

- Astronomy (D)*: Philip Fox, Adler Planetarium and Astronomical Museum.
- Geology and Geography (E)*: Kirtley F. Mather, Harvard University.
- Zoological Sciences (F)*: Ralph S. Lillie, University of Chicago.
- Botanical Sciences (G)*: F. E. Denny, Boyce Thompson Institute.
- Anthropology (H)*: John R. Swanton, U. S. Bureau of American Ethnology.
- Psychology (I)*: A. T. Poffenberger, Columbia University.
- Social and Economic Sciences (K)*: Stuart Rice, U. S. Bureau of the Census.
- Historical and Philological Sciences (L)*: R. C. Archibald, Brown University.
- Engineering (M)*: J. W. Barker, Columbia University.
- Medical Sciences (N)*: Esmond R. Long, University of Pennsylvania.
- Agriculture (O)*: E. C. Auchter, U. S. Bureau of Plant Industry.
- Education (Q)*: Ralph Tyler, the Ohio State University.
- Secretaries of Sections:*
- Mathematics (A)*: E. R. Hedrick, University of California at Los Angeles.
- Physics (B)*: H. A. Barton, American Institute of Physics.
- Chemistry (C)*: Neil E. Gordon, Central College, Fayette, Mo.
- Astronomy (D)*: Harlan T. Stetson, Massachusetts Institute of Technology.
- Geology and Geography (E)*: Howard Meyerhoff, Smith College.
- Zoological Sciences (F)*: George A. Baitsell, Yale University.
- Botanical Sciences (G)*: J. T. Buchholz, University of Illinois.
- Anthropology (H)*: W. M. Krogman, Western Reserve University.
- Psychology (I)*: Leonard Carmichael, University of Rochester.
- Social and Economic Sciences (K)*: E. P. Hutchinson.
- Historical and Philological Sciences (L)*: Joseph Mayer, Library of Congress.
- Engineering (M)*: F. M. Feiker.
- Medical Sciences (N)*: Malcolm Soule, University of Michigan.
- Agriculture (O)*: M. F. Morgan, Connecticut Agricultural Experiment Station.
- Education (Q)*: P. M. Symonds, Teachers College, Columbia University.
- Members of the Sectional Committees:*
- Mathematics (A)*: M. H. Stone, Harvard University.
- Physics (B)*: J. W. Beams, University of Virginia.
- Chemistry (C)*: Irving Langmuir, General Electric Company.
- Astronomy (D)*: Carl O. Lampland, Lowell Observatory.
- Geology and Geography (E)*: Preston E. James, University of Michigan.
- Zoological Sciences (F)*: J. H. Bodine, University of Iowa.
- Botanical Sciences (G)*: Neil E. Stevens, U. S. Bureau of Plant Industry.
- Anthropology (H)*: Carl Guthe, University of Michigan.
- Psychology (I)*: E. C. Tolman, University of California.
- Social and Economic Sciences (K)*: H. G. Moulton, Brookings Institution.
- Historical and Philological Sciences (L)*: Max Farand, Huntington Library.
- Engineering (M)*: F. L. Bishop, University of Pittsburgh.
- Medical Sciences (N)*: Paul R. Cannon, University of Chicago.
- Agriculture (O)*: R. J. Garber, West Virginia University.
- Education (Q)*: E. J. Ashbaugh, Miami University.

## SCIENTIFIC NOTES AND NEWS

At the meeting of the American Association for the Advancement of Science held last week at Atlantic City, Dr. George D. Birkhoff, Perkins professor of mathematics and dean of the Faculty of Arts and Sciences at Harvard University, was elected president, to succeed Dr. Edwin G. Conklin, professor emeritus of zoology at Princeton University. Dr. Forest R. Moulton, formerly professor of astronomy at the University of Chicago, was elected permanent secretary to succeed Dr. Henry B. Ward, emeritus professor of zoology in the University of Illinois. Other officers elected are given in a note under "Scientific Events." A full account of the meeting, prepared by the permanent secretary with the cooperation of the secretaries of the sections and affiliated societies, will be printed in the issue of SCIENCE for February 5.

The annual prize of \$1,000 of the American Association for the Advancement of Science for a paper containing "an outstanding contribution to science presented at the meeting" was awarded at the Atlantic City meeting to Dr. Wendell M. Stanley, of the Rockefeller Institute for Medical Research, Princeton, N. J., for his paper entitled "Chemical Studies on the Virus of Tobacco Mosaic Disease."

DR. EDMUND W. SINNOTT, professor of botany at Barnard College, Columbia University, was elected at the Atlantic City meeting president of the Botanical Society of America. He succeeds Dr. C. Stuart Gager, director of the Brooklyn Botanic Garden.

DR. CHARLES PALACHE, professor of mineralogy at Harvard University, has been elected president of the

Geological Society of America at the Cincinnati meeting. He succeeds Dr. W. C. Mendenhall, director of the U. S. Geological Survey. The vice-presidents elected are: Dr. W. O. Hotchkiss, president of the Rensselaer Polytechnic Institute, Troy, N. Y.; Dr. G. D. Harris, of Cornell University, Ithaca, N. Y.; Professor Charles P. Berkey, of Columbia University, and Professor C. R. Longwell, of Yale University.

THE Paleontological Society of America, meeting in Cincinnati on December 29, elected Dr. Joseph A. Cushman, of Sharon, Mass., to the presidency. Dr. Carey G. Crons, of the University of Chicago, was elected vice-president, and Dr. B. F. Howell, of Princeton University, Dr. Carl C. Dunbar, of Yale University, and Dr. John B. Reeside, of the U. S. Geological Survey, were reelected secretary, treasurer and editor, respectively.

DR. NORMAN L. BOWEN, of the Geophysical Laboratory of the Carnegie Institution of Washington, was elected president of the Mineralogical Society of America, which met in Cincinnati in conjunction with the American Geological Society. Dr. Bowen succeeds Professor William S. Bayley, of the University of Illinois.

DR. WILDER PENFIELD, director of the Montreal Neurological Institute, was elected president of the Association for Research in Nervous and Mental Disease at the closing session of the New York meeting. He succeeds Dr. Walter Timme, of Columbia University. Dr. Angus M. Frantz and Dr. Clarence Hare, both of New York City, were elected secretary-treasurer and assistant secretary, respectively.

IN honor of Dr. William Albert Setchell, professor of botany at the University of California since 1895, a book of "Essays in Geobotany" written by a group of his professional associates from many parts of the world and edited by Dr. T. H. Goodspeed, of the university, has been compiled. The book includes articles by O. W. Arrhenius, E. B. Babcock, F. E. Clements, W. S. Cooper, Ludwig Diels, F. E. Fritsch, D. R. Hoagland, E. D. Merrill, Eduard Rübel and Carl Skottsberg.

AT the celebration of the eightieth birthday on December 31 of Brigadier-General David L. Brainard, U.S.A., retired, of Washington, the last survivor of Lady Franklin Bay Arctic expedition of 1881-1884, commanded by General A. W. Greely, the American Polar Society, of which General Brainard is the oldest active member, elected him its first honorary member "in recognition of his contribution to Polar exploration." He was presented with a scroll on which is inscribed a map showing the route taken by Lieutenant James B. Lockwood and himself, then a sergeant,

which enabled them on May 13, 1882, to reach the then highest point north, latitude 83 degrees, 24 minutes, 30 seconds, on the northern coast of Greenland.

AT the fiftieth anniversary celebration of the founding of Newcomb College of Tulane University, the degree of doctor of science was conferred on Dr. Alice Hamilton, formerly assistant professor of industrial medicine at the Harvard University School of Medicine, now consultant for the Division of Labor Standards in the U. S. Department of Labor. Preceding the conferring of the degree Dr. Hamilton gave an address on "Industrial Poisons." Later a reception was held in her honor.

AT the annual dinner of the American Society of Animal Production given recently in Chicago, a portrait of Dr. W. C. Coffey, dean and head of the department of agriculture of the University of Minnesota, was presented to the Saddle and Sirloin Club. It will be hung in the Hall of Fame of the club. Dean Coffey was cited for his work in animal husbandry and was the guest of honor at the dinner. President L. D. Coffman was the principal speaker, and Dr. Andrew Boss, formerly vice-director of the Minnesota Agricultural Experiment Station, spoke of Dean Coffey's work at the University of Minnesota.

AFTER twenty years of active service at the University of Maryland, Professor Charles J. Pierson has retired as chairman of the department of zoology. He will continue to teach the courses in vertebrate morphology. Dr. Norman E. Phillips, associate professor of zoology, succeeds him as chairman of the department.

IN the department of pediatrics of the Long Island College of Medicine, Dr. Charles A. Weymuller has been promoted to a professorship; Dr. Lambert Krahulik has been appointed professor of clinical pediatrics; Dr. Stanley S. Lamm, Dr. Lewis A. Koch and Dr. David H. Shelling have been appointed assistant clinical professors. A professorship of child health and welfare, in the Division of Preventive Medicine and Community Health, has been established, and Dr. Carl H. Laws has been chosen as the first incumbent of this chair.

DR. L. J. NORTON, of the University of Illinois, has resumed his work as professor of agricultural economics after eighteen months' leave in order that he might serve as vice-president of the Production Credit Corporation of St. Louis.

DR. KARL MENDER, professor of mathematics at the University of Vienna, will join the permanent staff of the department of mathematics at the University of Notre Dame at the opening of the second semester.

DR. H. S. RUSE, lecturer at the University of Edinburgh, has been appointed professor of mathematics at University College, Southampton, to succeed the late Professor R. C. J. Howland.

THE title of emeritus professor of the University of London has been conferred on members of the faculty who retired at the close of the academic year as follows: Sir Grafton Elliot Smith, professor of anatomy at University College, whose death has since been announced; M. T. M. Ormsby, Chadwick professor of municipal engineering at University College; A. E. Jolliffe, professor of mathematics at King's College; Dr. W. A. Bone, professor of chemical technology at the Imperial College of Science and Technology; Dr. Alfred Fowler, professor of astrophysics at the Imperial College of Science and Technology; Dr. E. W. Macbride, professor of zoology at the Imperial College of Science and Technology; Dr. S. J. Truscott, professor of mining at the Imperial College of Science and Technology; Dr. W. W. Watts, professor of geology at the Imperial College of Science and Technology.

DR. EDWARD A. BIRGE, president emeritus of the University of Wisconsin, has been elected curator of the Wisconsin State Historical Society.

PAUL H. ALLEN has been appointed resident manager of the tropical station of the Missouri Botanical Garden at Balboa, Panama. He plans to conduct a scientific survey of plant life and to make collections.

THE new laboratory for sub-tropical and tropical diseases at Bellevue Hospital, New York City, will be under the immediate supervision of Dr. Douglas Symmers, general director of laboratories of the Department of Hospitals, and will be in charge of Dr. Harry Most, of the New York University Medical College, and of Dr. Amanda Hoff, of Columbia University, both graduates of the London School of Tropical Medicine.

DR. CARL J. WIGGERS, professor of physiology at the School of Medicine of Western Reserve University, has been granted leave of absence. He plans to make a trip around the world to visit medical schools at Cairo, Beirut, Bombay, Bangkok, Nanking, Peiping, Kyoto and Tokyo. He will sail with Mrs. Wiggers on January 23.

ACCORDING to press dispatches from Moscow, the All-Union Academy of Science has expelled two members on charges of violating the constitution by refusing to return to continue their scientific work in Russia. They are Dr. Vladimir N. Ipatyeff, director of chemical research in the laboratory of the Universal Oil Company, Chicago, and Professor Alexis E. Chichibabin, now working in a private laboratory in Paris.

DR. EDWIN P. HUBBLE, astronomer of the Mount Wilson Observatory of the Carnegie Institution of Washington, who during the past year has been Rhodes memorial lecturer at the University of Oxford, gave an illustrated lecture at the institution on January 5. He spoke on "Our Sample of the Universe."

EDWARD C. MOLINA, of the Bell Telephone Laboratories, gave an address on November 30 at the Iowa State College on "Probability in Engineering." In the evening Mr. Molina was a guest of Sigma Xi, before which he gave an address on "A Tour through the Probability Domain."

THE fourth annual lecture in the E. Starr Judd lectureship in surgery, established at the University of Minnesota by the late Dr. E. Starr Judd, will be given on February 3 by Dr. Evarts A. Graham, professor of surgery at the Washington University School of Medicine and surgeon-in-chief of the Barnes and St. Louis Children's Hospitals at St. Louis. The subject of the lecture will be "Accomplishments of Thoracic Surgery and its Present Problems."

A. I. LEVORSEN, consulting geologist of Tulsa, Okla., president of the American Association of Petroleum Geologists, 1935-36, gave during December a series of lectures under the auspices of the department of geology at the University of Kansas.

DR. MAUD SLYE, of the University of Chicago, lectured on October 5 on the results of her work on the rôle of heredity in cancer at the medical school of the University of Paris.

A LIMITED number of post-doctorate fellowships in physics (including astronomy), chemistry and mathematics will be available through the National Research Council for the academic year 1937-38. These fellowships carry stipends from \$1,600 upward with certain allowances for dependents and are open to citizens (men and women) of the United States and Canada under the age of thirty-five years, for study in the United States or, under special conditions, abroad. Application for appointment to these fellowships should be filed with the secretary of the Fellowship Board in Physics, Chemistry and Mathematics, National Research Council, 2101 Constitution Avenue, Washington, D. C., before March 1.

THE late William C. Endicott, who died on November 28, provided in his will for bequests of \$100,000 each to the Hunt Memorial Hospital, Danvers, Mass., and the Massachusetts Historical Society.

A GIFT of £200,000, twice as large as any single gift received during its history, has been made to the University of Leeds by Frank Parkinson, a former student. The gift is to be used for the proposed main

frontage to the university in connection with the reconstruction scheme which has been proceeding for some years. Last June Mr. Parkinson gave to the university £50,000 for the establishment of a scholarship fund which is now in operation.

A DONATION of £10,000 has been made by the Imperial Chemical Industries, Ltd., towards the erection of a new building for chemistry at the University of Glasgow.

*Museum News* reports that the National Zoological Park, Washington, D. C., recently opened the new wing to the bird house. The new structure, costing \$100,000, is the first of the buildings to be opened under the \$880,000 PWA construction program, which includes a new elephant house, a new house for apes and small mammals, and various service buildings. In the new bird wing the cages have glass fronts instead of the usual wire, and skylights which can be thrown back in fair weather to give the birds direct sunshine. Two large panorama cages occupy opposite ends of the house, one refrigerated for Arctic birds, the other for tropical birds. There is a tank for diving birds. The new wing opens into two corridors from the old bird house.

THE faculty of Rush Medical College of the University of Chicago recently voted to abolish the requirement of the fifth year for the degree of doctor of medicine, effective on December 15. Certain additional provisions were made for students who have received the four-year certificate since 1934 and who never received their degree because of illness and for students who received the certificate in the past year who were either not under contract to a hospital or whose contract could be altered by the hospital concerned to

permit them to receive their degree before completing their internships.

THE Academy of Natural Sciences of Philadelphia has published the first issue of a popular magazine entitled *Frontiers*. Effingham B. Morris, president of the academy, in an introductory note states that the magazine "is addressed to all persons, old or young, who wish to increase their knowledge of the world of nature." It will appear five times a year—in October, November, January, March and May. It will be sent without extra charge to members of the academy and will also be offered for sale generally. Members of the advisory editorial committee are Cary Bok, trustee of the academy; Robert K. Enders, assistant professor of zoology at Swarthmore College; John M. Fogg, Jr., assistant professor of botany at the University of Pennsylvania; Witmer Stone, vice-president of the academy, and John H. Fulweiler, secretary.

THE *Journal* of the American Medical Association states that the association and the National Broadcasting Company are presenting the second series of dramatized health broadcasts under the title "Your Health." The first broadcast in the new series, the thirty-second dramatized cooperative broadcast under the title "Your Health," was given on October 13. The theme for 1936-1937 differs slightly from the topic in the first series, which was "medical emergencies and how they are met." The new series is built around the central idea that "100,000 American physicians in great cities and tiny villages, who are members of the American Medical Association and of county and state medical societies, stand ready, day and night, to serve American people in sickness and in health."

## DISCUSSION

### THE INTERRELATIONSHIP OF VITAMIN A AND GLUCURONIC ACID IN MUCINE METABOLISM

A DEFICIENCY of vitamin A is known to produce metaplastic changes in the mucous epithelium. Clinically the advent of metaplasia is noted by the presence of xerosis. As the deficiency becomes more pronounced, xerosis is followed by keratinization, and this in turn by desquamation. Washings from the conjunctival sac and urinary sediment show an increase in the number of desquamated epithelial cells, thus providing evidence that these structures are suffering from a shortage of vitamin A.

The mucosa of the gastro-intestinal tract does not provide evidence of this sort so readily. This tract is,

however, exposed to more traumatic injury than any other system having a lining of mucous epithelium. We have shown by actual goblet cell counts of comparable areas of entire villi that there is a marked reduction in the number of mucus-secreting elements and an increase in the number of goblet cells showing reduced activity in vitamin A deficiency. A reduction in the amount of mucus exposes the lining of the stomach, pylorus and large intestine, especially, to injuries produced by the solid components of the food or feces. These will result in capillary bleeding, which in turn will be responsible for blood in the stools. We believe that the occurrence of occult blood in the feces is the earliest evidence obtainable of a deficiency of vitamin A.