trary, when at rest and undisturbed, the polypes protrude their tentacula and a portion of the body, and, imbibing the circumfluent water, this percolates into the interior through numerous anastomosing canals, and distends the polypidom so much that it will more than double or treble its former size. In this respect the Zoophyta asteroida show an affinity to the Helianthoida, and differ from the hydraform and more especially from the ascidian orders.

The *axis* of the Alcyonidæ is imperfect, but exists nevertheless in the form of calcareous or siliceous spicula diffused through the gelatinous interior, or more or less densely clustered at the centre; and the appearance of these spicula is such that we are almost tempted to believe they may possibly be the products of crystallization rather than of any regular secretion.* It might not be difficult, but it is beyond my province, to trace the gradual increase and consolidation of these spicula through many intermediate species to the horny flexible axis of Gorgonia, where it has become such an efficient support to the whole soft envelope as to claim not improperly the name of its skeleton; thence to the stony axis of the coral; and having there reached its maximum of developement, I might, on the other hand, have marked its progress towards degeneration until it became again only a partial support, such as we find it in the naked middle portion of the Pennatulidæ, more especially in some of the foreign and less typical species of that family.

According to Lamarck, this axis, under all its modifications, is inorganic, containing neither vessels nor any portion of the body of the polypes, but formed of matter excreted by them, and afterwards thickened, solidified and depurated by affinity.† Although this is rather, on Lamarck's part, the de-

Successive births her tender cares combine,
And soft affections live along the line."

Darwin's Temp. of Nature, canto ii.

* They may be compared with the *Raphides* found in the intercellular passages of certain monocotyledonous plants. See Lindley's Introd. to Botany, p. 29.——Mr Children found in the ashes of a piece of the axis of *Gorgonia Flabellum*, a distinct trace of pure silica, sufficient to form a globule before the blow-pipe.—Ann. of Philosophy, New Series, Vol. ix. p. 431.

† " L'observation constate que l'axe central de ces polypiers, quoiqu' offrant quelquefois des couches concentriques, ne fut jamais organisé, n'a contenu ni vaisseaux quelconques, ni aucune portion du corps des polypes; qu'il est le résultat de matières excrétées par ces polypes, matières qui se sont épaissies,