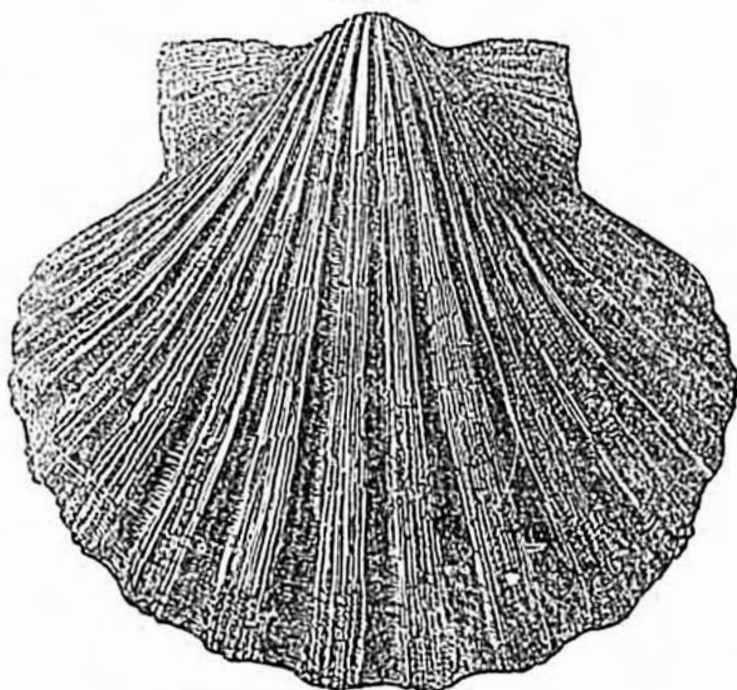


and, after being traced for hundreds of yards, are again found at a corresponding height on the opposite side of the valley.

The corals are usually branched, but not by the division of the animals as some have supposed, but by the attachment of young individuals to the sides of the older ones; and we must understand this mode of increase, in order to appreciate the time which was required for the building up of the whole bed of coral during the growth of many successive generations.*

Among the other fossil shells met with in these Sicilian strata, which still continue to abound in the Mediterranean, no shell is more conspicuous, from its size and frequent occurrence, than the great scallop, *Pecten jacobæus* (see fig. 129), now so common in the neighboring seas. We see this shell in the calcareous beds at Palermo in great numbers, in the limestone at Girgenti, and in that which alternates with volcanic rocks in the country between Syracuse and Vizzini, often at great heights above the sea.

Fig. 129.

*Pecten jacobæus*; half natural size.

The more we reflect on the preponderating number of these recent shells, the more we are surprised at the great thickness, solidity, and height above the sea of the rocky masses in which they are entombed, and the vast amount of geographical change which has taken place since their origin. It must be remembered that, before they began to emerge, the uppermost strata of the whole must have been deposited under water. In order, therefore, to form a just conception of their antiquity, we must first examine singly the innumerable minute parts of which the whole is made up, the successive beds of shells, corals, volcanic ashes, conglomerates, and sheets of lava; and we must afterwards contemplate the time

* I am indebted to Mr. Lonsdale for the details above given respecting the structure of this coral.