

managing editor of the *Proceedings* for the past ten years, was elected president to succeed Dr. George B. Wallace. Other officers elected were vice-president, James W. Jobling, Columbia University; secretary-treasurer, Victor C. Myers, New York Post-Graduate Medical School and Hospital; additional member of the council (for 2 years), Stanley R. Benedict, Cornell University Medical College. The term of Eugene F. Du Bois as councilor expires in 1924.

The nominating committee elected for 1924 were A. J. Goldfarb, Graham Lusk, D. D. Van Slyke and G. B. Wallace, resident members; A. J. Carlson, L. B. Mendel and A. N. Richards, non-resident members.

The chairmen of the different branches and *ex-officio* vice-presidents of the society are: Pacific Coast Branch, William Ophüls, Stanford University Medical School; Minnesota Branch, Arthur D. Hirschfelder, University of Minnesota; Western New York Branch, John R. Murlin, University of Rochester; Peking Branch, Carl Ten-Broeck, Peking Union Medical College.

THE AMERICAN MATHEMATICAL SOCIETY

THE fifty-first regular meeting of the Chicago Section of the American Mathematical Society, constituting the nineteenth western meeting of the society, was held at the University of Chicago on Friday and Saturday, April 13 and 14. On Friday afternoon, Professor S. Lefschetz, University of Kansas, gave a lecture on "Curves traced on algebraic surfaces." About sixty persons were present at a dinner at the Quadrangle Club on Friday evening. The Section voted to hold its Christmas meeting in Cincinnati in affiliation with the American Association for the Advancement of Science.

The following papers were read at this meeting:

On the representation of a certain fundamental law of probability of Laplace: H. L. RIETZ.

An application of areal coordinates to mixtures and the graphical solution of equations: F. E. WOOD.

Riemann surfaces and the map problem: H. R. BRAHANA.

A theorem concerning unit matrices with integral elements: H. R. BRAHANA.

An application of fractional differentiation to a class of Volterra integral equations: H. T. DAVIS.

Same left co-set and right co-set multipliers for any given finite group: G. A. MILLER.

The linear group modulo p_K : M. M. FELDSTEIN.

Continuous transformations of manifolds: S. LEFSCHETZ.

Certain limitations of the value of the complete independence of a set of postulates: M. H. INGRAHAM.

Foundation and status of the theory of linear algebras: L. E. DICKSON.

General theory of hypercomplex integers: L. E. DICKSON.

The optical transformation of surface differentials: IRWIN ROMAN.

Solutions of ordinary differential equations: F. R. MOULTON.

On approximation by functions of given continuity: DUNHAM JACKSON.

Vector treatment of the extrema of double integrals: D. C. KAZARINOFF.

Cubics associated with a net of conics: F. E. WOOD.

An extension of the theory of the double modulus: J. S. TURNER.

On certain properties of sets of positive measure: H. BLUMBERG.

On a class of invariant subgroups of the conformal and projective groups in function space: I. A. BARNETT.

The area preserving group in function space: I. A. BARNETT.

The papers of Professors Blumberg and Barnett were read by title.

ARNOLD DRESDEN

Secretary of the Chicago Section

THE MICHIGAN ACADEMY OF SCIENCE, ARTS AND LETTERS

THE twenty-eighth annual meeting of the Michigan Academy of Science, Arts and Letters was held in Ann Arbor March 28-30, 1923. The presidential address was given by R. A. Smith, state geologist of Michigan, on "The land-economic survey of Michigan." At the first general session memorials to the two past-presidents who had died during the year, Leroy H. Harvey and Walter B. Barrows, were presented. At the same meeting a paper, "The

length of geological time based on observations within the field of physical geology," was given by H. H. Hobbs. The programs of the scientific sections follow:

SECTION OF ANTHROPOLOGY

The physical culture of the Michigan Indians: W. B. HINSDALE.

An archeological survey of Berrien County, Michigan: GEO. R. FOX.

The human and associated animal remains of the Kentucky Caves: ARTHUR M. MILLER.

Folk-lore of fossils in Greek and Latin: EUGENE S. MCCARTNEY.

The stone cave temple of Kyungju, Korea: W. CARL RUFUS.

Food plants of the Polynesians and their bearing on route and time of migration: FORREST B. H. BROWN.

The food prohibitions and guardian spirits of the Exogamous Septs of the Batak: H. H. BARTLETT.

SECTION OF BOTANY

The heart-rot of black ash caused by Polyporous hispidus (Fr. with lantern): DOW VAWTER BAXTER.

Imperfect stages of some higher pyrenomycetes obtained in culture: LEWIS E. WEHMEYER.

A native homothallic mucor: BESSIE B. KANOUSE.

Longevity in spores of Aspergillus Oryzae and Rhizopus Nigricans: ADELIA MCCREA.

The production of improved strains of Hevea brasiliensis: CARL D. LARUE.

Notes on the failure of seed crop of Hevea brasiliensis on east coast of Sumatra: CARL D. LARUE.

The nuclear-chiaera theory of inheritance in Oenothera: H. H. BARTLETT.

The vernacular names of certain Sumatra plants: H. H. BARTLETT.

Notes on the orange rust of Rubus: E. A. BESSEY.

Native Michigan shrubs for ornamental use: E. GENEVIEVE GILLETTE.

Observations on the poisonous plants of Michigan: E. F. WOODCOCK.

Vegetable zones in the Western Himalayas (with lantern): L. A. KENOYER.

Distribution of umbellales in Michigan: L. A. KENOYER.

Distribution of ericales in Michigan: L. A. KENOYER.

Meteorological data, Douglas Lake, Michigan, 1922: F. C. GATES.

Swamp and bog plants: Iris versicolor: F. C. GATES AND ELSIE E. ERICKSON.

Annual growth of Pinus resinous and Pinus strobus near Douglas Lake, Michigan: DOROTHY J. CASHEN.

Notes on Michigan flora, Part VI: O. A. FARWELL.

Comparative study of the distribution of the Climax Associations in Southern Michigan: BERT EDWIN QUICK.

The composition of Climax Plant Associations in Minnesota: H. F. BERGMAN.

Studies on the buffer action of plant juices: F. G. GUSTAFSON.

Attempts at reversal of geotropic response: ANNA HAIRE.

Further determinations of optimum temperatures for growth: F. C. NEWCOMBE.

Significance of the behavior of sensitive stigmas, II: F. C. NEWCOMBE.

Latex-flow in the Para rubber tree: CARL LARUE.

SECTION OF ECONOMICS

The business cycle and economic stability: E. E. DAY.

Some underlying assumptions of mathematical statistics: H. C. CARVER.

Discussion: P. D. CAHOW, C. H. MAY.

The automatic theory of imputation revised: F. M. TAYLOR.

Some aspects of equipment trusts: KENNETH DUNCAN.

Discussion: G. S. PETERSON, I. LEO SHARFMAN.

Some problems of land utilization in Michigan: C. O. SAUER.

Some phases of the problem of tax incidence: H. C. CAVERLY.

Discussion: F. A. BRADFORD.

Factors in the formation of public opinion: L. J. CARR.

Public opinion as a force in international affairs: J. S. REEVES.

Discussion: H. L. LURIE, E. D. DICKINSON.

SECTION OF GEOLOGY AND GEOGRAPHY

Michigan's Pleistocene features compared to those of border districts: FRANK LEVERETT.

Michigan iron ore reserves: L. P. BARRETT.

The geological significance of areas of unrest of the ocean bottom. Illustrated. WILLIAM HERBERT HOBBS.

The sonic depth-finder as a means of preparing a map of the ocean floors (illustrated): WILLIAM HERBERT HOBBS.

Fossils of the lignitic coal pebbles of the glacial drift at Ann Arbor: H. H. BARTLETT.

The presence of cataract strata in Michigan supported by fossil evidence: G. M. EHLERS.

A drill core section of the Salina below the

salt bed of the Detroit Rock Salt Company Mine: J. W. VANDERBILT.

Recent cave exploration in Kentucky for animal and human remains: ARTHUR M. MILLER.

The cause of color in rose quartz (a preliminary paper): E. F. HOLIEN.

SECTION OF PSYCHOLOGY

A criticism of Freudian psychology: GILBERT L. BROWN.

The psychology of motives: HENRY F. ADAMS.

The X and the Y of psychology: ORLAND O. NORRIS.

The relative reliability of intelligence tests and students' marks: NATHAN A. HARVEY.

A critique of present tendencies in mental testing: ERNEST B. SKAGGS.

SECTION OF SANITARY AND MEDICAL SCIENCE

Complement binding property of normal bovine serum: I. F. HUDDLESON.

The detection of diabetes: O. A. BRINES.

Chemical studies on the saliva: HOWARD B. LEWIS AND HELEN UPDEGRAFF.

The absorption of hippuric and benzoic acids from the intestines of the rabbit: WENDELL M. GRIFFITH.

Physiologic changes in certain mental disorders: THEOPHILE RAPHAEL.

Disinfection of public water supplies: W. C. HIRN.

Industrial wastes: E. F. BADGER.

Observations on paratyphoid-like organisms recovered from feces: P. C. YULL AND MINNA CROOKS.

School room ventilation: G. T. PALMER.

Non-contact carriers in diphtheria: F. M. MEADER.

A statistical study of 18,000 cases of venereal disease: W. J. V. DEACON.

A demonstration of an improved procedure of Kahn's test for syphilis: R. L. KAHN.

Further clinical observations on the Kahn test for syphilis: H. L. KEIM.

Dengue in guinea pigs: HAROLD R. ROEHM.

Cultures of leishmania: H. M. SOULE.

Gas changes in cultures: F. G. NOVY.

Note on the viability of *Leptospira icteroides* in cultures: P. B. HADLEY.

Transmission of *Bacillus pyocyaneus*: P. B. HADLEY.

The lytic action of certain sera: R. W. PRYER. Bacteriophage acquired through contact with colon typhoid intermediates: H. P. HOSKINS, RHEA BARBARIN AND FRANCIS KLASSELL.

Some observations on D'Herelle's phenomenon: C. A. PALMERLEE.

The D'Herelle's phenomenon from a quantitative standpoint: M. S. MARSHALL.

SECTION OF ZOOLOGY

The fresh-water molluscan fauna of South America: BRYANT WALKER.

The reptiles of the Dutch Leeward Islands: A. G. RUTHVEN.

The new natural history preserve of Hillsdale College: BERTRAM BARBER.

Records of mammal distribution in Michigan: L. R. DICE AND N. A. WOOD.

The land vertebrate communities of Western Leelanaw County, Michigan, with an annotated list of the mammals of the county: R. T. HATT.

The snakes of the genus *Virginia*: FRANK N. BLANCHARD.

A method of rearing tubificidae in the laboratory: EUGENE F. POWELL.

A method of making dried preparations of earthworms for the demonstrations of their gross structures: GEORGE R. LARUE.

The hydrogen ion concentration in the waters of certain Northern Michigan lakes: PAUL S. WELCH.

The calculation of growth in fishes illustrated in the common sunfish, *Eupomitis gibbosus*: CHARLES W. CREASER.

The permeability theory of anesthesia: L. V. HEILBRUNN.

Some observations on the feeding of *Actinophrys sol*: H. T. FOLGER.

The effect of temperature on dominance: A. D. HERSE.

A new encarsia parasite on the whitefly: A. FRANKLIN SHULL.

The habitat of *Aphredoderus sayanus* in Kalamazoo County, Michigan: HERBERT R. BECKER.

Methods of determining the date for the control of second generation of codling moth in Michigan: R. H. PETTIT.

The fish of Eastern North Dakota: T. L. HAN-KINSON.

A collecting trip to Brazil: JESSE H. WILLIAMSON.

The life history of *Tetraopes tetraphthalmus* Forst: W. J. CLENCH.

Demonstration of fish scale measuring apparatus: CHARLES CREASER.

The officers for 1923 are:

President, Campbell Bonner; secretary-treasurer, L. R. Dice; editor, P. S. Welch; librarian, W. W. Bishop; vice-presidents of sections—Anthropology, H. H. Bartlett; botany, R. P. Hibbard; economics, C. E. Griffin; geology and mineralogy, Helen Martin; psychology, H. F. Adams; sanitary and medical science, Philip Hadley; zoology, L. R. Dice.

CARL D. LARUE

Secretary