

or about 14 per cent. pass into the Middle Lias ; and of 500 species in the latter, 57, or about $11\frac{1}{2}$ per cent. pass into the Upper Lias ; while of 312 Upper Lias species, 39, or about $12\frac{1}{2}$ per cent. pass into the Inferior Oolite which succeeds it.

Few biologists and geologists now believe in the sudden extinction of entire old marine faunas, or even of the greater part of them, and their equally sudden replacement by new creations ; for it begins to be generally understood that life is variable and progressive, the change of species in given areas being due chiefly, *in comparatively short epochs*, to migrations out of and into these areas, in consequence of changes of local conditions, such as depth of water, and nature of sediments, while in long periods of geological time, it is best accounted for by that process of evolution so clearly expounded by Darwin. Neither is it a fair test of the community of species in two so-called formations, to take the entire fauna of the lower one, and calculate the percentage of forms that pass into the overlying deposit, for, between the lower and upper parts of many thick formations, there is often the same kind of difference in assemblage of species that there is between the adjoining parts of two so-called distinct formations. In judging then of passage of species, if we had all the data, the fairest method would generally be to estimate the passage of forms by those in common between the upper part of the lower formation and the lower part of the upper one, in which case it would often be found, when there is a natural conformity between the strata, that the percentage of species that pass onward is much increased.

We now come to the Oolitic series of strata.

On the flank of the Cotswold escarpment, south of