

"How do the facts of distribution look when examined in detail?

"1. Cosmopolitan groups, those with the widest distribution, are those to whom no barriers are sufficient to check migration, e.g., strong fliers, Man, earthworms carried by Man.

"2. Restricted groups are usually those to which barriers are readily set up and are frequently the last remnants of a formerly successful fauna or flora, which continue to survive only in some restricted area where the conditions are rather more favorable than elsewhere.

"3. The study of the distribution of species belonging to a single genus reveals that the more primitive or generalized species occupy a central position and the most specialized species are at the outer boundaries of the distributional area.

"4. The faunas and floras of continental islands are just what we should expect on the basis that there was at one time a land connection with the nearest continent; that at this time the faunas and floras were the same on both island and continent; that, later, the continent and island were separated by an impassable barrier of ocean; and that the inhabitants of the two bodies evolved separately.

"5. The faunas and floras of oceanic islands are like those of the nearest mainland and are of those types, for the most part, that might most readily have been blown there by the wind or carried on floating debris.

"6. The conclusions arrived at by students of geographic distribution, past and present, as to the existence of former land connections, now broken, are borne out by the independent findings of geologists and geographers."

-- Hans Gadow, *Wanderings of Animals* (Cambridge University Press, 1913), "Summary of Mammalian Dispersal."

"During the voyage of the Beagle I had been deeply impressed by discovering in the Pampean formation great fossil animals covered with armour like that on the existing armadillos; secondly, by the manner in which closely allied animals replace one another in proceeding southwards over the continent; and thirdly, by the South American character of most of the productions of the Galapagos archipelago, and more especially by the manner in which they differ slightly on each island of the group; none of the islands appearing to be very ancient in a geological sense.

"it was evident that such facts as these, as well as many others, could only be explained on the supposition that species become modified and the subject haunted me."

-- Charles Darwin, *Autobiography*

"if animals can move freely from one place to another, then the tendency is for the same species to play the same role in both places. If, however, there is a barrier to movement between the two places, then it is more common than not for different animals to have more or less similar roles in the two. Such pairs of species are called vicarious because one takes the place of the other in its particular community. They characterize strictly geographic differences between faunas that live in similar environments and are not markedly different ecologically, the origin and persistence of such differences depends on the existence of a geographically localized barrier of some sort.