

The papers on general botany collected in the two volumes noted above are of a popular nature, as his more technical contributions have been published in the *Recueil de l'Institut botanique de l'Université de Bruxelles*. The first is a letter describing the vegetation in the neighbourhood of Nice, written when he was sixteen years old. The article on the structure and methods of fertilisation of flowers appeared four years later; it was inspired by Charles Darwin's work, and the introductory quotation from the "Origin of Species," taken in conjunction with his essay on Darwinism, is worth reproducing:—"Whoever is led to believe that species are mutable will do good service by conscientiously expressing his convictions." The article is, to a large extent, an account of contemporary investigation, but includes original notes on the oxlip and the genus *Pentstemon*. The essay entitled "Une Leçon élémentaire sur le Darwinisme" was revised in 1903, after the publication of de Vries's book. Errera fully accepts the mutation theory, regarding it as an amplification, and not a contradiction, of the selection theory. The references in this paper to Dr. Scott's work on *Cheirostrobos* and the joint communication by Drs. Scott and Oliver on *Lagenostoma* will serve to indicate how the author incorporated the very latest results into his teaching.

The most interesting part of the third volume, containing miscellaneous verse and prose, will be found in the collection of extracts and aphorisms. Here is an epigram that will be appreciated by philosophers generally:—"La vérité est sur une courbe dont notre esprit suit éternellement l'asymptote." The authors of the biography are to be congratulated on presenting such an interesting account of the brilliant alumnus of Brussels University. The papers are worthy of consultation, not alone for the facts contained, but also for style and arrangement.

OUR BOOK SHELF.

An Atlas of Skiagrams, illustrating the Development of the Teeth, with Explanatory Text. By Dr. J. Symington, F.R.S., and Dr. J. C. Rankin. Pp. 47; pl. xii. (London: Longmans, Green and Co., 1908.) Price 10s. 6d. net.

THE difficulty of cutting sections comprising both soft and highly calcified parts without causing displacements, and the further trouble of piecing together the disposition of parts in a large number of serial sections so as to reconstruct a model in the solid, gives to skiagrams an especial value, as being a representation of the relations of the developing teeth to one another and to the jaws which is beyond suspicion of disturbance. Certain difficulties arising from the teeth being disposed in an arch were very successfully met by the authors, who resorted to tipping the back of the skull upwards to a uniform extent in all cases, namely, raising the back about 30 degrees, and by this method the shadows of the front teeth were separately projected and the overlapping of the shadows to a great extent avoided. The skulls used were divided into halves, and the right and left sides both presented in nearly every case where the skulls used were more than seven years of age; but in the younger ones, no difference being found between the two sides, only one is presented.

The ages of the subjects used range from birth to adult life, and twenty-three skiagrams are given which

illustrate the calcification of the temporary teeth and their change to the successional set; amongst other points clearly shown, the extent of calcification in each tooth, at each age, a point sometimes of medicolegal importance, is well seen. Some points in the relation of the growth of the jaws to the development of the teeth can be advantageously studied in these skiagrams, as well as the relation of the developing teeth to the antrum. Inasmuch, however, as the walls of the antrum cannot always be very clearly traced in the midst of shadows cast by other parts of the upper jaws, the anatomy of the antrum is also illustrated by drawings made subsequently from the same specimens, the technique adopted being to harden the tissues in formol, and then to chip away as much of the bone as could be removed without destroying all support. The lining membrane so treated becomes sufficiently firm to stand alone and retain its shape, and the dissections made were carefully drawn. These figures include also the accessory sinuses. The authors may be congratulated upon having produced an atlas which is of the greatest service in adding to the accuracy of our knowledge of the development of the teeth and of their relations to the parts about them.

Mineralogie und Geologie für schweizerische Mittelschulen. By Dr. Hans Frey. Dritte Auflage. Pp. iv+234. (Vienna: F. Tempsky; Leipzig: G. Freytag, 1909.) Price 2.75 marks.

THIS work, which has evidently been successful, is of the type commonly used in German-speaking schools, and makes no special appeal to the beginner's interest in field-observation, or to the splendid object-lessons ranged around him in his native land of Switzerland. A number of Swiss illustrations are, however, inserted, and the passages on mountain-building and the Alpine lakes embody considerations raised in recent times. To a British mind the mineralogical section will seem to contain far too much in a small compass, if the course is to be gone through systematically before the pupil enters on his collegiate years. It occupies half the book, and is followed by a petrographic chapter, which similarly bears traces of having been brought somewhat hesitatingly towards modern modes of statement and classification.

The section on historical geology, perhaps in accordance with a settled syllabus, is limited to thirty-four pages, and the illustrations of fossils are given without any explanation as to the nature of the organisms. In these circumstances, the generic and specific names are worse than useless; they need, moreover, some revision and press correction. A great opportunity still remains for making the mineralogy and geology of Switzerland serve as an introduction to these sciences, and for letting the land itself speak to the pupil, before he becomes entangled in the strings of facts which are supposed to be inseparable from a scientific education.

G. A. J. C.

Gilbert White and Selborne. By Henry C. Shelley. Illustrated from photographs by the author. Pp. xvi+226. (London: T. Werner Laurie, 1909.) Price 6s. net.

THIS little book is not badly done so far as it goes, but there is nothing in it that has not often been said before; the photographs are good, but of quite familiar objects. The one innovation consists in eking out a volume offered at six shillings by "Comeos from the Natural History of Selborne," which occupy fifty of these meagre pages: a serious literary blunder, to use a mild word. The six shillings might be much better spent in the purchase of an edition of the famous book, which is much talked of but probably little read.