

### Our Bookshelf.

*Plants Poisonous to Live Stock.* By Harold C. Long. (Cambridge Agricultural Monographs.) Second edition, revised. Pp. vii + 120. (Cambridge: At the University Press, 1924.) 8s. 6d. net.

THE second and revised edition of Mr. Long's book on plants poisonous to live stock contains on the whole but few alterations. There are, however, several additions in the description of individual species, ragwort and bracken in particular, and some minor alterations in the concluding chapter on the classification of poisons.

In the introduction, the poisoning of live stock is dealt with from various points of view. Different species of stock often appear to be affected quite differently by the same plant, and poisonous effects may also vary with the individuality and age of animals of the same species. Some plants do not lose their toxic properties on drying, and therefore cannot be safely fed even with hay. Some also are poisonous in all their parts, such as meadow saffron, whereas in others the toxicity is confined to one part only, such as the seed in corn cockle. Further, soil, climate and cultivation may affect the toxic properties of a given species.

Most of the plants described are British, but foreign species such as "Java" beans, which may be used in feeding stuffs, and some common garden shrubs are also included. Fungi, with the exception of ergot, are not dealt with, though the toxicity of darnel seeds is stated to be due to the presence of a symbiotic fungus. The species are described under their natural orders, examples of poisoning, the toxic principle, symptoms, and references to the bibliography at the end of the book being given in each case.

As in the previous edition, the author also deals with plants suspected of being poisonous, and those affecting milk or causing mechanical injury to animals.

*Theoretical Metallurgy.* By R. S. Dean. Pp. vii + 246. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1924.) 15s. net.

SCHENCK'S "Physikalische Chemie der Metalle," first published in 1909, broke new ground in metallurgical literature, since it described the application of physical chemistry, not only to the constitution of alloys, a task which had been attempted often, but also to the reactions of the smelting processes and to other technical metallurgical operations. The author of the present work translated Schenck's book some eleven years later, by which time some of the information was out-of-date. In place of preparing a second edition, he has preferred to re-write the book, whilst retaining the main features and many of the details of the original, including illustrations, so that the volume on opening has a familiar look. New subjects, including the structure of metallic crystals as revealed by X-rays, have been introduced, and the work now covers a field of great and general interest.

Unfortunately, the execution is not always equal to the design, and the text is very frequently inaccurate. Mathematical formulæ have suffered badly, as well as proper names, and although the number of references

to papers is large, many of them seem to have been selected somewhat at random, investigations of equal or greater importance being overlooked. The sections which deal with steels are inaccurate, especially in regard to hardening. Many subjects receive such brief treatment that the student will derive little from reading those sections. It may be said that the experienced metallurgist will gain many useful hints from the reading of this book, which deals with interesting matters and is simply expressed, but he will need caution, whilst the inexperienced student is likely to be puzzled and confused by its numerous errors.

C. H. D.

*The Deluged Civilization of the Caucasus Isthmus.* By Prof. R. A. Fessenden. Pp. ix + 139. (Boston, Mass.: T. J. Russell Print; London: F. and E. Stoneham, Ltd., 1923.) 25s. Large paper edition, 5 guineas.

PROF. FESSENDEN is an ardent advocate of the urgent necessity of archæological exploration in the Caucasus. While archæologists will agree that investigations in this area are likely to afford evidence which will help in the elucidation of a number of problems in the ethnology and archæology of prehistoric and early historic times, they will scarcely be prepared to endorse Prof. Fessenden's arguments, although they may wish him all success in his research. He holds that the Caucasus is the cradle of mankind; that it was there that the flood to which early records refer took place, and that it was thence that the races of mankind dispersed after their differentiation. By an elaborate analysis of Semitic, Egyptian and Greek traditions and of local names, he seeks to show that not only was this the site of Eden, but also that on his assumption it is possible to unravel the inconsistencies in the geography of the Greek legends and explain why, for example, the search for the lost pillars of Hercules towards the west was unsuccessful. The rise of water level in the Caspian area and the formation of an Atlantean Sea of 1800 miles breadth east of the Black Sea were responsible for the disappearance of the country to which the traditions referred and the consequent dislocation of the ancient geographical system. Prof. Fessenden has worked out his case in great detail and with considerable ingenuity. His arguments will be more convincing if, and when, he can produce archæological evidence to support them.

*Fluxes and Slags in Metal Melting and Working: a General Discussion held by the Faraday Society and the Institute of Metals, with the Co-operation of the British Non-Ferrous Metals Research Association and the Institute of British Foundrymen, April 1924.* Pp. 109-208. (London: Faraday Society, 1924.) 7s. 6d.

LIKE other general discussions arranged by the Faraday Society, this collection of papers on fluxes and slags brings together a most useful mass of facts known to a limited number of persons, and at the same time brings into relief the need for systematic investigation. In spite of the importance of fluxes in the working of non-ferrous metals, such knowledge of them as exists is almost entirely empirical, and very little has been done to determine the factors on which their efficiency