in the conference are the University of Kansas, University of Colorado, New Mexico Agriculture and Mechanics College, Alabama Polytechnic Institute, Harvard Engineering School, Cornell University, University of Iowa, Oregon Agricultural College, Brooklyn Polytechnic Institute, Purdue University and the Victoria Jubilee Institute of Bombay, India.

THE Medical Research Council of London announces that it has awarded Rockefeller Medical Fellowships, tenable in the United States during the academic year 1924–25, to the following: Robert Keith Cannan, senior assistant in biochemistry, University College, London; John Josias Conybeare, assistant physician and warden of the College at Guy's Hospital, London; Dr. James Rognvald Learmonth, assistant to the professor of surgery, Anderson College of Medicine, Glasgow; Ethel Marjory Luce, Lister Institute of Preventive Medicine, London; Dr. John William McNee, senior assistant in the medical unit, University College Hospital, London; William Robson, chemical assistant in the department of therapeutics, University of Edinburgh.

SECRETARY OF THE NAVY WILBUR has approved a project of the Naval Observatory for sending an expedition to observe the total solar eclipse in Sumatra in January, 1926. From the observations to be made it is believed that valuable data will be obtained regarding magnetic disturbances on the sun.

THE International Medical Commission for combating malaria has arrived at Warsaw. The commission, which was appointed by the League of Nations, will proceed later to Russia to continue its researches and inquiries.

THE California Academy of Sciences is sending a collecting party from its department of entomology into the southern Arizona mountains to collect and study the Sonoran fauna of this region. The party will be in charge of E. P. Van Duzee, curator of entomology in the academy, assisted by J. O. Martin. They will leave San Francisco about the fifteenth of July and remain in the field from four to six weeks, visiting the Santa Catalinas, the Huachucas and possibly others of the southern mountains.

AN expedition into the little known parts of China will be conducted for the next two or three years by explorers of the Department of Agriculture. Dr. P. H. Dorsett and his son, J. H. Dorsett, sailed from San Francisco for Shanghai on July 22. Their explorations will be conducted in the Provinces of Chih-Li and Shen-Si and in the rich agricultural territory of Manchuria. They will make intensive studies of agricultural conditions and the principal crops with a view to ascertaining in what way a mutual exchange of seeds and plants can be brought about between China and the United States.

UNIVERSITY AND EDUCATIONAL NOTES

A CABLEGRAM reports that the movement to establish an American university in Greece similar to Robert College in Constantinople has been given impetus by the visit to Athens of Professor Robert Andrews Millikan, director of the Norman Bridge Laboratory of the California Institute of Technology at Pasadena. Professor Millikan is reported to be representing a foundation which has allocated $5,000,000 for such a project.

DR. R. AHMED, a graduate of the University of Iowa, has opened a dental college in Calcutta, to be called the Calcutta Dental College and Hospital. The staff of twelve members includes a second Iowa alumnus, Dr. P. K. Bose.

DR. RALPH S. LILLIE, of the Nela Research Laboratory, Cleveland, has been appointed professor of physiology at the University of Chicago. In addition to the appointment of Dr. Karl Taylor Compton to be professor of physics, as previously recorded in SCIENCE, other appointments include: Dr. G. K. K. Link, associate professor of plant pathology; Dr. Frank E. Ross, associate professor of astronomy at the Yerkes Observatory; Dr. William Taliaferro, associate professor in the department of hygiene and bacteriology; Dr. Fay-Cooper Cole, assistant professor of anthropology, and Dr. H. B. Van Dyke, assistant professor of physiological chemistry.

DR. EARLE R. HEDRICK, who has been for twenty-three years professor of mathematics at the University of Missouri, has resigned to become professor of mathematics at the University of California at the southern branch in Los Angeles.

DR. C. S. YOAKUM, who five years ago succeeded Dr. W. D. Scott as director of the Bureau of Personnel Research at Carnegie Institute of Technology, has been appointed professor of personnel management in the newly organized School of Business Administration at the University of Michigan.

DR. JOHN DUDLEY DUNHAM was recently appointed professor of medicine in the college of medicine of the Ohio State University.

DR. A. C. WALTON, formerly professor of zoology at Northwestern College, Naperville, has been appointed professor of zoology at Knox College to succeed Dr. George N. Higgins, who goes to the Mayo Foundation at Rochester to take up research work in comparative anatomy.

PROFESSOR ROBERT H. GAULT, of Northwestern University, who will be associated with the National Research Council at Washington during the year 1924–

1925, will give a graduate course in the psychology of the handicapped at George Washington University. His place in Northwestern University will be filled by Professor A. R. Gilliland, of Lafayette College.

A. R. CAHN, PH.D. (Illinois, '24), and F. B. Adamstone, Ph.D. (Toronto, '24) have been appointed instructors in zoology at the University of Illinois.

DR. REYNOLD KENNETH YOUNG, of the Ottawa Observatory, has been appointed associate professor of astronomy at the University of Toronto.

DR. B. B. BAKER, of the University of Edinburgh, has been appointed to the university chair of mathematics at University College, London, tenable at the Royal Holloway College.

DR. MANGIAGALLI, senator and director of the post-graduate work at Milan, has been elected rector of the newly organized university there.

DISCUSSION AND CORRESPONDENCE

DETERMINATION OF "e" FROM MEASUREMENTS OF THE SCHROTT-EFFECT

SCHOTTKY[1] has calculated, under the name "Schrott-effect," the spontaneous variations in thermionic currents that are to be expected if electron evaporation follows the law of probability. These variations depend upon the value of "e". Hartmann[2] attempted to determine "e" by measuring these variations. He succeeded in amplifying the variations to audibility, and by subjective comparison with pure tones of known intensity obtained values of "e" which varied from one fifteeenth the accepted value to three times this value.

We have repeated these measurements, using a radio-frequency amplifier instead of audio-frequency, thus avoiding disturbances due to gas effects or mechanical shocks; and using a "square" vacuum tube detector and d.c. ammeter to measure directly the energy of the Schrott disturbance. *The values of "e" calculated from these measurements are all within 2 per cent. of the accepted value, and the mean differs by less than one half per cent. from this value.*

Schottky's theory is thus fully substantiated, and it appears possible that this method of measuring "e" may yield values comparable in accuracy with the oil-drop method.

The Schrott variations appear to be the same for all types of cathode (pure tungsten, thorium coated tungsten, etc.) provided the current is limited by temperature. *When the current is limited by space charge instead of temperature, however, the Shrott-variations are much smaller.* This is in accordance with the theory, since under space charge conditions the electrons no longer fly off independently, but influence each other in such a way as to smooth out the variations.

ALBERT W. HULL
N. H. WILLIAMS

GENERAL ELECTRIC COMPANY
SCHENECTADY, N. Y.

[1] Schottky, *Ann. d. Phys. 57*, 541–67, 1918; *68*, 157–76, 1922.

[2] C. A. Hartmann, *Ann. d. Phys. 65*, 65, 1921.

AN OSMOSIS EXPERIMENT IN BIOLOGY

IT is customary in an elementary course in biology to set up a demonstration of osmosis. Sometimes the thing does not work. A biology teacher usually performs it as a side line to the regular course work and seldom has time to experiment when it fails.

We have tried various grades of parchment, not always with good result. The solutions would exchange too fast in some cases. Other grades proved impermeable. Our best results have been with chicken crop. The smooth side is put out.

When the craw proves impermeable, the outside should be scraped and 5 per cent. HCl be painted on with a brush. A rise to six feet can then be obtained. I hope this may prove of service to some who have met with troubles.

HAROLD D. CLAYBERG

UNIVERSITY OF ARIZONA

LETTERS OF RAFINESQUE

APROPOS of the note on "The Bones of Rafinesque" in the issue of SCIENCE for June 20—it may be of interest to those who care to delve in scientific biography—to know there is on deposit at the Philadelphia Academy of Natural Sciences the Haldeman letters and correspondence which contains the personal letters of Rafinesque, pertaining to his early life not only in America but in Europe. It is a veritable mine of information for any one who may care to prepare a biography of this remarkable character.

JOSEPH LEIDY, II

SCIENTIFIC BOOKS

I. Descriptions and Biology of New or little known Coccids from Japan. By INOKICHI KUWANA. II. *Observations on the Hymenopterous Parasites of Ceroplastes rubens Mask., with Descriptions of New Genera and Species of the Subfamily Encyrtinae.* By TEI ISHII (Dept. Agr. and Comm. Japan, Imp. Plant Quar. Sta., Bull. 3, Aug. 1923, p. 1–68, pl. I–XIV, fig. 1–5 (Art. I.) and pp. 69–114, pl. XV–XIX (Art. II.).

THERE are only three existing copies of this paper, the remainder of the edition having been destroyed by the Japanese earthquake of September 1, 1923. Two of these have been retained in Japan, while the third was brought to Dr. L. O. Howard, chief of the Bu-