

genera, and species of the earlier ages gradually became extinct and were replaced by those of to-day.

But whereas Cuvier, Agassiz, D'Orbigny, and other supporters of the Catastrophal Theory had supposed the faunas and floras of any one geological period to be sharply defined from those of the foregoing and succeeding ages, and in fact to have no species in common, Bronn insisted that a smaller or larger number of genera and species passed from one age to the next, and have been in a measure *connecting intermediate links*. The creation of new types and the extinction of old types had not been confined to a few "days" or "periods" of creation associated with great earth catastrophes, but had been *continually and quietly going on* as a consequence of the changes in the external conditions of existence which had been likewise continuously in progress during the whole geological history of the earth. At the same time Bronn allowed that certain surface changes had been the cause of more far-reaching variations of form than others. The period of existence that had been assigned to the fossil species was extremely unequal; as a rule, however, it had been very long. The limits of the geological horizons, formations, etc., are neither in palæontological nor in geographical or lithological respect absolutely sharp, but are frequently more or less indefinable.

The able arguments of Bronn opened up a series of questions which until his time had either been entirely neglected by palæontologists, or had never benefited by a frank and lucid expression of their difficulties. Bronn's teaching was in close harmony with Charles Lyell's doctrine of the uniformitarian development of the earth; more especially Bronn's insistence upon the continuity in the processes of change, and his scientific demonstration of transitional species and genera bridging the supposed gaps in the palæontological and stratigraphical succession provided a stepping-stone for the acceptance of Darwin's grander principles. When, in the year 1859, Darwin's epochal work *On the Origin of Species by means of Natural Selection* appeared, it was Bronn who was one of the first in Germany to recognise it as the outcome of an extraordinary genius, and he immediately translated the work into the German language.

The publication, in 1866, of Ernst Haeckel's work on *General Morphology* was the first practical application of