botanical education, including elementary education. The papers are as follows:

Presiding: Dr. John S. Roberts, associate superintendent of schools, New York City.

(1) "Botanical Education for Young People." Dr. D. W. O'Brien, the School Committee of the City of Boston.

(2) "Twenty-five Years of Botanical Education, 1910–1935." Professor Otis W. Caldwell, Columbia University.

(3) Motion picture—"How Seeds Germinate." U. S. Department of Agriculture, Bureau of Plant Industry.

The first program on Thursday evening will be devoted to adult education in botany and the newer techniques of education developed since the Botanic Garden was established.

Presiding: Julius M. Johnson, president, the New York Association of Biology Teachers.

(1) "Adult Education in Botany." Dr. Loren C. Petry, Cornell University.

(2) "Radio in Botanical Education." Morse Salisbury, U. S. Department of Agriculture.

(3) Motion pictures—"Their Part in American Education." Dr. Clarence E. Partch, Rutgers University.

(4) Demonstration of silent "movies" and "talkies": (a) "Time-Lapse Studies in Plant Growth"—1 reel, U. S. Department of Agriculture film; (b) "Plant Life" (a sound film)—1 reel, Harvard film service.

There will be an invitation buffet luncheon on both Wednesday and Thursday, a tea on Thursday afternoon in charge of the Junior League of Brooklyn and informal receptions with inspection of the exhibits on both Wednesday and Thursday evenings. The hostess on Thursday evening will be the Garden Teachers Association of the Botanic Garden. Members of the Boys and Girls Club of the Botanic Garden will also assist throughout the week.

On all days there will be opportunity to inspect the plantations and collections under guidance. All persons interested in botanical science and education are invited to attend the Wednesday and Thursday programs.

EXPEDITIONS OF THE SMITHSONIAN INSTITUTION

THE results of twenty expeditions sent out last year by the Smithsonian Institution are described in a report recently issued. Collections of biological, geological and anthropological specimens for the U. S. National Museum were made in China, Siam, Mexico, South America and the Galapagos Islands, as well as in the United States and its territories.

Dr. Charles G. Abbot, secretary of the institution, and L. B. Aldrich, of the Astrophysical Observatory, conducted an expedition of two and a half months' duration to Mount Wilson, Calif., where extensive astrophysical work was conducted. Throughout the year daily observations of solar radiation were made at the stations at Table Mountain, Calif., Mount Montezuma, Chile, and Mount St. Katherine in the Sinai Peninsula.

The Rev. David C. Graham, in the high mountain regions of the Szechwan Province of China, made natural history collections, obtaining such rare animals as the golden-haired monkey, the giant panda, the blue sheep, the horse-tailed deer and the Chinese red wolf. Dr. Hugh M. Smith, associate of the institution, formerly fisheries adviser to the Siamese Government, penetrated the wild country at the head of the Pasak River. He made there collections of rare birds and several new species of fishes. Dr. W. F. Foshag hunted rare minerals in the Sierra Madre Mountains of Chihuahua, Mexico, and in other Mexican mining districts. Dr. C. Lewis Gazin sought the bones of extinct animals in the Snake River basin of Idaho and in one place obtained the skulls of about sixty-five ancient horses. Studies of ancient fauna in southwestern Ontario and in Michigan were carried on by Dr. G. A. Cooper, assistant curator of paleontology, who was associated with Dr. A. S. Warthin, of Vassar College. Their researches enabled them to construct a partial, tentative picture of the country during the Devonian period.

Dr. Waldo L. Schmitt, curator of marine invertebrates, represented the institution on the Galapagos Island expedition of Captain G. Allan Hancock. An exceptionally rich natural history collection was obtained, including ten species of poisonous sea snakes. A study of the butterflies of Virginia was undertaken by Austin H. Clark, curator of echinoderms. About 8,000 specimens of grass, including some rare species, were obtained by Jason R. Swallen in the mountains of Brazil. C. W. Bishop, assistant curator of the Freer Gallery of Art, carried out an archeological reconnaissance in China over an area approximately 500 miles in length by nearly 200 in breadth. Dr. Aleš Hrdlička, curator of physical anthropology, continued his excavations on Kodiak Island, Alaska, where he found evidence of a great prehistoric massacre.

Archeological projects were conducted in the valley of the lower Columbia River by Herbert W. Krieger, curator of ethnology; in Florida by CWA workers under the direction of Matthew W. Stirling, chief of the Bureau of American Ethnology; on the Shiloh battlefield by Frank H. H. Roberts, Jr., and in California by William D. Strong and Winslow M. Walker. Dr. John R. Swanton reports progress in tracing the

route of De Soto through the southeast, Dr. John P. Harrington continued his researches among the Indians of California and Dr. Truman Michelson studied the Passamaquoddy Indians of Maine.

THE EXPOSITION OF CHEMICAL INDUSTRIES

THE fifteenth Exposition of Chemical Industries will be held at Grand Central Palace, New York, from December 2 to 7. It is said that it will be one of the largest in recent years, and that the volume of requests for space makes necessary the early preparations which are being made for this year's show. Some of the more pretentious exhibits are being designed and constructed over a period of eight to ten months in advance of the exposition week and companies leasing the smaller exhibition spaces are making their contracts many months in advance. At the last exposition, held in 1933, the attendance was from 983 cities and towns in 42 states of the United States and from 69 cities and towns in 27 foreign countries. The registered attendance was 34,269, representing an increase of 50 per cent. over the previous exposition. Admission is without charge and by registration or invitation only. No tickets are sold.

The Exposition Advisory Committee will include distinguished representatives from all the leading chemical organizations.

Members of the Advisory Committee are as follows: A. D. Little, Arthur D. Little, Inc., *chairman;* Raymond F. Bacon, consulting engineer; L. H. Baekeland, honorary professor, chemical engineeering, Columbia University; Wm. B. Bell, president, Manufacturing Chemists Association; J. V. N. Dorr, president, the Dorr Company; A. E. Marshall, president, American Institute of Chemical Engineers; Henry B. Faber, consulting chemist; John M. Alverez, president, Salesmen's Association of the American Chemical Society; Williams Haynes, president of Chemical Industries; Charles H. Herty, industrial consultant; H. E. Howe, editor, *Industrial and Engineering Chemistry;* James H. Critchett, president of the Electrochemical Society; Sidney D. Kirkpatrick, editor, *Chemical and Metallurgical Engineering;* Roger Adams, president of the American Chemical Society; L. H. Marks, president of the Chemists' Club; W. T. Read, Rutgers University; H. J. Schnell, general manager, *Oil, Paint and Drug Reporter;* T. B. Wagner, consulting chemist; R. Gordon Walker, vice-president, Oliver United Filters, Inc.; M. C. Whitaker, consulting chemist, and Fred W. Payne and Charles F. Roth, co-managers of the exposition.

AN EXHIBIT OF RARE PREHISTORY MATERIALS

THE Department of Anthropology, University of Minnesota, is fortunate in possessing an unusual number of unique prehistoric human skeletal and artifact materials which are now being placed on exhibition for the first time. They will be available in Wesbrook Hall, Main Campus, for the meeting of the American Association for the Advancement of Science, which will be held from June 24 to 29.

Among the most important specimens are the following:

"Minnesota Man," type skeleton of oldest known accredited man in Western Hemisphere, and two artifacts found therewith;

"Mechte-el-Arbi," type-skull of North African Capsian or Getulian culture, of some 30,000 years ago. Besides, there is the extensive Debruge archeological collection from North Africa;

Twelve additional Mechte-el-Arbi skulls—four of which were dug by the University of Minnesota, together with 6,000 flints of African shell-heap culture, some 30,000 years old, also dug by the University of Minnesota;

One half of the type-specimen flint artifacts of Capsian or Getulian African culture;

The type-specimens of Mousterian stemmed "points" from Africa;

The first Mousterian coup-de-poing from the type-site at Le Moustier, France;

The type artifacts of the ivory culture of mid-North America;

Two atlatl stone-weights found in Minnesota;

Typical Yuma flints found in Minnesota;

Typical Folsom flints found in Minnesota;

Four, perhaps unique copper fishing gorges from a Minnesota habitation site;

Minnesota "Browns Valley Man," type-skeleton and six Yuma-Folsom flints found with said type skeleton;

Extremely rare, if not unique, evidences of abundant cannibalism among one group of mound-burying Minnesota Indians;

Extremely rare Minnesota pottery from both habitation sites and mound burials.

ALBERT ERNEST JENKS

THE LIBERTY HYDE BAILEY HORTORIUM

ONE of the largest private herbariums in the country, including comprehensive records of the cultivated plants of the world, has become the property of Cornell University as a gift of Dr. Liberty Hyde Bailey, professor emeritus of agriculture, and Mrs. Bailey. The collection, which will be designated as the Liberty Hyde Bailey Hortorium, comprises upwards of 125,000 mounted herbarium sheets and other similar material, especially rich in the cultivated floras of the world and comprising types of new species in the palms, Carex, Vitis, Rubus and other groups; there are included 4,000 technical and professional books and thousands of photographs and card indices with working equipment. The buildings which house these collections and about a quarter of an acre of surrounding land are included in the gift. For the past fifteen years illus-