

deposits of Bohemia, is to introduce the element of time in the definition of fauna, which is foreign to it.¹ If the expression of "first fauna" could be made to mean all the animals of that epoch, then we should in the same way be justified in speaking of the present fauna as including all the animals now living upon earth; while it is well known that there are numerous faunæ at present ranging over our globe, as there no doubt have been at all times. We may speak of the "first era" or "first period" in the development of animal life upon earth, but certainly not of the "first fauna;" though we may say that the "Bohemian fauna" of the first geological era has been described in a masterly manner by Barrande. In so doing we shall avoid confounding geological periods with geographical areas. In the same way will it be necessary to distinguish between the French, the German, and the English faunæ of the different geological horizons of the Jurassic and of the Cretaceous series. We shall have a German and an English fauna of the Lias period, a Swiss and a French fauna of the Neocomian period, etc., etc., as soon as the natural boundaries of all these faunæ, for all the successive geological epochs, have been satisfactorily traced. And the surest method to advance the solution of this problem is, unquestionably, to distinguish carefully the different elements of the question before us, and not to confound time and space.

These distinctions being admitted, we may now proceed to consider the Acalephian faunæ of the present period, as characterized by the Ctenophoræ. I have already alluded to the relations noticed between the representatives of the different families of this order, and the physical conditions under which they live. It remains to examine their combinations in different zoological provinces.

The arctic regions having been scantily explored, as far as the Acalephs are concerned, it can hardly be expected that much should be known of the faunæ of this zone; and yet it already appears, from the observations of Martens, Scoresby, and Mertens, that the northernmost parts of the globe are inhabited by Acalephs which differ from those of the boreal zone. *Mertensia Cucullus* and *M. depressa* are the two most northern Ctenophoræ known; and if these two species prove to be really distinct, it would follow, that the Atlantic side of the Arctic Ocean, on which *Idyia borealis* is found with *Mertensia Cucullus*, forms a distinct fauna from that of the Pacific side, where *Dryodora glandiformis* accompanies *Mertensia compressa*.

In the boreal zone we may already distinguish three faunæ: 1°, a Scandinavian fauna; 2°, an Acadian fauna; and, 3°, a Columbian fauna. The Scandinavian fauna is characterized by *Bolina norvegica*, *Pleurobrachia bicolor*, and *Idyia Cucumis*; the Aca-

¹ Barrande has already shown that "the range of distribution of the Trilobites, during the period of three successive silurian faunæ, was more limited

in the direction from Sweden to Bohemia, than is the case with the living Crustacea." *Parallèle entre les dépôts siluriens, etc.*, p. 67.