ruary. The trucks will be equipped with cameras and blinds and modern sound-recording equipment so that the voices as well as the actions and appearance of the bird can be recorded on films and preserved for posterity.

Birds that will be studied on this expedition include the ivory-billed woodpecker, the sandhill crane, the limpkin or crying bird, the trumpeter swan, the lesser prairie chicken, the golden eagle and perhaps the whooping crane, rarest of all North American birds and also the largest.

No attempt will be made to collect or disturb in any way these rare species, while every effort and all modern equipment will be utilized in order to bring back permanent records on films of their environment, their habits, their songs, their calls and their companions, so that a habitat group can be set up in the Cornell Museum.

A. R. Brand and P. P. Kellogg are experts in sound recording, and Mr. Brand has recently published a book of bird songs illustrated with phonograph records taken from his films of birds singing in their natural habitats. Professor Allen is known not only for his research studies of birds and game and his popular bird books, but as a camera expert. George Sutton, author and explorer, and one of the leading bird artists of the country, on this expedition will make color sketches of birds from life, so that such evanescent characteristics as color of eyes and bills, which fades soon after death, will be more accurately preserved than has been hitherto possible.

The exact route of the expedition has not yet been worked out in detail, but it is expected that the start will be made in Florida and Louisiana, from which the most recent reports of ivory-billed woodpeckers have come—thence to Texas, Oklahoma, Colorado and Wyoming.

Efforts will be made to record not only the voices of the rarest birds, but also those of the commonest songsters. This has never been done, and Mr. Brand is anxious to get them all transferred to phonograph records, where they will be available to any one interested, and will be valuable adjuncts to all natural history teaching.

EXHIBITION AND PUBLICATIONS AT THE CARNEGIE INSTITUTION OF WASHINGTON

AN exhibition representing results of the research activities of the Carnegie Institution of Washington was held on December 14, 15, 16 and 17. A list of these exhibits is given below.

The Physical Basis of Heredity:
- a. The relation between characters, genes and chromosomes: Dr. T. H. Morgan, research associate, and Dr. C. B. Bridges.
- b. The nature of the gene: Department of Genetics.
- c. Chromosome structure and chromosome behavior during the development of the embryo: Department of Embryology.

Developmental Changes within a Single Hereditary Pattern: Dr. Hugh H. Darby.

Improved Embryological Methods: Department of Embryology.

The Significance of Leaf Pigments: Division of Plant Biology.

A Simplified Respiration Apparatus for the Rapid Determination of Human Basal Metabolism: Nutrition Laboratory.

Explorations in Middle America:
- a. Pottery from Guatemala.
- b. The Maya altar from Quirigua.
- c. Newly discovered cities in Campeche.

Division of Historical Research.

Daily Changes in the Compass Direction: Department of Terrestrial Magnetism.

The Distances of the Stars:
- a. Direct measurement of distance.
- b. Spectroscopic method.
- c. Stellar systems and receding nebulae.

Mount Wilson Observatory.

The Silicates of Ferrous Iron: Geophysical Laboratory.

Publications

In addition to the exhibits a program of public lectures was given by members of the institute. These were:

December 15: "The Pigments of Leaves," H. A. Spoehr.
"The Silicates of Ferrous Iron," J. F. Schairer.
December 16: "The Physical Basis of Heredity," C. B. Bridges.
"A Simplified Respiration Apparatus for the Rapid Determination of Human Basal Metabolism," F. G. Benedict.
"Uaxactun, the Oldest Maya City," A. V. Kidder.
December 17: "The Distances of the Stars," R. F. Sanford.
"The Daily Changes in Compass Direction," A. G. McNish.

THE ANNUAL MEETING OF THE AMERICAN PHYSICAL SOCIETY AND THE SECTION OF PHYSICS

THE thirty-sixth annual meeting (the 196th regular meeting) of the American Physical Society will be held at Pittsburgh on December 27, 28 and 29, in affiliation with Section B—Physics—of the American Association for the Advancement of Science. The general business session will be at 2 o'clock on Thursday afternoon, December 27, at the Carnegie Institute of Technology, after which Professor R. W. Wood, vice-president of the society, will deliver an address on "Some Unusual Optical Problems."

Dr. Henry Norris Russell, research professor of astronomy at Princeton University, will deliver on December 31 his address as retiring president of the American Association, on "The Atmospheres of the Planets." Dr. C. J. Davisson, of the Bell Telephone Laboratories, will give the address of the retiring vice-president of Section B—Physics—of the American Association at the Carnegie Institute of Technology at the joint session with the American Physical Society on Thursday afternoon at 2:30 o'clock. The subject of his address will be "Electron Optics." The Willard Gibbs lecture will be given by Dr. Albert Einstein on December 28 at 4:30 o'clock.

On Friday morning from 10:00 to 12:30 o'clock and again on Friday afternoon from 2:00 to 4:00 o'clock there will be held a symposium of invited papers on "Heavy Hydrogen and its Compounds" as a joint session with the Section of Physics, the Section of Chemistry and the American Association of Physics Teachers. The speakers at the morning session for physics will be G. H. Dieke, of the Johns Hopkins University; R. C. Gibbs, of Cornell University; Otto Stern, of the Carnegie Institute of Technology, and M. A. Tuve, of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. At the afternoon session for chemistry the speakers will be John R. Bates, of Princeton University; F. G. Brickwedde, of the Bureau of Standards; Herrick L. Johnston, of the Ohio State University, and Hugh S. Taylor, of Princeton University. The presiding officers will be Karl K. Darrow, of the Bell Telephone Laboratories, for the physics session and Harold C. Urey, of Columbia University, for the chemistry session.

On Saturday afternoon, from 1:30 to 4:00 o'clock, there will be a joint symposium with the American Mathematical Society on "Group Theory as Applied to Quantum Mechanics." The speakers will be G. Breit, of the University of Wisconsin, John von Neumann, of the Institute for Advanced Study, J. H. Van Vleck, of Harvard University, and E. P. Wigner, of Princeton University. A joint session with the Acoustical Society of America also will be held at the University of Pittsburgh on Saturday afternoon from 2:00 to 4:30 o'clock.

The annual dinner will be held at the Webster Hall Hotel, headquarters for the society, on Friday evening at 7:00 o'clock. This will be a joint dinner with the American Association of Physics Teachers.

WORK OF THE SCIENCE ADVISORY BOARD

DR. KARL T. COMPTON, chairman of the Science Advisory Board and president of the Massachusetts Institute of Technology, has prepared for Science Service the following statement concerning the work of the Science Advisory Board.

The Science Advisory Board, appointed by President Roosevelt on July 31, 1933, represents a new form of cooperation of the nation's scientific personnel with the government in its varied scientific services. It supplements and cooperates with the National Academy of Sciences and the National Research Council, which were established during the national emergencies of the civil war and the great war, respectively, to aid the government, and which play an important rôle in the organization of the nation's scientific forces for increased effectiveness in ordinary times and particularly in times of stress.

The Science Advisory Board has submitted to the President of the United States a report on its work from the date of appointment to September 1, 1934. While the details of this report can only be made public subject to release by the President, there is no impropriety in disclosing the general scope of the subjects which have engaged the study of the board and its committees. Important among these subjects have been the program of the U. S. Weather Bureau, with particular reference to methods of weather forecasting and the cooperation of other governmental services; cooperation with a committee of railroad presidents to determine fundamental aspects of policy and organization, for insuring to the railroads the best contributions from modern science; questions of organization and program in the U. S. Geological Survey and the U. S. Bureau of Mines, with particular reference to the need for more adequate handling of mineral statistical information; redefinition of the functions of the U. S. Bureau of Standards, with detailed consideration of its program and needs and particularly its method of cooperation with industry in the establishment of trade and commercial standards; a study of the surveying and mapping activities of the government distributed through 28 government bureaus, with particular consideration of efficiency in mapping and efficient service of mapping agencies to organizations which need maps for their operations; the formulation of a scientific basis for studies and administration of problems of land use, including soil erosion; preliminary studies of the chemical services of the government and also of certain features of a program for stimulation of new and preferably non-competitive industries.

In handling each of these and similar problems, the board has established committees of prominent scientists and administrators who are preeminently competent in their respective fields, and including on each committee one or more members of the board. These committees have carried on the detailed studies and formulated recommendations which have then been presented to the board, forming the basis of the board's reports to the department secretaries or other