base so that the weight rests on an annular ring. The tolerance specified was ± 0·15 mgm. on the finished mass, and the weight has been certified by the International Bureau of Weights and Measures at Sèvres, near Paris, as being well within the permitted tolerance, thus making it one of the World's International Kilograms. A weighing accuracy of two parts in 10^8 was necessary. The manufacture of the weight involved a protracted series of accurate weighings coupled with the removal of successively smaller and smaller amounts of material from the weight, so that the correct nominal mass and the optimum surface finish were achieved simultaneously.

Standard X-Ray Diffraction Powder Patterns

THE fourth in the series of "Standard X-ray Diffraction Powder Patterns", prepared by the National Bureau of Standards, Washington, D.C., has recently been published (N.B.S. Circular No. 539; pp. 75. Washington, D.C.: Government Printing Office, 1955; 45 cents); in it are presented data for five elements, thirty-five organic compounds and two intermetallic compounds. The patterns are recommended to replace ninety-five cards in the card file of the American Society for Testing Materials and, in addition, seven compounds (gallium oxide, neodymium oxide, strontium chloride, thallium iodide, silver oxynitrate, aluminium antimony and indium antimony) which are not represented in the file are included. The card file serves as a system for the identification of unknown crystalline materials based on the three strongest reflexions of each material. In the new publication a comparison is made between all powder diffraction data available for each of the substances reported. The samples used by the Bureau to make the patterns were special preparations of exceptionally high purity obtained or prepared only in small quantities, and the purity of each sample was determined by spectroscopic or chemical analysis. A Geiger-counter X-ray diffractometer was used, and the *d*-spacings were assigned Miller indices by comparison with calculated patterns. The densities and lattice constants also were calculated, and the refractive indices were measured wherever possible. Detailed references are given.

Systematic Anatomy of the Monocotyledons

THE project of preparing a comprehensive book on the systematic anatomy of the Monocotyledons, parallel to that already available for the Dicotyledons, and recent investigations towards that end, have been discussed by C. R. Metcalfe (*Kew Bull. Misc. Inf.*, No. 4, 523; 1954). Such a work of reference is badly needed and is now one of the main undertakings in the Jodrell Laboratory of the Royal Botanic Gardens, Kew. The numerous scattered contributions on monocotyledon anatomy have already been indexed in preparation for the new work. It is realized that the proposed survey must necessarily be of a somewhat general character, based on the existing literature, supplemented by the new investigations of different families now being undertaken at Kew and elsewhere. The main objects of the book will be to serve as a dictionary in which the reader can quickly ascertain what is known about any particular plant, and, by reference to the literature, follow up any particular aspect of plant structure; to serve as an aid in identifying economic materials of monocotyledon origin; and to advance taxonomic studies of the Monocotyledons and to throw light on their phylogeny. An account is given of recent progress in the relevant anatomical investigations at Kew, reference being made to the Gramineae, Alismataceae, Xanthorrhoeaceae, Zingiberaceae, and to such topics as the nature of the tracheal elements in different groups. It has been recognized that anatomical studies of this kind have revealed characters which are important in the broad taxonomy of the group; but the author rejects the view that our knowledge is already so complete that it is scarcely worth while pursuing the subject further. On the contrary, he considers it probable that fuller comparative anatomical studies will ultimately contribute to an improved classification, and will help to make possible a much more comprehensive understanding of the physiology and form of the flowering plants than we yet possess.

Soils of the Glastonbury District of Somerset

THE soils of the Glastonbury district of Somerset are the subject of a recent Memoir of the Soil Survey of Great Britain, by B. W. Avery (pp. 131+4 plates. London: H.M.S.O., 1955; 15*s*. net). The area mapped comprises Sheet 296 of the Ordnance Survey and is of interest because it includes some of the 'teart' pastures of Somerset, where cattle are liable to suffer from a distinctive form of scouring, an ailment now known to be due to excessive amounts of molybdenum in the herbage. These pastures are confined to calcareous soils developed from the Lower Lias clays. The area of 216 square miles described in the memoir lies in the centre of Somerset and is predominantly rural in character. Calcareous soils form the largest group (36 per cent), while the brown earth and gley groups together account for a further 49 per cent of the soils of the area. The remaining soils are chiefly organic (13 per cent) developed over peat and are practically confined to the Sedgemoors. The concluding chapter on the agriculture and land use of the area is concise and well written and will be of more general interest. Descriptions of typical profiles and analytical data are provided in an appendix. There is also a glossary of technical terms which makes the report more palatable to the non-specialist.

Rugby School Natural History Society

THE report of the Rugby School Natural History Society for 1954—its eighty-eighth issue—again shows the valuable work done by school natural history societies in building up and sustaining interest in living things. Some years ago the Society decided to produce a complete natural history of the Rugby District, and 1954 saw the completion of the first instalment—the "Flora". The value of the work has been recognized by the Royal Society with a grant of £50 towards the cost of publications. Among other activities were a series of experiments to determine the feeding habits of certain freshwater animals in a local pond; an investigation into the importance of the cow parsnip (*Heracleum sphondylium*) in the economy of various insect species; and an account of the archæological section's digging at the site of Brownsorer in order to elucidate the date and purpose of the earthworks that are scattered around the village.

Polish Academy of Sciences: *Quarterly Review of Publications*

THE first issue of the *Quarterly Review of Publications*, published by the Polish Academy of Sciences, Warsaw, covers the period April–June 1954