

of Animals Harmful or Useful to Agriculture, for the initiation of a study of the fauna, of means of controlling indigenous pests and nematode phytoparasites, as well as of biological control of agricultural pests. The Colonial Centre for Documentation and Co-ordination of Chemical Research received 844,400 francs for research in medicinal plants and insecticides in the Belgian Congo, while the Belgian Society of Optics and Precision Instruments received 800,000 francs for scientific and technical research on the improvement of optical surfaces, the study of optical systems corresponding with a new range of instruments and on the introduction of rational methods of manufacture into optics. Smaller grants, including 263,000 francs to the Centre for Ecological and Phytosociological Research and 162,500 francs for research on penicillin, brought the grand total to 20,801,300 francs.

Pulse-Counting Photometer

THE January issue of *Sky and Telescope* describes a new photo-electric photometer which counts the number of light pulses coming in from a star. The apparatus, known as the RCA 1P21 photo-multiplier tube, furnishes a strong pulse which can be amplified to operate special counters supplied by the Radio Corporation of America. In the 1P21 tube, each electron emitted when photons strike the light-sensitive surface in turn releases two to five secondary electrons from the first dynode, and repetition of this process through nine stages means that a single photon can be responsible for the emission of a million or more electrons from the last dynode. The addition of an RCA precision time-interval counter makes the work automatic; the observer merely sets a time-interval into a predeterminer, and the electronic devices then expose the counter to the output of the photomultiplier for a predetermined time. The number of pulses received in the interval is proportional to the light intensity of the star. Stars as faint as mag. 11.5 have been measured with the new apparatus attached to the 18-in. refractor of the Flower Observatory, and improvements now in progress may extend this by two magnitudes.

Head Wounds: Treatment and Rehabilitation

"WAR SURGERY SUPPLEMENT No. 1" of the *British Journal of Surgery*, with the subtitle "Wounds of the Head" (Bristol: John Wright and Sons, 1947. 30s. net), is not only a good record of surgical skill and achievement but also a fine example of British printing and publishing. Liberally illustrated by drawings and photographs, it should be a valuable work of surgical reference. There are twenty-two articles on various aspects of war wounds of the head. The first is by Geoffrey Jefferson, on "Head Wounds and Infections in Two Wars", the second by Sir Hugh Cairns on "Neuro Surgery in the British Army, 1939-45", and the third a remarkable "Atlas of Head Wounds", illustrating in colour standard operative techniques for their treatment. The remaining articles deal with other aspects of this important field of work and there are also notes on rare or obscure cases and a valuable bibliography of "Gunshot Wounds of the Head". Surgeons especially, but also bacteriologists, neurologists and others who are interested in the treatment and in rehabilitation of the patient after severe head injuries will certainly find the experience collected in this volume of very great value. They will look forward with great

interest to the appearance of the three other war supplements which are being prepared. No. 2 of these will deal with Abdomino-thoracic Wounds, No. 3 with Wounds of the Extremities, and No. 4 with Plastic Surgery, including Facio-Maxillary Injuries.

Textile Institute

ACCORDING to the annual report of the Textile Institute, presented at the annual general meeting on April 21, membership increased during 1947 by more than 20 per cent, to 3,728; this is more than twice the 1943 total. Correspondingly, there has been a big increase in activity. Further new branches of the Lancashire Section were formed at Oldham and Burnley; sections and branches held more than a hundred meetings. Besides the very successful annual conference held at Portrush, two one-day conferences were held to consider "Modern Methods of Single Fibre Testing" and "End Breakages in Cotton Ring Spinning". Two scholarships were awarded, to Mr. G. H. Ewins and Mr. J. E. Booth, both of Bolton, who have now commenced degree courses in textiles at the Manchester College of Technology. The decision to award a new scholarship of a maximum value of £1,000, to be available to students in all branches of textiles, was also announced. It is hoped that the Institute will be able to ensure "the general recognition and application of technical skill and scientific knowledge within the textile industry on a scale adequate to enable the industry to maintain its place in the increasingly complex economy of a rapidly developing world. The Textile Institute must achieve the status and capacity which is required if textile technology, of which the Institute is the guardian, is adequately to meet the needs of modern times."

Health Education in Guildford

AN earnest attempt to combat infection of food and drink has recently been begun by the Guildford Health Committee and food traders of the town (*Health Educ J.*, 6, No. 1; January 1948). A preliminary survey of 317 food premises carried out in November 1946 by health officials showed that many premises were faulty in structure and had inadequate washing and cleaning facilities and were staffed by men and women who were daily committing unhygienic practices. Instead of using legislative powers to tackle the problem it was decided to gain the willing co-operation of the manufacturers and food handlers. A Guildford Hygienic Food Traders Guild was set up to improve the sanitary arrangements in food-handling premises and to ensure that the statutory standards of food hygiene are observed, as well as to establish codes of practice for different trades which would be voluntarily accepted and applied by member firms of the food traders guild. Time was given for the necessary alterations and improvements to premises to be made, and the scheme took effect from March 1. The support and co-operation of the housewife has been sought by educational propaganda.

Plant Collecting in the Far East

DR. GEORGE TAYLOR joined Frank Ludlow and George Sherriff in 1938 for an expedition to south-eastern Tibet, and an account of the journey has recently appeared (*J. Roy. Hort. Soc.*, 72, Pts. 4 and 5, April and May 1947), with illustrations (several in

colour) of some of the plants of significant horticultural beauty brought to Great Britain. Part of the collection is still unidentified; but the account seeks rather to portray those species which might attract British gardeners. The genus *Meconopsis* is perhaps most strongly represented, followed closely by *Gentiana*, but many other genera are mentioned. Mr. F. Kingdon Ward has also a recent short paper on his war-time explorations in Manipur (*J. Roy. Hort. Soc.*, 73, Pt. 2, Feb. 1948). He noted many interesting plants and confirmed several earlier records by Watts and Clarke.

Natural History of Butterflies

A 20-PAGE booklet on "Butterfly Migration" by Dr. C. B. Williams, in the "Young Britain" Educational Series of the *Daily Mail*, has recently come to hand. Simply but effectively written and attractively illustrated, it is a publication with an immediate appeal to young naturalists, if not to older ones also. The photographs of the living insects by S. Beaufoy add to its merits, and the chief facts relative to butterfly migration and what to look for in this field of natural history are clearly presented. Details regarding the various publications in the series are to be obtained from the *Daily Mail* School-Aid Department, New Carmelite House, London, E.C.4. The present booklet and many of the others are priced at 1s.; some cost a little more, but are excellent value at this low figure.

Archæology of the Missouri Valley

THE Government of the United States is undertaking a large flood control and development programme in the Missouri Valley, and this will result in the destruction or submergence of many archæological sites which badly need study. Work in the area is a race against time, and "Prehistory and the Missouri Development Program", by W. R. Wedel (*Smithsonian Misc. Coll.*, 107, No. 6), is a summary of what is already known about the archæology, together with an account of a preliminary survey, under the auspices of the Smithsonian Institution, done during the field season of 1946, in order to determine which sites ought to be excavated before they are overwhelmed.

A New Mathematical Journal

THE Institute for Mathematics and Mechanics of New York University, of which the director is Prof. R. Courant, has now undertaken the production of a new journal entitled *Communications on Applied Mathematics*, which will appear quarterly. The publishers are Interscience Publishers, New York and London, and the subscription is eight dollars a year. The first number, dated January 1948, contains 99 well-printed pages, on good paper, with several diagrams. Most of it consists of an elaborate investigation of non-linear wave propagation in shallow water and open channels by J. J. Stoker. There is also a shorter paper on free boundaries of an ideal fluid by M. Shiffman. The second number will contain other papers on water waves. It is not intended that the new journal shall deal only with hydrodynamics; later numbers will cover a great variety of topics, including quantum theory, elasticity, aerodynamics, combustion, kinetic theory of gases, and the numerical solution of non-linear partial differential equations. Most of the papers will originate from the Institute for Mathematics and Mechanics of New York University.

International Society of Hematology

THE International Society of Hematology will hold its bi-annual meeting in Buffalo, New York, during August 23-26. The provisional time-table allows for half-day sessions as follow: general subjects, including radioactive and stable isotopes in hæmatology; problems and diseases related to the red cells; problems and diseases related to the white cells; immunohæmatology, *Rh-Hr* (*CDE-cde*) antigens and antibodies, and hæmolytic anæmias (two sessions); coagulation problems and hæmorrhagic diseases. The chairman of the Programme Committee is Dr. Ernest Witebsky, Buffalo General Hospital, Buffalo, New York. Dr. Eduardo Uribe Guerola, Leibnitz 212, Nueva Colonia Anzures, Mexico, D.F., is responsible for programme arrangements from South and Central America, and Sir Lionel Whitby, University of Cambridge, for papers from Europe. All scientific sessions and exhibits will be open to those interested in hæmatology. The secretary of the Society is Dr. Sol Haberman, William Buchanan Blood Centre, Baylor Hospital, Dallas, Texas, from whom further particulars can be obtained.

International Rheological Congress

AN International Rheological Congress will be held at Scheveningen (The Hague) during September 21-24. The Congress will consider theoretical problems; fundamental experimental methods; rheological properties of various systems; rheological problems in biology; and industrial applications. The plasticity of crystallized materials, soil mechanics and geophysical problems will be excluded, since other international congresses will give attention to these subjects during the year. Sectional meetings for the discussion of special subjects will be a feature of the meeting; at these meetings, every speaker will give only a short account of his paper, so that ample time will be available for discussion. Manuscripts in English or French must be received before May 1. The maximum space for a paper is 2,500 words including formulæ and diagrams, since the *Proceedings* must be limited to 500 pages. Preprints of all papers will be available at least a month in advance of the meeting. Owing to generous support from Dutch industry and scientific societies, the congress fee will be 15 florins (about £1 8s.); this will cover the cost of preprints, but not the *Proceedings*. The Organising Committee will help participants in obtaining accommodation at Scheveningen. The secretary of the Committee is Ir. H. C. den Daas, Julianalaan 134 (Postbox 66), Delft.

Summer School in the Physics of Solids

A SUMMER SCHOOL in the Physics of Solids, with particular reference to the properties of ionic solids, will be held in the H. H. Wills Physical Laboratory of the University of Bristol during September 8-15. Lectures will be given by Prof. N. F. Mott, Dr. J. W. Mitchell and other members of the staff of the Laboratory. A purely theoretical course on the electrical properties of ionic solids was held in 1946. The present course is intended for members of the staffs of Government and industrial laboratories who wish to familiarize themselves with both experimental and theoretical work on the properties of ionic solids, particularly in fields beyond those with which they are directly concerned. For each branch of the subject, parallel lectures will be given on the experimental side and on the theoretical side. Accommodation can be arranged at the University Hall of