

Imperial Institute Advisory Committee on Hides and Skins on a series of hides prepared experimentally in Southern Rhodesia with the view of improving the material turned out by the natives. It is shown that a simple method of drying the hides which was recommended by the Committee gives excellent results, as it did in the case of earlier experiments in East Africa, and is a great improvement over the ordinary native methods of sun-drying. An article by Mr. M. H. French, of the Tanganyika Veterinary Service, records the work which has been done in that Territory to improve the quality of the clarified butter (ghee) produced there. This product, although little known in Great Britain, is of great importance in tropical regions, since when properly prepared and stored it will keep almost indefinitely under conditions in which ordinary butter turns rancid in a few days. An article by Dr. E. O. Teale, mineral adviser to the Government of Tanganyika Territory, describes recent developments in gold mining in this country. Another article gives a brief outline of the mineral resources of Johore, one of the little-known Unfederated States of Malaya. Alluvial tin ore is being mined in three different areas. In another area iron ore is being mined, and unworked deposits are known to occur in three further regions. Gold and china clay are being produced in small amounts, wolfram has been found in one locality, and prospecting for coal is being carried on in two places.

#### National Bureau of Standards

A REPRINT from the annual report of the U.S. Secretary of Commerce, 1935, describes briefly the more important of the developments of the Bureau of Standards during the last twelve months. Scientific workers and engineers are making increasing use of its facilities. The testing of supplies and materials has increased by 15 per cent over the previous year. This is partly due to the building activities of various Government agencies. Having received an exceptionally pure sample of the metal gallium, its freezing point was determined and found to be  $29.780 \pm 0.005^\circ \text{C}$ . The melting point of this element is so low that the crystals melt to a liquid on a hot summer day. An investigation has been completed on the efficiency of a large number of rust-preventing materials with particular reference to their use in preventing corrosion in aviation engines during storage. Certain types of materials have been found to be extremely effective for this purpose and for use as general rust preventatives. Laboratory tests of numerous types of oil filters show that some of these devices are most efficient in removing impurities formed in the oil during service. Two formulæ were developed for ink powders which make a writing ink superior to the present federal specification. Work has shown that the superior properties of the English clays are apparently due to the presence in them of certain natural fluxes which are not found in American clays. These fluxes have been identified and studies are now being made of American clays modified by the addition of fluxes. A code for the safety glass used in automobiles has been formulated. It was

developed by the co-operation of manufacturers and users of glass and motor-cars. It specifies tests for wire glass, heat-treated glass and laminated glass which ensure satisfactory safety glass.

#### Scientific Horticulture

THE fourth year-book of the Horticultural Education Association ("Scientific Horticulture", from the Editor, Mr. R. T. Pearl, South Eastern Agric. Coll., Wye, Kent, 3s. 6d. net) presents many helpful contributions. Several papers describe the special considerations of gardening in various parts of England, or discuss the horticultural needs of a particular industry, such as cider-making; and the number of articles which achieve the difficult blend of science with practice shows a gratifying increase over previous year-books. There are also articles which summarize the findings of research stations. Dr. W. F. Bewley writes on "Twenty-one years' Glasshouse Research at Cheshunt", whilst Mr. R. B. Dawson portrays the origin and work of the Board of Green-keeping Research. Prof. R. J. D. Graham has collected the results of the late Laurence Baxter Stewart on vegetative propagation, and his tables, showing the times and seasons when difficult cuttings may be rooted, will be of very real value to gardeners. Plant pathology has two papers: "The *Phytophthora* Disease of Strawberry" by Mrs. N. L. Alcock and Mr. D. V. Howells, and "The Virus Diseases of Glasshouse and Garden Plants" by Dr. K. M. Smith. Very useful reviews of the present position of research into vernalisation and into photoperiod are given by Dr. O. N. Purvis and Prof. F. G. Gregory respectively. Messrs. W. J. C. Lawrence and J. Newell describe "Seedling Growth in Partially Sterilised Soil", and Drs. Kidd and West issue a warning about the gas storage of apples. They show that the harmful concentration of carbon dioxide in the atmosphere of the store varies with temperature and also with the oxygen content. The president of the Association, Mr. H. L. Jones, chose the subject "Horticultural Education in North Wales" as the title of his address. The contributions are rarely reports of new work, but serve, in an admirable manner, to make available the more abstruse, and often isolated, findings of research in pure science.

#### Sands, Clays and Minerals

THE April number (Vol. 11, No. 4) of *Sands, Clays and Minerals*, published by Mr. A. L. Curtis, Westmoor Laboratory, Chatteris, once again brings home to readers the fundamental purpose of this magazine. The editorial reiterates that at any rate a partial solution to the problem of unemployment lies in opening up the vast unexploited mineral resources of the British Empire. Numerous industries depend on minerals as raw materials, and increased production leads to increased activity in these industries, with a corresponding fall in unemployment. Certain minerals now being obtained from foreign sources might be produced wholly or in part within the British Empire. Obstacles to optimum development of such resources are not irremovable, though at the present time they



loom large. Possibly if the responsibility for economic development were taken from bureaucratic bodies and sharply dissociated from political circles, a more rapid advance could be achieved. It is the practical men, technologists and experts who are best equipped to regulate development of mineral wealth now lying dormant within the boundaries of the Empire. Indirectly such men are already furthering this object, both in an advisory capacity and by their contributions to magazines such as this. Several articles follow in illustration of the importance of mineral wealth. Mr. W. G. Boden writes of Canadian radium, showing how important it has become in the fight against cancer. Mr. L. Sanderson describes the rare metal niobium found in association with columbite and which is destined to play an important part in steel stabilisation and welded construction for service in the embrittling zone of temperatures. In addition there are descriptions of the mineral wealth of East Africa, Southern Rhodesia and the Gold Coast. Publicity of this character obviously furthers the case for utilization of British resources to meet British demands.

#### Distribution of Insecticide by Shot-Gun

IN a report from Science Service (Washington, D.C.) dated April 25 a patent is announced, and briefly described, embodying the application of insecticides by means of shells discharged from a kind of gun. The idea is an American invention, which claims that shot-gun shells can be loaded with compressed wads of insecticide instead of lead shot. When such a shell is fired, the force of the explosion ejects a wad like a bullet, and when it has travelled a certain distance, it breaks down into a cloud of ultra-fine dust. The distance at which the dissolution of the wad will occur depends upon its make-up—its compactness and moisture content. This distance, it is claimed, can be calculated so that the dust cloud can be discharged on a desired tree or crop. The advantages of the method, as claimed by the inventor, are safety of the operator from the effects of a toxic dust; elimination of cumbersome and explosive spray or dusting equipment; practically no labour; and effective distribution of an insecticide in otherwise inaccessible places.

#### Biochemical Research at the Franklin Institute

WE have received the third volume (1934-35) of "Reports of the Biochemical Research Foundation of the Franklin Institute". In a foreword, the director, Dr. Ellice McDonald, points out that this issue marks the withdrawal of the Cancer Research Laboratories of the Graduate School of Medicine from the University of Pennsylvania and their inception as the Biochemical Research Foundation of the Franklin Institute. The ostensible reason for this withdrawal is the refusal of the University to allow patenting of medical or biochemical discoveries for the continued furtherance of research activities, though not for personal profit. The Institute has decided that the past research done on the cancer problem should be made an avenue of approach to the more general area of other diseases. The objects of the new

Foundation are the study of the processes of disease from a chemical point of view, the study of new organic chemical compounds for their therapeutic value and the study of longevity and the diseases of age, with the hope of prolonging the span of life. The present volume contains reprints of some thirty papers published by the staff of the Institute and the Cancer Research Laboratories and their colleagues, dealing in general with various aspects of both normal and abnormal tissue metabolism.

#### Business Mental Activity and Management

MR. W. R. DUNLOP, of 57 Gordon Square, London, W.C.1, who for a number of years has been interested in the study of business mental activity from the point of view of management and administration, and with particular reference to the logic and probability of decisions, desires to get into touch with a logician with a taste for probability arguments and a psychologist interested in the underlying psychological factors. It is desired, if possible, to arrange a private meeting for joint discussion at which an experienced business manager with introspective ability would also be present. The object would be to get a combined opinion on Mr. Dunlop's method and to make proposals for further studies and investigation. Mr. Dunlop would be greatly obliged if any reader would assist him in getting into touch with specialists willing and competent to collaborate in the direction indicated.

#### Thomas Gray Memorial Trust

THE Royal Society of Arts, through the Thomas Gray Memorial Trust, the objects of which are "the advancement of the Science of Navigation and the Scientific and Educational interests of the British Mercantile Marine", is offering the following prizes for competition in 1936: a prize of £100 to any person who may bring to their notice an invention, publication, diagram, etc., which is considered to be an advancement in the science or practice of navigation, proposed or invented by himself in the period January 1, 1931-December 31, 1936; a prize of £100 for an essay on the following subject: "What are your views as to the effectiveness or otherwise of Part II. of the Merchant Shipping (Safety and Load Line Conventions) Act, 1932, with special reference to vessels engaged in the carriage of oil and timber cargoes, and with particular regard to actual sea experience?" Further information can be obtained from the Secretary, Royal Society of Arts, John Street, Adelphi, W.C.2.

#### International Association for Quaternary Studies

THE Association internationale pour l'Étude du Quaternaire européen, which met last at Leningrad in 1932, will hold its third session at Vienna on September 1-5. Prof. A. Penck is honorary president, Prof. G. Göttinger is president and Dr. O. Ampferer is president of the Organizing Committee. On this occasion, however, in accordance with a resolution passed at Leningrad, the scope of the Congress is to be the Quaternary in general and not the Quaternary of Europe only. Communications have already been