

to believe the polypidom to be extravascular and inorganic—the result of an exudation from the interior pulp, and dependent on this for its form and growth, however varied this may be. In the reproductive gemmule there are two substances, viz. the pulp and the thin cuticle or membrane, the latter of which is the germ of the future arborescent or cellular polypidom: by the growth of the pulp the membrane is distended and moulded into a cell, or pushed upwards in the form of a shoot, in which, after a time, the pulp is arrested in its growth longitudinally, swells out, and is developed into an animated polype, furnished with tentacula, a mouth, and digestive organs. Bursting the cell at the point which becomes the future aperture, it there displays its organs, and begins the capture of its prey, for, unlike higher organisms, the polype is at this the period of its birth as large and as perfect as it ever is at any subsequent period, the walls of the cell having become indurated and unyielding, and setting a limit to any further increase in bulk. The growth being thus hindered in that direction, the pulp, incessantly increased by new supplies of nutriment from the polype, is constrained and forced into its original direction, so that the extremities of the tube, which have remained soft and pliant, are pushed onwards, the downward shoot becoming a root-like fibre, and the upper continuing the polypidom, and swelling out as before, at stated intervals, into cells for the new developement of other polypes.—The polypidom then, however like unto certain vegetables in appearance, has, as Ellis said, nothing vegetable about it, but is entirely an animal production, and excreted by the animated pulp which fills its whole interior. Ellis and his followers are only so far wrong, that they have attributed to the polypes themselves what is actually due to the pulp. The latter is that from which the polypidom is exuded; for, indeed, the cell always precedes the existence of the polypus which is developed within it; while the polypidom begins to be developed from the gelatinous substance of the reproductive gemmules before any polypes are formed, and it continues to be developed and extended by the fleshy mass of the zoophyte, whether polypes are developed in the cells or not. “There is but one life, and one plan of developement, in the whole mass; and this depends not on the polypi, which are but secondary and often