

Destruction of Scientific Institutes in the Philippines

INFORMATION has been received that the buildings of the Bureau of Science, Manila, have been utterly destroyed in the fighting for that city; and, moreover, it is reported that the Japanese have destroyed the Philippine College of Agriculture at Los Banos, eastward of Manila. The loss of the scientific collections and libraries in the Bureau of Science is irreparable. The Bureau took shape in January 1906 by the union of the Bureaux of Government Laboratories and Mines, and was charged with investigations in bacteriology, immunity, prophylaxis, etiology, botany, various branches of zoology (in particular entomology), technological chemistry, geology and mining engineering. The whole structure has gone—the records of the work of forty years; for the two Bureaux named had been at work for four years before the Bureau of Science was formed.

Botany has been singularly hard hit and singularly ill-fated in the Philippines. The collections which Sebastian Vidal made when he was inspector of forests towards the end of the Spanish regime were lost in an accidental fire in 1897, and those of the Augustinian Friars burned when the Guadalupe Monastery was destroyed in the fighting in 1899; in consequence of this, Dr. E. D. Merrill, who went to Manila in 1902 as Government botanist, had to begin his work without foundations on the spot. He gathered together a herbarium unique in its facilities for study of Philippine botany and a botanical library second to none in Asia. These have gone. His four-volumed "Enumeration of Philippine Flowering Plants" (1922–26) preserves a part of the records; but beyond collections from the islands, the herbarium held a great amount of comparable material from all parts of the East.

Spectroscopically Standardized Substances

As the use of the spectrograph for the detection and determination of the metallic elements in all kinds of materials increased, there arose a demand for extremely pure metals, oxides and salts to serve as standards. About 1922 Dr. S. Judd Lewis suggested to Messrs. Adam Hilger, Ltd., that they should supply for this purpose spectroscopically standardized substances; the proposal was adopted, all arrangements for the supply of the substances and their analysis being in the hands of Dr. Judd Lewis. These pure substances have become well known under the trade mark of "H. S." Substances, and now include most of the more common and many of the rarer metals, as well as most of the rare earth oxides. In 1932, when Dr. Judd Lewis proposed the 'ratio quantitative' method of spectrographic analysis, the 'Speepure' series of 'ratio powders', 'ratio solutions' and pure salts was introduced, and now comprises more than fifty substances which are available in a spectrographically standardized condition. Every supply of "H. S." or "Speepure" material has always been accompanied by a full report of the results of chemical and spectrographic examinations made on that material. So far as possible, an estimate is given of the amounts of each trace element present, and reference is made to all the spectrum lines due to the impurities which have been detected.

In view of the ever-increasing demands for the substances included in these two schemes and for new additions to the list, the need arose for additional manufacturing and analytical facilities. Messrs.

Adam Hilger, Ltd., have therefore entered into an agreement with Messrs. Johnson, Matthey and Co., Ltd., whereby the latter will in future undertake the supply of these substances and the control of their purity at their Research Laboratories, Wembley, Middlesex, where many of them will be made. Dr. Judd Lewis, who acted as consultant for Adam Hilger, Ltd., for many years and was chiefly responsible for the development of the "H. S." and "Speepure" schemes, has been engaged in that capacity by Messrs. Johnson, Matthey and Co., Ltd., and the staff of the Spectrographic Department of their Laboratories has been augmented by the appointment of Mr. D. M. Smith, formerly in charge of spectrographic investigations at the British Non-Ferrous Metals Research Association. Future sales of "H. S." and "Speepure" substances will be made only by Messrs. Johnson, Matthey and Co., Ltd., from their head office at 73–83 Hatton Garden, London, E.C.1.

Official Topographic Maps

OFFICIAL large-scale maps are available for comparatively few parts of the world outside western and central Europe, including the British Isles, the eastern United States, India, much of Burma, several of the Netherlands East Indies and Japan. South America, Africa and Australia each have few areas of such detailed survey. In the April number of the *Geographical Review*, a coloured world map on a scale of 1 to 50,000,000 compiled by R. R. Platt shows the distribution of official topographic maps as available at the outbreak of war in 1939. It covers scales up to and including 1:253,440 (4 miles to 1 in.). Three categories are recognized, scales of 1 mile to 1 in. or larger, those of 1–2 miles to 1 in. and those of less than 2 miles down to 4 miles. Under each category an attempt has been made to distinguish between maps based on topographic survey on which relief is shown by contours or hachures, and maps of less complete detail with relief shown by form lines or hill shading. As a general rule, only maps produced by States for their own territory are shown, but there are some few exceptions. Compilations produced by an official agency of one country in the territory of another are not shown.

Russian Papers on Pure and Applied Mathematics

AMONG Russian periodicals and books recently received are several containing papers on pure and applied mathematics. A striking feature is the many investigations of elasticity problems in *Applied Mathematics and Mechanics*. There are also many other papers of considerable interest, for example, the paper on the flow of a gas at supersonic velocities by V. S. Tatarenchik (*App. Maths. and Mechanics*, 8, 401; 1943), which should be compared with current investigations by Southwell and his colleagues (*Nature*, 154, 90 and 834; 1944). N. N. Parijsky gives (*Astron. J. S. U.*, 21, 78; 1944) the result of calculations which support Russell's criticism of Jeans' theory of the origin of the solar system. In addition to the journals mentioned above, we have also received a valuable atlas of nomograms, containing thirty-seven plates. All the publications received are being deposited in the Science Museum, South Kensington, London, S.W.7, where they will be available for anyone who desires to consult them. By the aid of the summaries in English or French,