

Nevertheless, it must be admitted that in many instances where fossil species have a wide geographical extension, but a very limited stratigraphical range, such as the Silurian graptolites and Jurassic ammonites, no satisfactory evidence has been adduced to connect the change of species with geographical revolutions. There may be some biological law governing such organic mutations which is not yet perceived.

It is abundantly clear, however, that the geological record, as it now exists, is at the best but an imperfect chronicle of geological history. In no country is it complete. The lacunæ of one region may be supplied from another; yet in proportion to the geographical distance between the localities where the gaps occur and those whence the missing intervals are supplied, the element of uncertainty in our reading of the record is increased. The most desirable method of research is to exhaust the evidence for each area or province, and to compare the general order of its succession, as a whole, with that which can be established for other provinces. It is, therefore, only after long and patient observation and comparison that the geological history of different quarters of the globe can be correlated.²⁸

4. Subdivisions of the Geological Record by means of fossils.—As fossil evidence furnishes a much more satisfactory and widely applicable means of subdividing the stratified rocks of the earth's crust than mere lithological characters, it is made the basis of the geological

²⁸ For an example of the working out from fossil evidence of the history of the various provinces or regions of a large area of the earth's surface during an ancient geological period see the digest given by Prof. Hyatt of what is known of the Jurassic tracts of Europe, in his essay on the "Genesis of the Arietidæ," chapter iv.