SCIENTIFIC EVENTS

INTERNATIONAL COOPERATION OF SCIENCE MUSEUMS

IT is reported in *Museum News* that the International Institute of Intellectual Cooperation of the League of Nations has issued a report of the conference held at Geneva this summer on collaboration between science museums. Andrey Avinoff, director of the Carnegie Museum, was president of the conference and represented the American Association of Museums. After four sessions on July 14 and 15, the conference adopted resolutions recommending the following:

The establishment at the International Institute of Intellectual Cooperation of an information and documentation center to deal with matters concerning science museums.

The collection of information of certain kinds: catalogues of films and negatives; technical information on museum building construction, ventilation, lighting, heating and preservation of specimens; types of labels and explanatory diagrams; a list of model exhibits in museums; catalogues of duplicates available for exchange and of material for study by specialists; lists of models and casts that might be made in quantity for cession or loan to other museums; publications; a list of specialists in the different branches of science.

Promotion of exchange of curators or travel by curators, with a loan fund for this purpose. Development of concerted organization of scientific expeditions.

Extension of the collaboration among museums for loans, exchanges, traveling exhibits, etc.

Investigation of educational methods used by museums, and publication of the results.

Publication of a directory of science museums and of a periodical bulletin.

The committee consisted of Andrey Avinoff; Sir John Flett, director of the Geological Survey and Museum, London; Paul Lemoine, director of the Musée National d'Histoire Naturelle, Paris, and Wilhelm Unverzagt, director of the Staatlichen Museums für Vor-und-Frühgeschichte, Berlin. The meetings were attended by M. Bonnet, director of the International Institute of Intellectual Cooperation, and his colleagues Messrs. Establier and Belime.

THE NORTH INDIA EXPEDITION OF YALE UNIVERSITY

THE Yale North India Expedition, now in Srinagar, Kashmir, has mapped in detail an area of more than 4,600 square miles of hitherto unexplored country lying in the Himalayan Range above an altitude of 14,500 feet, according to the report of its director, Professor Hellmut de Terra. Fossils were found of both lower and higher forms of animal life which will throw new light on the geological history of Central Asia and the development of the fauna of North India while the mountains in this region were being formed. The expedition left the United States for India early in the spring. Due to the cooperation of the governments of India and Kashmir, no serious losses or obstacles have been encountered.

The new map of the previously unknown area in the Himalayas will be of value in understanding the geography of this region. The expedition was aided in making the map by Khan Sahib Afraz Gul, one of India's best mountain topographers, who joined the survey through the courtesy of the Surveyor General of India, and the generosity of the American Geographical Society.

Professor G. E. Hutchinson, biologist, and Mr. G. E. Lewis, paleontologist, made a detailed study of both present and past animal and plant life. The elevated lakes were examined both chemically and biologically, and will be compared to the existing conditions of western Central Asia. Information gathered concerning the environment of the terrestrial invertebrates will throw light on factors determining the distribution of animal life in high regions, and on trends of development as compared to that of animal life in the adjoining lowlands.

The report states that the contrast of the fauna to that of the rest of India is most striking. A paleontological collection from Ladakh, made by Mr. Lewis, will arrive at the Peabody Museum of Yale University later in the season. Mr. Lewis succeeded in obtaining in the Siwalik Hills of Northern India a collection of vertebrate specimens dating from the tertiary period. They are in a very good state of preservation.

Professor de Terra writes: "During this time the members of the expedition traveled 1,300 miles across the barren mountain ranges north of the Himalaya which are known as the Eastern Karakorum. This meant moving a large scientific apparatus as well as provisions on ponies and yaks across passes over 18,500 feet, often still covered with snow. As the greatest portion of the area traversed lies beyond the upper limit of human habitation, the highest permanent settlement being situated at 14,500 feet above sea level, food depots had to be established at various stages along the route." Geological data obtained tend, it is said, to prove that Himalaya and Karakorum, the world's highest mountain ranges, possess a geological structure similar to that which characterizes the Alps in Europe.

During the last months of the expedition the members will follow separate fields of research. Dr. de

Terra will continue his geological work in Kashmir where the most recent mountain building has been going on. Dr. Hutchinson is leaving immediately for southern India in order to study the occurrence of relics of a Himalayan fauna. Mr. Lewis will resume his paleontological excavations in the Salt Range of the Punjab. The work of the expedition will be completed by February and will arrive in the United States in the early spring of 1933.

THE U. S. GEOLOGICAL SURVEY

THE annual report of the director of the U. S. Geological Survey states that the geologic work of the year included studies of many mining districts in Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, and Oregon; of lead and zinc deposits in Virginia; of iron ores in Alabama and the Lake Superior region; of coal fields in Montana, New Mexico, Oklahoma, and Utah; and of oil fields and prospective oil and gas areas in California, Colorado, Mississippi, and Utah; besides general mapping and studies in many parts of the country.

Research work on fundamental problems of geology included special attention to the source rocks of petroleum, the structure and constitution of coal, and the systematic study of diatoms.

Investigation of mineral-bearing areas that might contribute tonnage to the Alaska Railroad was undertaken under a special appropriation of $250,000 made by Congress after the visit of a senatorial committee to Alaska in 1930. Continuation of the regular survey work in Alaska resulted in the geologic mapping of nearly 6,000 square miles and the topographic mapping of 5,680 square miles.

The topographic maps originally prepared as an essential base for detailed geologic mapping have proved to have many other uses, and the general realization of their value is shown in the increasing funds made available by states and other federal units for cooperation in this work. The topographic mapping done during the year covered nearly 26,000 square miles. Ten states, the District of Columbia, and Hawaii are now completely mapped, and the percentages in the other states range from eight in Florida to 88.9 in Virginia. Of the continental United States, exclusive of Alaska, 45.2 per cent. has been mapped. Office mapping from aerial photographs by stereophotogrammetric methods was completed for the Zion National Park and nearly completed for the Bryce Canyon National Park, both in Utah.

The study of water resources included stream gaging at about 2,800 gaging stations in all the states, the District of Columbia and Hawaii and investigations of ground water and power or reservoir sites in twenty-five states and Hawaii.

The classification of public lands with respect to their mineral, waterpower and agricultural value resulted in net decreases of 932,166 acres in areas withdrawn as possible coal or phosphate land and of 54,100 acres in areas classified as oil-shale land and a net increase of 510,217 acres in areas classified as coal or phosphate land.

The appropriations made directly to the Geological Survey for the year amounted to $3,141,740. Most of the states and several other government units cooperated in one or more phases of the work, the total amount available from all sources being $5,115,087. The unexpended balance of federal money at the end of the year was $206,412, of which $150,000 was made available by the Seventy-second Congress for expenditure in the fiscal year 1933.

THE REVIEW OF SCIENTIFIC INSTRUMENTS

ON January 1, 1933, The Optical Society of America will transfer to the American Institute of Physics the duty of publishing *The Review of Scientific Instruments*. At the same time, the Institute plans to expand the journal and to coordinate it with the entire list of Institute publications.

Under the new plan, *The Review* will contain each month an added section of "Physics News and Views." In this section it is planned to give a non-technical discussion of important developments in physics. Other features will be editorials, personal and institutional notes, programs and news of society meetings, book reviews and a summary of the contents of contemporaneous journals of physics.

The new section will in no way displace the present contents. Scientific articles on instruments and methods will continue to constitute the major portion of *The Review*. The abstracts of instrument literature will be retained. These original features of *The Review* will continue to be edited by Professor F. K. Richtmyer and a board appointed by The Optical Society of America.

The enlarged *Review* will be sent not only to all members of The Optical Society as at present but to every member of The American Physical Society, The Acoustical Society of America, The Society of Rheology and The American Association of Physics Teachers as well. It is planned, in addition, to send it to every non-member subscriber to any one of the Institute's publications, namely, *The Physical Review, Reviews of Modern Physics, Physics, Journal of The Optical Society of America, Journal of The Acoustical Society of America, Journal of Rheology* and the new *Journal of Chemical Physics*. For the members and other subscribers, combination rates will be so adjusted that *The Review* will come to them along with the journals they now receive for the same price as