A. E. Porsild, who is being sent by the Department of the Interior to the country just east of the Mackenzie River delta to investigate conditions for introduction of reindeer, will, through the courtesy of his department, make a botanical survey of this region and collect plants for the National Herbarium.

J. D. Soper, who was sent to Baffin Island in 1924 with the annual Canadian government supply expedition, will continue general biological survey work and collection of specimens until September of this year, when he will return to Ottawa. Mr. Soper intends to travel from Pangnirtung, on Cumberland Sound, which has been his headquarters, through Nettiling and Amadjuak lakes to the coast of Hudson Strait, where he will be picked up by a Hudson Bay Company's steamer.

W. S. Odell, C. Patch and C. Johnson will collect zoological and botanical specimens in the vicinity of Ottawa. Mr. Patch is engaged in collecting material for an illustrated systematic report upon the amphibia and reptilia of Canada.

GEOLOGY AND MINERALOGY

No parties are being sent out expressly for museum purposes, but contributions to the geological and mineral collections will be made incidentally by parties of the Geological Survey.

PALEONTOLOGY

C. M. Sternberg will be sent by the Geological Survey to the Red Deer River Valley near Rumsey, Alberta, to collect fossil remains of dinosaurs and other vertebrate animals. This area is one of the richest repositories in the world and has yielded many fine specimens to Canadian and United States museums.

Other paleontological investigations and collections will be made incidentally by parties of the Geological Survey.

W. H. COLLINS,
Acting Director

WORLD LONGITUDE DETERMINATION

THERE will be a world longitude determination by radio signals, beginning October 1 and ending December 1. This project proposed several years ago has the approval of the International Astronomical Union and of the International Geodetic and Geophysical Union.

The principal stations of the so-called "fundamental polygon" will be at the Naval Operating Base, San Diego, Calif., at the Algiers Observatory and at the Shanghai Observatory. These stations are at nearly the same latitude, and are spaced approximately eight hours apart in longitude. It is proposed to determine the differences of longitude with great accuracy and to make redeterminations at intervals sufficiently separated in time in order to test the permanency of their relative positions and certain possibilities as to movement of the earth's crust.

It is expected that many other observatories will join in this operation, including Washington, Greenwich, Paris and Australasian observatories. The U. S. Coast and Geodetic Survey proposes to occupy stations at Honolulu and Manila.

The radio signals will be of the so-called rhythmic type, so spaced that there will be 61 signals per minute for 5 minutes, 306 in all. They will be sent at three periods of the day, as follows, Greenwich time:

Location	Meters	h m	h m
Annapolis	17,145	20: 10 to	20: 15
		3: 10	3: 15
		10: 10	10: 15
Arlington or Bellevue (near Washington)	74.7 and 24.9	20: 20	20: 25
		3: 20	3: 25
		10: 20	10: 25
Honolulu	11,500	20: 30	20: 35
		3: 30	3: 35
		10: 30	10: 35
Honolulu	36.8	20: 40	20: 45
		3: 40	3: 45
		10: 40	10: 45
Saigon	17,000 and 25	11: 30	11: 35
		19: 00	19: 05
Bordeaux	18,900	8: 01	8: 06
d'Issy (near Paris)	32	20: 01	20: 06
		8: 01	8: 06
		20: 01	20: 06

It is suggested and urged that as many astronomical observatories as can arrange to do so make time observations and receive the signals thus enabling them to establish their longitudes with reference to one or more of these points of reference. The radio signals may be received automatically on a chronograph, a method which has some obvious advantages, or by ear by the coincidence or other methods. Short wave signals are sent as well as long wave signals, as some observers report better reception by the short waves especially at very distant stations, when there is not much daylight between the stations.

The Annapolis and Arlington (or Bellevue) signals will be the principal ones by which observers in this country can connect directly with Washington. These signals will also probably give a direct connection with Greenwich and Paris, as will also the Bordeaux signals.

The International Astronomical Union recommends that in the reductions the star places of the American Ephemeris be used as far as possible and that clock

stars be confined to the region 20° or 25° north and south of the zenith.

Any inquiries regarding the work will be gladly answered by the U. S. Naval Observatory.

A SCHOOL OF MICROSCOPY

THE microscope is being used so generally now-a-days as an aid in many branches of science that a knowledge of its construction, accessories, manipulation and capabilities becomes imperative. The student in high school gets acquainted with it in biology classes, and in colleges it becomes a useful tool in the study of botany, physiology, mineralogy and chemistry.

Medical colleges use the microscope intensively in the demonstration of histology, bacteriology and pathology, and the instrument is indispensable in morphological and cytological research. There are many other fields in which the microscope is employed, besides the pleasure and entertainment afforded those who only enjoy it as a hobby.

The membership of the New York Microscopical Society, one of the affiliated societies of the New York Academy of Sciences, is made up of scientists, students of definite subjects and amateurs, some of whom have never had any regular instruction in microscopical technique and who have neither time nor opportunity to attend college courses to obtain the requisite information.

To meet this need, a School of Microscopy was founded in April of this year by four members of the New York Microscopical Society. Through the courtesy of Bausch & Lomb Optical Co., the free use of their rooms in the Pershing Square Building, Park Avenue and 42nd Street, New York, was granted, together with unlimited cooperation in the use of microscopes of various designs, microtomes, projection apparatus, photomicrographic outfits and all the accessories that are explained and demonstrated before the classes in the school.

Sessions were at first held from 5 to 6:30 on Wednesday afternoon and the first course of ten lessons was successfully given at that hour. To meet the demand for a night class, another group meets at 8 o'clock Wednesday evenings, and the attendance shows this to be the more popular session.

The course at present consists of three demonstrations on the microscope, its design, accessories, manipulation; this instruction is given by John H. Fisher, a physicist residing at Hollis, L. I. Mr. Fisher was formerly with the Bureau of Standards at Washington and is an inventor and expert on fine measurements and accurate measuring instruments.

Phillip O. Gravelle, of South Orange, N. J., known for his work in photomicrography and color photography, has prepared a course of three lectures, in which he uses the latest developments of visual instruction, graphically presenting the methods and results of photography with microscope and camera. Many of his slides were made by utilizing a ribbon filament lamp of his own invention.

For the technical instruction in the preparation of material, use of the microtome, imbedding, staining and mounting permanent slides, the school has enlisted the aid of Dr. Margaret M. Hoskins, member of the Society of Anatomists and of the staff of New York University School of Dentistry. Dr. Hoskins conducts the class through four sessions, including a lecture and demonstration on the study of bacteria and blood with the microscope.

The originator of the project is Charles P. Titus, of East Orange, N. J., former president of the New York Microscopical Society and of the New Jersey Chemical Society. He will act as director of the school, and with E. H. Anthes, assistant manager of the Bausch & Lomb Optical Co., will supervise its activities. A moderate fee is charged for the course, and the proceeds are devoted to the salaries of the instructors and the purchase of supplies and equipment, with the hope that in time a laboratory may be established where students may have the benefit of more extensive personal instruction.

Students may join the classes at any time; letters of inquiry may be directed to the School of Microscopy, Room 1500, Pershing Square Building, New York City.

PROGRAMS IN ENGINEERING AND SOCIAL SCIENCE AT THE PHILADELPHIA MEETING OF THE AMERICAN ASSOCIATION

PAPERS before the engineering section have been arranged as follows:

1. The contribution that has been made by pure science to the advancement of engineering and industry.

Astronomy—DR. FRANK SCHLESINGER, director of Yale University Observatory.

Chemistry—DR. CHARLES H. HERTY, president, Synthetic Organic Chemical Manufacturers' Association.

Economics—DR. JOSEPH H. WILLITTS, head of the department of industry, Wharton School of Finance and Commerce, University of Pennsylvania.

Geology—DR. HEINRICH RIES, professor of general and economic geology, Cornell University.

Mathematics—DR. G. A. BLISS, professor of mathematics, University of Chicago.

Medical Science—DR. RANDLE C. ROSENBERGER, professor of preventive medicine and bacteriology, Jefferson Medical College.

Physics—DR. R. A. MILLIKAN, director of the Norman