

manifested in the flesh, under divers such modifications, upon this planet, long prior to the existence of those animal species that actually exemplify it."

But while we find place in that geological history in which every character is an organism, for the "ideal exemplar" of Professor Owen, we find *no* place in it for the vertebræ-developed skull of Professor Oken. The true genealogy of the head runs in an entirely different line. The nerves of the cerebral senses did not, we find, originate cerebral vertebræ, seeing that the heads of the first and second geologic periods had their cerebral nerves, but *not* their cerebral vertebræ; and that what are regarded as cerebral-vertebræ appear for the first time, not in the early fishes, but in the reptiles of the Coal formation. The line of succession through the fish, indicated by the Continental assertor of the development hypothesis, is a line cut off. All the existing evidence conspires to show that the placoid heads of the Silurian system were, like the placoid heads of the recent period, mere cartilaginous boxes; and that in the succeeding system there existed ganoidal heads, that to the internal cartilaginous box added external plates of bone, the homologues, apparently, — so far at least as the merely cuticular could be representative of the endo-skeletal, — of the opercular, maxillary, frontal, and occipital bones in the osseous fishes of a long posterior period, — fishes that were not ushered upon the scene until after the appearance of the reptile in its highest forms, and of even the marsupial quadruped.