

related to modern forms. By his reconstructive genius and by his confident—sometimes over-confident—use of the principle of correlation, he brought the dead to life again, and insisted on their being ranked along with the modern types in a unified zoological system. He had clearly before him the central idea of palæontology, that of a succession of faunas upon the earth, and yet he lost the chief virtue of the idea by refusing to admit that the succession was genetic. It must be distinctly remembered that Cuvier believed in successive cataclysms which destroyed the population of each epoch and left the ground clear for a fresh creative act. Yet in Buffon's *Théorie de la Terre* he might have found a clear prevision of the anti-catastrophic or uniformitarian theory.

Lamarck may be called the founder of the palæontology of the Invertebrate animals, not that he described even so large or so varied a collection as many of his predecessors, but because he studied them thoughtfully, and used his results in his pioneer work as an evolutionist. He studied in particular the fossil Molluscs of the Paris basin, showing that many were extinct, and that the different strata contained distinctive forms.

Lamarck
(1744-1829).

It seems, to say the least, doubtful whether the full import of Cuvier's work would have been so soon realized if there had not been the contemporaneous work of William Smith, who is often called "the father of English Geology".

William
Smith
(1769-1839).

Independently of Werner he established the conception of a regular succession of strata in the earth's crust, showed that the various strata were definable by the fossils which they contained, and made the suggestive observation that the fossils were more divergent from the modern representatives the deeper or the older the strata in which they occurred.

The study of fossil plants dates from the beginning of the nineteenth century, when Von Schlotheim (1764-1832), one of Werner's pupils, published what was probably the first illustrated volume devoted to the subject. Much more

Palæon-
tology of
Plants.