PREFACE.

seeks to be addressed in a plain vernacular,—which asks, first of all, definiteness in the use of terms to which probably they have already sought to attach some fixed sense; and that it is not well to unship the rudder of their thought, and send them back to sea again.

The next point which demands attention in our short résumé is that great break between the Permian and Triassic systems, across which, as stated in the following pages, not a single *species* has found its way. Much attention has been given to the great Hallstad or St. Cassian beds, which lie on the northern and southern declivities of the Austrian Alps. These beds belong to the Upper Trias, and they contain more genera common to Palæozoic and newer rocks than were formerly known. There are ten genera peculiarly Triassic, ten common to older, and ten to newer strata. Among these, the most remarkable is the Orthoceras, which was before held to be altogether Palæozoic, but is here found associated with the Ammonites and Belemnites of the secondary period.¹ The appearance of this, with a few other familiar forms, serves, in our imagination at least, to lessen the distance, and, in some small measure, to bridge over the chasm, between Palæozoic and Secondary life. And yet, considering the vast change which then passed over our planet,—that all specific forms died out, while new ones came to occupy their room,-the discovery of a few more connecting generic links in the rudimentary shell-alphabet, which serve but to show that in all changes the God of the past is likewise the God of the present, no more affects in reality this one great revolution,

¹ See Sir Charles Lyell's *Supplement* for corroboration of the foregoing statements.