

complete to that date, in genera and species. With these modifications, we see no reason why, with two supplementary volumes to contain all the *Ascomycetes*, the five volumes might not be accepted as a fair approximation to a "British Fungus Flora."

As far as the *Basidiomycetes* are concerned, and these will occupy half the bulk of the volumes, even if extended to five, it will be conceded that they are of the greatest interest to the largest number of persons, and, moreover, that they are treated with all the fulness that such an important section demands. We cannot help regretting, however, whenever we are called upon to use the book, that the sequence of families and genera were inverted. The ample descriptions, under each species, will nevertheless atone for much, and justify the appropriation of half the volumes to their service.

The 220 pages which are devoted to the *Hyphomycetes* (or moulds), will be especially welcome to students of microscopical fungi, not only because they are arranged according to the most recent system—that proposed by Saccardo—but also on account of the very useful figures illustrative of the several genera. In our opinion, these are the most successful of the illustrations yet included in the present work. It would have been a great achievement, had it been possible, so to have increased the number of these little outline figures, as to have included every one of the species included in the Flora. As to substantial accuracy, that must, to a large extent, be accepted on trust, since the practical use can be the only test of the merits of the text-book, and its demerits—if any.

We can now estimate the number of British species, and see how they are provided for in this Flora, or may hereafter be included, viz. :—

Gastromycetes	...	...	78	...	Vol. I.
Hymenomycetes	...	...	1950	...	Vols. I. II. III.
Hyphomycetes	...	...	635	...	Vol. III.
				2663	
Pyrenomycetes	...	...	900		
Discomycetes	...	...	610		
Hysteriacei	...	...	30		
Tuberaceæ	...	...	30		
				1570	
Sphærospideæ, &c.	...	...	700		
Uredineæ and Ustilagineæ	...	...	257		
Phycomycetes	...	...	100		
Myxomycetes	...	...	100		
Saccharomycetes and Schizomycetes	...	...	133		
				1290	
Total	...	...	5523		

The above estimates of the *Ascomycetes*, at 1570, are only approximate, and probably below, rather than above, the actual number. Hence therefore the total contents of the four or five volumes, as the case may be, would not be less than 4200 species, and the absolute total of all British recorded Fungi upwards of 5500 species, as compared with the 2809 of Cooke's "Hand-book" in 1871, or a duplication in twenty-two years. This fact is a sufficient justification for the publication of the present work.

We need not repeat our general commendation, as expressed in our first notice, except perhaps to intimate that in all respects the second and third volumes are up to the level of the first, and justify the confidence reposed

by the publishers, and ourselves, in the author to whom such an important work has been entrusted. It would be folly to pretend that it is absolutely perfect, but the errors of judgment, or execution, are not such as to detract from the general utility of the most pretentious and important work which Mr. Massee has yet attempted.

M. C. COOKE.

OUR BOOK SHELF.

Some Salient Points in the Science of the Earth. By Sir J. William Dawson, F.R.S. Pp. 499, with 46 illustrations. 8vo. (London: Hodder and Stoughton.)

THIS volume will have a melancholy interest, especially for the older geologists; for the author says that it "is intended as a closing deliverance on some of the more important questions of geology, on the part of a veteran worker, conversant in his younger days with those giants of the last generation, who, in the heroic age of geological science, piled up the mountains on which it is now the privilege of their successors to stand." We must bear in mind this implied limitation, that the heroic age of geology is now past, and must treat the volume before us as containing an account of researches and speculations made during the lifetime of a bygone generation. It is, in fact, a sort of scientific autobiography, touched up here and there to agree with recent research, but not claiming authority as an epitome of the present state of our knowledge.

Few chapters in the history of geology are so fascinating as Lyell's account of the discovery, by Principal Dawson and himself, of the wonderful series of remains from the coal field of Nova Scotia. It reads like the story of the exploration of a new country. We seem to walk among the strange vegetation of the coal; we see the larger reptiles crawling over and leaving trails in the soft mud; and on the dry land we help to pull to pieces one of the hollow trees, and find within it a number of land animals, all new to science. We can understand how these discoveries came as a complete surprise to the scientific world in days when few or no reptiles were known of earlier date than the Permian, and no land mollusca earlier than the Eocene. The reader will naturally turn first to the chapters relating to the researches in the coal measures, and it is probably on the observations there recorded that the author's fame will principally rest. Sir William Dawson's exploration of the coal measures of Nova Scotia led him to devote particular attention to the natural history of that period. He studied carefully the physical conditions under which the strata were laid down, devoting special attention to the formation of underclays and to the origin of coal seams; he still stands up for the dry-soil origin of coal, and for its growth on the spot. From the origin of coal it was a natural transition to the coal-measure plants, and these the author has worked at most industriously, though the present volume only contains a summary of his researches. There is also a chapter on the air-breathers of the coal, in which the author gives an account of his explorations at South Joggins.

We do not much care for the chapters on the genesis and migrations of plants, on the distribution of animals and plants as related to geographical and geological changes, and on Alpine and Arctic plants in connection with geological history. In all such subjects the author's strong bias against evolution in any form leads him to use strange arguments. We do not wish, however, to conclude this notice with a criticism of minor points, and though unprepared altogether to praise Sir William Dawson's volume, we thoroughly recognise how much he has done for the science of geology, and we gladly welcome in this handy form a short record of his life's work.