

nounced the same was distinterred from the upper Devonian rocks of Westphalia—a horizon separated from the upper limit of the genus in Bohemia by at least half of the vertical height of the Upper Silurian and by the whole of the Lower and Middle Devonian rock-groups.²⁰ Such an example teaches the danger of founding too much on negative data. To establish a geological horizon on limited fossil evidence, and then to assume the identity of all strata containing the same fossils, is to reason in a circle, and to introduce utter confusion into our interpretation of the geological record. The first and fundamental point is to determine accurately the superposition of the strata. Until this is done, detailed palæontological classification may prove to be worthless.

From what has been above advanced, it must be evident that, even if the several groups in a series or system of rocks in any district or country have been found susceptible of minute subdivision by means of their characteristic fossils, and if, after the lapse of many years, no discovery has occurred to alter the established order of succession of these fossils, nevertheless the subdivisions may only hold good for the region in which they have been made. They must not be assumed to be strictly applicable everywhere. Advancing into another district or country, where the petrographical characters of the same formation or system indicate that the original conditions of deposit must have been very different, we ought to be prepared to find a greater or less departure from the first observed, or what we unconsciously and not unnaturally come to look upon as the normal, order of organic succession. There can be no doubt that the appearance of new organic forms in any locality has been in

²⁰ Barrande, "Reapparition du genre *Arethusina*," Prague, 1868.