But the total number, as far as yet known, is wonderfully disproportionate. For, if we estimate the recent species of plants at only 60,000, and the fossil races, yet clearly distinguished, at 600, numbers which are, perhaps, equally below the truth, the proportion is 100 to 1. To infer, from this fact, that the ancient globe nourished few species of plants compared to the present rich flora of different latitudes, would be unauthorised by the data, though from other phenomena such a conclusion might appear probable. We must recollect that the stratified rocks were formed chiefly on the bed of the sea, and therefore could not be expected to contain, except rarely, the remains of terrestrial plants; just as at this day, it is only under particular conditions of the surface drainage that vegetables are carried abundantly to the deep. And, since most of the marine plants are natant or confined to rocky shores, there would be little reason in expecting these to be common among the oceanic sediments.

We must further observe, that the cellular substance of the marine tribes of plants might cause many of them to perish under the slow accumulation of the strata: nothing is less common than to find the *substance* of marine vegetables preserved in the same manner as the ligneous parts of land plants; and, indeed, among land plants, the experiments of Dr. Lindley show that many of them perish by maceration in water, while ferns, cycadeæ, and other tribes, resist decomposition for a long time. Hence, it is no wonder that such races of plants are the most frequently met with in a fossil state.

The ligneous parts of plants are sometimes (in the blue clays of the oolitic formation especially) converted to jet: sometimes, only the external layers of coniferous wood are so converted, while the internal parts are changed to carbonate of lime. In the latter case, the structure of every cell and vessel is distinctly seen in thin slices. When woody plants lie in limestone rock which contains silica, or in calcareous sandstone (as in