

The translation is unusually good, and it is a pleasure to read an English rendering of a German text in which no hyphenated nouns and compound adjectives have been allowed to intrude. The translator might, however, have considered it part of his functions to restore a victim of the German mania for phonetic spelling like "Tindall" to its correct form, and even in these degenerate days he should have given the participle of *adjuvare* its proper termination instead of making it "adjuvent."

*Principles of Genetics: an Elementary Text, with Problems.* By Prof. Edmund W. Sinnott and L. C. Dunn. (McGraw-Hill Publications in the Agricultural and Botanical Sciences.) Pp. xviii+431. (New York: McGraw-Hill Book Co. Inc., London: McGraw-Hill Publishing Co. Ltd., 1925.) 17s. 6d. net.

THIS book is intended to be used by first-year students taking an introductory course in genetics, and appears to be well adapted for the purpose. It is pleasantly and clearly written, the numerous illustrations are well executed, and the authors have succeeded in obtaining a fair proportion which are not already over familiar. An innovation in this class of book is the introduction at the end of each chapter of a number of "Questions for Discussion," of "Problems," and of what are termed "Reference Assignments." Of these, the problems are on the whole excellent, and, to the student who conscientiously works through them, should provide a good test as to whether he has fully grasped the subject matter on which they are set. They should also prove useful to the teacher. The reference assignments are perhaps intended for more advanced students, for many of them seem too difficult for elementary ones.

If, as is likely, a second edition of the book is called for, the authors should pay a little more attention to their historical sketch, and to the crude diagram on p. 6. Genetics is here shown emerging from the "Dark Ages" with the discovery of spermatozoa by Hamm in 1677, as though the names of Harvey and de Graaf had no significance for students of this science. Nor was the function of the sperm discovered by Spallanzani about 1700, for at that time he was not even born. To Camerarius too should be given some credit in the discovery of the process of fertilisation in plants. And why should not Buffon and Erasmus Darwin be mentioned in connexion with theories of evolution? The dates after some of the names evidently refer to a famous publication such as Darwin, 1859, Mendel, 1865; but why should 1779 be assigned to Knight, who was then a young man of twenty years with nothing particular to his credit? We agree that a brief historical sketch might well be both interesting and illuminating, but to be of any real service, it must be more accurate and more comprehensive than what is given here.

*Graphical Methods of Plotting from Air Photographs.* By Lieut.-Col. L. N. F. I. King. Pp. 92. (London: H.M. Stationery Office, 1925.) 3s. net.

THE rapid development of aerial navigation has opened the door to a number of new subsidiary possibilities, not the least of which is the mapping and surveying of

large areas from air photographs. Generally speaking, the problem is twofold. It is concerned in the first place with the scientific conditions under which the photographs are to be taken and the scientific machinery, camera, lens, plates, etc., for effecting this. In the second place, it is concerned with the principles and methods that have to be devised for the accurate interpretation of these photographs in terms of an exact geometry of the landscape. The present collection of notes deals with the second aspect of the question, not as a dogmatic treatise on the subject—it is too early for that—but as a record of graphical processes that may be utilised in the analysis and synthesis of such photographs and the geometrical principles upon which such processes depend. It is not claimed that for this purpose graphical methods are necessarily superior to other possible methods of a mechanical or a photographic nature, but that many cases must occur both in peace and war where individual and tilted photographs must be made to yield their secrets, and the graphical processes described in this work will do it.

There are many parts of this interesting subject that might with advantage be incorporated into a course on perspective and descriptive geometry, and teachers of this subject would do well to examine this little book. One word of criticism. One does not require to be a purist to object to the word "photo," especially when it alternates with "photograph," so that no new significance is attached to it. Its frequent appearance on every page of this Government publication does not convert it into the King's English.

*Chemistry to the Time of Dalton.* By E. J. Holmyard. (Chapters in the History of Science, 3.) (The World's Manuals.) Pp. 128. (London: Oxford University Press, 1925.) 2s. 6d. net.

TO the majority, perhaps the vast majority, of trained chemists, the history of their subject is practically a closed book, partly because they lack the historical sense, but also because they have been repelled by the manner in which the subject has been presented. To write a readable history of chemistry that will appeal to the practically-minded is no easy task; alchemy, with its lure of gold, has always a certain fascination, but the symbolical writings of its devotees are painfully dull to all except the specialist; and the long-drawn-out controversies of later times on views that are now held to be mainly erroneous are no less wearisome. To those who have passed through the mill, or have been arrested at its threshold, Mr. Holmyard's little book will be heartily welcomed as a successful attempt to present in bold outline a history of the development of ideas which have played a great part in the elaboration of modern chemistry, notably those on the constitution of matter and on the nature of combustion; and the author's original work on the gropings of the early Muslims will add a spice of novelty to what is usually regarded as dull and indigestible. Specialists will naturally ask for a more detailed treatment than that here presented, but they also will read with pleasure and profit this valuable introduction to the subject. The book is well written, profusely illustrated, and remarkably cheap.