

institutions which have now been designated as 'SISTERS'. His previous posts include those of senior physical chemist in the Dunlop Rubber Organization, lecturer in high-polymer chemistry at the Royal College of Science and Technology, Glasgow (now the University of Strathclyde), Courtauld Fellow at the Manchester College of Science and Technology, assistant director at the Arthur D. Little Research Institute, Inveresk, and finally reader in physical chemistry at the Imperial College of Science and Technology. He is the author of more than fifty publications, largely in the physical and statistical aspects of polymer science, a subject in which he has deservedly earned an international reputation, and is the author of a text-book on high polymers. His long and varied experience in the industrial sphere, together with his keen interest in bridging the gap between basic science and technology, will be an invaluable asset to the University.

#### Medical Research Council:

##### New Research Units and Groups

THE Medical Research Council is to establish the following two new research units and three new research groups: *The Microbial Systematics Research Unit* will be set up at the University of Leicester under the direction of Dr. P. H. A. Sneath. The Unit will be engaged in research on the classification of micro-organisms, with special reference to numerical taxonomy and computer methods. *The Mineral Metabolism Research Unit*. On the retirement of Prof. L. N. Pyrah as director of the Metabolic Disturbances in Surgery Research Unit in the University of Leeds, Dr. B. E. C. Nordin will become director of the Unit, which will be renamed. The Unit will be mainly engaged in research into the causes of renal stone, the dietary requirement of calcium and the metabolism of bone-seeking isotopes. *The Research Group in Applied Neurobiology* will be established at the Institute of Neurology, University of London, under the honorary direction of Dr. J. B. Cavanagh. The Group will be concerned with investigations of cellular relationships in the peripheral and central nervous system. *The Research Group in Clinical Respiratory Physiology* is being set up at the Postgraduate Medical School, University of London, under the honorary direction of Dr. J. B. West. The Group will investigate the physiological mechanisms controlling the distribution of air and blood in the lungs in health and disease. *The Research Group in Medical Demography* is to be established in the Department of Medical Statistics and Epidemiology at the London School of Hygiene and Tropical Medicine, under the honorary direction of Mr. W. Brass. The Group will undertake research into the effects of changes in population size and structure on the occurrence of disease and, conversely, of the effects of developments in medicine on population characteristics.

##### The Metabolic Reactions Research Unit

THE Council's plans to establish a Metabolic Reactions Research Unit under the honorary direction of Prof. E. B. Chain were announced in June 1963 (*Nature*, 193, 1252; 1963). The Unit, which now has been set up in the Department of Biochemistry at the Imperial College of Science and Technology, London, will undertake research into the problems of metabolic reactions in the tissues of higher animals, including man, and in micro-organisms.

#### U.S. National Academy of Sciences and the National Research Council

*Organization and Members 1963-64* includes full lists of members of the U.S. National Academy of Sciences and of the National Research Council (Pp. 143. Washington, D.C.: National Academy of Sciences-National Research Council, 1964). Details are also given of the membership of the various committees and boards and of the divisions and offices with their officers and committees. There is an introductory note outlining the

organization and objectives of the Academy and the Research Council, and the functions of the various committees are shown under the appropriate headings. There is an index of names.

#### Development and Research in the Furniture Industry

THE fifteenth annual report of the Furniture Development Council, covering the year ended December 31, 1963, notes a steady increase in the demand for method study consultancy services, and the scope of the activities of this department has widened. The Council's Product Costing System has been installed or revised by the Council's cost consultants at 20 different firms during the year, and a report, *Production Control in the Furniture Industry*, is being published shortly, while one on *Furniture Factory Planning and Layout* is in preparation. A list of papers issued by the Council and the Furniture Industry Research Association, 1949-63, is appended. On July 6, 1964, the Furniture Industry Development Council (Amendment No. 2) Order, 1964, was approved in the House of Lords. The research activities of the Furniture Development Council were taken over by the Furniture Industry Research Association on its establishment in 1961, and the Association receives most of its industrial income through the Council from the levy authorized by the Furniture Industry Development Council (Amendment) Order, 1958. As Lord Drumalbyn explained in moving the approval of the Order, the Council itself provides many services to the industry, including method study and costing, statistical and economic services, and the study of design and marketing, some of which are self-supporting, but the purpose of the order is to provide additional funds to enable the Research Association to expand and maintain its programme of research. The Order raises the amount of the levy which may be imposed on the industry by the Furniture Development Council to a maximum of £75,000 a year, and the proposed increase is supported by the British Furniture Manufacturers' Federated Associations and the National Federation of Furniture Trade Unions.

#### The Natural Rubber Producers' Research Association

THE research programme of the Natural Rubber Producers' Research Association, under the direction of Dr. L. Mullins, continues its fundamental investigations of the science and technology of natural rubber and related materials. The problem of the chemical constitution of natural rubber vulcanizates is, after many decades of hypothesizing, showing signs of yielding its secrets under the combined attack of chemists, physicists and technologists. One of the methods developed for establishing the identity of sulphur-containing cross-links in vulcanizates has been the use of 'chemical probes', and a recent publication of the Association (Publication No. 473, by C. G. Moore and B. R. Trego) deals with the rearrangement of alkenyl groups that occurs during the desulphuration of model organic trisulphides by the probe triphenylphosphine. On the biochemical side, the biosynthesis of natural rubber continues to be investigated, and experimental evidence has recently been obtained (Publication No. 479, by B. L. Archer, B. G. Audley, E. G. Cockbain and G. P. McSwoney) that mevalonic acid is converted into isopentenyl pyrophosphate in the aqueous phase of *Hevea brasiliensis* latex through the intermediate formation of mevalonate phosphates. Subsequent incorporation of isopentenyl pyrophosphate into the growing rubber molecule is believed to occur at the surface of the rubber particle and to involve the attachment of isopentenyl pyrophosphate at an allylic pyrophosphate group situated terminally in the rubber molecule. Three distinct aspects of the physics of natural rubber—namely, friction, reinforcement and foam elasticity—have been investigated and these typify the Association's concern with fundamental aspects arising out of the use of rubber. A theory of dynamic rubber friction (Publication No. 477,