

this problem, but has not come up with an acceptable theory. He states, "When a new phylum, class, or order appears, there follows a quick, explosive (in terms of geological time) diversification, so that practically all orders or families known appear suddenly and without any apparent transitions." ("Evolution as Viewed by One Geneticist," American Scientist, Vol. 40, 1952, p. 97). It is significant also to note that at the present time, several years after the above statements were made, the gaps and lack of transitional forms are just as great as they were then; paleontologists have made no progress in filling in the missing "links."

There are certain animals which, upon superficial consideration, may tempt one to adopt them as intermediary forms. Examples of these are: (a) Sponges-- These have sometimes been thought of as a connecting link between the protozoans and the coelenterates; however, an examination of the "evolutionary tree" in any standard biology or evolution textbook reveals that the sponges are regarded as a "blind end" in the evolutionary process, and that the coelenterates are thought to have evolved from hypothetical, undiscovered intermediary forms. (b) Genus Seymouria--This animal is usually thought of as intermediary between the amphibians and reptiles; however it does not appear in the geological strata until after the reptiles. Kerkut (1960) has the following: "Seymouria is sometimes thought of as a link between the Amphibia and reptiles. Unfortunately Seymouria is found in the Permian [geological period] whilst the first reptiles arose in the Pennsylvanian, some 20 or so million years earlier" (p. 136). (c) Lungfishes--These are often presented as being a typical intermediary stage between the fishes and the air-breathing amphibians. However, E. H. Colbert (1955) expresses the prevailing opinion of vertebrate zoologists when he says, "Yet in spite of such specializations in the lungfishes directed toward a method of living out of the water, the total evidence points quite clearly to the fact that these vertebrates are not and never have been on the direct line of evolution leading from fishes into the first land-living vertebrates" (p. 66). (d) Duck-billed platypus--This animal has frequently been thought of by laymen as an intermediary stage between birds and mammals. However, this is entirely erroneous, and is not even considered as a possibility by evolutionary biologists, since they never think of mammals as having been derived from birds. (Both birds and mammals are said to have originated separately from reptiles.)

3. The fact that numerous ancient forms of animals and plants are still living today, having propagated themselves through many geological periods and epochs without appreciable evolution. The modern king crab, some of the corals, the genus Lingula (a marine animal with a bivalve shell), the Australian lungfish, the genus Latimeria, the American opossum, the ornamental tree belonging to the genus Ginkgo, and many of the insects are forms which illustrate this principle, being practically identical with their ancient progenitors. For example, M. F. Guyer & Lane (1964), say that the crossopterygian fish Latimeria "differs from the Devonian forms only in minor details" (p. 164); and E. H. Colbert (1955), says "the modern Australian lungfish Epiceratodus, a direct descendant of Ceratodus, has changed very little from its mesozoic [actually Triassic, he explains] progenitor" (p. 68). R. A. Stirton (1959) says "Representatives of the genus Lingula have changed very little since Ordovician time" (p. 127). The genus Limulus (the king crab) is found as a fossil in the Triassic strata, the opossum in the Cretaceous, and the genus Ginkgo in the early Jurassic.

Perhaps the most striking lack of evolutionary change is exhibited in the case of many kinds of insects. F. M. Carpenter, in Insects, The Yearbook of Agriculture, 1952, says, "The appearance of [the Jurassic insect fauna] is so modern that if we had a collection of Jurassic species pinned in the usual way, it would not look very different from our present day collections, except that there would probably be no flower insects, such as the bees..." (p. 17).