

This fact of degradation, strangely indicated in geologic history, with reference to all the greater divisions of the animal kingdom, has often appeared to me a surpassingly wonderful one. We can see but imperfectly, in those twilight depths to which all such subjects necessarily belong; and yet at times enough does appear to show us what a very superficial thing infidelity may be. The general advance in creation has been incalculably great. The lower divisions of the vertebrata preceded the higher;—the fish

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changes which each author introduced, in order to modify this matter so as to make it suit his own views. Some went the length of affirming that the vertebræ of the head were as complete as those of the trunk; and, by means of various dismemberments, separations, and combinations, all the forms of the cranium were referred to the vertebræ, by admitting that the number of pieces was invariably fixed in every head, and that all the vertebrata, whatever might be their organization in other respects, had in their heads the same number of points of ossification. At a later period, what was erroneous in this manner of regarding the subject was detected; but the idea of the vertebral composition of the head was still retained. It was admitted as a general law, that the cranium was composed of three primitive vertebræ, as the embryo is of three blastodermic leaflets; but that these vertebræ, like the leaflets, existed only ideally, and that their presence, although easily demonstrated in certain cases, could only be slightly traced, and with the greatest difficulty, in other instances. The notion thus laid down of the virtual existence of cranial vertebræ did not encounter very great opposition; it could not be denied that there was a certain general resemblance between the osseous case of the brain and the rachidian canal; the occipital, in particular, had all the characteristic features of a vertebra. But whenever an attempt was made to push the analogy further, and to determine rigorously the anterior vertebræ of the cranium, the observer found himself arrested by insurmountable obstacles, and he was obliged always to revert to the virtual existence.

“In order to explain my idea clearly, let me have recourse to an example. It is certain that organized bodies are sometimes endowed with virtual qualities, which, at a certain period of the being's life, elude dissection, and all our means of investigation. It is thus, that