

scribe briefly some of the principal engineering works carried out, at home and abroad, within the last fifty years. The book is well printed, and the illustrations are excellent, although there might perhaps have been more of them, considering that the general reader has to be provided for. N. J. L.

GEOLOGICAL EXCURSIONS.

Geologists' Association: a Record of Excursions made between 1860 and 1890. Edited by Thomas Vincent Holmes, F.G.S., and C. Davies Sherborn, F.G.S. (London: E. Stanford, 1891.)

THE Geologists' Association began its useful career of work more than thirty years since. It has stimulated—more, perhaps, than any other body—a real interest in geology among those who live in and about London, because it has enabled students, still near the outset of their work, not only to meet for mutual help and encouragement, but also to be aided by those of repute in science. Of its meetings, not the least pleasant and useful are the excursions. At first these were made generally once a week, so long as weather permitted, and they occupied a Saturday afternoon or at most a single day. Then an occasional journey of longer duration was attempted; now it is usual to undertake excursions, lasting two or three days, at Easter and Whitsuntide, and one of a week or more during the summer holidays. Before each excursion a flysheet is issued to the members with a brief description of the geology of the locality, illustrated by diagrams and containing references to books and papers. Afterwards, a report of the excursion is inserted in the Proceedings of the Association. It was a happy thought to collect together in one volume these scattered notices, for they give succinct descriptions of almost all the localities of geological interest readily reached from London, so grouped as to be conveniently accessible. Thus the student, instead of having to compile for himself, from books or maps, a plan of campaign, whether for an afternoon or for a longer time, finds everything arranged ready to his hand, and is directed to the sections best worth visiting. These diagrams and reports possess a further value, that they frequently record sections which can be no longer examined, because they now either are overgrown by vegetation, or have been removed in quarrying. The work therefore is a geological guide-book of an exceptional and a very convenient character to a large district around London, and to several other localities of special interest in England.

The plan which has been followed in compiling the volume is stated in the preface. The excursions are grouped, as far as possible, within county boundaries; where more than one visit has been paid to any place, the editors have “either suppressed the shorter, and retained the fuller, or given from each account that which is not to be found elsewhere.” The reports have been condensed by the excision of matters of general or merely temporary interest, and although references are made to all excursions up to the year 1890, no reports are given of later dates than 1884, because since 1885 it has been customary to print all these in the November number of the Proceedings, so that they can be easily consulted.

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The thanks of the Association—indeed of a wider circle of geologists—are due to the editors for the pains which they have taken in discharging a very laborious duty. It seems almost ungracious to criticize, and to do it effectively would require encyclopædic knowledge; but we think that, though it may have been “impossible to send each report to the original reporter for revision,” it would have been prudent to submit it to someone with a special knowledge of each district. These reports occasionally contain *obiter dicta*, or the crude speculations of members who are better acquainted with their own locality than with the principles of the science. Hence obsolete notions are preserved like flies in amber: these may perplex, but they cannot help the beginner. By way of testing the results of the editors' method, we have examined the reports of two or three districts with which we are specially familiar. The statement on p. 203 about the section at Roswell Pit, near Ely, is misleading. The natural interpretation of its words would be that the Kimeridge clay formed a part of the great erratic. This, in reality, consists of Cretaceous rocks, the Jurassic clay being *in situ*. On p. 216, the sentence “at the base, as at the top of the Gault,” should have been “below the base, as above the top.” Again, the clay beneath the neighbouring Upware limestone, now admitted to be Coral rag, cannot well be Amphill clay, and we are not aware of any evidence in favour of this view. Again, the account of Charnwood Forest needs correction. At p. 463 a statement is quoted, which was published without due authority, and has been recalled by the author. On pp. 465 and 466 the suggestion that the Charnwood Forest rocks “ought to be called Laurentian” should have been cancelled. It was groundless, even as Laurentian was defined in 1875: it is absurd now. All reference to the “Archæan Petrology” of Prof. Ansted might well have been omitted. On p. 472, Peldar Tor is twice misprinted Peddar Tor. We know of no ground for the statement, on p. 473, that “the quartz [in the rocks of this neighbourhood] appears to be of subsequent formation.” Doubtless similar defects could be pointed out by others; indeed, our own list is not quite exhausted, but we have no desire to carp at a book on which so much labour has been bestowed, and prefer to welcome it as a valuable addition to British geology, which will be indispensable to all students who live in the neighbourhood of the metropolis. T. G. B.

OUR BOOK SHELF.

Across East African Glaciers: An Account of the First Ascent of Kilimanjaro. By Dr. Hans Meyer. Translated from the German by E. H. S. Calder. (London: George Philip and Son, 1891.)

LONG before he thought of exploring any part of Africa, Dr. Meyer was an experienced and enthusiastic traveller. The idea of undertaking explorations in “the Dark Continent” was suggested to him by the fact that while the German colonial possessions in the west of Africa had been thoroughly investigated under Government supervision, and at the Government expense, those in the East had been left to the more limited resources of commercial companies. It occurred to Dr. Meyer that he might do good service to his countrymen by devoting himself to the task which the German Government seemed so unwilling to undertake. Accordingly, in 1886, he began to make preparations for the accomplishment of his plan