This Diatom was obtained in the middle of the Pacific in a depth of 2900 fathoms. As indicated in the outline adjoining the figure, it presents, when viewed from its zonal side, a hat-like appearance. From the central areola, which is marked by a group of small puncta, radiating lines of similar puncta proceed towards the periphery, although in some cases they do not quite reach the circumference of the valve. The specific name has reference to the form of the valve.

**Coscinodiscus umbonatus**, n. sp. (Plate II. fig. 8.)

Valvis in centro depressis, hinc elevatis, dein depresso-complanatis; punctulis radiato-fasciculatis; fasciculi totidem denticulis ad marginem signantur. In mari Pacifico.

This form, which is very closely allied to that last referred to, was found in the same collection. Like the former, it possesses an umbonate form, but the centre of its elevated part—as may be observed in the outline accompanying the figure—is notably low. The valve is punctated in a radial manner, but the punctation differs from that of the preceding in being fasciculate. The central area is ornamented with a small group of minute points in the middle. At the circumference the fasciculi are separated by means of a short series of small, closer, and more salient puncta.

**Coscinodiscus (?) bifrons**, n. sp. (Plate II. fig. 1.)

Frustulum valvis dissimilibus; striis egre conspicuis, et denticulorum lineis radianter signatis, in una crebrioribus et ad marginem cessantibus, in altera rarioribus et marginem attingentibus. In mari glaciali Antarctico.

On examining a preparation made near the ice-barrier of the Antarctic on 24th February 1874, a small delicate disc was recognised. This is marked by irregular radiating lines, which are sometimes interrupted by small but very salient puncta or denticules, and disappear at a short distance from the circumference. By the use of strong oblique illumination and the superior homogeneous immersion objective of Zeiss, the bottom of the valve is found to be ornamented by striæ of extraordinary delicacy, which could only be adequately represented in the figure by the use of a greater magnifying power.

A second valve, also shown on Plate II. fig. 1, was found, which exactly corresponded with the former in position and in size, but which presented a very distinct type of ornamentation, its surface being marked by sparsely disposed lines of granules or minute puncta. These all originate much nearer the margin, and some go to the centre, while others disappear sooner or later before reaching that point. It can hardly be doubted that, from the perfect coincidence of the perimeters of the two valves, we have here to deal with a species which, like *Cocconeis*, possesses dissimilar valves; yet this supposition remains to be verified by actual observation; and it may, indeed, ultimately be discovered that they are the representatives of distinct species.

Whether these valves belong to the genus *Coscinodiscus*, or to another new genus,