

disturbance; the system then becomes unstable, the distribution of the morphogens becomes heterogeneous and later a pattern or structure may develop. Such diffusion reaction systems are considered in the hypothetical case of a ring of cells. Using the digital computer, Turing has shown that in such a system the onset of instability may take six different forms, of which the most interesting form, from the point of view of morphogenesis, consists in the development of stationary waves on the ring. This would be equivalent to the accumulation of one of the morphogens at evenly distributed points on the ring, and might account for such developments as the tentacle pattern in *Hydra* and for whorled phyllotaxis and similar phenomena in plants. A system of reactions and diffusion on a sphere, which is also considered, could account for gastrulation, while another reaction system in two dimensions yields patterns resembling dappling. There are also indications that stationary waves in two dimensions may account for phyllotaxis. Basically the theory does not involve any new hypotheses; but, assuming a gene-controlled metabolic system, it suggests that certain well-known physical laws are sufficient to account for many of the facts of morphogenesis.

#### Plant Raw Materials

THE new botanical journal, *Materiæ Vegetabiles* (editors, Drs. C. Regal and Fr. Tobler; published by Dr. W. Junk, The Hague), of which the first number has just been issued, is essentially utilitarian in its aims. The journal, in fact, "will be dedicated to the whole domain of vegetable raw materials", and it will contain papers in which research, cultivation, extraction, amelioration, preparation and utilization are treated in their mutual relationships. The literature of plant products appears either in book-form or widely scattered in botanical, agricultural, technical, chemical and trade journals. The new journal will provide a means of bringing these important practical contributions together under one cover, and by so doing should make for a stimulation of research into the better production and wider utilization of plant products. The present number includes papers on such diverse topics as the value of Karoo veld in stock raising, flax as an oil and fibre plant in La Plata territory, the scientific basis of improved rosin production, *caesalpinias* as sources of tannin, the effect of manuring on fibre content in *Yucca*, the significance of terpene accumulation in plants, and the utilization of fibre from the stems of edible bananas. The subscription for the volume of four numbers is 40 Dutch guilders.

#### Library of the National Institute for Research in Dairying, Shinfield

No. 4 in the Library Association series of pamphlets, "The Development and Administration of a Special Library", by C. H. Tomalin, is an account of the Library of the National Institute for Research in Dairying, Shinfield, Reading (pp. 36; 1951. 5s. or 3s. 6d. to members). It gives a brief account of the present stock of the Library and of the administrative methods in use, as well as of the development of the Library from the founding of the Institute until the new Library building was opened in October 1934. Primarily the Library exists to serve the scientific staff of the Institute; but it is also much used by scientific workers visiting the Institute. A card index is maintained which records all significant papers in dairy research published since 1920.

#### Symposium on Food Supplies

THE Nutrition Panel of the Food Group of the Society of Chemical Industry is arranging an extended symposium on "Food and the Future", which will be discussed at a series of four meetings, to be held during the period December 1952–April 1953, when the topics will be, respectively: the problem of future world food supply; present methods of attack on the problem; new natural sources of foodstuffs; and synthetic food potentialities. At the end of the series, Dr. Norman C. Wright, scientific adviser to the Ministry of Food, will sum up the discussions. The first of these meetings will be held in the rooms of the Chemical Society at Burlington House, Piccadilly, London, W.1, at 6.15 p.m., on December 10, when Mr. F. Le Gros Clark will deal with a general statement of the problem of future world food supply under the title "The Yardstick of Population", and Dr. E. W. Russell will consider "Limitations affecting the World Food Supply". Visitors will be welcome. The honorary secretary of the Panel is L. C. Dutton, Virol, Ltd., Hanger Lane, Ealing, London, W.5.

#### Announcements

H.R.H. THE DUKE OF EDINBURGH has accepted election to honorary membership of the Institution of Mining and Metallurgy and also of the Institution of Gas Engineers.

DR. G. R. DE BEER, director of the British Museum (Natural History), has been elected *correspondant* of the Section of Anatomy and Zoology of the Paris Academy of Sciences in succession to the late T. O. J. Mortensen.

THE following appointments have recently been made in the University of Sheffield: Dr. J. White, senior lecturer in refractories, to be reader in ceramics; Dr. A. S. Gladwin, to be lecturer in electrical engineering.

THE following announcements have been made from the University of London: the title of reader in mechanical engineering applied to mining in the University has been conferred on Dr. William Davies, in respect of the post held by him at the Imperial College of Science and Technology; the degree of D.Sc. has been conferred on Mr. Dan Lewis, an internal student at the John Innes Horticultural Institution.

THE Textile Institute, under the terms of the Cotton Industry War Memorial Trust, awards scholarships to young craftsmen in the cotton industry, which are designed to cover the cost of a three-year full-time university degree-course in textiles. Two such awards have just been made, to N. Clark (Stalybridge, Cheshire) and R. M. Watson (Manchester), respectively, both of whom have elected to go to the Faculty of Technology of the University of Manchester. This scholarship scheme was started in 1930, and to date ten awards have been made.

THE annual conference of the Geographical Association will be held at the London School of Economics, Houghton Street, London, W.C.2, during December 31, 1952–January 3, 1953. The programme will include business meetings, lectures, discussions, reports and special visits to places of interest. There will also be exhibitions by the various sections of the Association and displays of books, visual aids and other educational equipment. Further information can be obtained from the honorary conference organizer, Dr. W. G. V. Balchin, of King's College, Strand, London, W.C.2.