHT.

The analysis of a number of dolomites of the same geological formation, but from quite widely different localities, was made to compare the chemical composition. A specimen from Mount Vernon, Iowa, was chosen, and another from Lockport, New York, both belonging to the Niagara period of the Silurian age, and their composition was quite identical; also, another specimen from Westchester county, New York, resembling marble in physical aspects, belonging to the Cambro-Silurian, proved quite a typical dolomite, similar in composition to the others investigated.

The electromotive force and free energy of dilution of aqueous solutions of sodium bromide: H. B. HART and J. N. PEARCE.

Geology

Meteor mountain: DAVID H. BOOT.

The Aftonian gravels near Afton Junction—are they interglacial? GEORGE F. KAY.

Some large bowlders in Kansan drift in southern Iowa: GEORGE F. KAY.

A problem in municipal waterworks for a small city: JOHN L. TILTON.

New features with reference to the Thurman-Wilson fault: JOHN L. TILTON.

Note on conditions at the head of flood plains: JOHN L. TILTON.

Exhibition of pictures of the tornado which passed through Eastern Nebraska, April 6, 1919: JOHN L. TILTON.

The relation of the Satsop flora to the youngest known mountain range in North America: RALPH W. CHANEY.

Leaching, a factor in determining the age of glacial gravels: WALTER H. SCHOEWE.

The history of Boyer valley: JAMES H. LEES.

The Iowan-Wisconsin drift border: E. J. CABLE.

The deep well at Laurens and its interpretation: E. J. CABLE.

The effect of rivers on the location of Iowa cities: MISS ALISON E. AITCHISON.

An illustration of the wedge-work of roots: A. O. THOMAS.

A large granite boulder near Nashua, Iowa, is split by an elm tree fifty feet high growing in the cleft.

The ascent of Mt. Misery on the Island of St. Kitts, British West Indies: A. O. THOMAS.

Mt. Misery is an extinct, or at least a dormant, volcano. A day's stop at Basseterre permitted the writer and two other members of the University Barbadoes-Antigua expedition to climb the mountain. The setting of the mountain, the tree fern forest on its flanks, the crater, and the view from the summit are described.

A Herpetocrinus from the Silurian of Iowa: A. O. THOMAS.

Some remains of this remarkable genus of crinoids were recently collected at Monticello. Its structure, habits and geographic distribution in the Silurian rocks are discussed. This is believed to be the first reported occurrence of this crinoid from the Iowa Silurian.

The Independence shale near Brandon, Iowa: A. O. THOMAS.

Outcrops of this formation are rare. At two or three localities near Brandon, twelve to fifteen miles southwest of Calvin's original exposure,

occurs a bed several feet thick. It contains an abundance of the typical fossils.

Iowa's geological centenary: CHARLES KEYES.

That modern geology in America had its beginnings in Iowa appears to be not generally known. Before Thomas Nuttall's famous trip down the Mississippi River in 1809, and his extensive application of William Smith's principles of determining the relative age of rock terranes by means of their contained fossils American geology was distinctly Wernerian in aspect. The eminent German never had a stronger advocate than William McClure, president for many years of the American Philosophical Society, of Philadelphia. It was Iowa's particular mission to be the ground where the fossils were collected and the materials first critically compared with the organic remains of the mountain limestones of Derbyshire, England. There are a score or more important episodes in the history of American geology which first found light of day in Iowa.

Tertiary gravels of northern Utah: CHARLES KEYES.

The recent tracing of the Bozeman gravels of Montana over the crest of the Rockies into southern Idaho suggests their unbroken continuity farther to the south. They there seem to connect with the gravel beds exposed in the Red Rock Pass region and beyond in northern Utah, which have long remained a puzzle to all who have worked in that field. The fact that the gravels at the Pass appear to have been moving southward at the time of their deposition also has an important bearing upon the genesis and duration of the old Bonneville lake.

Louisian vs. Mississippian as a periodic title: CHARLES KEYES.

If we are to retain a geographic designation for the Early Carbonic rocks of America there is a valid term which has by a full decade priority over Mississippian. This is St. Louis, or, as we would call it in these enlightened days, Louisian. It is a name that was originally proposed for what was supposed to be the exact section covered by the Mountain Limestone as displayed in Derbyshire, England. Subsequent severe restriction of the name St. Louis to a single terrane and its wide use in this sense do not militate in the least against its first employment. A more satisfactory usage of the term Mississippian is as a serial title for a provincial succession, as recently proposed.

Possible errors in Pleistocene field-observations: B. SHIMEK.

A discussion of the value of root-tubules, calcareous content, fossils, etc., in determining the age of loess deposits; also certain dangers in the use of physiographic criteria in determining the age of Pleistocene deposits.

Helicina occulta Say: B. SHIMEK.

Additional notes on the distribution of this species. Both recent and fossil forms are discussed.

Physics and Psychology

Some structural features of selenium deposited by condensation from the vapor state above the melting point: L. E. DODD.

The sublimation curve for selenium crystals of the hexagonal system: L. E. DODD.

Superposed stroboscopic velocities: L. E. DODD.

The relation between voltage and candle-power in modern incandescent lamps: WM. KUNERTH.

The action of conical horns: G. W. STEWART.

The binaural difference of phase effect: G. W. STEWART.

Some preliminary results on the photoelectric longwave length limit of the metals (platinum and silver): OTTO STUHLMAN, JR.

A new non-inductive resistance: H. L. DODGE.

A new wall rheostat of large current capacity: H. L. DODGE.

The solar eclipse of June 8, 1918 (illustrated): D. W. MOREHOUSE.

The effect of temperature in resistance and specific resistance of tellurium crystals: ARTHUR R. FORTSCH.

Evaluation of mental tests as used in the army: C. E. SEASHORE.

The distribution of musical talent in the freshman class in the university: C. E. SEASHORE.

JAMES H. LEES,
Secretary

SCIENCE

A Weekly Journal devoted to the Advancement of Science, publishing the official notices and proceedings of the American Association for the Advancement of Science

Published every Friday by

THE SCIENCE PRESS

LANCASTER, PA. GARRISON, N. Y.
NEW YORK, N. Y.

Entered in the post-office at Lancaster, Pa., as second-class matter