

While all the representatives of the same genus are identical in structure,¹ the different species of one genus differ only in their size, in the proportions of their parts, in their ornamentation, in their relations to the surrounding elements, etc. The geographical range of these species varies so greatly, that it cannot afford in itself a criterion for the distinction of species. It appears further, that while some species which are scattered over very extensive areas, occupy disconnected parts of that area, other species closely allied to one another and which are generally designated under the name of representative species, occupy respectively such disconnected sections of these areas. The question then arises, how these natural boundaries assigned to every species are established. It is now generally believed that each species had, in the beginning, some starting point, from which it has spread over the whole range of the area it now occupies, and that this starting point is still indicated by the prevalence or concentration of such species in some particular part of its natural area, which, on that account, is called its centre of distribution or centre of creation, while at its external limits the representatives of such species thin out, as it were, occurring more sparsely and sometimes in a reduced condition.

It was a great progress in our science, when the more extensive and precise knowledge of the geographical distribution of organized beings forced upon its cultivators the conviction, that neither animals nor plants could have originated upon one and the same spot upon the surface of the earth, and hence have spread more and more widely until the whole globe became inhabited. It was really an immense progress which freed science from the fetters of an old prejudice; for now we have the facts of the case before us, it is really difficult to conceive how, by assuming such a gradual dissemination from one spot, the diversity which exists in every part of the globe could ever have seemed to be explained. But even to grant distinct centres of distribution for each species within their natural boundaries, is only to meet the facts half way, as there are innumerable relations between the animals and plants which we find associated everywhere, which must be considered as primitive, and cannot be the result of successive adaptation. And if this be so, it would follow that all animals and plants have occupied, from the beginning, those natural boundaries within which they stand to one another in such harmonious relations.² Pines have originated in forests, heaths in heathers, grasses in prairies, bees in hives, herrings in schools, buffaloes in herds, men in nations!³ I see a striking proof that this must have been the case in the circumstance, that representative species, which,

¹ See hereafter, Chap. II. Sect. 5.

² AGASSIZ, (L.) Geographical Distribution of Animals, Christian Examiner, Boston, 1850, 8vo. (March).

³ AGASSIZ, (L.) The Diversity of Origin of the Human Races, Christian Examiner, Boston, 1850, 8vo. (February.)