one another as those belonging to this group are, cannot be rigorously applied, since, for example, in *Stictodiscus buryanus*, Grev.,[1] the radiating appearance is still retained by the valve, although some of the radial folds are found to be interrupted.

Again, the *radiate Stictodisci* may be divided into two groups according as the central area is or is not distinguished by a simple or double corona of fine points or granules, and these groups may be indicated as *coronate* or *non-coronate* respectively.

It must further be remarked that among triangular frustules having the very greatest affinities to *Triceratium*, some have been observed which, with the exception of their non-discoidal form, exactly fulfil all the conditions of structure required by the definition of *Stictodiscus* as given by Greville. Thus among the triangular specimens brought home by the Challenger, one had its surface folded in a radiating manner, and also showed the central Stictodiscoid corona of points, so that notwithstanding its non-discoidal form it must still be regarded as a true *Stictodiscus*. On this ground, therefore, the generic definition as given by Greville should be modified, and may be stated in the following words :—"Frustula simplicia, discoidalia, vel polygonalia, per lineas radiantes divisa in areas plicatas, lineis centrum non attingentibus; areis plerumque conspicuis punctis vel granulis instructis."

We cannot, indeed, believe that the same species can assume sometimes one form and sometimes another, or that from the same *Stictodiscus* sometimes discoid and sometimes triangular or polygonal forms arise—before admitting such an anomaly it would be necessary to have the experimental results of artificial cultivation of some given species to go upon—yet from their structural characteristics I must conclude that a *Stictodiscus* may exist as a discoid or triangular or even polygonal body. The two last groups of forms may be indicated by adding to the specific name the words *forma triangularis* or *forma polygonalis* respectively.

Having arrived at the conclusion stated above, it seems a fitting occasion to review the long series of species of *Triceratium* to determine whether any of these forms might not more properly be relegated to our present genus.

Greville in 1861[2] described under the name of *Triceratium harrisonianum* a magnificent triangular form adorned with rows of pearl-like puncta, which formed a large circumscribing belt. This frustule, moreover, was provided with sparsely disposed pearl-like granules in the central space, in which there also occurred a conspicuous network of large elongated radiating cellules from which lines passed outwards between the rows of granules to the margin. But on examining the figure the cellules in question are areas or compartments which are bounded by *depressed* lines that pass between the rows of granules, and not by lines of relief as might readily be inferred from the bold manner in which they are represented in Greville's figure. The fact that Greville had not found examples belonging to any genus which had sometimes a discoidal, sometimes a triangular

[1] *Micr. Journ.*, n. s., vol. i. p. 40, pl. iv. fig. 1.

[2] *Micr. Journ.*, n. s., vol. i. p. 76, pl. ix. fig. 9.