

REVIEW.

Microscopic Objects, figured and described.—By JOHN H. MARTIN, Honorary Secretary to the Middlesex and Mid-Kent Natural History Society. London, John Van Voorst, 1870.

THIS work contains 194 tolerably executed figures of what are sometimes called "natural history objects," among which we find, for instance, the "pollen of the evening primrose," "a skin parasite from the human nose," and "marble from the Temple of Diana, at Ephesus;" represented under various degrees of magnifying power, and some without any enlargement at all. The figures are accompanied by short descriptions and a few hints as to preparation. When we say that the specimens selected are almost unclassified, and that the author does not claim to establish, by his delineations, any facts unknown before, or to contribute anything to the settlement of disputed points, the character of his book will, we think, be evident. It does not fall specially under the head of any one of the sciences which the microscope is used to illustrate, but rather appeals to those who are on the look-out for objects to use their microscope upon. It is obviously the work of a zealous and experienced field naturalist, who has brought together his materials from very various sources, and takes genuine delight in the beauty and strangeness of the forms which display themselves before him.

Mr. Martin has evidently bestowed considerable pains upon the preparation of some of the objects which he figures, such as the rock sections, which, though not so successfully represented as some of the others, are samples of a field of activity, to which it is highly desirable that the attention of those who have microscopes, time, and the requisite patience should be drawn. There is hardly any branch of microscopical science in which so much is to be made out, with regard to the commonest objects, as in this. An immense number of well-known rocks have never been examined by these processes; and yet, when such researches have been made, they have never failed to produce most interesting and valuable results. If every one of our country microscopists will set himself to find out what is actually known respecting the structure of those rocks or fossils of his own

neighbourhood which are susceptible of microscopical investigation, he will, unless he is either very well read, or else quite incapable of surprise, be astonished to find how blank a page of geology, more especially in English books, this is; and if he will then set himself to fill up some of the gaps thus discovered, he will, we think, arrive at results not only more valuable to science, but more satisfactory to himself than he is likely to attain by following the beaten track of mounting diatoms and putting small flies in Canada balsam. In the one case he will be able to put on record facts, which may be of the highest importance in solving great geological problems; in the other, he will be fortunate if, after collecting innumerable specimens, he hit upon a species differing ever so little from those already described. It is true that the methods are laborious, and the number of completed specimens may be comparatively small, but we may be permitted to point out that the value of a specimen to the preparer (supposing it to be successful in showing what it is meant to show) is simply proportionate to the amount of labour and time he has spent upon it. There is a genuine satisfaction about the production of an object which is really a work of art; which it has taken labour and skill to develop out of some shapeless mass, far greater than that derived from a dozen "easy" objects, which when put up are after all not so good as when they were fresh, and whose only superiority to natural specimens is in their permanence.

The value of a miscellaneous series of specimens, then, depends so entirely upon the "technik," as the Germans say;—upon the art which has been employed to produce them, that we could wish Mr. Martin had given more prominence to those objects, such as rocks, which require serious preparation, than to simple figures of insects, &c., which would seem more fitly to belong to systematic works of natural history. Some good directions for preparing rock specimens (for instance) would have been both more novel and more valuable than the few hints about mounting which he has thrown together.

We do not, however, wish to judge the book by any other standard than that to which it appeals. It is intended for amateurs, and to amateurs we can fairly recommend the attempt to reproduce these specimens as a useful preliminary training for more systematic studies. If they succeed in putting up as well as Mr. Martin has done the objects he has represented, they will have acquired a technical skill which may be put to good service in scientific research. Research in some form or other is, we must repeat, the goal at which all microscopical observers should aim.