In illustration: the vertebrated tails of the ancient Ganoids is one example, since this feature is a characteristic of the young of living Ganoids, and also of some other living fishes. The cartilaginous skeleton of the ancient Ganoids is another embryonic feature. The stem of the ancient Crinoids occurs in the young of the related Comatula. The Mastodon, as regards its teeth, says Agassiz, and in some other points, is embryonic in its relations to the Elephant.

Paleontologists of skill derive a degree of prophetic power through the aid of the canon. The shells of Ammonites have been shown by A. Hyatt to afford an excellent illustration of the principle. Noting that the coiled shell contained within it all the forms it had passed through from the embryo stage to the adult, he proved by his studies of the shells of different genera that the embryological succession corresponded in a general way with the geological succession, and hence that the position in the geological scale of any new species was approximately determinable from its form. It is obvious that through the knowledge thus obtained stratigraphical doubts may often be removed. Moreover, where direct paleontological observation has ascertained in particular cases the steps of progress in the development of organs, as, for example, those of the teeth in Mammals, the facts become a basis for further use in the same direction. But decisions on such grounds have to be made with great reserve; since there were often, throughout paleontological history, retrograde steps in the various tribes of species, and, not unfrequently, in some organs when the general progress was upward. Man stands at the head of Mammals, and yet, as regards his teeth, he is below the Monkeys, and related to the earliest Tertiary Mammals.

By the methods which have been above described, great progress has been made in arranging the rocks of the different continents in a chronological series. North America has large blanks in the series which in Europe are filled. In this and other ways the countries of the world are contributing to a general system of life history.

Precautions in the use of fossils for correlation. — Precaution is required for the following reasons: —

1. *The difference in species attending difference of conditions in climate, soil, etc.* In the same regions, during any era, the species of the land differ from those of the waters; those of fresh water from those of salt; those of the surface or shallow waters from those of deeper; those of warm waters from those of cold, whether at the surface or in the deep ocean where oceanic currents make differences of temperature; those of warm or dry lands from those of cold or wet; those of clear open seas from those of muddy waters or near muddy seashores; those of rocky bottoms from those of muddy; etc. Hence, an ancient rock made in a clear sea, as a limestone, will necessarily contain very different fossils from a rock that was made of mud, although they were formed at the very same time, in the same waters, and within a hundred miles of one another. Even a hundred yards may be all that separates widely different groups of species. Again, a rock made