probably the general distribution of sea and land, are referable to the early effects of rotation on a fluid or viscous mass, it is certain that the present details of its surface-contours are of comparatively recent date. Speculations have been made as to what may have been the earliest character of the solid surface, whether it was smooth or rough, and particularly whether it was marked by any indication of the existing continental elevations and oceanic depressions. So far as we can reason from geological evidence, there is no proof of any uniform superficies having ever existed. Most probably the first formed crust broke up irregularly, and not until after many successive corrugations did the surface acquire stability. Some writers have imagined that at first the ocean spread over the whole surface of the planet. But of this there is not only no evidence, but good reason for believing that it never could have taken place. As will be alluded to in a later page, the preponderance of water in the southern hemisphere seems to indicate some excess of density in that hemisphere. This excess can hardly have been produced by any change since the materials of the interior ceased to be mobile; it must therefore be at least as ancient as the condensation of water on the earth's surface. Hence there was probably from the beginning a tendency in the ocean to accumulate in the southern rather than in the northern hemisphere.

That land existed from the earliest ages of which we have any record in rock-formations, is evident from the obvious fact that these formations themselves consist in great measure of materials derived from the waste of land. When the student, in a later part of these volumes, is presented with the proofs of the existence of enormous masses of sedimentary deposits, even among some of the oldest geo-