

“ In the young cells, whose partitions, although thin, have already acquired a stony consistence, the exterior surface is quite convex, and the margin of their apertures jut out so that they are easily distinguished ; but by the progress of age their appearance changes ; their free surface rises so as to efface the deep depressions which marked originally their respective limits, and to raise to the level of the surface the border of the openings. The result of this is that the cells cease to be distinct, or even distinguishable without, and that the polypidom seems to be formed of a stony continuous mass, in the substance of which are excavated certain holes slightly widened interiorly, and disposed in quincunx.

“ But differences of this nature cannot be formed by the simple juxtaposition of new calcareous layers under those primitively formed ; for the soft parts of the animal, the only ones which can be the seat of a secretion of this calcareous matter, do not extend over the surface which is thus modified ; and the position of the cells thus immersed in the apparently common mass of the polypidom is often such that we cannot attribute their change of form to any operation or friction of foreign bodies.

“ It appears evident to us that these facts indicate the presence of life in the substance which composes the parietes of these cells, and can only be explained by the existence of a nutritive movement ; like to that which, in the configuration of bones, effects analogous modifications.

“ To know better the nature of these cells, I submitted to the action of nitrous acid diluted with water, a part of a polypidom recently taken from the sea. A brisk effervescence was visible immediately, and in some minutes the cells became flexible, and separated from one another. Before treating them thus, no distinct membrane was seen on the internal wall of these cells ; and when the nitrous acid had destroyed all the calcareous carbonate on which their rigidity depended, these same parietes still existed and had not changed their form much : only they were formed now of a soft and thick membrane constituting a bag, in the interior of which we perceived the digestive apparatus of the polype. The opening of this bag was no longer truncated, as it appeared when the texture of the membrane was thickened by the stony deposit from which we had just freed it, but the membrane was continued uninterruptedly with the tentacular sheath.

“ We see then that in the Eschares, the cell in which it is said the polype retires as into a shell, is a component part of the animal itself, in which it conceals itself, if we may use the comparison, as the hedgehog enters into the thorny skin of his back. It is not a calcareous crust which is moulded on the surface of its body, but a portion of the general tegumental membrane,—of the skin of the polype,—which, by a molecular deposit of earthy matter in the meshes of its tissue, ossifies as the cartilages of superior animals ossify, without ceasing to be the seat of a nutritive movement.

“ We see also that that which is considered generally, as being the body of these polypes, constitutes in reality only a small portion of it, and consists of little but the digestive, and probably breathing organs, of these little animals.

“ The tegumental bag, freed from its carbonate of lime, seems to me formed of a tomentose membrane covered, particularly without, with a multitude of cylindrical filaments, disposed perpendicularly to the surface, and pressed close to one another. It is in the spaces left between these fibres that the calcareous matter appears to be principally deposited, for if we examine, with the micro-