

figures of a Hawaiian surf rider, a Solomon Islander climbing a tree, a Semang pygmy of the Malay Peninsula, an aboriginal Australian man, woman and boy, and a group depicting types of Madura, Borneo, Java and Bali. Busts and heads represent the Dyaks of Borneo, Sakai and Jakun Malays, the Samoans and the Javanese.

A revised edition of the pamphlet, "The Races of Mankind," by Henry Field, assistant curator of physical anthropology, dealing with the exhibits in this hall and with the subject in general, has been issued by Field Museum Press.

GRANTS IN AID OF RESEARCH OF THE AMERICAN ACADEMY OF ARTS AND SCIENCES

THE American Academy of Arts and Sciences, at its meeting of October 10, 1934, announced grants-in-aid from the Permanent Science Fund as follows:

To Dr. Joseph A. Cushman, director of the Cushman Laboratory for Foraminiferal Research, Sharon, Mass., \$300 to assist in his work on the foraminiferal fauna collected by the ship *Atlantis* of the Oceanographic Institute.

To Drs. C. V. Green and C. C. Little, Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine, \$750 for the care of experimental animals and the preparation and study of microscopic sections of tumors in their work on cancer research.

To Professor Willem J. Luyten, associate professor of astronomy, University of Minnesota, \$250 to assist in an investigation of the proper motions of faint stars in the southern hemisphere.

To Professor Bret Ratner, clinical professor of pediatrics and lecturer in immunology, New York University and Bellevue Medical College, \$375 to aid in his experiments on asthma in the guinea-pig.

To Dr. Robert Rugh, Hunter College, New York, N. Y., \$100 for the purchase of material needed for the study of induced ovulation and egg transport in the Urodeles, and for the preparation of moving picture films of this process.

To Mrs. Mabel Ruttle-Nebel, New York Agricultural Experiment Station, Geneva, N. Y., \$300 to assist in her study of the chromosome matrix in plants of *Allium*, *Crepis*, *Hordeum*, *Tradescantia*, and *Zea* under various temperatures and nutritive conditions.

To Professor Karl Sax, associate professor of plant cytology, Harvard University, Cambridge, Mass., \$250 to assist in his study of the effect of variations of temperature on certain cytological processes.

To Professor Harry R. DeSilva, professor of psychology, Massachusetts State College, Amherst, \$100 for electrical apparatus needed in his study of metabolism, and

To Mr. V. M. Slipper, director of the Lowell Observatory, Flagstaff, Arizona, \$750 to aid in his work on the spectra of the planets.

Applications for grants-in-aid from the permanent science fund of the American Academy of Arts and

Sciences should be addressed to Professor E. M. East, Bussey Institution for Research in Applied Biology, chairman of the permanent science fund committee, Forest Hills, Mass.

SIGMA PI SIGMA CONVENTION

THE third triennial convention of Sigma Pi Sigma was held at Purdue University on October 11, 12 and 13. Several significant questions of national policy were altered, in addition to an unusually extensive program of invited scientific papers. The title "fraternity" was dropped from the name, the association being designated in the future by the term "society." This was thought to be more in keeping with the nature of the society, which has always been an honorary and professional physics organization. At the same time all features involving secrecy were eliminated and additional emphasis will be placed upon the professional objectives of the combined local groups. The society now has a total membership of over 1,400 with about 500 active members in its 27 chapters.

Plans were approved for assisting each initiate to become a member of one or more of the professional physical societies and to encourage subscriptions to their magazines. A subsidy from the national treasury was provided for the purpose of assisting the chapters in bringing in outside speakers for open meetings.

The scientific papers included the following:

Dr. M. N. States, Central Scientific Company, "The Uses of Graphs in Physics."

Dr. I. Walerstein, Purdue University, "New Types of Demonstration Experiments" (with demonstrations).

Dr. H. C. Robertson, Purdue University, "Gyroscopes and Boomerangs" (with demonstration).

Dr. Otto Stern, Carnegie Institute of Technology, "Wave Properties of Molecular Beams."

At the close of the convention the following officers were elected: *President*, Dr. R. C. Colwell, West Virginia University; *Vice-president*, Dr. D. W. Cornelius, University of Chattanooga; *Executive Secretary*, Dr. Marsh W. White, The Pennsylvania State College. Those elected to the council were: Dr. M. N. States, Central Scientific Company; Dr. R. B. Abbott, Purdue University; Dr. J. C. Stearns, University of Denver, and Professor F. A. May, St. Lawrence University.

THE CLEVELAND MEETING OF THE NATIONAL ACADEMY OF SCIENCES

As has already been announced in *SCIENCE*, the autumn meeting of the National Academy of Sciences will be held on Monday, Tuesday and Wednesday, November 19, 20 and 21, at the Case School of Applied Science and Western Reserve University. The scientific sessions on Monday and Wednesday will be held in the lecture room of the physical lab-

oratory of the Case School, and on Tuesday in the amphitheater of the institute of pathology of the university. There are forty-one papers on the scientific program.

Dr. Harlow Shapley, director of Harvard College Observatory, will give on Monday evening an address entitled "Variation and Evolution among the Stars." This lecture is complimentary to the citizens of Cleveland, and the public is invited. The dinner for members and guests, including ladies, will be held at Wade Park Manor on Tuesday evening. Dr. W. W. Campbell, president of the academy, will preside and will make a short address. There will be short addresses by President Leutner, of Western Reserve University, and by President Wickenden, of the Case School of Applied Science. The Mary Clark Thompson Medal, awarded for important services to geology and paleontology, will be presented to Charles Schuchert of Yale University. The presentation and address will be made by Dr. David White, chairman of the committee on the Mary Clark Thompson Fund, and the response will be made by Dr. Schuchert. Teas, complimentary to members and guests, will be given in the Cleveland Museum of Art and the Hamann Museum, School of Medicine, Western Reserve University.

The various laboratories and museums of all departments of Case School of Applied Science and of Western Reserve University will welcome visitors at any time during the meetings. Special invitations have been extended to members and guests by the directors of the Cleveland Museum of Art and of the Natural History Museum.

Upon special invitation, arrangements have been made for three optional visits on Wednesday afternoon. These are:

(1) The Warner & Swasey Company, 5701 Carnegie Avenue. Members and their guests are invited to visit the works of The Warner & Swasey Company. Machinery, including turret lathes, will be shown both in operation and in process of manufacture. Astronomical equipment will likewise be shown including a scale-model and parts of the MacDonald telescope for the University of Texas. A feature will be the Optical Shop where the 82-inch mirror and a 58-inch flat are being ground.

(2) Research Laboratories of The Cleveland Clinic Foundation, 2040 East 93rd Street. The following demonstrations will be on view: 1. Two methods for the detection of mitogenetic radiation: a. Geiger electron counter. b. Yeast method. 2. Measurement of Roentgen Rays and Gamma Rays in "roentgens." Demonstration of instruments. 3. Emission of radiation during the oxidation of proteins measured with: a. Thermopile and radiation filters; b. Photocell and amplifier. 4. Methods of preparing and assaying the hormones of the pituitary, of the thyroid gland and of the gonads. 5. Studies in the comparative anatomy of the energy system.

(3) Nela Park, The General Electric Company. Nela Park is located just south of Euclid Avenue, three and a half miles east of University Circle. There will be visits to the Lamp Development Laboratory and the Engineering Laboratories of the Incandescent Lamp Department of the General Electric Company and to the General Electric Institute. The institute includes demonstrations and displays of the most recent developments in lighting practise for all purposes and displays of new electrical equipment for the home. A visit to the glass-bulb factory of the General Electric Company, a short distance from Nela Park, will conclude the program.

If desired, arrangements will be made upon request at the registration desk, so that individuals may, by shortening the time of stay, visit two of these institutions on Wednesday afternoon. Those desiring transportation are requested to register for the visit selected before noon of Wednesday.

SCIENTIFIC NOTES AND NEWS

DR. LEO H. BAEKELAND, honorary professor of chemical engineering at Columbia University, will receive the degree of doctor *honoris causa* of the faculty of applied science of the Université Libre, Brussels, at the centenary celebration of the university on November 19.

At the meeting of the New York Academy of Medicine on November 8 honorary fellows were elected as follows: Dr. William Henry Howell, formerly director of the School of Hygiene and Public Health of the Johns Hopkins University; Sir Humphry Davy Rolleston, from 1925 to 1932 Regius professor of physic at the University of Cambridge, vice-president of the British Medical Association and a past-president of the Royal College of Physicians; Dr. August

Krogh, professor of animal physiology at the University of Copenhagen; Dr. Claude Regaud, of the Pasteur Institute and the Curie Foundation, and Dr. Frederick George Novy, professor of bacteriology at the University of Michigan and chairman of the executive committee of the Medical School.

THE Chemical Industry Medal for 1934 was presented on November 9 to Dr. Floyd J. Metzger, vice-president in charge of research and development of the Air Reduction Company and director of research of the U. S. Industrial Alcohol Company and of the U. S. Industrial Chemical Company, in recognition of the valuable results of research in the field of gases, which has been carried out under his direction. Dr. M. C. Whitaker outlined the accomplishments leading