

and some of them shoot into the thin homogeneous margin. It is a remarkable circumstance that the spicula make their appearance completely formed, as if by a sudden act of crystallization, and never afterwards increase their dimensions.

When two gemmules, in the course of their spreading on the surface of a watch-glass, come into contact with each other, their clear margins unite without the least interruption; they thicken and produce spicula: in a few days we can detect no line of distinction between them, and they continue to grow as one animal. The same thing happens, according to the observation of Cavolini, to adult sponges, which, on coming into mutual contact, grow together and form an inseparable union. In this species of animal grafting we again find an analogy between the constitution of zoophytes and that of plants.

In the course of a few weeks, the spicula are assembled in groups, similar to those of the parent sponge; assuming circular arrangements, and presenting distinct openings at the points they enclose. The young animal now rapidly spreads and enlarges in every direction, becoming more convex, and at the same time more opaque, and more compact in its texture; and, before it has attained the tenth of an inch in diameter, it presents, through the microscope, a miniature representation of its parent.

Thus has a power of spontaneous motion been given to what may be regarded as the embryo condition of animals, which are afterwards so remarkable for their inertness, and for the privation of all active powers; and it has been conferred evidently for the purpose of their being widely disseminated over the globe. Had not this apparatus of moving cilia been provided to the gemmules of such species as hang vertically from the roofs of caves, they would have sunk to the bottom of the water, and been crushed or buried among the moving sand, instead of supporting themselves while carried to a distance by the waves and tides of the ocean. Many species which abound in the Red Sea and Indian Ocean have, in this way, been gradually transported,