with its prevention. This applies not only to preventing the transmission of defects. It is recognized that methods of cure must vary with the type of constitution of the patient, and in this connection information concerning heredity is of great importance. In education, in training, and in choice of career, the ascertainment of innate endowment not only prevents waste and failure but would contribute largely to the attainment of success.

The instructed public already recognize the importance of heredity for the future of the race, and the Brock Report in 1933–34 emphasized the need for greater knowledge in regard to the inheritance of mental and physical defects. But there is as yet no center to which the public can turn for full information.

The Imperial Bureaux of Plant Genetics (in Cambridge and Aberystwyth) and of Animal Genetics (in Edinburgh) have achieved much by setting up simple machinery for collecting information based on the results of research and making these available for the practical breeder. The Bureau of Human Heredity which has recently been set up at 115, Gower Street, W.C.1, follows these models, and small contributions have already been made for its upkeep.

In these days of international mistrust and animosity, it is refreshing to find a field in which representatives of nearly every civilized nation are engaged in cooperative work. The scheme for an international clearing house of facts concerning human heredity has been evolved by a small international committee, which has delegated to its British members the task of setting up a bureau in London for the collection and distribution of all authentic information on human genetics. The British Council is asking for £10,000 to carry on this work for five years.

It is strange to think that students of fruit-flies, or mice, have at their command the latest information, while those similarly concerned with man can look nowhere for a complete survey of the knowledge they require.

The urgency of this need leads us to commend the Bureau of Human Heredity to public-spirited donors. They will find no institution the endowment of which will give a more liberal return for all time.

THE SUMMER SYMPOSIUM ON THEORETICAL PHYSICS AT THE UNIVERSITY OF MICHIGAN

PROFESSOR W. HEISENBERG, of Leipzig, who had planned to lecture on nuclear physics throughout the symposium on theoretical physics at the University of Michigan, has found it impossible to be at Ann Arbor this summer.

As finally arranged the program of the conference, which will last from June 29 to August 21, is as follows:

Professor E. O. Lawrence, University of California, "The Design and Technique of Cyclotrons, Artificial Radioactivity, the Biological Action of Neutrons and Other Similar Topics." For one month beginning June 29.

Professor P. Ewald, Technische Hochschule, Stuttgart, Germany, "The Theory of the Solid State." Throughout the session.

Professor H. Bethe, Cornell University, "The Physics of High Speed Particles." For one month beginning June 29.

Professor E. U. Condon, Princeton University, "The Quantum Mechanical Treatment of Selected Problems from the Field of Spectra." For six weeks beginning July 6.

Professor G. Breit, University of Wisconsin, "Special Topics in Nuclear Theory." For two weeks after July 20.

Professor I. Rabi, Columbia University, "Nuclear Moments." For two weeks after July 12.

Professor D. M. Dennison, University of Michigan, "Theory of Band Spectra." Throughout the session.

Professor Otto Laporte, University of Michigan, "Quantum Mechanics and Atomic Structure." Throughout the session. "Spinor Analysis." Two or three lectures.

NATIONAL RESEARCH FELLOWSHIPS IN PHYSICS, CHEMISTRY AND MATHEMATICS

THE Fellowship Board in Physics, Chemistry and Mathematics of the National Research Council announces the following appointments to Fellowships for 1936–37. After the name, the institution is given from which the doctorate was received (followed in the case of reappointments by the name of the institution at which the Fellow will work) and the subject of his research.

REAPPOINTMENTS FOR A SECOND YEAR

In Physics:

Albertson, Walter Edward, Massachusetts Institute of Technology '35, Mt. Wilson Observatory, "Spectroscopic Analysis."

Nordsieck, Arnold Theodore, California '35, Stanford University, "Relativistic Quantum Theory."

Van Voorhis, Stanley Nichols, Princeton '35, University of California, "Nuclear Physics."

White, Milton Grandison, California '35, Princeton University, "Construction of a Cyclotron for Nuclear Physics Research."

In Chemistry:

Bonner, Lyman Gaylord, California Institute of Technology '35, Princeton University, "Spectroscopic Determination of Molecular Structure."

King, Gilbert William, Massachusetts Institute of Technology '35, Harvard University, "Vibrational Levels of Polyatomic Molecules."

In Mathematics:

Levinson, Norman, Massachusetts Institute of Technology '35, Princeton University and Institute for Advanced Study, "Closure and Entire Functions. Tauberian Theorems."

NEW APPOINTMENTS

In Physics:

Konopinski, Emil John, Michigan '36, "Nuclear Theory."

Nier, Alfred Otto Carl, Minnesota '36, "Systematic Study of the Isotopic Constitution of the Elements."

Wooldridge, Dean Everett, California Institute of Technology '36, "An Investigation of the Nuclear Properties of Some of the Rare Gaseous Isotopes."

Yearian, Hubert Jose, Purdue '34, "Intensity Measurements in Electron Diffraction."

In Chemistry:

Adelson, David E., Florida '35, "Polycyclic Hydrocarbons Derived from Retene."

Beach, John Y., California Institute of Technology '36, "The Investigation of Molecular Structure by the Electron Diffraction Method."

Lord, Richard Collins, Jr., Johns Hopkins '36, "The Raman Spectra of Compounds of Deuterium."

In Mathematics:

Dribin, Daniel Maccabaeus, Chicago '36, "Arithmetic of Quadratic Forms."

Fialkow, Aaron, Columbia '36, "Geometric Characterization and Classification of Single-Parameter Families of Plane Curves."

Jacobson, Nathan, Princeton '34, "Pseudo-linear Transformations. Abstract Derivatives and Lie Algebras. Hypercomplex Numbers."

Tompkins, Charles Brown, II, Michigan '36, "Phases of Differential Geometry."

F. K. RICHTMYER,
Secretary

AWARD OF THE CHANDLER MEDAL TO PROFESSOR GIAUQUE

THE Charles Frederick Chandler Medal of Columbia University was presented on May 28 to Professor William Francis Giauque, of the University of California, discoverer of a method of magnetic cooling by which temperatures approaching absolute zero can be obtained.

Dr. George B. Pegram, acting dean of the graduate faculties of the university, presented the medal to Professor Giauque at a gathering of scientific men in Havemeyer Hall. Professor Giauque, who has made a systematic study of very low temperatures and entropy measurements, delivered the medal address on "The Production and Use of Temperatures Below One Degree Absolute."

In his address Dr. Pegram said that Professor Giauque's work "beautifully illustrates the power of experimental skill and ingenuity when directed by keenest appreciation of the guidance afforded by theory. A leader among those chemists who have with great effect been applying modern quantum theory to thermodynamic investigation, he has contributed to the more unified view of nature that chemistry and physics are achieving."

Professor Giauque's most extensive investigations have consisted in the extremely accurate determination, from 0.24 degree above absolute zero to room temperature, of the specific heats and heats of transition of hydrogen chloride, hydrogen bromide, hydrogen iodide, oxygen, nitric oxide and hydrogen. From these he has calculated the entropy of each of these gases. He has also been the first to calculate, from spectroscopic data for the same gases, entropy values which are more accurate than those based on the measurements of specific heats.

Professor Giauque stated in his address that "the results of these investigations have given strong support to the validity of both the third law of thermodynamics and quantum statistics. This type of work is largely responsible for the present confidence in the reliability of the many free energies of gases which have been very accurately determined by the application of quantum statistical methods to detailed spectroscopic observations."

The Chandler Medal, awarded annually by the trustees of Columbia University for conspicuous work in the field of chemistry, was established in 1910 in honor of the late Dr. Charles Frederick Chandler, a founder and president of the American Chemical Society, pioneer in industrial chemistry and professor at Columbia from 1864 to 1925.

Professor Giauque was born in Niagara Falls, Ontario, on May 12, 1895. He was graduated from the University of California in 1920, and held a fellowship there during the next two years, taking the doctor's degree in 1922. After five years as instructor, he was named assistant professor at California in 1927, associate professor in 1930 and full professor in 1934.

In 1929, following the announcement by Professor Giauque and Dr. Johnston of two new isotopes of oxygen, Professor Giauque shared the Pacific Division prize of the American Association for the Advancement of Science for the most important scientific contribution reported by a resident of the Pacific Division at its June meeting. He is a member of the American Chemical Society and a fellow of the American Physical Society. He has been vice-president of Commission XI of the Institut International du Froid since 1928.

The committee of award was composed of Professor A. W. Thomas, chairman; Dr. Leo H. Baekeland and Professor Arthur W. Hixson.

Former medalists include: L. H. Baekeland, W. F. Hillebrand, W. R. Whitney, F. G. Hopkins, E. F. Smith, R. E. Swain, E. C. Kendall, S. W. Parr, Moses Gomberg, J. A. Wilson, Irving Langmuir, J. B. Conant, G. O. Curme, Jr., J. G. Lipman.

IN HONOR OF PROFESSOR HERBERT OSBORN

AT the commencement exercises of the Ohio State University the doctorate of laws will be conferred on