unknown to us, or, it may be, have been subsequently destroyed by denudation.

We may arrive at some solution of this question by considering what we must believe to have occurred at the close of any great geological period—say the Cretaceous period. If we reject, as we must do, the belief that the close of the Cretaceous period was marked by a sudden and universal destruction and extinction of the Cretaceous forms of life, there is only one other view that we can accept. We know, from unmistakable physical evidence, that the close of the Cretaceous period in Europe was accompanied, or rather caused, by an upheaval of the Cretaceous area, and the obliteration of the Cretaceous sea, which must, at that time, have extended from southern Britain at least as far as the Crimea eastwards. As a matter of course, this upheaval was effected, not suddenly, but with extreme slowness, and it must have resulted in bringing about changes most seriously affecting the animals which swarmed in the Cretaceous ocean. At the commencement of the upheaval, as the sea gradually began to shallow, the marine animals would find their conditions of life changed; and as the upheaval went on, the state of things would become gradually worse, till finally, the area was converted into dry land. Some of the Cretaceous forms of life would, from the very beginning, be probably unable to accommodate themselves to the new *regime*, and these would die out. Some few would undergo no changes, but would simply migrate to a more favorable area. Many, lastly, would migrate, and in the process of migration, by reason of coming into contact with strange neighbours and untried conditions, would become gradually modified, till they might assume a form in which they would be regarded as distinct varieties or even distinct species. The ultimate result of the whole process would be the transference of many characteristic Cretaceous species to some sea more or less removed in point of distance from their original home. Not only so, but many of the transferred species might have undergone such modifications *in transitu* that they would now no longer be specifically identical with the forms of the chalk, but would be regarded as merely allied or representative species, though truly the lineal descendants of the Cretaceous animals.

It is perfectly clear that the process of rock deposition which was going on in Europe towards the close of the Cretaceous period was