

presumably meteoric iron from the most distant abysses of the ocean. To be told that mud gathers on the floor of these abysses at an extremely slow rate conveys but a vague notion of the tardiness of the process. But to learn that it gathers so slowly, that the very star-dust which falls from outer space forms an appreciable part of it, brings home to us, as hardly anything else could do, the idea of undisturbed and excessively slow accumulation.

From all this evidence we may legitimately conclude that the present land of the globe, though formed in great measure of marine formations, has never lain under the deep sea; but that its site must always have been near land. Even its thick marine limestones are the deposits of comparatively shallow water. Whether or not any trace of aboriginal land may now be discoverable, the characters of the most unequivocally marine formations bear emphatic testimony to this proximity of a terrestrial surface. The present continental ridges have probably always existed in some form, and as a corollary we may infer that the present deep ocean basins likewise date from the remotest geological antiquity.

§ 2. *Crystalline*.—While the greater part of the framework of the land has been slowly built up of sedimentary materials, it is abundantly varied by the occurrence of crystalline masses, many of which have been injected in a molten condition into rents underground, or have been poured out in lava-streams at the surface.

Without entering at all into geological detail, it will be enough for the present purpose to recognise the characters and origin of two great types of crystalline material which have been called respectively the Eruptive and Metamorphic.

(a) *Eruptive*.—As the name denotes, Eruptive or Igneous rocks have been ejected from the heated interior