pathology, as well as studies of the common cold. Medical research was aided at such institutions as Vanderbilt University; the University College Hospital Medical School, London; the Universities of Leipzig and Szeged; the American University of Beirut in the Near East; and the Universities of Brussels, Montreal and Edinburgh.

During 1931, the foundation supported and administered directly 89 fellowships in the medical sciences and 35 in nursing. In addition, it supplied funds to the National Research Council and to the National Committee for Mental Hygiene for fellowships for Americans, and to similar organizations in other countries for fellowships for citizens of those countries. In all, the foundation provided, during 1931, a total of 353 fellowships in the medical sciences, through which it was hoped that young men and women in many countries might be aided in preparing for careers in research in the medical field.

A total of $3,096,361.75 was expended by the International Health Division of The Rockefeller Foundation during 1931.

A feature of the public health section of the report is the story of the continuation of yellow fever work. Details are also given regarding public health work in connection with malaria, hookworm infestation and other diseases. Assistance was given to field research and field work in the forty-seven countries throughout the world and the thirty-seven states in the United States where the Rockefeller Foundation is aiding government agencies in applying and carrying out various public health programs. The interest of the foundation is in field research connected with these programs and in the discovery of new methods and new knowledge in dealing with public health problems. During 1931, the foundation awarded 123 fellowships in public health. The recipients included 49 persons from the United States, 10 from China, 9 from Canada, 7 from India, 6 from Japan, and 5 from Greece. As a general conclusion, it is emphasized that, even in the present depression and often at the cost of considerable sacrifice and strenuous endeavor, public health work throughout the world is being maintained.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

SYMPOSIA AT ATLANTIC CITY

THE programs of the meetings of the American Association and associated societies at Atlantic City from Tuesday, December 27, 1932, to Saturday, December 31, 1932, are rapidly taking shape. Plans for several symposia which promise to be of historical importance have already been completed.

Especially noteworthy will be the symposium on "The Physiological Relations of the Pituitary Body," organized by Dr. John J. Abel, president of the association. The functions of the anterior lobe of the pituitary body will be discussed by Dr. Philip E. Smith, Dr. E. T. Engle and Dr. Herbert Evans. The posterior lobe will be discussed by Dr. Abel, himself, and Dr. E. M. K. Geiling. Other extremely important symposia which are being organized by Section N (Medical Sciences) are: (1) "Filterable Viruses," (2) "Filterable Virus Diseases," (3) "Tuberculosis," led by Dr. Wm. H. Park, chairman of the section, and (4) "History of Medical Science," led by Dr. Howard Karsner. Six invitation papers will be presented at sessions of the American College of Dentists. Further details of the Section N program will be given in a subsequent issue of SCIENCE.

The American Physical Society and Section B are now completing arrangements for a symposium on "Cosmic Rays." Speakers on this program will be Dr. Robert A. Millikan, Dr. Arthur H. Compton, Dr. W. F. G. Swann, Dr. Gordon L. Locher, Dr. H. V. Neher and possibly others.

Section E (Geology and Geography) of the association has organized a symposium on "Late Pleistocene and Recent Changes of Level Along the Atlantic Coast of North America." Among the speakers will be Dr. C. Wythe Cook, Dr. Charles W. Townsend, Professor Wm. Fitch Cheney, Dr. Henry B. Kummel, Professor Douglas Johnson, Mr. Thomas C. Brown and Mr. H. A. Marmer.

The American Society of Zoologists and Section F are completing the program for a symposium on "Embryonic Determination." Further details of the zoological program will be published later.

The retiring vice-presidential address by Dr. E. D. Merrill on "Crops and Civilization" will be given at a joint session of Section G (Botany), the Botanical Society of America, the American Phytopathological Society, the American Society of Plant Physiologists and the Mycological Society. Following Dr. Merrill's address there will be a "Sachs Memorial Program" commemorating the one hundredth anniversary of the birth of Julius von Sachs.

Two symposia will be included in the program of the joint meetings of the American Anthropological

Association, the American Folk-Lore Society and Section H. One of these will be on "The Archeology and Ethnology of the Southeastern United States" and the other on "Ethnological Field Methods."

Section I (Psychology) has practically completed arrangements for a symposium on "The Psychological Significance of Birth Lesions." Interesting motion pictures will be shown at this session.

Section K (Economics, Sociology and Statistics) and Section M (Engineering) and the Econometric Society have completed the program for a timely symposium on the "Stabilization of Employment." Complete success has been met in securing outstanding scientific men to speak on matters which they have been seriously studying for considerable time. Monetary, credit and capital aspects of the stabilization of employment problem will be discussed by Dr. Irving Fisher, Dr. James W. Angell and Dr. Alvin Hansen. Science and machinery aspects will be considered by Dr. C. F. Kettering, Dr. Dugald C. Jackson and Dr. Walter Rautenstrauch. The problems of agricultural stabilization will be discussed by Dr. Elmer Working. The stabilization of employment by means of public works will be treated by Dr. Leo Wolman and Dr. W. N. Loucks. Employment insurance will be discussed by Mr. Gerard Swope and Dr. H. L. Rietz. Legislative aspects will be considered by Dr. K. T. Compton and Dr. Royal Meeker.

Section K and the Econometric Society are also organizing a symposium on "Central Bank Policy," led by Dr. Carl Snyder, of the Federal Reserve Bank of New York. A third symposium on "Sociological Statistics" is being organized by Dr. W. F. Ogburn, chairman of the Section.

Section L and the History of Science Society are completing arrangements for four sessions devoted to symposia. These are: (1) "History of Oriental Science," with Dr. Berthold Laufer, Dr. Cyrus H. Peake, Dr. C. A. Browne and others; (2) "History of Medical Science," with addresses by Dr. Howard T. Karsner, Dr. H. E. Sigerist, discussion led by Dr. Harvey Cushing and Dr. Wm. H. Welch as presiding officer; (3) "Biography," with a series of invitation papers considering the subject from the points of view of the historian, by Dr. C. O. Paullin, the anthropologist, by Dr. Alfred Tozzer, the biologist, by Dr. W. M. Wheeler, and the psychologist, probably by Dr. Knight Dunlap; (4) "Primitive Linguistics," with Dr. H. F. Nedall, Dr. Truman Michelson, Dr. George Herzog and Mr. Gerhardt Laves. It is expected that speakers in the symposium on linguistics will give demonstrations which will make the program of popular interest. In particular, Dr. Herzog will demonstrate the drum language of West Africa.

A description of the symposium on the Stabilizaiton of Employment organized by Section M (Engineering) and Section K is given above. In addition to this session, in which Dr. Dugald C. Jackson, Dr. C. F. Kettering, Dr. Walter Rautenstrauch, Dr. K. T. Compton and others will take part, an invited program on "Radio Problems" is planned for a joint meeting with the Institute of Radio Engineers. Speakers on this program will be Mr. C. N. Weyl, Mr. A. V. Loughren, Dr. Richard Kovacs, Mr. C. B. P. Aiken, Mr. H. F. Olsen and Mr. F. Massa.

Section O (Agriculture) will hold a symposium on "Nitrogen in Relation to Crop Growth and the Use of Nitrogen Fertilizers." Among the speakers will be Dr. J. G. Lipman, Dr. B. E. Gilbert, Dr. A. B. Beaumont, Dr. S. A. Waksman, Professor J. W. White, Professor A. W. Blair, Professor G. L. Schuster, Dr. R. P. Thomas and others. Further details of the Section O program will be given in a later issue of SCIENCE.

CHARLES F. ROOS,
Permanent Secretary

SCIENTIFIC APPARATUS AND LABORATORY METHODS

A GLASS ELECTRODE FOR TESTING THE pH OF BLOOD

A RATHER novel form of glass electrode and containing vessel for the measurement of the pH of blood has been developed for a study of blood that is now being made in the Department of Physiology, School of Medicine, Yale University. The electrode differs from the usual MacInnes type of electrode in that the glass tube is tapered near the end like a sharpened pencil and the glass film that is welded on the tip is very small in diameter, usually about ¼ mm.

This form of electrode is obviously much stronger, for an equal thickness of glass film, than one of large diameter and is not very hard to make. The electrode when lowered into the containing vessel plugs the top of the central capillary tube. The fit, however, must not be so tight as to prevent a flow of blood up the capillary tube and past the electrode when the sample of blood is taken in.

The blood, taken by the method described by Himwich and Castle,[1] enters the containing vessel without exposure to air at A. The blood is let in slowly and at first stop-cocks B and C are turned to divert the flow of blood towards the vent D. As soon, however, as stop-cock C is full of blood it is turned to

[1] *Amer. Jour. Physiol.*, 83: 92–114, 1927.