

more rapid; while the sand, which had been pushed aside, flows back, and covers the body, when it has sunk below the level of the surface. In this situation the long dorsal bristles come into play, preventing the sand from closing completely, and preserving a small round hole for the admission of water to the mouth and respiratory organs.\*

Whenever, in following the series of organic structures, new forms are met with, we always find them accompanied by corresponding modifications in the processes of development. The organization of the animals belonging to the lowest division of the series is not sufficiently perfect to afford the means, which are supplied in the higher animals, of removing or modifying the substances that have at any time been deposited, and suffered to harden. Hence the structures composed of these substances remain unchanged during the life-time of the animal, although they may continue to receive additions of new layers of the same material, deposited on their surface by the soft parts in contact with them; for it is through the medium of the soft parts alone that these materials are supplied. All the solid structures of zoophytes are formed by this process, and they are subjected to all the consequences of this law of increase. As these consequences are important in their relation to the conditions of growth, and to the forms which result, it will be necessary to direct our attention to them more particularly.

The influence which this mode of increase by superficial depositions may have, in changing the form of the original structure, will depend altogether upon the relative situations of the soft secreting organ and the hard part on which it is to deposit new layers: for, as every new layer must occupy the situation of the soft organ which has formed it, it must displace the latter, and push it back for a space equal to its own thickness. In process of time, the addition of numerous layers having led to successive encroachments of the solid substance, the latter will have been displaced to an extent

\* The account here given is taken from Mr. Osler's papers in the *Philosophical Transactions* for 1826, p. 347.