

the late Sir Grafton Elliot Smith to University College, London, and to the advancement of anatomical and anthropological teaching and research, it is proposed that a bust of him should be modeled in bronze by A. H. Gerrard, of the Slade School, and placed in

the Thane Library of the college. Contributions towards the cost of the bust, made payable to "The Elliot Smith Memorial Fund," should be sent to Professor J. P. Hill, University College, Gower Street, London, W.C.1.

SCIENTIFIC EVENTS

JOINT MEETING ON AGRICULTURAL PROCESSING

THE American Society of Agricultural Engineers and the Process Industries Division of the American Society of Mechanical Engineers and Farm Chemurgic Council held a one-day meeting on agricultural processing, at Rutgers University, on February 26.

This meeting was planned to bring together the chemists and physicists who originate processes of making new useful products from various farm-grown materials; the processing engineers who develop and apply the processes on a commercial scale, and the agricultural engineers who are interested in enabling farmers to deliver the basic materials to processing plants within the required limits as to cost, physical condition and time and quantity of delivery.

L. F. Livingston, past-president of the American Society of Agricultural Engineers and manager of the agricultural extension section of the E. I. du Pont de Nemours and Company presided at the morning session which opened at 10 o'clock. Papers read at this session included "Processing Research in Agriculture," by John F. Ferris, acting director of the agricultural industries division of TVA; and "Hemp and Flax from the Seed to the Loom," by George A. Lowry, of Lowry and Grant.

A "research luncheon" was held at the Elks Building at 1:00 P. M. Dr. W. H. Martin, director of research at Rutgers University, addressed the group on "Agricultural Research Work," and Dr. Paul L. Hoover, director of the New Jersey Engineering Experiment Station, spoke on "Engineering Research."

Victor Wichum, chairman of the Process Industries Division of the American Society of Mechanical Engineers, presided at the afternoon session. In the afternoon Mr. Livingston gave an address on "Processing Engineering in Agriculture." He was followed by C. E. Thomas and A. Weisselberg, of the drying committee of the Process Industries Division, with a paper on "Drying of Agricultural Products—The Technical and Economical Aspects."

R. C. H. Heck, of the department of mechanical engineering, and E. R. Gross, head of the department of agricultural engineering, Rutgers University, were in charge of local arrangements for the meeting.

COSMIC RAY RECORDING STATION IN MEXICO

DR. ARTHUR H. COMPTON, of the University of Chicago, accompanied by Professor M. S. Vallarta, of the Massachusetts Institute of Technology, established during his recent visit to Mexico a permanent cosmic ray recording station, the fifth of the series that he is using for the measurement of the rays. Dr. Joaquin Gallo, director of the Mexican National Magnetic Observatory, and Dr. Mongez Lopez, director of the study of physical sciences of the National University of Mexico, of which the observatory is a part, are cooperating in the work.

The cosmic ray observatory is a small frame building erected on the grounds of the National Magnetic Observatory at Teoloyucan, thirty miles north of Mexico City at an altitude of about 7,500 feet in a region far from any high mountains or buildings. The building is constructed with good thermal insulation so that both the diurnal and annual temperature variations are very small, amounting to a maximum of about 5° C.

The cosmic ray meter is one of the "Model C" meters of the type prepared for the Carnegie Institution of Washington. Its ionization chamber consists of a 20-liter steel sphere filled with argon at 40 atmospheres. The ionization by the cosmic rays is normally balanced by that due to the beta rays from a uranium rod, which enter an auxiliary chamber. This balance is unaffected by changes in temperature or pressure of the gas. The sensitivity is so adjusted that the maximum changes in the cosmic rays give variations in the reading of the meter which remain on the scale of the instrument. The records are made continuously on photographic paper and are being analyzed at Chicago.

A feature in connection with the operation of an observatory at this site is that because of the high altitude the cosmic ray bursts are more frequent than at sea level. For this reason the variations in the cosmic rays are greater and the sensitivity at which the meter operates must be lowered in order that the deflections of the meter shall remain on the scale. The immediate program is one of study of the diurnal and seasonal variations over a period of eighteen months. It is hoped, however, to continue the records for a longer time.

Permanent cosmic ray meters have been installed in Chicago, Washington, D. C., at Huancaayo, Panama, and at Christ Church, New Zealand. Another meter has been installed on the *S. S. Orangi*, a steamship which plys the route from Vancouver to Australia. On each voyage, the meter readings give the difference in incidence of rays between the northern and southern hemispheres. The Chicago station is to be placed on Mt. Evans, Colorado, and another, temporarily located at the Massachusetts Institute of Technology, will be shifted to Greenland. There are only two other stations, those of Hess and Schonland, both of these having been made by E. Steinke, the German physicist.

SCIENTIFIC MEETINGS AT LANCASTER, PENNSYLVANIA

THE Pennsylvania Academy of Science, the Junior Academy, the Pennsylvania Conference of Teachers of College Physics and the Lancaster Branch of the American Association for the Advancement of Science will hold a joint session at the time of the annual meeting of the academy at Lancaster on March 26 and 27. The Lancaster Branch and Franklin and Marshall College are to be hosts. All scientific activities will be held on the college campus. Friday morning and afternoon, March 26, will be devoted to general sessions divided into subject groups, physics, biology, miscellaneous papers and the Junior Academy. Exhibits will supplement the sessions. The annual dinner has been scheduled for Friday evening at the Hotel Brunswick. This is to be followed by an address by Dr. F. R. Moulton, distinguished for his work in mathematics and astronomy, permanent secretary-elect of the American Association for the Advancement of Science. Dr. Moulton will speak on "Science."

Saturday's session is to commence with a brief business meeting at nine in the morning, followed by short invited papers as follows: "The Birds of Lake Ontelaunee, Berks County," Earl L. Poole, Reading Public Museum; "The Status of the Upland Plover in Pennsylvania," Professor Herbert H. Beck, Franklin and Marshall College; "Reminiscences of Professor William S. Franklin," Professor R. L. Charles, Franklin and Marshall College; "Effects of Pressure and Temperature on the Germination of Seeds," Dr. R. B. Dow and Dr. Rafael Rivera, Pennsylvania State College; "Measuring Gravity at Sea," Professor Maurice Ewing, Lehigh University; "The Origin and Occurrence of Earthquakes," Professor H. Landsberg, Pennsylvania State College; "Some Biological Effects of Sounds of High Intensity," Dr. L. A. Chambers, Johnson Foundation for Medical Physics, University of Pennsylvania.

The sessions will conclude at noon on Saturday. Buffet lunches are to be served at the college. Those planning to stay over night are requested to make their

own hotel reservations. Inquiries may be addressed to Professor Wheeler P. Davey, State College, Pa., representing the Conference of Teachers of College Physics; Dr. V. Earl Light, Lebanon Valley College, Annville, Pa., secretary of the Pennsylvania Academy of Science; Dr. Karl F. Oerlein, State Teachers College, Indiana, Pa., representing the Pennsylvania Junior Academy of Science, or Jaques Cattell, Science Press, Lancaster, Pa., representing the Lancaster Branch, American Association for the Advancement of Science.

THE NORTH CAROLINA MEETING OF THE AMERICAN CHEMICAL SOCIETY

THE ninety-third meeting of the American Chemical Society will open for a four-day session at the University of North Carolina on April 12. Fifteen divisions of the society will conduct symposia in various fields of research and a group of foreign scientific men will report on their work.

On Monday, April 12, the meeting will be opened by Dr. E. R. Weidlein, director of the Mellon Institute of Industrial Research in Pittsburgh, president of the society. Among those who will give addresses on the first day of the meeting will be Dr. Robert R. Williams, chief chemist of the Bell Telephone Company Laboratories in New York and a research associate at Columbia University, whose discovery of the chemical structure of vitamin B led to synthesis of the vitamin.

Dr. Williams's work and subsequent experiments made possible by them will play an important part in a symposium on Vitamin B, which will be held on the second day of the meeting, in which the Divisions of Agricultural and Food Chemistry, Biological Chemistry and Medicinal Chemistry will cooperate. On the following day these same divisions will work together in a symposium on other vitamins.

Cellulose chemistry, synthetic plastics and the chemistry of solid surfaces will be discussed in other symposia to be given in division meetings. The Cellulose Division will devote Tuesday to a general symposium on cellulose developments, and on Wednesday will hold two sessions for the presentation of general papers. On Wednesday morning the Division of Paint and Varnish Chemistry, under the chairmanship of Dr. Gordon M. Kline, will hold a plastics symposium, and the Division of Physical and Inorganic Chemistry will report work in the chemistry of solid surfaces.

Studies of sugars, starches and related products, including a report on the bacteriological analysis of more than 1,000 different sugars, will be taken up at the meetings of the sugar division. The division of microchemistry will present papers on the stability of cellulose nitrates and other explosives, and reports on the latest advances in the design of laboratories and equipment.