

Naturally, a good proportion of the work has been concerned with powdered or broken vegetable drugs, and Prof. Edman claimed that his method of examination is sometimes more convenient than normal ones. The drug is strongly heated until the bulk of the tissues is completely burned away; the characteristic appearance of the mineral skeletons of the cell walls and the cell contents is then revealed. The method, however, has several other important applications, especially in criminal proceedings involving suspected arson. Further, the examination of prehistoric materials by this method has been of some assistance to archaeologists. Thus, the examination of the charred vegetable matter in a Chinese clay-sheard, about five thousand years old, showed it to consist mainly of the remains of the leaf blades of *Oryza sativa*, the same plant used to-day for the production of rice. In the same way, fragments of cereals, medicinal herbs, etc., have been identified in the intestines of Egyptian mummies. Prof. Edman has also examined the ash pictures of about 375 related plant species in relation to their phylogeny and taxonomy and has published many original articles on this subject in the botanical literature. He concludes that extensive silicification of the cell wall is associated with primitive characters.

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OBSERVATIONS AT THE ROYAL OBSERVATORY, GREENWICH

THE observations made at the Royal Observatory, Greenwich, during 1937 in astronomy, magnetism and meteorology, under the direction of Sir H. Spencer Jones, have been published in a single volume (pp. A62+B21+C200+D66+E46+40. London: H.M.S.O., 1951. £6 net), which is divided in five sections, A-E, as follows: meridian astronomy, equatorial observations, photo-heliographic observations, magnetic observations and meteorological observations.

The first section includes work on the transit circle and on the time service; in the former are the results of regular observations of the sun, moon, major planets and minor planets Juno, Ceres, Pallas and Vesta, and in the latter is given a short account of the new equipment and advances in the technique since the publication of the "Time Service Results" in 1936. The section on equatorial observations contains a table on the observations of double stars made at the Observatory which includes not only all pairs observed during 1937 but also all previously unpublished measures of earlier years. A systematic difference was found for close pairs between the results of the filar micrometer and of the comparison image micrometer (brought into use towards the end of 1937), and the table indicates which instrument was used.

The second section, on photo-heliographic observations, is by far the largest of the five sections. The positions and areas of sunspots and faculae for each day during the year 1937 is the first of seven tables in this section, the photographs being taken at the Royal Observatories of Greenwich or of the Cape, and at the Kodaiikanal Observatory (a negative transparency for November 3 was supplied by the Mt. Wilson Observatory to fill a gap in the series). The other tables are: a general catalogue of groups of sunspots for 1937; ledgers of areas and positions

of groups of sunspots (recurrent groups and non-recurrent groups); total areas of sunspots and faculae for each day; mean areas of sunspots and faculae for each rotation and for the year; mean heliographic latitude of spots for each rotation and for the year; and observations of solar flocculi made with the spectrohelioscope.

The introduction to the section on magnetic observations describes the magnetic station at Abinger, with its instruments, methods of observation, magnetic reductions and arrangement of results; these results are listed in fifteen tables, and there are notes for each month of 1937 which briefly summarize the magnetic conditions exhibited by the traces of declination and horizontal and vertical intensity during the year. Finally, a description of the instruments and the meteorological reductions is given in the section on meteorological observations; several changes were made in the 1934 volume as regards the notation for clouds and weather, this being done to bring the symbols into general accordance with those in use at the British Meteorological Office.

All the above-mentioned work by the Royal Observatory, Greenwich, was continued during 1938, and an account of it has now been published; the volume is similar in all respects to that for 1937. Another series of Greenwich observations which has at last been published is Vol. 2 of "Observations of Colour Temperatures of Stars: Relative Gradients" (pp. 115; London: H.M.S.O., 1952; 25s. net); this volume covers the years 1933-38 and is a sequel to the observations of 1926-32, published in Vol. 1.

UNITED STATES NATIONAL ACADEMY OF SCIENCES

AT the annual general meeting of the National Academy of Sciences, held in Washington, D.C., during April 27-29, the following officers, new members and foreign associates were elected.

Vice-President: George W. Corner, director, Department of Embryology, Carnegie Institution of Washington, Baltimore, Maryland, for a four-year term.

New Members of Council: Edwin B. Wilson, professor of vital statistics, Harvard School of Public Health, Boston; and Hugh L. Dryden, National Advisory Committee for Aeronautics, Washington, D.C.

New Members: L. V. Ahlfors, professor of mathematics, Harvard University; P. Bailey, professor of neurology and neuro-surgery, University of Illinois School of Medicine; H. A. Barker, microbiologist, University of California, Berkeley; V. H. Benioff, professor of geophysics, California Institute of Technology; J. H. Bodine, professor of zoology, University of Iowa; L. Brillouin, director of electronics education, International Business Machines Corporation, New York; M. J. Buerger, professor of mineralogy and crystallography, Massachusetts Institute of Technology; H. E. Carter, professor of biochemistry, University of Illinois; D. M. Dennison, professor of physics, University of Michigan; J. P. Den Hartog, professor of mechanical engineering, Massachusetts Institute of Technology; J. W. M. DuMond, professor of physics, California Institute of Technology; C. Eckart, director of the Marine Physical Laboratory, University of California, San Diego;