

there is an evident tendency to its formation ; the materials lie scattered in the form of spicula in the soft gelatinous centre ; and in the *Cydonium* these spicula have become so numerous, that they impart considerable rigidity to the whole mass.

The polypidoms of the *Hydraform* and *Ascidian* zoophytes are more diversified in their figures and more decidedly arborescent. The latter are formed by an aggregation of distinct cells, united in general after the fashion of the *quincunx* and spread out into leaves or layers or compressed branches ; or the cells being placed upon each other in pairs, or even in a single line, they form neat confervoid tufts ; or lying immersed without any very traceable pattern, the masses resulting from their union are amorphous, or at least inconstant and irregular. The horny material of the *Hydra* tribe is always formed into tubular sheaths encasing the living flesh, jointed at intervals, sometimes of the same calibre throughout, but more commonly dilated at intervals into vases or cups, or cells, in which the proper body of the polype is placed. The manner in which the sheath or tube is divided and branched, is limited in diversity only by the number of the species, which are among the most delicate and interesting of all polypidoms, and pre-eminently imitative of vegetable forms. These forms are of course altogether independent of their animated tenants,—these “ have been specifically appointed by Him to do what they have done, and are still effectuating. They are mere instrumentalities at His command. They know nothing of the results they cause, nor mean to perform any of them, nor could of themselves co-operate with each other, nor produce any systematical arrangement, or regulated or orderly effects. It is their Master and Maker who organizes, governs, and guides them to those movements and operations which they perform, and from all others ; so that by His directing will they are made to do what we see them effect, and that only because He restrains and averts them from all else.”*

The formation of polypidoms has been the subject of considerable discussion. The opinion of *Ellis*, as we have already seen, was, that they are the result solely of a transudation, or excretion of the constituent matters from the body of the polypes, and this opinion has been maintained recently by *Lamarck*,

* *Turner's Sac. Hist. of the World*, Vol. ii. p. 71.