

really longer than that required for the accumulation of the whole of the group A. It might even be possible to discover elsewhere a thick intermediate group B filling up the gap between A and C. In like manner, were it to be discovered that, while the whole of the group C is characterized by a common suite of fossils, not one of the species and only one half of the genera pass up into H, the inference could hardly be resisted that the gap between the two groups marks the passage of a far longer interval than was needed for the deposition of the whole of C. And thus we reach the remarkable conclusion that, thick though the stratified formations of a country may be, in some cases they may not represent so long a total period of time as do the gaps in their succession—in other words, that non-deposition has been in some areas more frequent and prolonged than deposition, or that the intervals of time which have been recorded by strata have sometimes not been so long as those which have not been so recorded.

In all speculations of this nature, however, it is necessary to reason from as wide a basis of observation as possible, seeing that so much of the evidence is negative. Especially needful is it to bear in mind that the cessation of one or more species, at a certain line among the rocks of a particular district, may mean nothing more than that, owing to some change in the conditions of life or of deposition, these species were compelled to migrate, or became locally extinct, at the time marked by that line. They may have continued to flourish abundantly in neighboring districts for a long period afterward. Many examples of this obvious truth might be cited. Thus, in a great succession of mingled marine, brackish-water, and terrestrial strata, like that of the Carboniferous Limestone series of Scotland,