. .

- Some Undescribed Features of the Yellowstone National Park: WILLIAM LIBBEY.
- Accumulation of Inkerited Features in Shorelines of Elevation: J. W. GOLDTHWAIT.

The Origin of Loess Topography: G. E. CONDBA.

The Stream Robbery on which the Belle Fourche Reclamation Project is Based: N. H. DARTON.

- Delta Form and Structure of the Thames River Terraces, Connecticut: F. P. GULLIVEB.
- On the Elements of the Surface Sculptured by Valley Glaciers: WILLIAM HEBBERT HOBBS.
- Existing Glaciers of the Western Hemisphere: O. D. VON ENGELN.

Map Criticism: CYBUS C. ADAMS.

- The Topographer's A B C of Land Forms: FBAN-COIS E. MATTHES.
- The Principles of Topographic Delineation: FRAN-COIS E. MATTHES.
- The Topographic Base Map of Alaska: ALFRED H. BROOKS.
- The Requisites of a School Wall Map: J. PAUL GOODE.
- How may the Teaching of Geography in Elementary Schools be Improved? C. T. McFarlane.

On Apparatus for Instruction in the Interpretation of Maps: WILLIAM HERBERT HOBBS.

- Three Gatherings of Geographic Interest: Albert PERRY BRIGHAM.
- Status of the Magnetic Survey of the Earth: L. A. BAUER.
- A Reconnaissance in the Arctic Slope of Alaska: Ernest de Koven Leffingwell.
- The Climate of Cuba: HENRY GANNETT.
- The Temperature at Great Heights above the American Continent: A. LAWRENCE ROTCH.
- The Cyclonic Unit in Climatological Investigations: R. DEC. WARD.
- The Climate of the Historic Past: Ellsworth Huntington.
- Origin of Civilization Through Intermittency of Climatic Factors: J. RUSSELL SMITH.
- The National Forest Policy: HERBERT A. SMITH.
- A Proposed Ecological Survey in Illinois: HENRY
- C. Cowles. Decrease in Population in the Plateau Region of
- Central New York: RALPH S. TARR.
- Locations of Towns and Cities in Central New York: RALPH S. TABB.
- Some Anthropogeographic Effects of Glacial Erosion in the Alps: N. M. FENNEMAN.
- Results of Recent Census of Cuba: HENRY GAN-NETT.
- The Anthropography of Some Great Cities: MARK JEFFERSON.

- The Capacity of the United States for Population: ALBERT PERRY BRIGHAM.
- The Reservoir Systems of Flood Protection in the Light of the Recent Floods of the Mississippi River: ROBERT M. BROWN.
- Geographical and Other Influences Affecting the Pottery Industry of Trenton, N. J.: RAY HUGHES WHITBECK.
- Geographical Influences in the Development of Okio: FRANK CARNEY.
- Trade Routes in the Economic Geography of Bolivia: ISAIAH BOWMAN.
- The Geography of Wisconsin: LAWRENCE MARTIN.
- The Geographic Distribution of Culture: MARK JEFFERSON.
- The Influence of the Precious Metals on American Exploration, Discovery, Conquest and Possession: GEORGE DAVID HUBBARD.
- Some Practical Results of the Ninth International Geographical Congress: H. G. BEYANT.
- A Remarkable Glacial River and Its Modern Representative: F. B. TAYLOB.

The Baltimore meeting was one of great interest to geologists and geographers, not only on account of the large number of papers presented, many of which had to be read by title, but also because there were so many opportunities to meet men from different sections of the country and to discuss and compare individual fields of work, without which great advance in science can not be made. Great credit should be given to the members of the Geological Department of Johns Hopkins University for the arrangements of the details of the meeting.

> F. P. GULLIVER, Secretary Section E

## SOCIETIES AND ACADEMIES

TWENTY-FIFTH MEETING OF THE CHICAGO SECTION OF THE AMERICAN MATHEMATICAL SOCIETY

THE twenty-fifth meeting of the Chicago Section of the American Mathematical Society was held at the University of Chicago on Friday and Saturday, April 9 and 10, 1909. The attendance upon the various sessions numbered over sixty, including forty-six members of the society. On Friday evening forty members dined together in the café of the university commons, and discussed informally various topics of interest, including the plans for the meeting of the British Association for the Advancement of Science to be held in Winnipeg this summer, and the next International Congress of Mathematicians to be held in England in 1912.

Particular interest centered in the report of the committee appointed at the previous meeting, of which Professor E. J. Wilczynski was chairman, and whose purpose was to devise a plan by which it might be possible for the society to aid in securing better methods of making mathematical appointments in the colleges and universities of this country. The paper read by Professor Wilczynski at the preceding meeting was published in full in SCIENCE for February 26, 1909. The committee reported that they had been unable to recommend for consideration any plan for improvement by action of the society. But, nevertheless, the members of the section were greatly interested in the details of a plan proposed by Professor Wilczynski and formally requested the secretary to incorporate this in the minutes of the meeting.

Twenty-six papers were presented at the four half-day sessions of the section, all of the authors being present except Dr. Ranum and Professors Ames and Davis, whose papers were read by title.

Following are the titles of papers and the authors:

- On a Class of Discontinuous Functions of Two Variables: Professor C. N. HASKINS, University of Illinois.
- The Fermat Number 2<sup>259</sup> + 1: Mr. A. E. WESTERN, London, England; Dr. J. C. MOREHEAD, Northwestern University.
- A Simplification of Lagrange's Method for the Solution of Numerical Equations: Dr. J. C. MOREHEAD.
- Oscillations near Lagrange's Equilateral Triangle Points in the Problem of Three Bodies: Mr. THOMAS BUCK, University of Chicago.
- On the Equivalence of Pairs of Quadratic Forms under Rational Transformations: Professor L. E. DICKSON, University of Chicago.
- The Group of Classes of Quadratic Integers with Respect to a Composite Ideal as Modulus: Dr. ARTHUE RANUM, Cornell University.
- On Surfaces having Isotherm-conjugate Lines of Curvature: Professor A. E. YOUNG, Miami University.
- A Set of Criteria for the Summability of Divergent Series: Professor W. B. FORD, University of Michigan.
- On the Determination of the Asymptotic Developments of a Given Function: Professor W. B. FORD.
- A Class of Periodic Orbits of Three Finite Bodies: Mr. H. E. BUCHANAN, University of Chicago.
- Automorphisms of Order Two: Professor G. A. MILLEB, University of Illinois.

- The Attack on the Space and Time Concepts by Einstein and Minkowski: Mr. R. P. BAKER, University of Iowa.
- An Imaginary Conic: Professor E. W. DAVIS, University of Nebraska.
- Groups of Rational Integral Transformations in a General Field: Dr. I. I. NEIKIRK, University of Illinois.

- Combinants: Professor L. E. DICKSON.
- Maschke's Symbolic Method Applied to some Questions in Geometry of Hyperspace: Mr. W. H. BATES, Purdue University.
- A Simpler Proof of Lie's Theorem for Ordinary Differential Equations: Professor L. D. AMES, University of Missouri.
- Periodic Orbits about an Oblate Spheroid: Dr. W. D. MACMILLAN, University of Chicago.
- On the Effect of Types of Correspondence on Bravais's Coefficient of Correlation: Professor H. L. RIETZ, University of Illinois.
- Oscillating Satellites when the Finite Bodies Describe Elliptic Orbits: Professor F. R. MOULTON, University of Chicago.
- Projective Differential Geometry of Developables: Professor E. J. WILCZYNSKI, University of Illinois.
- Complete Elementary Theory of Certain Properties of Classes of Functions: Mr. ARTHUR PITCHER, University of Chicago.
- Remarks on the General Theory of Point Sets: Mr. T. H. HILDEBRANDT, University of Chicago.
- Biorthogonal Systems: ANNA JOHNSON PELL, University of Chicago.
- On the Solution of Linear Differential Equations with Periodic Coefficients: Professor F. R. MOULTON, Dr. W. D. MACMILLAN, University of thicago.

H. E. SLAUGHT, Secretary of the Section

## THE TORREY BOTANICAL CLUB

THE meeting of March 9, 1909, was called to order at the American Museum of Natural History at 8:30 P.M., with Dr. E. B. Southwick in the chair. About fifty persons were present. After the reading and approval of the minutes of the preceding meeting, the club listened to a very interesting lecture on "Ferns," by Mr. Ralph C. Benedict. The lecture was illustrated by lantern slides made from photographs taken by the speaker.

> PERCY WILSON, Secretary

A Theory of Invariants: Professor L. E. DICKSON.