

James E. Russell, Teachers College, Columbia University.

J. PAUL GOODE,
General Secretary

UNIVERSITY OF CHICAGO

THE AMERICAN MATHEMATICAL SOCIETY

THE fifteenth annual meeting of the society was held at Baltimore, Md., on Wednesday and Thursday, December 30-31, in affiliation with the American Association for the Advancement of Science. The total attendance at the four sessions was about seventy-five, including fifty-seven members of the society. Wednesday evening was set apart for a dinner, at which forty-five of the members were present.

The sessions opened at 10:30 A.M. and 2 P.M. on each day. President H. S. White occupied the chair, being relieved by Professor Morley and Vice-presidents Miller and Kasner. At the opening of the afternoon session on Wednesday President White delivered his retiring address on "Bezout's theory of resultants and its influence on geometry." The council announced the election of the following persons to membership in the society: Professor G. N. Armstrong, Ohio Wesleyan University; Professor P. F. Gaehr, Robert College, Constantinople; Dr. Frank Irwin, Princeton University; Miss Mary E. Wells, Mount Holyoke College. Six applications for membership were received. The total membership of the society is now 602, including 55 life members.

At the annual election, which closed on Thursday morning, the following officers and members of the council were chosen:

President—Professor Maxime Bôcher.

Vice-presidents—Professors Edward Kasner and E. B. Van Vleck.

Secretary—Professor F. N. Cole.

Treasurer—Professor J. H. Tanner.

Librarian—Professor D. E. Smith.

Committee of Publication—Professors F. N. Cole, D. E. Smith, Virgil Snyder.

Members of the Council to serve until December, 1911—Professors H. B. Fine, O. D. Kellogg, F. R. Moulton, E. J. Wilczynski.

The treasurer's report shows a balance of \$6,995.80, including the life membership fund of \$3,215.20. Disbursements, including the cost of publishing the *Bulletin* and *Transactions*, were \$4,515.97. Sales of publications amounted to \$1,385.36. The library now contains over 3,000 volumes. The Annual Register of the society, containing the list of members, constitution and

by-laws, annual reports and catalogue of the library, is now in press and will be issued this month.

The following papers were read at the annual meeting:

R. D. Carmichael: "On r -fold symmetry of plane algebraic curves."

R. D. Carmichael: "A general principle of inversion, with applications."

W. R. Longley: "Some sufficient conditions in the theory of implicit functions."

C. L. E. Moore: "Properties of systems of lines in space of four dimensions and their interpretation in circle geometry."

F. R. Sharpe: "The topography of the integral curves of a differential equation."

Joseph Lipke: "Note on isotropic ruled surfaces."

John Eiesland: "On a species of cubic surfaces of the sixth class."

E. O. Lovett: "Integrable problems of three bodies."

J. I. Hutchinson: "On linear transformations which leave an Hermitian form invariant."

H. S. White (presidential address): "Bezout's theory of resultants and its influence on geometry."

Frank Morley: "Plane sections of the Weddle surface."

G. A. Miller: "Finite groups which may be defined by two operators satisfying two conditions."

F. L. Griffin: "Tests comparing the apsidal angles and periodic times for different laws of central force."

E. G. Bill: "Existence 'im Kleinen' of a space curve which minimizes a definite integral."

E. G. Bill: "An a priori existence theorem in three dimensions for the calculus of variations."

J. R. Conner: "Curves and surfaces which admit configurations of the Cayley-Veronese type."

D. D. Leib: "The complete system of invariants for two triangles."

W. A. Granville: "Dual formulas in spherical trigonometry."

C. J. Keyser: "Concerning euclidean geometries without points and lines."

M. E. Sinclair: "The problem of the surface of revolution with two end points variable on circles."

G. A. Bliss: "On the construction of the coordinate system of analytic projective geometry."

C. N. Haskins: "Numerical computation of reaction velocity constants."

Edward Kasner: "The group generated by turns and slides."

Edward Kasner: "Catenaries in an arbitrary field of force."

W. B. Carver: "Degenerate pencils of quadrics connected with $\Gamma_{n+4, n}^{n+2}$ configurations."

C. F. Craig: "On a class of hyperfuchsian functions."

Virgil Snyder: "Surfaces and congruences derived from the cubic variety having a double line in four-dimensional space."

W. B. Ford: "Irreducible homogeneous linear groups in an arbitrary infinite field."

Arthur Ranum: "On certain solids in riemannian space."

Arthur Ranum: "On the rank of a matrix."

H. B. Phillips: "Polygons on a quadric surface."

J. G. Hardy: "Note on a theorem of Pirondini concerning four-dimensional curves."

E. B. Coble: "Combinants of binary forms."

The twenty-fourth regular meeting of the Chicago Section was held at the University of Chicago on Friday and Saturday, January 1-2. The next meeting of the society falls on Saturday, February 27, at Columbia University. The San Francisco Section will meet on the same day at Stanford University. The sixteenth summer meeting and sixth colloquium will be held at Princeton University during the entire week September 13-18. The first two days will be devoted to the regular sessions for the presentation of papers. At the colloquium, which will open on Wednesday morning, the following special courses of lectures will be given: Professor G. A. Bliss, "Existence theorems in analysis"; Professor J. H. Jeans, "Statistical mechanics"; Professor Edward Kasner, "Geometric aspects of dynamics."

F. N. COLE,
Secretary

SOCIETIES AND ACADEMIES

THE INDIANA ACADEMY OF SCIENCE

THE annual meeting of the Indiana Academy of Science pursuant to the new plan of holding meetings at the various institutions of learning in the state, was held at Purdue University on November 26-28. A large representation of the educators of the state was present and many papers were read that were of interest and importance. Thirty-five names were added to the roll of the membership, and a number of men who once were residents of the state and active members of the academy were elected to non-resident membership. The retiring president, Professor Glenn Culbertson, of Hanover College, delivered

an address on the subject "Deforestation and its Effects among the Hills of Southern Indiana." Significant among the papers read was the number bearing on practical scientific problems. Following is the program in full.

General

"Work of the Pathological Laboratory of the Central Indiana Hospital for the Insane," Dr. Geo. F. Edenharter.

"New Species of Birds in Indiana," Amos Butler.

"The Recent International Congress on Tuberculosis," Severance Burrage.

"Biography and the Influence of Environment," Robert Hessler.

"Folkner Island, Waber Lake, Kosciusko County, Indiana," J. P. Dolan.

"A Strange Nurse," A. J. Bigney.

Drawing of the Indians at "Shaker" (made by an Indian in the Indian School), presented by Albert B. Reagan.

"Invasion of a School Building by Bed-bugs, *Acanthia hirsutinis*, parasites on Chimney Swifts," H. E. Enders.

"Photographs of Morehouse's Comet, 19081" (lantern), W. A. Cogshall.

"Selective Fertilization among Fishes," W. J. Moenkhaus.

"Nature Study," J. G. Coulter.

Botany

"Field Observations on Rusts for the General Botanist," J. C. Arthur.

"The Rust of Timothy," F. D. Kern.

"Notes on the Heterocious Rusts of Indiana," Aaron G. Johnson.

"Some Anomalies in the Endosperm of *Pinus*," D. M. Mottier.

"Notes on the Seedless Persimmon," Wm. L. Woodburn.

"A Preliminary List of the Fungi of Indiana," J. M. Van Hook.

"Testing Seed Corn by Specific Gravity," H. A. Dunn.

"Notes on the Flora of Cass County, Indiana," Robert Hessler.

"Bean Anthracnose," M. F. Barrus.

"Endophytic Algæ," Jacob Schramm.

"Report of Work in Corn Pollination," M. L. Fisher.

"Effect of the Recent Drought upon Forest Trees," Stanley Coulter.

"Difference between *Pinus taeda* and *Pinus palustris*," Katherine G. Bitting.

"A Forest Problem," W. H. Freeman.