

The authors are to be congratulated therefore on the ecological atmosphere with which they have infused the book. They might perhaps also—in view of the generous plan of the work—have included some remarks on the even more important and voluminous edifice built up by the geneticists during this period and its bearing on hybrid species. Seventy-two hybrids are reported in the summary furnished by Mr. Wade.

The change in the flora itself during the fifty years is shown by the enumeration of 50 species which have become extinct and of others erroneously recorded; on the other hand, one may quote *Pyrola minor*, discovered in 1913, as one of the additions.

The 1933 "Flora of Leicestershire and Rutland" is undoubtedly a splendid work of reference, adorned with excellent maps and photographs, incorporating as it does much more scientific information than one had any right to expect of a flora, but possibly a precursor of a new type. Nevertheless its issue in two volumes would probably have added to its usefulness.

The Committee which has remained in being for twenty years (1912–1933) is to be congratulated on its tenacity and generosity in finally overcoming all difficulties, and, through the labours of Mr. Horwood, bringing its work to a successful conclusion. E. N. M. T.

Short Reviews

Hydraulics. By Prof. Horace W. King and Prof. Chester O. Wisler. Third edition, revised. Pp. xii+292. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1933.) 16s. 6d. net.

It is a significant instance of the mutability of word meanings that the term hydraulics, which a generation or more ago was limited to the practical applications of the science of hydrodynamics, distinct alike from that subject in its theoretical aspect (that is, neglecting viscosity) and from hydrostatics, is now very commonly used to denote the whole field of hydromechanics. In an authoritative article by the late Prof. Unwin, in the ninth (1881) edition of the "Encyclopædia Britannica" the distinction just given is clearly drawn. On the other hand, in the textbook under notice, as also in other cases, the writers treat hydraulics as an omnibus subject comprising the three divisions of hydrostatics, hydrokinetics and hydrodynamics.

It is obvious, of course, that no satisfactory knowledge of the behaviour of water in motion can be acquired without some fundamental acquaintance with its characteristics when at rest, but this is not quite the same thing as making hydraulics a compendium of the physics of water. One disadvantage which presents itself is that the field becomes too wide for effective treatment in brief compass, and the writers of the present exposition cannot claim to have covered the whole of the ground in the book of less than 300 pages.

About one-sixth of the work is devoted to hydrostatics, and roughly the same amount to theoretical hydrokinetics and hydrodynamics. The remainder relates to hydraulics in the old sense of the word, and provides a consideration of flow through orifices and tubes, over weirs and dams and in pipes and open channels, including both uniform and non-uniform flow, the latter being a

subject of some novelty in textbooks. The present issue is the third edition, so that the book has attained a satisfactory measure of acceptance, which is justified by the clarity of treatment, both in regard to the text and the diagrams. Students will undoubtedly find it useful as an introductory survey of the subject, more particularly on the theoretical side. Each chapter has appended a number of problems to which the answers are given. B. C.

Riddles of the Gobi Desert. By Sven Hedin. Translated from the Swedish by Elizabeth Sprigge and Claude Napier. Pp. x+382+24 plates. (London: George Routledge and Sons, Ltd., 1933.) 18s. net.

In this volume, the narrative of the Sino-Swedish expedition to the Gobi Desert, which was at work continuously from 1927 until 1933, carries the story on for a further period of two years. It resumes with the author's return journey to Sinkiang from Sweden in 1928, and closes with reports covering the work of exploration up to the end of 1929. As the author was busily engaged in the administrative work of the expedition in China, and was further distracted by a journey to the United States, which was extended to Sweden, on account of his health, he was unable to take the field in person; and his detail is necessarily drawn from the reports of his colleagues. His narrative is none the less absorbing and, when he is dealing with the incidents of his own journeys, is vivid in its sketches of persons and events.

The closing chapters of the book embody the individual reports of members of the expedition on the different departments of investigation, meteorology, palæontology, geography, archæology, etc. Although of a preliminary character only, they are sufficiently full to indicate the importance of the material obtained. Further detail, especially that