

Secondary electrons produced by electronic bombardment of metals: D. A. WELLS and O. STUHLMAN, JR.

Liquefaction of gases: J. B. DERIEUX.

A compact form of the McLeod gauge: A. A. DIXON.

THE SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION

Symposium on the work of the investigating committee, Society for the Promotion of Engineering Education: Led by W. E. WICKENDEN.

Reports of the local committee on investigation and discussion of its work: Members of the committee, consisting of G. M. BRAUNE, *Chairman*, A. C. HOWELL, *Secretary*, C. W. EDWARDS, D. C. JACKSON, JR., H. B. SHAW, L. L. VAUGHN.

The teaching of English for engineers: T. P. HARRISON.

The following officers were elected by the academy for the ensuing year:

President: H. B. Arbuckle, Davidson College.

Vice-president: Miss Lulu G. Winston, Meredith College.

Secretary-Treasurer: Bert Cunningham, Trinity College.

Executive Committee: C. H. Heck, J. P. Givler, A. Henderson.

The following officers were elected by the North Carolina section of the American Chemical Society:

President: F. W. Sherwood.

Vice-president: M. L. Hamlin.

Secretary: L. B. Rhodes.

Councilor: J. M. Bell.

The mathematical section of the academy elected as chairman K. B. Patterson.

The North Carolina Physics Teachers Association deferred the election of officers to a later date.

BERT CUNNINGHAM,
Secretary

THE INDIANA ACADEMY OF SCIENCE

THE Indiana Academy of Science held its annual spring meeting at Marengo Cave on May 15 and 16. The largest crowd ever attending such a meeting was present, over one hundred twenty-eight persons being registered. Fortunately, the weather was very favorable for such a meeting.

On Thursday night following brief talks by Dr. W. M. Tucker on "The caves of Indiana" and by Dr. F. Payne on "Cave life," the party went through Marengo Cave.

At this meeting, Dr. C. H. Eigenmann, of Indiana University, was appointed a delegate to the Pan-American Science Conference to be held at Lima, Peru, on November 16. Dr. David A. Rothrock, of the department of mathematics of Indiana University, was appointed a delegate to the International Mathe-

matical Congress, which is to be held at the University of Toronto from August 11 to 16.

A large number of representatives from other states were in attendance at these meetings. These were: Dr. C. H. Kennedy, Dr. E. N. Transeau, H. C. Sampson, Edward S. Thomas, Dr. R. C. Osburn, all of the Ohio State University, Columbus, Ohio; Dr. Carl L. Hubbs, Ann Arbor, Michigan; John C. Koch, White Pigeon, Michigan; Messrs. W. C. Croxton, P. A. Young, W. B. McDougall, J. B. Hawkes, O. Stark, all of the University of Illinois, Urbana, Illinois; Mr. V. T. Jackson, Chicago, Illinois; Mr. and Mrs. W. R. Allen, Lexington, Ky.; Mrs. Charles H. Baker, Kenasha, Wis.; Mr. Arthur A. Scheibenzuber, Mr. and Mrs. Ira T. Wilson, Mr. and Mrs. Claude E. Stout, all of Tiffin, Ohio.

On Friday morning a trip was made *via* auto to Wyandotte Cave. From Wyandotte the gathering divided into certain groups, some going to Corydon, the first capital of Indiana, to see the historical records, the old State Capitol and the old Constitutional elm. Another group, mostly zoologists and geologists, went to Mitchell, Indiana, to visit the caves in that region, particularly Donnelson's, which is owned by Indiana University.

HARRY F. DIETZ,
Press Secretary

THE KENTUCKY ACADEMY OF SCIENCE

THE academy held its eleventh annual meeting at the University of Kentucky, May 10, 1924, President W. R. Jillson presiding. The principal address was by Dr. L. C. Glenn, of Vanderbilt University, on the stratigraphy and structure of the western Kentucky coal field. Dr. Glenn described his work in this field, in connection with the Kentucky Geological Survey, and the conclusions reached.

The following program was rendered:

President's address: Geology of some proposed Kentucky state parks: W. R. JILLSON, state geologist, Frankfort.

Cumberland county oil horizons: LUCIEN BECKNER, Winchester.

Glacial pebbles in eastern Kentucky: W. R. JILLSON, Frankfort.

Geographic influences in the Kentucky knobs: W. G. BURROUGHS, Berea College.

The hydro-electric technical problems in the construction of the Dix River dam and power plant: JOHN S. VAN WINKLE, Danville.

Marine invasions in Pennsylvanian time in Eastern Kentucky. (By title): J. E. HUDNALL, Ky. Geological Survey, Frankfort.

The proportion and significance of iron, copper, manganese and zinc in some mollusks: J. S. MCHARGUE, Ky. Agricultural Experiment Station, Lexington.

Physiological balance and antagonism in nutrient solutions for wheat: SAM F. TRELEASE, University of Louisville.

The last wild pigeon in Kentucky: LUCIEN BECKNER, Winchester.

The mosses of Kentucky: GEO. D. SMITH, Eastern Kentucky State Normal School, Richmond.

Unit characters in poultry: W. S. ANDERSON and J. HOLMES MARTIN, College of Agriculture, University of Kentucky.

Geology of the Carter caves: W. R. JILLSON, Frankfort.

Influence of season of calving on milk and butter production of cows: J. J. HOOPER, College of Agriculture, University of Kentucky.

Farmers' earnings and standard of living in an agricultural area of northern Kentucky: W. D. NICHOLLS, College of Agriculture, University of Kentucky.

Laboratory apparatus for the dehydration of alcohol vapors by means of the Mariller system (By title): C. C. KIPLINGER and C. S. YUEH, Mt. Union College, Alliance, Ohio.

Harvard summer school of geology, Cumberland Gap, 1875: Col. M. H. CRUMP, Bowling Green.

The constitution was amended to increase the annual dues to \$2.50. Resolutions were adopted approving the efforts of State Geologist Jillson to produce a complete topographical base map of the state; approving the work of the Society of Friends of Medical Progress; and sympathizing with Past-president A. M. Miller in his protracted illness.

Officers elected were: *President*, Professor Cloyd N. McAllister, Berea College; *vice-president*, Professor Sam F. Trelease, University of Louisville; *secretary*, A. M. Peter, University of Kentucky; *treasurer*, W. S. Anderson, University of Kentucky, Lexington; member of the publications committee, W. R. Jillson, Frankfort; representative in the council of the American Association for the Advancement of Science, A. M. Peter.

A. M. PETER,
Secretary.

LEXINGTON, KENTUCKY

THE AMERICAN MATHEMATICAL SOCIETY

THE two hundred and thirty-sixth regular meeting of the American Mathematical Society was held at Columbia University, on Saturday, May 3, 1924, extending through the usual morning and afternoon sessions. The attendance included 49 members of the society.

No meeting of the council was held. At the morning session of the society, three amendments to the by-laws were approved; the first concerned the elimination of ephemeral matter governing the business

of the society during the period of incorporation, the second permitted the council to transact business by mail under certain restrictions, and the third introduced a new class of membership, to be known as sustaining membership.

At the beginning of the afternoon session, an address was delivered by Professor J. F. Ritt, at the request of the program committee, on "Rational substitutions."

The following papers were read:

The Dirichlet problem: NORBERT WIENER.

Analytic transformations of everywhere dense point sets: PHILIP FRANKLIN.

Functions with an isolated essential singularity: PHILIP FRANKLIN.

Concerning the sum of two bounded continua irreducible between the same pair of points: J. R. KLINE.

On extending a continuous (1-1) correspondence of two plane continuous curves to a correspondence of their planes: H. M. GEHMAN.

Treatise on basis sets: MARK KORMES.

Differential combinants. Preliminary report: O. E. GLENN.

A set of invariants connected with seven points on a gauche cubic: H. S. WHITE.

A characterization of a continuous curve: R. L. MOORE.

A theorem on continua: R. L. WILDER.

A general mean-value theorem: D. V. WIDDER.

Integro-differential invariants of one-parameter groups of projective transformations of function space. Preliminary report: A. D. MICHAL.

Systems of equations in an infinite number of unknowns whose solutions involve an arbitrary parameter: J. M. SHEFFER.

Mathematical theory of competition: C. F. ROOS.

The theory of testimony. Second paper: *n* witnesses: J. S. TAYLOR.

Rational substitutions: J. F. RITT.

Analytic functions and periodicity: J. F. RITT.

The curvature of space-time, the electromagnetic tensor, and radiation: G. Y. RAINICH.

Note on a special congruence: MALCOLM FOSTER.

Ricci's coefficients of rotation: HARRY LEVY.

The addition of quadratic differential forms: EDWARD KASNER.

Einstein solutions in space of seven dimensions: EDWARD KASNER.

Algebras which do not possess a finite basis: J. H. M. WEDDERBURN.

A theorem on simple algebras: J. H. M. WEDDERBURN.

Green's formula: H. E. BRAY.

Functions of plurisegments: A. J. MARIA.

The next regular meeting of the Society will be in New York City, October 25, 1924. On account of the International Mathematical Congress to be held in Toronto, there will be no summer meeting.

R. G. D. RICHARDSON,
Secretary