

form the most important points of the agreement were:

(1) That a material standard preparation should be preserved as a central standard of reference.

(2) That this material standard should consist of the hydroxy-ketonic form of the hormone.

(3) That the various countries will be invited to contribute samples which will be combined to form the standard preparation.

(4) That the unit will be the specific estrus-producing activity contained in 0.1 gamma of the standard preparation.

(5) That by the term "estrus-producing activity" is to be understood the power of producing in an adult female animal completely deprived of its ovaries an accurately recognizable degree of the changes characteristic of normal estrus, *i.e.*, the changes in cellular contents of the vaginal secretion of the rat or mouse.

(6) That the comparison of an unknown preparation with the standard can only be accurately made if the conditions of administration and interpretation of results are identical.

(7) That a bio-assay procedure, which has been proved to be capable of determining the equality of activity with an error not greater than plus or minus 20 per cent., should be used in comparing a preparation with the international standard.

(8) That proper precautions will be observed in the preparation and storage of the international standard. The international standard will be kept at the National Institute for Medical Research in London, but a portion will be available for distribution in each country.

The adoption of an international standard should solve many of the vexing problems of bio-assay of the estrus-producing hormone. In the past, many modifications of the original Allen-Doisy bio-assay procedure have been introduced. This has led to a great many different units, since so many different factors alter the absolute weight of the hormone required to produce estrus. The result was that no investigator could compare his results with those of another investigator with any feeling of assurance of accuracy. With the establishment of an international standard it is hoped that investigators will make use of this standard preparation and that pharmaceutical houses will also label their products in terms of the international unit.

E. A. D.

THE ELEVENTH INTERNATIONAL SYMPOSIUM ON PHYSICS AT THE UNIVERSITY OF MICHIGAN

THE eleventh International Symposium on Physics at the summer session of the University of Michigan will be held as usual. Owing to reduced university appropriations its support has been provided for from private sources.

The foreign lecturers this year will be Professor

Niels Bohr, of the University of Copenhagen, Nobel laureate, the founder of modern atomic physics, and Professor Enrico Fermi, of the Royal University at Rome, authority on quantum theory. Professor John H. Van Vleck, of the University of Wisconsin, specialist in the theory of magnetism, will also lecture, as will Professors Ernest F. Barker, David M. Dennison and George E. Uhlenbeck, of the university.

Dr. Edward H. Kraus, dean of the summer session, states that the symposium brings together annually leading native and foreign authorities who conduct classes and meet together with their students in give and take discussions of both the theoretical and experimental aspects of the laws of the atom, infra-red rays, the revelations of the spectroscope and like problems.

In recent years physicists from outside the United States who have attended the symposium include Professors Erhenfest, of Leiden; Heisenberg, of Leipzig; Sommerfeld, of Munich; Pauli, of Zurich, and Kramers, of Utrecht, as well as Brillouin, of Paris; Dirac, of Cambridge, and Milne, of Oxford.

GEOLOGY AND GEOGRAPHY AT THE CHICAGO MEETING OF THE AMERICAN ASSOCIATION

SECTION E of the American Association for the Advancement of Science will meet in Chicago on Tuesday, Wednesday and Thursday, June 20, 21 and 22 in conjunction with members of the Geological Society of America, the Geographical Society of Chicago and other affiliated organizations. The Hotel Southmoor at Sixty-seventh Street and Stony Island, will serve as headquarters. An informal dinner will be held on Tuesday evening at the University of Chicago and will be followed by a lecture on "Variation and Evolution in Earth History" by Professor Albrecht Penck, Berlin, who with Professor J. J. Sederholm, Helsingfors, Finland, is among the foreign guests who will address the members of this section and their friends. The meetings will be held at the University of Chicago and at the Field Museum of Natural History.

The Tuesday morning session will be devoted to papers on general geology and, if necessary, the reading of papers will be continued on Tuesday afternoon. On Wednesday afternoon there will be a joint session with the physicists, chemists and astronomers, devoted to a symposium on "The Measurement of Geologic Time." Among those who will participate in this symposium are: A. F. Kovarik, A. C. Lane, H. Schlundt, A. V. Grosse and W. D. Urry. For the Thursday session, which will be held jointly with the Geographical Society of Chicago, a program of papers on geography is being arranged by Professor Charles C. Colby, of the University of Chicago.