is a remarkable instance of the force of original structure in controlling the effects of chemical agencies; for in clay, sands, chalk, flint, limestone, pyrites, this singular fossil generally retains its fibrous structure, colour, translucency, and chemical properties; while in the same masses echini are changed to calcareous spar, and sponges to flint, and many shells have totally vanished.

The conclusion which so strongly forces itself on the mind of an observer who considers the shelly treasures of the stratified rocks, that each of these was successively the bed of the sea, becomes of undoubted certainty, when the minuter circumstances of the distribution of molluscous exuviæ are known. In the present seas, some shells, like the oyster, are gregareous, and cover large surfaces, so as to constitute shelly banks in which but a few species live together; others are dredged promiscuously from a common feeding ground. There are fossil as well as recent beds of oysters, and they are in each case argillaceous beds; perhaps cardia are more plentiful in old sandy strata, as well as in modern sandy bays; terebratulæ and lingulæ are usually associated in nests or families; and it is certain that much curious information, as to the circumstances of their existence, may be gathered from studying the details of the distribution of fossil mollusca.

But on a great scale they present very important truths. From the ancient slates of Snowdon to the most modern deposits in Norfolk and Sicily, the stratified rocks abound with shells; and though it is certain that calcareous rocks, and the strata near to them, contain the greatest number, enough are found in the sandstones and clays to furnish the means of establishing some very important conclusions. The first which arrests our attention is the continual augmentation of the amount of marine life from the primary to the tertiary period. In the following table *, drawn up by the author, the number of species known, and also the proportionate number to every 100 feet thickness of strata, are given for the successive systems: —

* Guide to Geology, 3d edit. p. 68.