new 9-lens aerial camera developed by the United States Coast and Geodetic Survey.

8. The "Millionth Map" of Hispanic America. A project which has occupied the society for eighteen years—the mapping of the whole of Hispanic America to conform to the standard of the International Map of the World on the scale of 1: 1,000,000. This is the largest map project ever undertaken by a private organization and is now nearly complete.

ARCHEOLOGICAL EXCAVATIONS OF THE FIELD MUSEUM OF NATURAL HISTORY

THE first exhibition of archeological material excavated from the ruins of villages inhabited a thousand years ago and more by the prehistoric basket-maker Indians of Southwestern Colorado was opened on May 26 at the Field Museum of Natural History. The objects were recovered by the 1938 Field Museum Archeological Expedition under the direction of Dr. Paul S. Martin, chief curator of anthropology. Dr. Martin and associated archeologists have spent months in intensive study of this material, and most of it, dug up in fragments, has had to be carefully pieced together in preparation for exhibition. The results of the research, both in the field and in the museum laboratories, are shortly to be published in an illustrated book to be issued by Field Museum Press.

There is exhibited a painting by Arthur G. Rueckert showing the restoration of a basket-maker village as it must have appeared when it was inhabited by American aboriginals about A.D. 860. There are examples of rare red-on-orange pottery of a type unknown to archeologists until a few years ago. This dates from about A.D. 700, or possibly earlier, and it has not yet been determined where it was first made. The use of designs in red on orange contravenes accepted traditions. Usually the pottery is plain gray, or is marked with black designs of a simple nature on a gray background. In addition to the pottery, the display includes other objects used in the daily lives of the basket-maker Indians, who probably perished before white men reached this continent. Included are various kinds of tools and implements made of bone and stone—awls, axes, mauls, corn-grinding mills and ornaments. Difficulties in making the restoration are described by Dr. Martin as follows:

> Since these villages had been exposed to the rains and snows of more than a thousand years before the museum expedition arrived on the scene, all the perishable objects—such as basketry, cloth, sandals, matting and wooden materials—have long since rotted away. Thus the archeologist is confronted with the problem of reconstructing history from only three classes of objects: pottery, bone and stone. Imagine how trying it would be for an archeologist a thousand years from to-day to have to piece together a complete story of the complex civilization of America from only broken dishes, rusty tools of which he did not know the uses, and empty tin cans. In spite of this difficulty, however, we have managed to reconstruct a reasonably clear chronology of events in basket-maker times.

The expedition uncovered a number of great kivas or underground ceremonial chambers, including the largest structure of the type ever found—83 feet in diameter. These, together with subterranean pit-houses, barracks-like rows of surface houses and other architectural types, are restored in the painting of the village.

Eight summers have been spent in the excavation of the basket-maker sites in Colorado. The ninth expedition, sponsored by Stanley Field, president of the museum, planned to resume the work early this month. This time operations will be concentrated upon the excavation of some ruins near Glenwood, New Mexico. The new sites belong to what is known as the Mogollon culture, and investigations will be conducted to determine whether or not there was a cultural connection between the Mogollon and basket-maker cultures.

JOINT MEETING OF THE ROYAL METEOROLOGICAL SOCIETY AND THE AMERICAN METEOROLOGICAL SOCIETY

A JOINT meeting of the Royal Meteorological Society and the American Meteorological Society will be held in Toronto, Canada, on August 28 and 29.

Professor D. Brunt, F.R.S., of the Imperial College of Science and Technology, and Dr. W. Elsasser, of the California Institute of Technology, will read papers on radiation.

Dr. J. Bjerknes, of Bergen, Norway; Dr. H. R. Byers, of the United States Weather Bureau; Professor C.-G. Rossby, assistant chief of the Weather Bureau, and Dr. S. Petterssen, of the Massachusetts Institute of Technology, will read papers on the extra-tropical cyclone. Ample time will be provided for the discussion of these papers.

There will be a visit to the David Dunlap Observatory, and a dinner will be given by the University of Toronto to the delegates and their ladies.

Accommodation will be provided at one of the university residences, at $1.00 per day, and meals may be obtained nearby.

The sessions will be held in the Royal Ontario Museum, and the meeting will close in time for delegates to join the excursion of the American Geophysical Union from Kingston, Ont., on the morning of August 30.

GRANT FOR PHILADELPHIA TO AID AMATEUR STUDIES AND ADULT EDUCATION IN SCIENCE

THE Carnegie Corporation of New York has made a grant to the American Philosophical Society to undertake a broad survey of adult education in science, using the Philadelphia region as an experimental area. The purpose of the investigation will be to promote

knowledge in the sciences and in scientific methods through new means and to encourage the participation of amateurs.

To guide this experiment the American Philosophical Society has appointed a committee on organization, including Edwin G. Conklin, executive vice-president of the society and professor emeritus of biology at Princeton University, as chairman; Anton J. Carlson, physiologist, the University of Chicago; Karl K. Darrow, the Bell Telephone Laboratories; Luther P. Eisenhart, professor of mathematics, Princeton University; C. E. Kenneth Mees, director of research, the Eastman Kodak Company; Harlow Shapley, director of the Harvard Observatory; W. F. G. Swann, director of the Bartol Research Foundation of the Franklin Institute; Harold C. Urey, professor of chemistry, Columbia University, and Roland S. Morris, president of the American Philosophical Society.

The survey will be conducted by an executive staff of scientific consultants. It will study educational programs already in progress in many institutions and will also determine the contribution made by some one hundred and eighty amateur organizations in the Philadelphia area, including astronomers, telescope makers, natural history and hiking clubs, photographic groups and others. Special emphasis will be placed on the participation of persons in discussion forums, laboratory courses, museum tours and field trips.

A unique feature of the plan is the cooperation to be secured from local institutions and organizations, including the Philadelphia Board of Public Education, more than sixteen colleges and universities, the Franklin Institute, the Academy of Natural Sciences, the Wagner Free Institute of Science, the Museum of the University of Pennsylvania, the Delaware Valley Ornithologists Club, the Rittenhouse Astronomical Society and many others.

The Executive Staff of the Committee on Education and Participation in Science has as its chairman Roland S. Morris and as its executive secretary in charge of the survey W. Stephen Thomas, recently director of education of the Academy of Natural Sciences. The members of the staff who will act as consultants in their various fields are: Roger Conant, zoology, curator of the Philadelphia Zoological Gardens; Dr. John M. Fogg, Jr., botany, University of Pennsylvania; Dr. Serge A. Korff, physics and astronomy, Bartol Research Foundation, and Dr. Edward E. Wildman, science education, of the Philadelphia Board of Public Education.

SCIENTIFIC NOTES AND NEWS

THE American Association for the Advancement of Science will hold its hundred and fourth meeting at Milwaukee from June 19 to June 24, under the presidency of Professor Walter B. Cannon, of Harvard University. With it will meet a number of affiliated societies. The full preliminary program of the meeting, compiled by the permanent secretary, was published in the issue of SCIENCE for May 26.

THE list of birthday honors of the King of England includes a knighthood conferred on Dr. Owen Richardson, professor of physics at the University of London, from 1906 to 1914 professor of physics at Princeton University.

THE Belgian Society of Tropical Medicine, which has charge of health work in the Belgian Congo, has elected Dr. Alfred C. Reed, director of the Institute of Tropical Medicine of the University of California, a corresponding member.

DR. SELMAN A. WAKSMAN, microbiologist of the New Jersey Agricultural Experiment Station, has been elected a foreign member of the Royal Swedish Academy of Agriculture.

AT the annual alumni reunion dinner of the Massachusetts Institute of Technology, Dr. Dugald C. Jackson, professor emeritus, formerly head of the department of engineering, was made an honorary member of the Alumni Association.

AT the commencement exercises of the University of Missouri the degree of doctor of laws was conferred on Dr. Earl Raymond Hedrick, provost of the University of California at Los Angeles and vice-president of the university.

STEVENS INSTITUTE OF TECHNOLOGY, at its sixty-seventh commencement on June 10, conferred the honorary degree of doctor of engineering on William S. Knudsen, of Detroit, president of the General Motors Corporation; on Ole Singstad, chief engineer of the New York City Tunnel Authority; on William LeRoy Emmet, of Schenectady, N. Y., who has been associated with the General Electric Company since 1887, and on Alexander Graham Christie, professor of mechanical engineering at the Johns Hopkins University and president of the American Society of Mechanical Engineers. Mr. Knudsen delivered the address to the graduating class.

AT the forty-fifth annual commencement of the North Dakota Agricultural College, the honorary degree of doctor of agriculture was conferred on Professor C. B. Waldron, professor of landscape gardening and forestry, formerly professor of horticulture and dean of the School of Agriculture of the college, and upon Professor H. L. Bolley, botanist and plant pathologist of the College Experiment Station.

PROFESSOR H. B. WALKER, head of the division of