

laws of early generalised types, and sudden and wide introduction of new forms, which we have seen in the case of the invertebrates and the plants.

Such facts as those to which I have referred, and many others, which want of space prevents me from noticing, are in one respect eminently unsatisfactory, for they show us how difficult must be any attempts to explain the origin and succession of life. For this reason they are quietly put aside or explained away in most of the current hypotheses on the subject. But we must, as men of science, face these difficulties, and be content to search for facts and laws, even if they should prove fatal to preconceived views.

A group of new laws, indeed, here breaks upon us. (1) The great vitality and rapid extension and variation of new specific types. (2) The law of spontaneous decay and mortality of species in time. (3) The law of periodicity and of simultaneous appearance of many allied forms. (4) The abrupt entrance and slow decay of groups of species. (5) The extremely long duration of some species in time. (6) The grand march of new forms landwards, and upwards in rank. Such general truths deeply impress us at least with the conclusion that we are tracing, not a fortuitous succession, but the action of power working by law.

I have thus far said nothing of the bearing of the prevalent ideas of descent with modification on this wonderful procession of life. None of these, of course, can be expected to take us back to the origin of living beings; but they also fail to explain why so vast numbers of highly organized species struggle into existence simultaneously in one age and disappear in another, why no continuous chain of succession in time can be found gradually blending species into each other, and why, in the natural succession of things, degradation under the influence of external conditions and final extinction seem to be laws of organic existence. It is useless here to appeal to the