

of land and in the path of slight currents, whilst the extreme purity of the white chalk of Sussex would seem to indicate that it had been laid down in deep still water far from land. A considerable proportion of the silica of the chalk-mud, however, consists of the spicules of sponges, of the spicules and shields of radiolarians, and of the frustules of diatoms; and this organic silica is uniformly distributed through the whole mass. Taken in connection with the absence of diffused silica in the white chalk, we have the singular fact of the presence of regular layers of flinty masses of nearly pure silica, presenting frequently the external form of more or less regularly-shaped sponges, and frequently filling up the cavities of sea-urchins or bivalve shells. If we take the simple instance of pure grey flint filling up entirely the cavity of an urchin, such as *Galerites albo-galerus*, or *Ananchytes ovatus*, and showing at the oral opening of the shell a little projecting knob, like a bullet-mould filled with lead, we have no escape from the conclusion that after the death of the urchin the silica has percolated into the shell in solution or in a gelatinous condition, and the silica must have previously existed in some other form, either in the chalk or elsewhere. In the chalk which contains not a trace of silica we often find the moulds and outlines of organisms which we know to have been silicious, from which the whole of the silica has been removed; and I have more than once seen cases in which a portion of the delicate tracery of a silicious sponge has been preserved entire in a flint, while the remainder of the vase which projected beyond the outline of the flint appeared in the chalk as a trellis-