

beds have been elevated ; and in proof of this statement we have not only the evidence which is afforded by the presence of marine animals at elevations far above the present level of the sea, but also the existence of rocks which were produced by the action of internal heat. The discovery of marine fossils at considerable elevations is not of itself sufficient to prove that horizontal deposits have been elevated, but when the elevation of these beds has been determined, and the igneous mass that upheaved them is found, there can be no remaining skepticism.

GENERAL REMARKS.

Admitting the statements which have been made, it will appear that the crust of the earth, so far as it is open to investigation, consists of a variety of compound substances, some having been produced by water, and some by intense heat. A superficial examination of these would lead the observer to imagine that they are destitute of arrangement ; and, if they should be examined mineralogically, they are so ; but, by the united assistance of mineralogical characters and the contained fossils, a tolerably perfect system has been produced ; so accurate, at least, that the geologist may generally predict the succession of rocks without much chance of failure. The unstratified rocks have no constant place, but are associated with the deposits of all ages, a circumstance that might be expected from their origin ; and the convulsions to which strata have been subject were confined to no particular era, although they appear to have been most violent and extensive during the formation of the older rocks.

Looking at this subject for the purpose of theoretical deductions, we are certainly led to the conclusion that the formation of the earth's crust was a work of time, and was accomplished by secondary agents of varying intensity, such as are now existing and exerting an influence on the surface of the earth. We must not, however, imagine the earth to have been, during this succession of ages, an unpeopled waste ; for in every period after the formation of the primitive rocks it appears to have been inhabited by a class of animals, and decorated with vegetation suited to its physical condition ; and the imbedded remains are sufficient evidence of this fact. But the violent changes to which the superficies of the earth were subject, could hardly fail to be exceedingly destructive