Wisconsin, 1939). Princeton University. "A Theoretical Treatment of Photochemical Processes."

Joseph Miller (Ph.D., psychology, Yale University, 1939). Stanford University. "An Analysis of the Temporal Gradient of Reinforcement in Human Subjects and Its Application to Serial Behavior Sequences."

Jack Edgar Myers (Ph.D., botany, University of Minnesota, 1939). The Smithsonian Institution, Washington, D. C. "A Study of the Development of Photosynthetic Activity, Especially as it Relates to the Development of the Plant Pigments."

Myron Hiram Nichols (Ph.D., physics, the Massachusetts Institute of Technology, 1939). Princeton University. "Thermionic Work Function of Thoriated and Caesiated Tungsten for the Different Crystal Faces."

John Booth Peterson (Ph.D., soil fertility, the Iowa State College, 1936). University of California. "The Relation of the Composition of Soil Binding Material to the Stability of Soil Aggregates and the Resistance of Soils to Erosion."

Jean Barnett Piatt (Ph.D., zoology, Yale University, 1937). The University of Utrecht, Holland. "The Specificity Relationship between Individual Motor Fibers and Their Normal Muscle Field in Regenerated Forelimbs of Triturus Pyrrhogaster."

John Robert Raper (Ph.D., general biology, Harvard University, 1939). The California Institute of Technology. "The Sexual Mechanism in the Saprolegniales."

Julian Seymour Schwinger (Ph.D., physics, Columbia University, 1939). University of California. "The Theory of Nuclear Forces."

Dorothy J. Shaad (Ph.D., experimental psychology, Bryn Mawr College, 1934). The Harvard Medical School. "The Value of Controlled Bifoveal Stimulation in the Correction of Anomalous Visual Projection."

Wave Henry Shaffer (Ph.D., physics, the Ohio State University, 1939). The University of Chicago. "Interpretation of Band Spectra of Polyatomic Molecules."

Saul Winstein (Ph.D., organic chemistry, the California Institute of Technology, 1938). Harvard University. "Studies in the Walden Inversion and the Allylic Rearrangement."

George Prior Woollard (Ph.D., structural geology, Princeton University, 1937). Lehigh University. "Investigations of the Geologic Structure beneath the Atlantic Coastal Plain and Related Areas by Means of Seismic and Gravity Profiles."

EXHIBIT OF THE AMERICAN GEOGRAPHICAL SOCIETY

A COMPREHENSIVE exhibit of geographical data, maps, charts and tools of geographical research was opened on May 19 by the American Geographical Society of New York City. The exhibit, which will be free to the public while the World's Fair is in progress, was opened by W. Redmond Cross, chairman of the council of the society, at a private showing for the society's fellows. Captain Robert A. Bartlett, Arctic explorer, was a special guest for the occasion.

The exhibit is divided into sections dealing with exploration and field research, geographical fundamentals, New York City, primitive and historical maps, United States Coast and Geodetic Survey, the polar regions, photographic mapping, map of Hispanic America, economic and social conditions in the United States and international affairs. It will be open to the public from 2 P.M. to 5 P.M. daily except Mondays and Thursdays throughout the World's Fair season.

The society has prepared the exhibit as its share in providing features of unusual interest for visitors to the World's Fair. This is the first time in its eighty-six years of history that it has offered an exhibit of this nature to the general public.

Among the features of the exhibit are:

1. A map mounted on a section of the earth's surface which, if complete, would be nearly 132 feet in circumference. This section shows the actual curvature of the earth on a scale of 1: 1,000,000 and is covered with a map on that scale of the widest part of South America, from the Pacific coast of Ecuador and Peru to the Atlantic coast of Brazil. On this map, on the same scale, Mt. Everest would be 0.35 inch high and the sun would be about as far away as Philadelphia.

2. Field equipment for a modern high-altitude expedition. A nine-pound, two-man tent so designed that the stronger the wind blows the more resistant the tent becomes, air survey equipment, high-altitude stoves and radio equipment.

3. The Flyers' and Explorers' Globe, bearing the signatures and showing the routes of many famous explorers and 'round the world and transatlantic flyers. Those represented include Lindbergh, Post and Gatty, Byrd, Nansen and Wilkins.

4. New York City in maps. From the earliest plan of New Amsterdam to present-day maps illustrating the distribution and classification of buildings, the city's highway, subway and elevated, and railroad terminal systems, its complicated interlacing of power lines and telephone and telegraph offices.

5. Geographical background of the European situation. Maps which illustrate the boundaries in Europe according to language, physical and economic characteristics, religions, major soil regions, and which show political boundaries during five periods of European crisis.

6. Examples of primitive and historical maps, including an Eskimo relief map carved in driftwood and a Turkish map of the Atlantic Ocean and its coasts (1513) believed to be based on a lost map by Columbus and published at the suggestion of the late President Kemal Ataturk of Turkey.

7. Mapping by photography. Illustrations of modern methods and special mechanical equipment developed at the American Geographical Society for doing survey work by airplane and camera in a fraction of the time required by the older methods. A typical survey of an unmapped, almost unknown country, northernmost Labrador. Illustration of the work and details of the functioning of the

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