

are extinct. Thus we can prove that many of the peculiar species of these islands have remained unchanged since Pliocene times. While differing from modern European shells, several of these species are very near to European Miocene species. Thus we seem to have evidence in the Madeira group, not of modification, but of unchanged survival of Tertiary species long since extinct in Europe. May we not infer that the same was the case in the Azores? These results are certainly very striking when we consider how long the Azores must have existed as islands, how very rarely animals, and especially pairs of animals, must have reached them, and how complete has been the isolation of these animals, and how peculiar the conditions to which they have been subjected in their island retreat.

Other oceanic islands present great varieties of conditions, but leading to similar conclusions. Some, as the Bermudas, seem to have been settled in very modern times with animals and plants nearly all identical with those of neighbouring countries, though even here it would appear that there are some indigenous species which would indicate a greater age or more extended lands, now submerged.<sup>1</sup> Others, like St. Helena, are occupied apparently with old settlers, which may have come to them in early Tertiary, or even in Secondary periods, which have long since become extinct on the continents, and whose nearest analogues are now widely scattered over the world. Islands are therefore places of survival of old species—special preserves for forms of life lost to the continents. One of the most curious of these is Celebes, which seems to be a surviving fragment of Miocene Asia, which, though so near to that continent, has been sufficiently isolated to preserve its old popula-

<sup>1</sup> Heilprin mentions eleven marine mollusks supposed to be peculiar to the islands, and eight species of land shells, as well as a few Crustaceans hitherto found only in the Pacific. The comparisons are, however, admitted to be incomplete.