the Ganoids. The bony, angular scales which Agassiz had regarded as the chief systematic feature was not in itself sufficiently distinctive, as living Teleostei possess bony scales. Johann Müller and C. Vogt strengthened the systematic definition of the Ganoids by anatomical features; Müller showed that the Ganoids agreed with the Plagiostomes, and differed from the Teleosteans in the structure of their heart. This step in the right direction was not, however, immediately followed by palæontologists, who on the contrary persistently continued to place the Ganoidei in close affinity with the Teleostei.

A preliminary paper on "Devonian Fishes" was published by Huxley in 1861, and was followed five years later by his memorable work on the *Structure of Crossopterygian Ganoids*, wherein he showed the relationship of these forms to the Dipnoi. Huxley regarded the genus Lepidosirèn as a living representative of the ancient Ganoids; and in 1870 the living genus Ceratodus was discovered, and its careful anatomy and description (1871) by Günther showed that the new genus was closely allied with Lepidosiren, and that both must be assigned to the Ganoidei. The more accurate knowledge thus secured reacted favourably on the advance of a sound systematic knowledge of the fishes.

The monograph by Traquair (1877) on *The Ganoids of the British Carboniferous Formations* made known one of the richest and best preserved Ganoid faunas. The Selachian fishes were made the subject of a comprehensive series of researches by Hasse on the structure and the development of the vertebræ; O. Jaekel has contributed an excellent monograph of the Selachian remains from the Tertiary rocks of Monte Bolca; and O. Reis has written valuable memoirs on Cœlacanthidæ, Acanthodidæ, and other fossil groups. An admirable catalogue of the fossil fishes in the British Museum is in course of preparation by Smith-Woodward, one of the first authorities on fossil fishes. The volumes already published (1889-95) present, so far as they go, an exhaustive and critical review of all fossil fishes.

Amphibians.—The works of Alexandre Brongniart (1805) and Blainville emphasised the fundamental differences between Amphibians and Reptiles anatomically, and in respect of the history of their development; but it was Merrem who, in 1820,