

Bergon.
Karsten.

which, according to Bergon's investigations, would seem to be zoospores, and which Karsten assumes to be sexual cells. Karsten has observed the formation of microspores in an antarctic diatom, *Corethron valdiviæ* (see Fig. 225), and in the same microscopic preparations found amalgamations of small cells resembling microspores. We cannot yet, however, consider this conclusively settled. We do not know the life-history of the numerous small spores after they have emerged from the mother-cell. We can only hope that the centrifuge will enable us to study the most diminutive and sensitive cells immediately after capture, and that we shall thus succeed in solving this problem in the biology of diatoms.

Peridineæ.

Peridineæ are mobile algæ furnished with two cilia. Several species can produce brilliant phosphorescence. Their cells are highly organised, with a distinct difference between the anterior and

posterior ends, and between the dorsal and ventral faces. The cell-wall is built up entirely of organised matter, which dissolves soon after the death of the cell. Peridineæ are therefore not noticeable in the deposits of the ocean-bottom, which is one of the reasons why, until quite recently, they were but slightly and imperfectly known. A number of laminae, characteristic in shape and position, compose the cell-wall. On the posterior side there is a characteristic furrow, with a pore for one of the cilia, which can be withdrawn spirally into a sheath (see Fig. 226). The ventral furrow is often protected by curtain-membranes. Another furrow encircles the cell, and



FIG. 225.—MICROSPORE-FORMATION OF *CORETHRON VALDIVIÆ* IN DIFFERENT DEVELOPMENT STAGES (¹¹⁷²).

Ripe microspores in the cell to the right. (Karsten.)