

of a large and conspicuous animal or plant, and as to the smaller kinds, many of them may be conceived to have stolen in unseen, and to have spread gradually over a wide area, like species migrating into new provinces.*

It may now be useful to offer some remarks on the very different reception which the twin branches of Lamarck's development theory, namely, progression and transmutation, have met with, and to enquire into the causes of the popularity of the one, and the great unpopularity of the other. We usually test the value of a scientific hypothesis by the number and variety of the phenomena of which it offers a fair or plausible explanation. If transmutation, when thus tested, has decidedly the advantage over progression, and yet is comparatively in disfavour, we may reasonably suspect that its reception is retarded, not so much by its own inherent demerits, as by some apprehended consequences which it is supposed to involve, and which run counter to our preconceived opinions.

Theory of Progression.

In treating of this question, I shall begin with the doctrine of progression, a concise statement of which, so far as it relates to the animal kingdom, was thus given twelve years ago by Professor Sedgwick, in the preface to his *Discourse on the Studies of the University of Cambridge*.

'There are traces,' he says, 'among the old deposits of the earth of an organic progression among the successive forms of life. They are to be seen in the absence of mammalia in the older, and their very rare appearance in the newer secondary groups; in the diffusion of warm-blooded quadrupeds (frequently of unknown genera) in the older tertiary system, and in their great abundance (and frequently of known

* *Principles of Geology*, 1st ed. 1832, vol. ii. ch. xi.; and 9th ed. p. 706.