

faunæ of the temperate and arctic zones: for enough is already known of the geographical distribution of animals to make it certain, that the inhabitants of tropical America, of tropical Africa, of tropical Asia, and of tropical Australia, belong to different faunæ, as well as those of the temperate zones of these continents, and of the oceans bathing their shores.

Again, when paleontologists speak of a Silurian fauna, a Devonian fauna, a Carboniferous fauna, a Jurassic fauna, etc., they either prejudge questions which are far from being settled, or, if aware of the difficulties involved in their nomenclature, allow themselves to use this term still more vaguely than zoölogists do. In the first place, neither the Silurian nor the Jurassic era, nor any other of the long eras generally designated by geologists as geological formations, was inhabited from its beginning to its end by the same kinds of animals. Taking, for instance, the Silurian series, within the narrow limits of the State of New York, or the Oolitic series within the limits of the Jura, or the Cretaceous series within the limits of central Europe, we find in each of these series a succession of different species, combined in such a manner as to form a succession of faunæ, the natural geographical boundaries of which may be left out of consideration in view of our present object, but constituting as truly distinct faunæ as the animals living along the Atlantic shores of the southern United States constitute a different fauna from those of the Mediterranean. Here, then, we have, in course of time and within the same boundaries, a succession of faunæ, bearing to one another relations similar to those existing between faunæ of the present period within different boundaries; showing the impropriety of applying the name of faunæ to the organic remains found in these different series, and of using it at the same time for the zoological provinces, as defined by zoölogists, for the animals now living. The matter is not improved by limiting the term faunæ to shorter geological periods. No doubt the fossils found together by Barrande in the lowest fossiliferous beds of Bohemia represent the first fauna of that region. But the "faune première," if it means any thing, must mean the oldest fauna extending over an area, not yet fully defined perhaps, including the first organisms only that lived upon earth in the geographical area now called Bohemia. It cannot at the same time mean any other combination of more or less closely allied species, living at the same period, in other parts of the world; unless it be at the same time shown, that, in these earlier ages of the world's history, there were no faunal differences among animals. Enough, however, is already known of these primeval inhabitants of our globe to leave no doubt, that, though the differences in their geographical range may not everywhere be so striking as they are now, they nevertheless differed in different parts of its surface; so that, to extend the expression of "faune première" to all the inhabitants of the globe belonging to the geological age of the lower Silurian