

to the casting of test-bars; the salvaging and repair of defective castings; chill and centrifugal casting. They include sound practical advice and useful lists of references. A feature of the book is the two appendixes, which include a series of excellent photographs of common defects in castings and photomicrographs of the more common non-ferrous alloys. The volume should form a useful addition to the library of both foundryman and metallurgist.

F. ORME

The Freedom of Necessity

By J. D. Bernal. Pp. xi+437. (London: Routledge and Kegan Paul Ltd., 1949.) 18s. net.

IN this volume, Prof. Bernal has collected a number of essays published at different times during the last twenty years in a wide range of periodicals. They deal with many different topics, including the organisation of science, the relations between science and the humanities, the arts, and philosophy, science in economics and politics, the atomic age and Marxism. Prof. Bernal claims for them little unity beyond that of authorship, except an attempt to grasp the different aspects of the forces which are moulding our time, to weld them together and to interpret them in a way which will lead to some control over these forces. That attempt is most marked in the longest essay bearing the title of the book, but even here the interpretation is partial and unduly influenced by Marxist preconceptions. Some of the assertions make strange reading in view of what is happening in the U.S.S.R. and the countries under Soviet control to-day. Prof. Bernal is happiest in such essays as those on "Research in War and Peace", on "Lessons of the War for Science", on "International Scientific Organisation" or "The Function of the Scientist in Government Policy and Administration", and there could not well be anything more forthright than his reiteration in the two essays, "Science and Liberty" and "Liberty and the Individual: the Scientist's View", that the fate of science depends upon the preservation of liberty. Nevertheless, Prof. Bernal shows strange reservations, if indeed not aberrations, in the interpretation of liberty; and while he scarcely makes plain exactly what he means by the freedom of necessity, he will leave some of his readers unconvinced that he himself really believes in the necessity of freedom, save for those who accept the theories and practice of Marx, Lenin and Stalin, upon which, in his view, depend the collaboration required to integrate old beliefs and new conditions, and the assurance of peace and democracy.

R. B.

The Clove Tree

By G. E. Tidbury. Pp. xii+212+24 plates. (London: Crosby Lockwood and Son, Ltd., 1949.) 18s. net.

IN view of the interest taken in cloves and the severe damage that has been caused to the plantations in Zanzibar and Pemba in recent years through disease ('sudden death' disease), it is fitting that a book devoted entirely to the crop should now appear. The author, an agricultural officer of the Zanzibar Protectorate, has had a wide experience of the crop. His book commences with an interesting account of the early history of the clove trade. All aspects of the cultivation and production of cloves, as practised in Zanzibar and Pemba, are then dealt with.

The chapter devoted to "Diseases and Pests of the Clove" is quite naturally concerned largely with

'sudden death' disease. Although little appears to be known as to the real cause of this mysterious disease, it is of interest to note that it is considered to have been present in Zanzibar since the middle of the last century. Work on the disease, intensified in the last few years, has involved attempts to graft the clove on other species of *Eugenia*, so far with not overmuch success. The genus *Eugenia* is a large one (more than six hundred species), but only certain of the species may be regarded as closely related to the clove. It is here that the advice and help of the systematic or taxonomic botanist familiar with this large genus is likely to prove of real value. A detailed revision of the species of *Eugenia* of Malaya, which has also just appeared ("The Genus *Eugenia* (Myrtaceae) in Malaya", by M. R. Henderson, *Gardens Bull. Singapore*, 12 (1), 293; 1949), may therefore quite conceivably have an important bearing eventually on the apparently unrelated subject of world clove supplies.

The Statesman's Year-Book

Statistical and Historical Annual of the States of the World for the Year 1949. Edited by Dr. S. H. Steinberg. Eighty-sixth annual publication: Revised after Official Returns. Pp. xxiv+1544. (London: Macmillan and Co., Ltd., 1949.) 36s. net.

A NEW edition of this book of reference, revised up to the spring of this year, is most welcome. Broadly speaking, it follows the familiar order of British Commonwealth and Empire, United States and foreign countries, and the proportionate allotment of space is retained; but political events in a restless world have necessitated many changes and several temporary allocations, such as the overlapping claims of Britain, Chile and Argentina to sovereignty in the Antarctic or the divided allegiance of Korea. Statistics from some parts of the world are difficult to get, but the editor has rarely been beaten. A recent addition is an indication of the flag and national anthem of each State. Lists of books have been revised. There are chapters on the United Nations, the North Atlantic Treaty, the Arab League, the World Council of Churches and other international organisations, as well as statistics of world production of cereals, sugar and cotton. Two coloured maps illustrate respectively Indonesia and the West Indies.

Birds of Britain

A Guide to the Common Species. By J. D. Macdonald. Pp. 153 + 9 plates. (London: George Bell and Sons, Ltd., 1949.) 8s. 6d. net.

THE purpose of this book is to provide the beginner with a means of identifying the more common birds of the British Isles, for which purpose they are arranged in groups such as seed-eaters, waterfowl and so on. The grouping of hawks and hawk-like birds together brings the cuckoo next to the red-backed shrike and the hen harrier, to be followed by the owls and nightjar. The line drawings in the text are excellent, being both helpful and life-like. The coloured plates are not so successful, probably owing to difficulty in reproduction. For example, the portrait of a nuthatch gives the bird a back the colour of a blue sky on a summer day. However, the book should serve its purpose well and enable the novice to name the birds he sees in field and wood, on hill and shore. The little volume concludes with a list of bird weights, information rarely given in ornithological literature, ranging from the golden eagle, 9-10 lb., to the goldcrest, $\frac{1}{8}$ oz.

FRANCES PITT