

very high angles, and where there are probably convolutions and contortions of the beds, there may be such overturns as would cause the appearance of strata containing newer fossils to lie under and amid those containing older ones." But had my late friend visited the neighborhood of Prague, he would have learnt that the strata there are not in a state of Alpine confusion, and he would readily have convinced himself that so able an observer as M. Barrande had not been in any way deceived. In fact, the order of superposition is not obscure; and besides, there is one spot in the suburbs of Prague which I examined, where the intercalated colonial formation E 1 is reduced in thickness to 6 inches, and where nevertheless it is quite distinguishable by its organic contents, although, as we might have anticipated, there occurs here a slight blending of the distinct faunas, two species of *d* 4 being associated with a great number of the characteristic fossils of E 1.

How, then, are we to explain the phenomena? The facts themselves seem to have been very generally misunderstood, partly, perhaps, in consequence of the use of the term "colony;" partly for want of distinct names for the two periods, or subdivisions of time, E 1 and E 2. The facts, indeed, themselves are by no means simple, since they relate, first, to the alternate colonization of a certain area by two distinct nations of species; secondly, to a continual change of character undergone by each of the contemporaneous nations, in consequence of the dying out of old species and the births or first appearances of new ones. M. Barrande has been treated very much as an antiquary would be should he pretend to have found monumental evidence of an Anglo-Saxon colony established on Roman ground in the days of the Emperor Justinian; whereas, there is really no such anachronism in the paleontological facts, as exhibited in Bohemia, and as described by the author of the "Colonial" theory. He simply tells us, in regard to the colony E 1, that out of 63 species, 5 are peculiar to it where it is in its full strength,—in other words, there is a difference between the species of E 1 and of E 2, amounting to about 8 or 9 per cent., indicating a change of no less than one-twelfth of the whole fauna in the interval between E 1 and E 2, to say nothing of such discordance as would certainly be found to exist when the rarity of particular species of the first period came to be contrasted with their abundance in E 2, and *vice versa*.

Before a geologist is entitled to regard this case as abnormal, or not in harmony with the laws known to have governed the fluctuations of the organic world in bygone ages, he must show that the fauna called D underwent much greater alterations than did the fauna of the mother-country of E 1 and E 2 in the interval of time between the deposit E 1 and that called E 2,—in other words, he ought to show that more than a twelfth of the species of D died out, and more than 8 or 9 in 100 of new species came in, in the interval separating *d* 4 and *d* 5. Now, so far as I have learnt from M. Barrande, no details have as yet been ascertained respecting the fossils of these two subdivisions sufficiently minute to entitle any one to infer that the rate of fluctuation of the two faunas,