

he began his career as comparative anatomist by cataloguing the Hunterian Collection under William Clift, whose daughter he married and whom he succeeded as conservator of the Museum. His "Memoir on the Pearly Nautilus" won him election to the Royal Society in 1834, and two years later he was appointed the first Hunterian professor of comparative anatomy and physiology at the Royal College of Surgeons, being elected in 1843 as one of its original three hundred Fellows. In 1856 Owen became superintendent of the Natural History Department of the British Museum and was responsible for the building of the present Museum at South Kensington. An indefatigable worker and a prolific writer of such monumental works as "The Anatomy and Physiology of the Vertebrates" (3 vols., 1866-68), his anatomical interests ranged from parasitic worms and brachiopods to the primates; as a palaeontologist he revelled in the reconstruction of extinct animals, and he introduced into comparative anatomy the conceptions of homology and analogy. His numerous honours included the Copley and a Royal Medal of the Royal Society, the Gold Medal of the Royal College of Surgeons, the Prix Cuvier of the French Academy, and the K.C.B. in 1884. Tall and ungainly, with a massive head and prominent glittering eyes, Owen was inclined to be overbearing and jealous. He died on December 18, 1892, aged eighty-eight.

Higher Technological Education in Great Britain

In a statement in the House of Commons on July 13, Mr. R. A. Butler, Chancellor of the Exchequer, stated that he has now approved plans for the development of higher technological education in Britain outside London. The University Grants Committee was asked last year to consult with the universities and colleges concerned, and as a result of the Committee's recommendations, Mr. Butler announced that the main developments outside London will be in Glasgow, Manchester, Leeds and Birmingham, at institutions already in receipt of recurrent grants from the University Grants Committee. These plans, and those already announced for the Imperial College of Science and Technology, London, will necessitate an increase in the funds available to the University Grants Committee, for both recurrent and non-recurrent purposes, in the last three years of the quinquennium 1952-57 covered by the present grants. Referring to the Bradford Technical College, Mr. Butler stated that the University Grants Committee had been unable to include this institution in its recommendations because of the necessity of limiting the number of university institutions concerned with higher technological education.

Insecticide and Fungicide Research Services in Great Britain

THE Fungicide and Insecticide Research Co-ordination Service, an interdepartmental service the Secretariat of which used to be accommodated at the offices of the Agricultural Research Council, has recently been dissolved and the following alternative arrangements made. The "Insecticides Abstracts and News Summaries" will in future be issued from the office of the Colonial Products Laboratory, Imperial Institute Building, South Kensington, London, S.W.7, under the direction of Dr. R. A. E. Galley. They will be compiled with the view of meeting the needs of Colonial research workers, to whom dis-

tribution will for the time being be restricted. The analytical work formerly carried out at Woolwich will in future be done at Long Ashton Research Station, near Bristol, under the direction of Dr. J. T. Martin. The Insecticides Standing Conference, the interdepartmental body formerly responsible for co-ordination of work on insecticides and fungicides and for the Fungicide and Insecticide Research Co-ordination Service, is to be reconstituted as a smaller interdepartmental Committee on Insecticides and Fungicides, the secretarial arrangements for which will be undertaken by the Agricultural Research Council.

Hydrogen in the Manufacture of Steel

MORE than eighty years ago Thomas Graham, who was then Master of the Mint, observed that hydrogen forms a substantial proportion of the gases which are evolved when ferrous materials are heated in vacuum. It was not, however, until some fifteen or twenty years ago that the great importance of this gas began to be fully realized. In the solidification of the ingot, and right through to the final user, hydrogen can exert a distinctly detrimental effect, of which the steelmaker is now fully aware and takes proper precautions to avoid. Blow-holes in steel ingots, hair-cracks in forgings, and blisters in thin sheets are examples of the dangers which may arise from excessively high hydrogen contents, while the ductility of the material as measured by the reduction of area falls progressively as the hydrogen content rises. In the *Review* issued by Murex, Ltd., Rainham, Essex (1, No. 13, 305; 1954), K. C. Barraclough provides a very useful, critical summary of existing knowledge regarding the effect of hydrogen on steel, in which a substantial amount of original data is also incorporated. The determination of the hydrogen content is by no means an easy matter in view of the fact that only rarely does the amount of this gas in steel exceed 0.001 per cent, and the method used in the Brown-Firth Research Laboratories, Sheffield, with which the author is connected, is described in detail. Methods of collecting the samples, and typical values for steels of different qualities and made by different processes are given, and the effects of heat-treatment on the hydrogen content, and therefore the mechanical properties, are discussed for a number of different materials. Mainly as a result of the work of Prof. J. H. Andrew and his collaborators, it is now well known that the 'hair-cracking' of steel ingots and forgings is intimately connected with the hydrogen content, and this question of outstanding importance both to the maker and the user is considered in some detail.

Absorption by Leaves from Nutrient Sprays

THE ability of the leaves of barley, brussels sprout, french bean, tomato and sugar-beet to take up nitrogen, phosphorus and potassium from nutrient solutions applied as sprays has been reported by G. N. Thorne (*J. Exp. Bot.*, 5, 37; 1954). The plants, which were grown in pots of soil and sprayed, usually daily, with the nutrient solutions and a spreader, had higher nutrient contents and dry weights than control plants sprayed with water and the spreader only. The absorption of nutrients by the leaves was not restricted to plants with a very low nutrient supply to the roots. An increase in nutrient content occurred with high or low levels of nutrient supply to the roots and was approximately proportional to the concentration of spray and to its frequency of