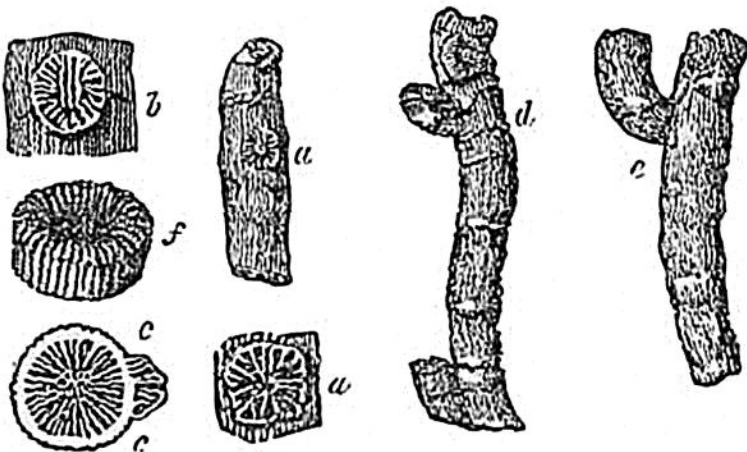


down and spread by the waves and currents so as to form strata of tuff, which are found intercalated between beds of limestone and clay containing marine shells, the thickness of the whole mass exceeding 2000 feet. The fissures through which the lava rose may be seen in many places forming what are called *dikes*.

In part of the region above alluded to, as, for example, near Lentini, a conglomerate occurs in which I observed many pebbles of volcanic rocks covered by full grown *serpulæ*. We may explain the origin of these by supposing that there were some small volcanic islands which may have been destroyed from time to time by the waves, as Graham Island has been swept away since 1831. The rounded blocks and pebbles of solid volcanic matter, after being rolled for a time on the beach of such temporary islands, were carried at length into some tranquil part of the sea, where they lay for years, while the marine *serpulæ* adhered to them, their shells growing and covering their surface, as they are seen adhering to the shell figured in p. 22. Finally, the bed of pebbles was itself covered with strata of shelly limestone. At Vizzini, a town not many miles distant to the S. W., I remarked another striking proof of the gradual manner in which these modern rocks were formed, and the long intervals of time which elapsed between the pouring out of distinct sheets of lava. A bed of oysters no less than 20 feet in thickness rests upon a current of basaltic lava. The oysters are perfectly identifiable with our common eatable species. Upon the oyster bed, again, is superimposed a second mass of lava, together with tuff or peperino. In the midst of the same alternating igneous and aqueous formations is seen near Galieri, not far from Vizzini, a horizontal bed, about a foot and a half in thickness, composed entirely of a common Mediterranean coral (*Caryophyllia cæspitosa*, Lam.). These corals stand erect as they grew;

Fig. 128.



Caryophyllia cæspitosa, Lam. (*Cludocora stellaria*, Milne Edw. and Halme.)

- a. Stem with young stem growing from its side.
- a*. Young stem of same twice magnified.
- b. Portion of branch, twice magnified, with the base of a lateral branch; the exterior ridges of the main branch appearing through the lamellæ of the lateral one.
- c. Transverse section of same, proving by the integrity of the main branch, that the lateral one did not originate in a subdivision of the animal.
- d. A branch, having at its base another laterally united to it, and two young corals at its upper part.
- e. A main branch, with a full grown lateral one.
- f. A perfect terminal star.