

delicate tissues when necessary, and to communicate to them a certain amount of tension when it is required," while "the office of the second class is that of assisting in the retention and protection of the sarcode on the interstitial and other membranous structures." Leaving aside the question as to what an interstitial membranous structure may be, we may point out in passing that these statements are based upon unproved theory.

As to the forms assumed by many of the spicules, Bowerbank's work is also unsatisfactory. No one could well go wrong with regard to the larger "essential skeleton" spicules, and we consequently find these correctly figured in the plates, but the terminology employed to describe them is most unfortunate; who, for example, could bring himself to make use of the term "Fusiformi-attenuato-cylindrical,"¹ or "Exflected elongo-equiangulated triradiate,"² in describing the spicules of a sponge?

To discover the true form of many of the more minute spicules ("auxiliary" spicules) is, it must be confessed, a difficult task, still it is hard to see how such a careful observer as Dr. Bowerbank can have been so far misled as he was in this respect. The imperfections of his descriptions and figures show themselves in the very important group of so-called "anchorate" spicules (= *chelæ*, nobis). Quite correctly he distinguishes between two main divisions of these, the equal ended and the unequal ended, but as to the true shape of either of these he seems to have had very little idea. He subdivides both categories into "bidentate," "tridentate," and "palmate." The tridentate and palmate forms, as he himself indicates, run into one another, while a mere tyro, by the examination of Dr. Bowerbank's figures and comparison of these with actual specimens, may satisfy himself in a very short time that the "bidentate" form is neither more nor less than a side view of either of the other two. Yet again and again do we find sponges described by Dr. Bowerbank as possessing two kinds of "anchorates," the two views being carefully figured as distinct spicules.³ On pl. xlvi., vol. iii. of the Monograph of British Sponges, for example, fig. 12 is obviously the side view, and fig. 13 the front (or back?) view of the same spicule, but we find the following descriptions:—"Fig. 12.—A bidentate, inequi-anchorate, retentive spiculum, from the dermal membrane. × 530 linear. Fig. 13.—A dentato-palmate, inequi-anchorate, retentive spiculum, from the interstitial membranes. × 530 linear. This form of spiculum was not observed in the specimen of the sponge first examined. In the specimen figured they are about equal in number to the bidentate spicula." Moreover, the figures of the spicules are rarely complete, the "anterior palm," owing to its great transparency difficult to make out, being almost invariably omitted.

It is in our opinion of the greatest importance that these errors should be corrected,

¹ *Op. cit.*, vol. i. p. 231.

² *Op. cit.*, vol. i. p. 233.

³ The shape of the "bidentate equi-anchorate" spicule will be found elaborately, though somewhat unintelligibly, described on p. 46, vol. i., Mon. Brit. Spong.