

only the type, but the measure of intensity of the physical powers acting on the earth at all anterior periods.'

Lyell then opposed the doctrine of the progressive development of organic life ; and it is interesting to find Sedgwick maintaining that it had many of the elements of truth in it, inasmuch as 'the approach to the present state of things has been gradual, and that there has been a progressive development of organic structure subservient to the purposes of life.' But in expressing this view, Sedgwick had no idea of adopting the doctrines of the 'transmutation of species with all their monstrous consequences.'¹

At a later date Whewell divided the subject of his presidential address into descriptive geology and geological dynamics, the latter term being 'intended to express generally the science, so far as we can frame a science, of the causes of change by which geological phenomena have been produced.'²

'New systems' of geology were evidently in vogue, and occasionally they have been created in later days. In 1831 Macculloch issued in two volumes 'A System of Geology, with a Theory of the Earth;' a production which, temporarily, did much to damage his reputation. Murchison in criticising this work, which was professedly written in 1821, said, 'Gentlemen, if you wish to study geological science "as it is," in the writings of your own countrymen, you will naturally consult the works of Lyell and of De la Beche. But for a knowledge of what "it was," I may request you to peruse these volumes of Dr Macculloch.'³

De la Beche's 'Geological Manual' had been published in 1831, and, a few years later, John Phillips brought out the first of his excellent series of text-books. For many years the handbooks of these authors, together with the more popular works of Mantell, summarised the leading facts and gave instruction on the principles of the science.

¹ *Proc. Geol. Soc.* i. 1831, pp. 302-307.

² *Ibid.* ii. 1838, p. 643.

³ *Ibid.* i. p. 376.