

25. A letter from the American Museum of Safety, of New York, inviting the members of the association to visit the museum, which has recently been opened, was received with thanks. It was voted that the association heartily approves cooperation with the American Museum of Safety.

26. A letter from one of the members was read, suggesting the desirability of an association section or special program on the Science of Religion, and it was voted that the executive committee felt that, although some such arrangement may perhaps be ultimately desirable, yet it would not be feasible at present.

27. A letter from a member was received, suggesting the desirability of a national burying ground for the association. The executive committee expressed its feeling that such an arrangement would not be feasible.

28. The problem of the nature of fellowship in the association was discussed at length and the special committee on this subject was continued and asked to make recommendations at the next meeting of the executive committee. This committee consists of Drs. L. O. Howard, W. J. Humphreys and B. E. Livingston.

29. The arrangement of the affiliation of state academies was discussed at length and a special committee was appointed to make recommendations for improvement in this important relation at the next meeting of the executive committee. This committee consists of Drs. Herbert Osborn, Henry B. Ward and B. E. Livingston.

30. It was voted that the next meeting of the executive committee be called at 4 o'clock on Sunday, December 28, 1924, at Washington.

BURTON E. LIVINGSTON,  
Permanent Secretary

## THE NATIONAL ACADEMY OF SCIENCES

THE autumn meeting of the National Academy of Sciences was held on Monday and Tuesday, November 10 and 11, 1924, at Harvard University, Cambridge, Mass., and on Wednesday, November 12, 1924, at the building of the American Academy of Arts and Sciences, Boston.

The scientific program was as follows:

MONDAY, NOVEMBER 10, PIERCE HALL

### Morning Session

*The absorption of radiation by ozone in the atmosphere:* CHARLES FABRY (introduced by S. W. Stratton).

*The number of free electrons within a metal:* E. H. HALL.

*Contact potential difference of metals:* E. H. HALL.

*Recent measurements of the joule effect for carbon dioxide:* F. G. KEYES and F. W. SEARS (introduced by S. W. Stratton).

*The facts that influence the activity of atoms in organic compounds (by title):* JAMES F. NORRIS (introduced by S. W. Stratton).

*An equation for the Haber equilibrium (by title):* L. J. GILLESPIE (introduced by S. W. Stratton).

*The intensities of X-ray reflection:* LOUIS HARRIS (introduced by S. W. Stratton).

*The periodical structural regularities of spectra as related to the periodic law of the chemical elements:* WILLIAM F. MEGGERS (introduced by G. K. Burgess).

*New measurements of planetary radiation and planetary temperature:* W. W. COBLENTZ and C. O. LAMPLAND (introduced by G. K. Burgess).

*The aerodynamical characteristics of airfoils at high speed:* L. L. BRIGGS, G. C. HILL and H. L. DRYDEN (introduced by G. K. Burgess).

*The effect of tension on the transverse and longitudinal resistance of metals:* P. W. BRIDGMAN.

*A device for studying gaseous conduction at low pressures:* VANNEVAR BUSH (introduced by S. W. Stratton).

*The relativity motion of mercury:* CHARLES L. POOR (introduced by G. C. Comstock).

*The density of oxygen (by title):* G. P. BAXTER and H. W. STARKWEATHER.

*A theory for torsional stresses in curved skew bars (by title):* PAUL HEYMENS (introduced by Edwin B. Wilson).

*Biographical memoir of G. L. Goodale (by title):* B. L. ROBINSON.

*The spark spectrum of iron, with some remarks on spectral regularities (by title):* H. N. RUSSELL.

### Afternoon Session

*The Cordierite-anthophyllite mineralization at Blue Hill, Maine, and its relation to similar occurrences:* WALDEMAR LINDGREN.

*Gel replacement, a new aspect of metasomatism:* WALDEMAR LINDGREN.

*Results of recent investigations of the form of the continental shelf bordering Eastern North America:* DOUGLAS JOHNSON (introduced by J. F. Kemp).

*The occurrence of Cordilleran and other Western plants in Eastern America (illustrated):* M. L. FERNALD (introduced by B. L. Robinson).

*Remarks on the glacial geology of Martha's Vineyard island:* EDWARD WIGGLESWORTH (introduced by W. Lindgren).

*Recent work in oceanography:* HENRY BIGELOW (introduced by E. L. Mark).

*The new research station on Barro Colorado Island in Gatun Lake:* THOMAS BARBOUR (introduced by W. M. Wheeler).

*Biological characters in the differentiation of Avian Coccidia:* E. E. TYZZER (introduced by Reid Hunt).

*Summary of results thus far obtained by the Third Asiatic Expedition of the American Museum:* H. F. OSBORN.

*The five chief factors in evolution:* H. F. OSBORN.

TUESDAY, NOVEMBER 11, PIERCE HALL

*Morning Session*

*Heat of formation of nitrogen trichloride:* W. A. NOYES and W. F. TULEY.

*Internal pressures produced by chemical affinity:* THEODORE RICHARDS.

*Studies in catalysis:* H. W. SHERWOOD, JR. (introduced by S. W. Stratton).

*The mechanism of reactions in the urea series:* T. L. DAVIS (introduced by S. W. Stratton).

*The manner of occurrence of caffeine in the coffee bean:* S. C. PRESCOTT (introduced by S. W. Stratton).

*On crystallized animal proteins:* E. J. COHN (introduced by L. J. Henderson).

*Characterization of proteins:* S. R. L. SØRENSEN (introduced by A. B. Lamb).

*Afternoon Session*

*On multiple relations:* A. N. WHITEHEAD, F.R.S. (by invitation).

*Doubtful measurements:* J. L. COOLIDGE (introduced by H. S. White).

*Geometries defined by a linear differential form:* C. L. E. MOORE (introduced by S. W. Stratton).

*The frequency distribution on apparent magnitude of the non-Magellanic O-type stars:* E. B. WILSON and W. J. LUYTEN.

*The age of the stars (by title):* EDWARD CONDON (introduced by A. O. Leuschner).

*The population of New York City and its environs:* E. B. WILSON and W. J. LUYTEN.

*Tidal oscillation of the Lava Lake of Kilauea:* E. W. BROWN.

*Time constants:* E. A. KENNELLY.

*Controlled orbital transfers of electrons in optically excited mercury atoms:* R. W. WOOD.

*Influence of strain and of heat on the hardness of iron and steel:* ALBERT SAUVEUR (introduced by G. F. Swain).

*Regarding the experiments of Hiram F. Mills on the flow of water in pipes:* G. F. SWAIN.

*A problem of electric power transmission:* D. C. JACKSON (introduced by S. W. Stratton).

*Drowning period of crocodiles:* G. H. PARKER.

*Experiments on medulla and spinal cord grafts in embryos:* S. R. DETWEILER (introduced by G. H. Parker).

*The finding of the Queen of Eciton Hamatum Fabricius:* W. M. WHEELER.

WEDNESDAY, NOVEMBER 12, AT 28 NEWBURY STREET, BOSTON

*Morning Session*

*Bacterial allergy:* HANS ZINSSER.

*The diffusing capacity of the capillary bed:* L. J. HENDERSON and C. D. MURRAY.

*Skew growth curves:* R. PEARL and L. J. REED.

*The influence of diet upon the growth and structure of the kidney:* T. B. OSBORNE, L. B. MENDEL, E. A. PARK and M. C. WINTERITZ.

*The effect of small amounts of fluorine in the diet of the rat:* E. V. MCCOLLUM.

*The skin temperature of men and women:* F. G. BENEDICT.

*Prolonged fasting of steers as affecting the constituents of urine:* T. M. CARPENTER (introduced by F. G. Benedict).

*Chemical studies in tuberculin:* J. H. MUELLER (introduced by H. Zinsser).

*Some effects of arsonium, stibonium and analogous compounds on the autonomic nervous system:* REID HUNT and R. R. RENSCHAW.

*Virus encephalitis in the rabbit:* SIMON FLEXNER.

*The cultivation of the dysentery amoeba:* W. C. BOECK (introduced by R. Hunt).

*Gaseous interchanges in the stomach and intestine:* M. A. MCIVER (introduced by W. W. Cannon).

*Conduction without decrement in narcotized nerve:* ALEXANDER FORBES and HALLOWELL DAVIS (introduced by W. B. Cannon).

*Afternoon Session*

*The respiratory function of the hemocyanins:* A. C. REDFIELD and A. L. HURD (introduced by W. B. Cannon).

*Studies in the life history of Artemia salina principalis, Simon:* G. G. MARTIN (introduced by W. B. Cannon).

*On the occurrence in rabbits of linkage inheritance between albinism and brown pigmentation:* W. E. CASTLE.

*The nature of association between Anthozoa and Zoanthellae:* H. BOSCHMA (introduced by E. L. Mark).

*Symbiosis between Chlorella sp. and Azotobacter chroococcum and nitrogen fixation:* C. B. LIPMAN and L. J. H. TEAKLE (introduced by A. O. Leuschner).

*Localized form-controlling agencies in hydra and planaria:* H. W. RAND (introduced by G. H. Parker).

*Some peculiarities in the distribution of New England flies:* C. W. JOHNSON (introduced by W. M. Wheeler).

*Certain aspects of the sugar cane disease in Cuba:* W. H. WESTON (introduced by W. J. V. Osterhout).

*Recent aspects of Central America orchid flora:* O. AMES (introduced by B. L. Robinson).

*Hybridism in the genus Isoetes:* E. C. JEFFREY (introduced by G. H. Parker).

*The gorilla in the Eastern limits of its range:* J. C. PHILLIPS (introduced by W. E. Castle).

*The dispersal of the bats of the genus Microtis:* G. M. ALLEN (introduced by L. Stejneger).

*The British Museum collection of recent sea-urchins:* H. L. CLARK (introduced by G. H. Parker).

*Observations on the fauna of thermal waters:* C. T. BRUES (introduced by W. M. Wheeler).

*Differences in the physico-chemical composition of the cells of the central nervous system as revealed by specific impregnation methods (by title):* HARVEY CUSHING and PERCIVAL BAILEY.

*Formation of urine by the kidneys (by title):* JOSEPH T. WEARN (introduced by H. Zinsser).

*Evening Session*

*Being the one thousand one hundred and thirty-fourth meeting of the American Academy of Arts and Sciences.*

*Spread of ideas in the Middle Ages (discussion by H. O. Taylor):* C. H. HASKINS (by invitation).

*Some causes of volcanic activity:* ARTHUR L. DAY.