

In conclusion, Cuvier draws attention to the rudimentary state of scientific knowledge regarding the Secondary rocks and the fossil organisms contained in them. "How glorious it would be if we could arrange the organised products of the universe in their chronological order, as we can already do with the more important mineral substances! The knowledge of the order of successive forms of life would teach us about the organisation itself. The chronological succession of organised forms, the exact determination of those types which appeared first, the simultaneous origin of certain species and their gradual decay, would perhaps teach us as much about the mysteries of organisation as we can possibly learn through experiments with living organisms."

When we at the present day pass in retrospect the contents of Cuvier's famous "Discourse," it is easy for us to perceive that the great anatomist was not familiar with the more advanced geological thought of his own time. The works of William Smith were apparently unknown to him, equally so the researches of Lehmann, Fichtel, and other of the best German stratigraphers. In the structure of mountain-systems, his views differ little from those of Buffon, Pallas, and Saussure. What is new is that Cuvier demands a *great number* of catastrophal revolutions, and he assumes that the earlier catastrophes were more widespread in their effects than the later.

In supposing that an invasion of the sea was the immediate cause of the interment of mammalia in the youngest clays and gravels, Cuvier entirely misses the significance of the fact that these are for the most part of fresh-water origin. Again, his calculation of the age of the latest revolution and the appearance of man in the northern hemisphere betrays a geological standpoint as narrow as De Luc's or Kirwan's. But what was a far more serious disadvantage to science was that a man of Cuvier's anatomical insight and prescience should deny any genetical connection between the earlier organisms and those now living. Cuvier's erroneous convictions on this point exerted an enormous influence, and it is not too much to say that they retarded the progress of the evolutionary aspect of palæontology for several decades.

But Cuvier, by his teaching of the comparative methods, placed all-powerful tools in the hands of scientific men. His greatness rests upon the magnificent work that he accomplished in the domain of the Vertebrates, upon the scientific method