

precisely as at present ; while in many places, as on the Lower St. Lawrence, we find them living together on the same banks, and yet preserving their distinctness.¹ Nor are there any indications of a transition between the two species. I might make similar statements with regard to the *Astartes*, *Buccinums* and *Tellinæ* of the drift, and could illustrate them by extensive series of specimens from my own collections.

Another curious illustration is that presented by the Tertiary and modern faunæ of some oceanic islands far separated from the continents. In Madeira and Porto Santo, for example, according to Lyell, we have fifty-six species of land shells in the former, and forty-two in the latter, only twelve being common to the two, though these islands are only thirty miles apart. Now in the Pliocene strata of Madeira and Porto Santo we find thirty-six species in the former, and thirty-five in the latter, of which only eight per cent. are extinct, and yet only eight are common to the two islands. Further, there seem to be no transitional forms connecting the species, and of some of them the same varieties existed in the Pliocene as now. The main difference in time is the extinction of some species and the introduction of others without known connecting links, and the fact that some species, plentiful in the Pliocene, are rare now, and *vice versa*. All these shells differ from those of modern Europe, but some of them are allied to Miocene species of that continent. Here we have a case of continued existence of the same forms, and in circumstances which, the more we think of them, the more do they defy all our existing theories as to specific origins.

Perhaps some of the most remarkable facts in connection with the permanence of varietal forms of species are those furnished by that magnificent flora which burst in all its majesty on the American continent in the Cretaceous period, and still survives among us, even in some of its specific types.

¹ Paper in *Record of Science*, on Shells at Little Metis.