

associations of organized beings extending over a wider or narrower area are called *Faunæ* when the animals alone are considered, and *Floræ* when the plants alone are regarded. Their natural limits are far from being yet ascertained satisfactorily everywhere. As the works of Schow and Schmarda may suffice to give an approximate idea of their extent,<sup>1</sup> I would refer to them for further details, and allude here only to the unequal extent of these different faunæ, and to the necessity of limiting them in different ways, according to the point of view under which they are considered, or rather show that, as different groups have a wider or more limited range, in investigating their associations, or the faunæ, we must distinguish between zoölogical realms, zoölogical provinces, zoölogical counties, zoölogical fields, as it were; that is, between zoölogical areas of unequal value over the widest of which range the most extensive types, while in their smaller and smaller divisions, we find more and more limited types, sometimes overlapping one another, sometimes placed side by side, sometimes concentric to one another, but always and everywhere impressing a special character upon some part of a wider area, which is thus made to differ from that of any other part within its natural limits.

These various combinations of smaller or wider areas, equally well defined in different types, has given rise to the conflicting views prevailing among naturalists respecting the natural limits of faunæ; but with the progress of our knowledge these discrepancies cannot fail to disappear. In some respect, every island of the Pacific upon which distinct animals are found, may be considered as exhibiting a distinct fauna, yet several groups of these islands have a common character, which unites them into more comprehensive faunæ, the Sandwich Islands for instance, compared to the Fejees or to New Zealand. What is true of disconnected islands or of isolated lakes is equally true of connected parts of the mainland and of the ocean.

Since it is well known that many animals are limited to a very narrow range in their geographical distribution, it would be a highly interesting subject of inquiry to ascertain what are the narrowest limits within which animals of different types may be circumscribed, as this would furnish the first basis for a scientific consideration of the conditions under which animals may have been created. The time is passed when the mere indication of the continent whence an animal had been obtained, could satisfy our curiosity; and the naturalists who, having an opportunity of ascertaining closely the particular circumstances under which the animals they describe are placed in their natural home, are guilty of a gross disregard of the interest of science when they neglect to relate them. Our knowledge of the geographical distribution of animals would be far more extensive and precise than it

<sup>1</sup> I would also refer to a sketch I have published of the Faunæ in NOTT'S and GLIDDON'S

Types of Mankind, Philadelphia, 1854, 4to., accompanied with a map and illustrations.