

Beneath the whole series of stratified rocks that appear on the surface of the globe (see section Pl. 1), there probably exists a foundation of unstratified crystalline rocks; bearing an irregular surface, from the detritus of which the materials of stratified rocks have in great measure been derived,* amounting, as we have stated, to a thickness of many miles. This is indeed but a small depth, in comparison with the diameter of the globe; but small as it is, it affords certain evidence of a long series of changes and revolutions; affecting not only the mineral condition of the nascent surface of the earth, but attended also by important alterations in animal and vegetable life.

The detritus of the first dry lands, being drifted into the sea, and there spread out into extensive beds of mud and sand and gravel, would for ever have remained beneath the surface of the water, had not other forces been subsequently employed to raise them into dry land: these forces appear to have been the same expansive powers of heat and vapour which, having caused the elevation of the first raised portions of the fundamental crystalline rocks,

* Either directly, by the accumulation of the ingredients of disintegrated granitic rocks; or indirectly, by the repeated destruction of different classes of stratified rocks, the materials of which had, by prior operations, been derived from unstratified formations.