

granular and crossed by transverse curves convex towards the extremity, these markings are due to the alternation of layers, some more and some less granular, and they correspond to layers of growth as it occurred at the end of the sclere; the peripheral layers are not granular and resemble those of ordinary spicules appearing in optical section as parallel longitudinal straight lines. A simple explanation of this structure is easily found. The growth of the spicule is chiefly in the direction of its length and is not uniform; intervals of slower alternating with others of more rapid progress. During rapid growth the silica deposited is porous and consequently granular in appearance, during the intervals of slower growth it is solid and homogeneous; it is indeed possible that the layers of transparent silica indicate a temporary cessation of growth so far as this consists simply in increase of size, and that the pores of the already deposited silica become filled up during this interval, the filling up proceeding from the surface inwards and never penetrating to any great depth; however this may be, and it is a detail of no real importance, the result in either case is to surround the granular silica with an envelope of transparent silica. But it follows from the fact that the longitudinal growth is so much in excess of the transverse that the intervals between the transparent layers will be much less at the sides than at the ends of the sclere, and thus more general transparency in this region will result.

FORMS OF SPICULES.—NOMENCLATURE.

The terminology in use for designating the different forms of sponge spicules, and we might add of other spicules also, is in a state of far from admirable confusion. The notorious nomenclature of Bowerbank, now brought by necessary curtailments, alterations, and additions into a patched and tattered state, has been endured by English spongologists for a period which is both long and long enough. On the Continent it seems never to have obtained any general recognition; a fact which its interminable clumsiness readily explains. The two most commonly occurring terms "*acerate*" (Latin, *acer*, *acris*, sharp, sour, or *acus*, *aceris*, chaff?) and "*acuate*" (Latin, *acutus*, sharp?) so much resemble each other in manuscript that this alone, independently of their Latinity, would constitute a good reason for their rejection. At first I thought that the inevitable confusion attaching to the displacement of old terms might furnish a sufficient excuse for retaining them unchanged, but subsequently a valuable communication from Dr. Vosmaer, proposing an international scheme of nomenclature, and the deep and general distaste for the Bowerbankian names entertained by my colleagues, led me to take example by Schulze, who has devised an entirely new system of terms for the spicules of the Hexactinellida. I therefore took advantage of the simultaneous presence in London of three distinguished spongologists (Messrs. Ridley and Dendy, and Dr. v. Lendenfeld, then just returned from the scene of his brilliant investigations in Australia), to consult with