

without it no species can arise. Wagner sets up this opinion, "that migration is a necessary condition for natural selection," as a special "*law of migration*;" but we consider it sufficiently refuted by the above-mentioned facts. We have, moreover, already pointed out that in reality the origin of new species by natural selection is a *mathematical and logical necessity* which, without anything else, follows from the simple combination of three great facts. These three fundamental facts are—the Struggle for Life, the Adaptability, and the Hereditivity of organisms.

We cannot here enter into detail concerning the numerous interesting phenomena furnished by the geographical and topographical distribution of organic species, which are all wonderfully explained by the theory of selection and migration. For these I refer the reader to the writings of Darwin,<sup>1</sup> Wallace,<sup>96</sup> and Moritz Wagner, in which the important doctrine of the *limits of distribution*—seas, rivers, and mountains—is excellently discussed and illustrated by numerous examples. Only three other phenomena must be mentioned here on account of their special importance. First, the close relation of forms, that is, the striking "family likeness" existing between the characteristic local forms of every part of the globe, and their extinct fossil ancestors in the same part of the globe; secondly, the no less striking "family likeness" between the inhabitants of island groups and those of the neighbouring continent from which the islands were peopled; lastly and thirdly, the peculiar character presented in general by the flora and fauna of islands taken as a whole. It was these three classes of phenomena which first roused young Darwin (in 1832) to the thought of the Theory of Descent.