

graphical order, it becomes an invaluable guide in the investigation of the relative age and structural arrangements of these rocks even in regions beyond that in which the organic succession has been first made out. Each zone or group of strata, being characterized by its own species or genera, may be recognized by their means, and the true succession of strata may thus be confidently established even in an area such as that of the Alps, wherein the rocks have been greatly fractured, folded, inverted, or metamorphosed.

5. The relative chronological value of the divisions of the Geological Record is not to be measured by mere depth of strata. While a great thickness of stratified rock may be reasonably assumed to mark the passage of a long period of time, it cannot safely be affirmed that a much less thickness elsewhere represents a correspondingly diminished period. The truth of this statement may sometimes be made evident by an unconformability between two sets of rocks, as has already been explained. The total depth of both groups together may be, say, 1000 feet. Elsewhere we may find a single unbroken formation reaching a depth of 10,000 feet; but it would be utterly erroneous to conclude that the latter represents ten times the duration indicated by the two former. So far from this being the case, it might not be difficult to show that the minor thickness of rock really denoted by far the longer geological interval. If, for instance, it could be proved that the upper part of both the sections lay on one and the same geological platform, but that the lower unconformable series in the one locality belonged to a far lower and older system of rocks than the base of the thick conformable series in the other, then it would be clear that the gap marked by the uncon-