teeth and fin-spikes. These are found in the older formations in such quantities, varieties, and sizes, that we may, with certainty, infer a very considerable development of Primæval fish in those remote ages. They are even found in the Silurian strata, which contain but few remains of other Vertebrata, such as Enamelled fish (and these only in the most recent part, that is, in the upper Silurian). By far the most important and interesting of the three orders of Primæval fish are Sharks; of all still living double-nostriled animals, they are probably most closely allied to the original primary form of the whole group, namely, to the Proselachii. Out of these Proselachii, which probably differed but little from genuine Sharks, Enamelled fish, and the present Primæval fish, in all probability, developed in one direction, and the Dipneusta, Sea-dragons, and Amphibia in another.

The *Ganoid*, or *Enamelled fish* (Ganoides), in regard to their anatomy stand midway between the Primæval and the Osseous fish. In many characteristics they agree with the former, and in many others with the latter. Hence, we infer that genealogically they form the transition from Primæval to Osseous fish. The Ganoids are for the most part extinct, and more nearly so than the Primæval fish, whereas they were developed in great force during the entire palæolithic and mesolithic periods. Ganoid fish are divided into three legions according to the form of their external covering, namely, Mailed, Angular-scaled, and Round-scaled. The *Mailed Ganoid fish* (Tabuliferi) are the oldest, and are directly allied to the Selachii, out of which they originated. Fossil remains of them, though rare, are found even in the upper Silurian (Pteraspis ludensis of the