

extreme case, the number of primary pieces is constantly seven.*

§ 2. *Cetacea.*

REMARKABLE exemplifications of the law of uniformity of organic structure are furnished by the family of the *Cetacea*, which includes the whale, the cachalot, the dolphin, and the porpus, and exhibits the most elementary forms of the type of the mammalia, of which they represent the early, or rudimental stage of development. Here, as before, we have to seek these first elements among the inhabitants of the water; for whenever, in our progress through the animal kingdom, we enter upon a new division, aquatic tribes are always found to compose the lowest links of the ascending chain. Here, also, we observe organic development proceeding with more rapidity, and raising structures of greater dimensions in aquatic than in terrestrial animals. The order *Cetacea* comprises by far the largest animals which inhabit the globe. Whatever may have been the magnitude of those huge monsters which once moved in

* The *Bradypus tridactylus*, or three-toed sloth, was, till very lately, thought to constitute a notable exception to this law, being described as having nine, instead of seven, cervical vertebræ. It is now found, however, that the last two of these vertebræ, which appeared to be supernumerary, ought properly to be classed among the dorsal vertebræ, of which they possess the distinctive characters, not only from the form and size of their transverse processes, but also from their having small bony appendices, articulated with them by a regular joint at their extremities, and corresponding exactly, both in shape and situation, to the ribs, of which they may, in fact, be considered as rudiments. These small bones have been observed, both by Meckel and by Cuvier, attached to the ninth vertebra: and Mr. T. Bell has recently not only confirmed the observations of these anatomists, but has farther discovered that similar rudimental ribs are attached also to the eighth vertebra. (See *Philosophical Magazine*, third series, iii. 376.) The *Bradypus torquatus*, which has been said to possess eight cervical vertebræ, will, perhaps, on closer examination, be hereafter found not to deviate, any more than the three-toed sloth, from the normal type, as regards the number of these vertebræ. Instances have occurred of supernumerary cervical processes, or ribs in the human skeleton. (See *Edinburgh Medical and Surgical Journal*, xl. 304.)