

eight to twelve feet. In successive quarries, from the one to the other of which the beds can be traced with considerable certainty, individual beds appear occasionally to change in thickness, a massive one gradually dividing in the strike into two or more, or several thin layers uniting into a solid mass. Slight changes in the color also occur, giving shades of lighter and darker gray."

This gray granular crystalline stone, the texture of which we may see by picking up a chip at any mason's shed in Montreal, is wholly an organic rock, consisting of the hard parts of marine animals, in a fragmentary condition. In some specimens, joints of those curious stalked star fishes, the crinoids or stone lilies, predominate. In others a little branching coral, the *Monticulipora dendrosa* of Mr. Billings, but ranked as a variety of the *Chastetes lycoperdon* by Hall, is more plentiful. In others, creatures of higher organization than the true corals, the Polyzoa, have contributed countless fragments of a delicate structure, which may often be seen spreading over the limestone in flat branches, marked with little holes or cells like perforations of pins, and belonging to the genus *Stictopora* of Hall,* probably the *Ptilodictya* of the European Paleontologists. The limestone does not merely contain these organisms; it is made up of them, sometimes entire or in large pieces, but more frequently in minute fragments from one tenth to one hundredth of an inch in size. Its present solid condition is due to clear transparent calc-spar or carbonate of lime, deposited by water in the interstices and cavities of the fragments, like the "congealed water" of Bermuda or the stalagmite of limestone caverns. This substance being perfectly crystalline, has given its own character to the mass, which thus breaks like marble with multitudes of shining surfaces. Under the microscope, however, the true character of the material becomes at once apparent, and the animal fragments, rendered distinct by the remains of their organic matter in a carbonised condition, are seen immersed in the transparent calc-spar, like pieces of potted meat in animal jelly.

To prepare the specimens for the microscope, it is necessary only to select thin fragments, polish them smooth on one side, then attach the smooth surface by any transparent cement to glass, and grind down the opposite side until the limestone is reduced to a

* Especially *S. Acuta*.