On Monday at 8:30 a reception will take place at the university museum for members and their friends.

THE annual meeting of the American Society of Mechanical Engineers will be held in New York during the first four days of the week beginning December 6. Monday will be taken up with the usual council meeting, committee meetings and conference of local sections' delegates, the program opening on Monday evening for the informal get-together. Tuesday morning the technical sessions start, and continue through Thursday afternoon. On Tuesday evening, William L. Abbott will deliver his presidential address, and the new president, Charles M. Schwab, will be inducted into office. The program includes the ceremony of the award of the John Fritz Medal to Dr. Elmer A. Sperry. The dinner will be held on Wednesday evening, December 8, at the Hotel Astor, at which there will be a number of short speeches, followed by other entertainment. As in the past few years, the annual meeting will be paralleled by the National Exposition of Power and Mechanical Engineering to be held in the Grand Central Palace, New York. Over five hundred exhibits of all types of power and mechanical apparatus will fill four floors of the Palace during the entire week.

A SPECIAL evening session planned to appeal to the general public is to be held during the International Conference on Bituminous Coal, which takes place at the Carnegie Institute of Technology from November 15 to 18. John Hays Hammond, inventor and engineer, will preside at this session on November 15 and the principal addresses will be given by Walter Barnum, president of the National Coal Association, and Edwin E. Slosson, director of Science Service. Mr. Hammond and Mr. Barnum are members of the advisory board assisting President Thomas S. Baker in planning the Carnegie Conference.

THERE has been recently formed a China branch of the American Society of Parasitologists. The members of the branch society are active members of the parent society but have their own chairman, secretary and organization. The China branch which now has a membership of about forty plans to have meetings at frequent intervals. Its object is the encouragement of teaching and research in parasitology in China. Dr. E. C. Faust, professor of parasitology in the Peking Union Medical College, was elected the first chairman. This position makes him also a vice-president in the American Society of Parasitologists. The secretary-treasurer of the China branch is Dr. Chenfu T. Wu, of Yenching University.

A MEETING of the International Society for the Exploration of the Arctic Region by means of the airship will be held at Berlin, from November 10 to 12, under the chairmanship of Dr. Fridjof Nansen. The subjects to be discussed are chiefly organization and statutes, investigational work in oceanography, meteorology, geology, biology, terrestrial magnetism and electricity. Professor L. A. Bauer, of the Carnegie Institution in Washington, will represent America. Sir Napier Shaw, meteorologist, will appear for England, and Captain Walter Bruns, Zeppelin pilot, represents Germany. Roald Amundsen and General Umberto Nobile, who flew over the North Pole in the airship *Norge,* expressed regrets at their being unable to attend.

THE École d'Anthropologie de Paris celebrated the fiftieth anniversary of its foundation on November 3.

THE Royal Belgian Geographical Society will celebrate the fiftieth anniversary of its foundation on November 7 and the following few days.

A COLLECTION of more than 1,000 books which constituted the library of the late Dr. David C. English, of New Brunswick, has been given to the Rutgers University library. Two thirds of the collection are medical books, including several rare texts dating back to the seventeenth century.

## UNIVERSITY AND EDUCATIONAL NOTES

LORD WOOLAVINGTON has given £10,000 to Edinburgh University for the endowment of the animal breeding research department. This gift follows an offer by the Rockefeller International Education Board of £30,000 for a department, on condition that a similar sum was raised in England.

THE University of Aberdeen has announced a gift of £5,000 from Lord Cowdray to be applied towards the endowment of a chair of forestry.

DR. SUMNER C. BROOKS, of the hygienic laboratory of the U. S. Public Health Service, has been appointed professor of physiology at Rutgers University.

H. L. CLAPP, of Cincinnati, has been appointed professor of chemistry in the college of the City of New York.

DONALD B. MACMILLAN, Arctic explorer, who plans an expedition to the Far North, which will start in the spring of 1927 and remain for five years, has been appointed professor of ethnography with leave of absence in the field, at Bowdoin College.

IN the department of psychology at the University of Kentucky Dr. Gardner C. Basset, formerly of the University of Pittsburgh, has been appointed associate professor, and Dr. James L. Graham, who car-

ried out his graduate studies at Columbia University, assistant professor.

DR. AXEL M. HJORT has been appointed a professor of pharmacology in the Dartmouth Medical School. Dr. Hjort, a graduate of the University of Illinois, received his M.D. and Ph.D. degrees from Yale University, where he taught pharmacology for five years; more recently he has been engaged in research for Parke, Davis and Company.

DR. GEORGE B. RAY and Dr. David Rapport have been promoted to be assistant professors of physiology at Western Reserve University.

PROFESSOR JOHN A. FERGUSON, head of the department of forestry at Pennsylvania State College, has been appointed visiting professor of forestry at Yale for the year 1926–27. Professor Ferguson will take over the work in forest management while Professor Herman H. Chapman is on leave of absence to participate in the government investigation in forest taxation.

LOUIS O. HOWARD has resigned as dean of the school of mines and geology of the State College of Washington. He will give, this winter, courses in metallurgy at the South Dakota School of Mines at Rapid City, taking the place of Bancroft Gore, who has gone to South America.

DR. HARRY S. LADD has returned from an extended field season in the Fiji Islands to become assistant professor of geology at the University of Virginia.

## DISCUSSION AND CORRESPONDENCE

### HOOKE'S LAW: A REJOINDER

PROFESSOR JOSEPH O. THOMPSON'S discussion on Hooke's law[1] reflects a view of physical laboratory instruction which, to say the least, is unusual. It appears that many years ago he performed experiments on very thin wires of brass and copper having a length of nearly twenty-three meters; in loading these wires he found what appear to be systematic departures from Hooke's law. In view of the importance of the elastic properties of steel, his data on steel would have been interesting also, as would have been the figures for brass and copper with diminishing load. It happens that the elastic properties of brass and copper are of small practical consequence. It also happens that in a wire as fine as those he used the questions of uniformity of cross-section and of homogeneous structure become very important. Having found the anomalies in wires which are not representative either in dimensions or materials of wires whose elastic properties find practical application, it is his opinion that these anomalies should be emphasized and that unless they are emphasized the instruction is harmful. This is a view which very few teachers of physics will share.

I must correct one statement in particular which Professor Thompson has made. He says that "a certain well-known scientific company is doing harm to young experimenters all over the country by publishing an elaborate instruction sheet which conveys the impression that accurate measurements should show strict proportionality between strain and stress." The reference is probably to Experiment M-27A of the "Cumulative Unit System of Laboratory Experiments in Physics," for the preparation of which the writer is responsible. This series of experiments is intended to teach that careful experimental work with suitable apparatus leads to results which demonstrate, *within the limits of experimental error,* the correctness of the laws governing certain physical relationships. The experiment in question deals with Hooke's law only incidentally, its Fig. 5 being a graph showing the experimentally determined relation between stress and strain. This graph, which is a straight line, shows that the elongation is, *within the limits of experimental error,* proportional to the stretching force. Beyond this it does not convey the impression "that accurate measurements should show strict proportionality between stress and strain." This has been read into the presentation by Professor Thompson.

It should be particularly noted that the experiments for which data are shown were performed with wire of piano steel, having diameters of approximately 0.6 and 0.7 mm, respectively, and a length of about one meter. If in steel wires of such dimensions there is in fact such lack of proportionality as Professor Thompson believes to exist, the apparatus used, although capable of accurate measurement, would fall far short of sufficient precision to show the lack of proportionality. Unless the student were to reproduce Professor Thompson's research experiments he could come to but one conclusion, namely, that *Hooke's law is a correct statement of what he has observed.*

The objection made by Professor Thompson, if valid, must for the sake of consistency apply also to the measurement of acceleration of gravity by means of the simple pendulum. Unless the angle of swing is nearly zero the time of vibration is not expressed by the simple harmonic formula; but the student must in his computations assume the formula to represent the facts. To be consistent, objection must also be made to the experimental method of studying the laws of Boyle and Charles because, unless van der

[1] SCIENCE, September 24, 1926, page 298.