Fig. 152.

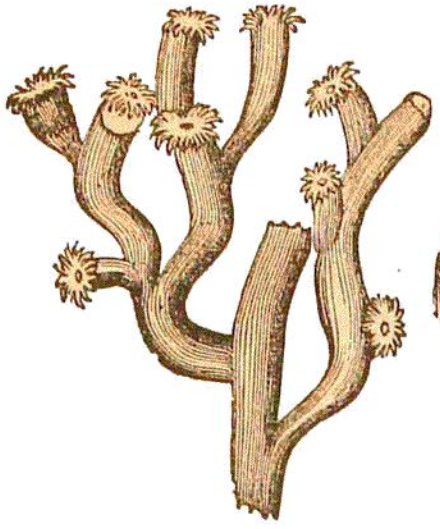


Fig. 153.

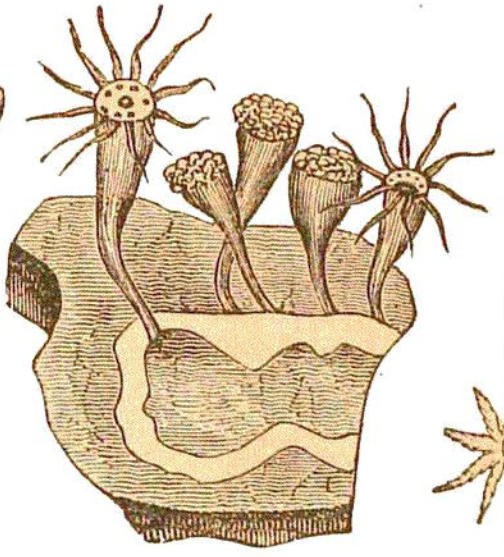
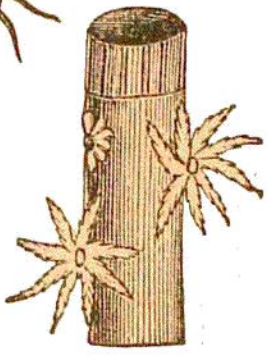


Fig. 154.



Polyparia.

The tentacles of these animals are provided with cilia or minute hairs on their margins, which are capable of being rapidly moved, so as to keep currents of water in motion, that food may be conveyed to their mouths. Immense numbers of the polypi unite in building up a single habitation, and they do this as if influenced by one instinct; so that the structure rises with the most symmetrical proportions. In the *Flustra carbasea* each polype has usually twenty-two tentacles; and on these, 2,200 cilia. An ordinary specimen of this species will contain 18,000 polypi; and of consequence, 396,000 tentacles, and 39,600,000 cilia. On the *Flustra foliacea*, Dr. Grant estimates 400,000,000.

These polypi mostly multiply by buds, called gemmules, which grow like the buds of plants from the parent, and after a time fall off and become distinct animals. A single polypi in this mode may produce a million of young in a month. They may also be multiplied by division, when each separate part becomes in a short time a whole animal. Different parts may also be made to grow together, and monsters of every form be produced. The Hydra is one of the genera of polypi; and by taking the heads of several individuals, and grafting them to one body, a Hydra with seven, or any other number of heads may be produced.

Fig. 155 shows the Columnaria alveolata from the Black river limestone. Fig. 156 represents the Favistella stellata, and Fig. 157, Chætetes lycoperdon; Fig. 158, shows the Cyathophyllum turbinatum which is found in the next three higher formations.

Graptolites.—These are another remarkable family of radiated animals that appeared in the Lower Silurian, and continued as high as the carboniferous system. Until the late researches of