

"EVIDENCE FROM HISTORICAL BIOGEOGRAPHY

"The numerous different theories of paleogeography are susceptible to crucial testing by the facts of biogeography. If a South Atlantic bridge once arose between South America and Africa, the faunas of that time should attest the fact, just as the faunas of North and South America plainly show the rise of a bridge between them in the Pliocene. If South America and Africa were parts of a single continent, as both the transoceanic continent and the drifting continent schools have claimed for various times in the past, then the faunas of that time should be related more or less as are the faunas of single continents today. As has been shown above, it is possible to measure faunal interchanges and resemblances. It is not necessary, as was so often done in the past, to argue vaguely 'I think the faunas are so similar that they belonged to one continent,' and counter with 'I think they are not.' The data of Table 10 should, for instance, end all argument that Africa and South America were connected to each other at any time during the Cenozoic, because in contrast with those figures the index of generic resemblance for all known Cenozoic faunas of the two continents is zero.

"The pertinent evidence and conclusions have in large part already been summarized on previous pages. An instructive further step is to make diagrams of continental relationships according to the various theories and according to concretely measured faunal interchanges and resemblances. The precise outlines of the continents do not matter for this purpose, and even their positions on the surface of the globe may be ignored provided that supposed or inferred corridors, bridges, and sweepstakes routes are appropriately represented in the diagrams.

"All the biogeographic features in the known history of mammals are best accounted for on the theory that the continents have had their present identities and positions and that there have been no land bridges additional to those that now exist (North-South America and Eurasia-Africa) except for a northern Asia-North America bridge. Additional features are largely matters of local detail. The connection between eastern and western Eurasia has not always been a corridor and may even have been briefly broken. The Eurasia-Africa bridge has varied in extent and in position, and other bridges have also varied in these respects. An Asia-Australia bridge may well have existed some time before the Cenozoic. There were probably early sweepstakes routes (but not complete bridges) from Antarctica to Australia and South America.

"With such amplifications, the conclusion seems to apply not only to the biogeography of mammals but also to that of all contemporaneous forms of life. It remains possible that there were transoceanic continents or bridges or that continents drifted in the Triassic or earlier, but there is little good evidence that such was the fact. In any case such remote events would have little or no bearing on the present distribution of living things."

-- George Gaylord Simpson, *Evolution and Geography* (Eugene, Oregon: University of Oregon, 1962), pp. 60-63.