

types, while the Myriapods and Amphibians alike appear in a crowd of generic forms.

I have already referred to the permanence of species in geological time. We may now place this in connection with the law of rapid origination and more or less continuous transmission of varietal forms. A good illustration will be afforded by a group of species with which I am very familiar, that which came into our seas at the beginning of the Glacial age, and still exists. With regard to their permanence, it can be affirmed that the shells now elevated in Wales to 1,200, and in Canada to 600 feet above the sea, and which lived before the last great revolution of our continents—a period very remote as compared with human history—differ in no tittle from their modern successors after hundreds or thousands of generations. It can also be affirmed that the more variable species appear under precisely the same varietal forms then as now, though these varieties have changed much in their local distribution. The real import of these statements, which might also be made with regard to other groups, well known to palæontologists, is of so great significance that it can be realized only after we have thought of the vast time and numerous changes through which these humble creatures have survived. I may call in evidence here a familiar New England animal, the common sand clam, *Mya arenaria*, and its relative *Mya truncata*, the short sand clam, which now inhabit together all the northern seas; for the Pacific specimens, from Japan and California, though differently named, are undoubtedly the same. *Mya truncata* appears in Europe in the Coralline Crag, and was followed by *M. arenaria* in the Red Crag. Both shells occur in the Pleistocene of America, and their several varietal forms had already developed themselves in the Crag, and remain the same to-day; so that these humble mollusks, littoral in their habits, and subjected to a great variety of conditions, have continued for a very long period to construct their shells.