

opment of the subject, the intuitive base from which we started. This is what the physicist, in effect, does, and his procedure finds pragmatic justification in the results.

It must be admitted that there is something unsatisfying to the mind in the conclusion that the distinction between the forward and the backward direction in time rests, physically, purely on a basis of probability. Intuition would lead us to look for a more fundamental difference. But if such there is, it escapes our present analytical scrutiny, our present analytical formulation of the laws of mechanics.¹¹

A. J. LOTKA

THE JOHNS HOPKINS UNIVERSITY

THE NORTH CAROLINA ACADEMY OF SCIENCE

THE twenty-third annual meeting of the North Carolina Academy of Science was held at Trinity College, May 2 and 3. This was by far the best attended and most enthusiastic meeting the academy has ever held. The membership was reported as being 236, an increase of about ten per cent. for the year. More than half of the membership and many visitors were in attendance. The following papers were presented:

The ecological position of the eastern pine communities: B. W. WELLS.

A non-mathematical interpretation of the theory of relativity: W. W. WOOD.

Amoeboid behavior of the lymph cells in sea urchins: H. V. WILSON.

New dyes from amino-p-cymene: A. S. WHEELER and H. M. TAYLOR.

Studies in ascidian blood: W. C. GEORGE.

Extra area of hard surface due to widening roads around sharp curves: T. F. HICKERSON.

Identification trials: C. S. BRIMLEY.

Experiments on mental set: J. F. DASHIELL.

Evolution of the nesting habits of birds: Z. P. METCALF.

Present-day problems in engineering education: W. E. WICKENDEN.

Rainfall characteristics of North Carolina: T. SAVILLE and J. H. WULBERN.

Opportunities for chemical industries in North Carolina: E. E. RANDOLPH.

Local engineering problems in forestry: W. W. ASHE.

Brownian movements: F. P. VENABLE.

Improvements in the high school science situation: J. H. HIGSMITH.

Variations in the proteins of corn: H. B. ARBUCKLE and O. J. THIERS, JR.

Soybean diseases: F. A. WOLFE.

New megachilid bees: T. B. MITCHELL.

¹¹ Compare A. S. Eddington, Report on Relativity Theory of Gravitation, 1920, p. XI.

Soft pork and its causes—I: J. O. HALVERSON and EARL HOSTETLER.

Methods for class demonstration of hydrogen sulfide formation by bacteria: I. V. SHUNK.

The hydrogen ion concentration of the intestines in relation to the intestinal protozoan parasites: M. J. HOGUE.

A botanical collecting trip up Grandfather's Mountain: P. O. SCHALLERT.

The biological determinant vs. the environmental determinant: C. C. TAYLOR.

The morphology of certain phylloxera galls on the hickory: A. C. MARTIN.

An American vs. a tubercle bacillus: CHARLES PHILLIPS.

Recent experiments on wintering honeybees: J. C. ECKERT.

The effect of dry heat on certain of the cotton seed: S. G. LEHMAN.

Vitality of albino rats for experimental purposes: F. W. SHERWOOD.

Injection of the blood vessels of young chick embryos: W. R. EARLE, presented by H. V. WILSON.

Water dogs (Necturus) of North Carolina: C. S. BRIMLEY.

A neglected factor in maze learning: J. F. DASHIELL.
Some results of soft pork investigation—II: J. O. HALVERSON and EARL HOSTETLER.

Structure of the heart muscle of Ascidia: W. C. GEORGE.

Homopterous head: Z. P. METCALF.

Gossypol in relation to nutrition: W. A. WITHERS.

Loess of the Yellow River district, China: COLLIER COBB.

A primitive gelatinous basidiomycete: W. C. COKER.

Observations on Pythium gracile, and on a fungus parasitic on it: J. N. COUCH.

Stream adjustment in loessal plan of China: COLLIER COBB.

A new aphanomyces parasitic on fungi: W. C. COKER and J. N. COUCH.

NORTH CAROLINA SECTION OF THE AMERICAN CHEMICAL SOCIETY

Latent heats of fusion of some nitrotoluenes as calculated from melting point depressions: J. M. BELL.

The action of phenylsemicarbazide on acetylacetone: A. S. WHEELER and F. P. BROOKS.

Devitrification of quartz ware: F. C. VILBRANDT.

The occurrence of borneol in spruce turpentine: A. S. WHEELER and C. R. HARRIS.

The chemical analysis of Okra seed (Hibiscus esculentus): B. NAIMAN and L. M. NIXON.

New dyes derived from 2-amino-p-xylylene: A. S. WHEELER and MILDRED MORSE.

A connection tube for gas burettes: F. C. VILBRANDT.

The action of amines on dichloro- and trichloroacetic acids: A. S. WHEELER and E. D. JENNINGS.

A solution of barium sulphate: O. J. THIES.

Some notes on gossypol: F. W. SHERWOOD.

NORTH CAROLINA PHYSICS TEACHERS' ASSOCIATION

Formation of molecules: W. E. SPEAS.

Scientific research in North Carolina: C. W. EDWARDS.

Physics laboratory manuals: W. T. WRIGHT.

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.