

P. Gervais's *Zoologie et Paléontologie Française* (1848 to 1852), in Albert Gaudry's *Enchaînements du monde animal dans les temps géologiques* (1878-96), in Zittel's *Handbuch der Paläontologie* (vols. iii. and iv., 1887-93), in Lydekker and Nicholson's *Manual of Palæontology* (vol. ii., 1889), and in Smith-Woodward's *Outlines of Vertebrate Palæontology* (1898).

A highly instructive line of original research was carried out by Owen in his comparative study of the teeth of fossil Vertebrates, and important advances were made by the publication of his *Odontography* (1840-45). This work provides a fundamental exposition of the teeth in the different classes, orders, and families of the Vertebrates. A similar work by C. G. Giebel (1855) is far from equalling its English model either in respect of its illustrations or its original observations.

The scientific knowledge of *Fishes* may be said to have begun with the pioneer researches of Ray and Willoughby in the seventeenth century. These zoologists, who were the first observers to distinguish definite "species" in the organic world, laid the foundation of empirical details regarding fishes in their famous *Historia piscium* (1686). Artedi (1705-34), a contemporary and fellow-student of Linnæus, made an excellent classification of the genera known in his time. Towards the close of the eighteenth century, Dr. Bloch's system of classification was in great favour, although his work on fishes was far less notable than that of his French contemporary, Lacépède. But a complete reform was necessitated by Cuvier's searching anatomical investigations, and the system of Cuvier and Valenciennes superseded all previous systems. In common with the earlier system, the Cuvierian classification was founded exclusively upon living forms. What was known of fossil fishes was inserted along with the living genera, in whatever position seemed most expedient to the particular author from his examination of external features.

The famous investigations of L. Agassiz (1833-43) supplied palæontology with a much broader basis of detailed research. Accompanied by capable draughtsmen, Agassiz visited all the larger museums and private collections in Europe, examined the fossil fishes preserved in them, and published, in five volumes, a magnificently illustrated monograph as the fruits of his ten years' labour. Starting from the standpoint of his anatomical studies, in which he was fortunate in having the