The sponge, in order to support its delicate protoplasmic structures, must have a skeleton. In modern times we find these creatures depositing corneous or horny fibres, as in the common washing sponges, or forming complex and beautiful structures of needles, or threads of silica or calcite, and they seem from the first to have been able to avail themselves of all these different materials. The oldest species that we know had silicious or calcareous skeletons, though some of them must also have had a certain amount, at least, of the ordinary spongy or corneous fibres. But the most astonishing feature in what remains of their skeletons, flattened out as they are on the surfaces of dark slaty rock, is the manner in which they worked up so refractory a material as silica into fibres like spun glass rods and crosses, and built these up into beautiful basket-like forms, globular, cylindrical or conical. It was necessary that they should fix themselves on the soft muddy bottoms on which they grew, and to this end they produced slender silicious fibres or anchoring rods, which, fine though they were, had the form of hollow tubes. Sometimes a single rod sufficed, but in this case it had a crosslike anchor affixed to its lower end, to give it stability. Sometimes there were several simple rods, and then they were skilfully braced by spreading them apart at the ends, and by flattening their extremities into blades. Sometimes four rods joined in a loop at the end gave the required support. Some larger species wound together many threads like a wire rope, and even added to this flanges like the thread of a screw, anticipating the principle of the modern screw pile.

The body of the sponge must be hollow within, and must have a large aperture or opening for the discharge of water, and smaller pores for its admission. Various general forms were adopted for this. Some were globular, or oval, or pear-shaped; others cylindrical, concave, or mitre-shaped. To give form and strength to these shapes there were sometimes vertical and