

Formation of Plates of Grey Tin

IN a brief communication to the *Proceedings of the Koninklijke Nederlandse Akademie van Wetenschappen* (57, 79, Jan./Feb.; 1954), L. J. Groen and W. G. Burgers report an important development in that they have been successful in obtaining the first compact pieces of grey tin, about 1 mm. thick and with a surface area of about 25 sq. mm. Previously, grey tin has been obtained only in powder form. From their experiments, the authors judge that the essential conditions for the preparation of the compact form are the use of thin sheets of white tin from which the grey tin is formed, a slow rate of transition and the growth of only one grey tin nucleus. The thin sheets enable the grey tin to extend in volume without splitting too soon under the stresses due to its extension; slow growth, attained by cooling to -8°C . instead of the usual -50°C ., and starting at one point in the white tin favour a uniform formation of the grey phase. The purity of the white tin used, which in the authors' case was not less than 99.99 per cent, also has an influence. Compact pieces of grey tin were obtained starting with both polycrystalline material and with single crystals. In one instance, starting from a single crystal, a grey single crystal was formed, and a Laue transmission photograph of this single crystal is given in the report.

"Philips Serving Science and Industry"

THE technical reports of Philips Industries, Ltd., are well known to the scientific world for the publication of original scientific papers of high merit and often of considerable importance. The series, now terminated, on "Electronic Measuring Instruments", which described new Philips instruments and their applications, was not, however, so well known. A new series has recently been started, known as "Philips Serving Science and Industry" (1, No. 1; 1954. Pp. 32; Eindhoven: N. V. Philips' Gloeilampenfabrieken. 25s. per volume of six numbers), and this, as its title implies, has broader terms of reference. In addition to the instrumentation covered by its predecessor, it is designed to deal generally with the engineering and other technological developments of the company and is to be issued monthly by the Industrial Products Division. The first number contains articles on dielectric heating in woodwork fabrication and on a rectifier installation in the water purification plant for Rotterdam; in addition there are contributions on instruments, which comprise vibration recorders, oscilloscopes and the 75-kV. electron microscope. The articles are technical, but the treatment is elementary so that the non-specialist will find the material easy to read and understand.

Impregnation of Small Friable Objects

IN the *Museums Journal* for August, Mr. E. Martin Burgess, of the Department of Egyptology, University College, London, describes an inexpensive vacuum tank for impregnating small friable objects. Up to the present, the method has only been used with polyvinyl acetate dissolved in toluene; but it could probably be used with as good results with 'Bedaeryl' or other similar strengtheners. Polyvinyl acetate solution may be painted or sprayed on objects; but the solutions must be weak to achieve sufficient penetration. This tends to produce an undesirable glossy surface, and although this may be removed by toluene, a weakening of the surface of the object results. Total immersion produced better results;

but it was still doubtful whether full impregnation had been achieved. The only really satisfactory method is to place the object in a sealed chamber containing the strengthening solution and to pump out the air. For this purpose a vacuum desiccator can be used and evacuated with a water pump if some form of trap is placed between the pump and desiccator to prevent water from getting into the solution on release of the vacuum.

Books on Agriculture and Horticulture

THE third edition of "Books on Agriculture and Horticulture" has recently been published (H.M.S.O. Bull. 78. 3s. net). Though, according to the subtitle, this list is "Selected" (and compilers of select lists will always meet their critics), it is misleading, for no matter how concise or how comprehensive a book-list aims at being, there is no excuse for including books which can be shown to be out of print, or excluding definitely acknowledged texts. This list errs in both ways. Far too many out-of-print books are included, though since some of them may be available in libraries their appearance in such a list as this may be justified; but not when other more up-to-date books are omitted. The books are also classified according to subject; even here it is difficult in certain cases to see on what basis the compiler fits a book into a certain section. Since this list is "prepared by the Ministry of Agriculture and Fisheries" it carries the weight of authority; the compiler should therefore have taken care to ensure that his selection is at least up to date. Inquiries from publishers would have given all the information required for sifting and selecting.

A Game Reserve

THE reasons why the Mijeti area in the north-west corner of the Chikwawa district of Nyasaland has been chosen as a possible game reserve by the Fauna Preservation Society of Nyasaland are explained in the latest issue of *Oryx* (2, No. 5; August 1954). The country is rough and wild and has both advantages and disadvantages. One disadvantage is that it would be difficult to attract visitors since they would be unable to see the animals, even when it becomes possible to construct roads through the area. A great advantage is that the area now affords considerable protection from poaching. The main difficulty, however, is to keep the many active animals within the area because of the lack of water during years of poor rainfall. In 1950 the Fauna Preservation Society of Nyasaland approached the Government to see if Mijeti could be declared a game reserve. The shortage of water was admitted to be a serious difficulty, and the Government would only agree to give the Mijeti the status of a non-shooting area, until it could be proved that the game could be kept all the year round within its boundaries. Faced with this challenge, the Nyasaland Fauna Preservation Society decided to do everything within its powers to meet the demand for water, and funds were voted from meagre resources for the building of dams and otherwise improving supplies. Some of these dams have already been constructed and are serving their purpose; more are to be built during the coming dry season.

Welwitschia mirabilis

IN a brief but factually rich paper entitled "*Welwitschia mirabilis* Hook. F. from Seed to Seed in the Botanic Garden of the University of Stellenbosch,