short compact bodies, and abbreviated abdomen of the Isopods, are proofs of their superiority of grade. The abdominal appendages are simply branchial, and in the higher species are naked or non-ciliated lamellæ. The transitions to a lower grade are seen in the elongation of these abdominal lamellæ, their becoming ciliated, and the abdomen being also more elongated and flexible; then in the abdominal lamellæ becoming elongated natatory appendages, and the abdomen taking a length usually not less than that of the thorax, as in the Amphipods, in which the branchiæ are appendages to the thoracic legs. And while this elongation goes on posteriorly, there is also anteriorly an enlargement of the antennæ, which in the Amphipoda are usually long organs. There are thus two secondary types of structure among the Tetradecapods, as among the Decapods; a transition group between, analogous to the Anomoura, partakes of some of the characters of both types, without being a distinct type itself. These are our Anisopoda. The species graduate from the Isopod degree of perfection to the Bopyri, the lowest of the Tetradecapods. There is thus another analogy between this group and the Anomoura.

The Trilobita probably belong with the second type, rather than the third. Yet they show an aberrant character in two important points. First, the segments of the body multiplied much beyond the normal number, as in the Phyllopoda among the Entomostraca; and Agassiz has remarked upon this as evidence of that larval analogy which characterizes in many cases the earlier forms of animal life. In the second place, the size of the body far transcends the ordinary Isopodan limit. This might be considered a mark of superiority; but it is more probably the reverse. It is an enlargement beyond the normal and most effective size, due to the same principle of vegetative growth, which accords with the inordinate multiplication of segments in the body.*

The *third primary type* (the Entomostracan) includes a much wider variety of structure than either of the preceding, and is less persistent

* Prof. Guyot very happily names the three great periods of geological history—usually denominated the Palæozoic, Secondary, and Tertiary, or, by Agassiz, the age of Fishes, that of Reptiles, and that of Mammals,—the *Vegetative*, the *Motorial*, and the *Sensorial* epochs;—the first, being the period characterized prominently by vegetative growth in animal life; the second, by the increased development of the muscular system, as exemplified by the enormous reptiles of the epoch; the third, by the development of the higher functions of the brain, exhibited in the appearance of mammals.