

conditions as influencing others which succeeded them, till the present aspect of nature appears as a consequence of all the previous changes, is in fact to write the physical history of our planet upon the same plan as that universally adopted for histories of its human inhabitants.

*Granitic Basis of the Crust of the Earth.*

This geological history of the earth must necessarily commence with the earliest (*i. e.* lowest) stratified formations; and the first things to be determined are, the extent to which they can be traced, and the nature of the basis on which they rest. Sufficient information is already gathered on these points to allow of a distinct affirmation, that below all the series of strata existing in any country, masses of crystallised but unstratified rocks exist so as to form a general floor, most irregular in surface and of unknown thickness, on which the strata successively rest. These rocks are generally of the nature of granite, that is to say, largely crystallised aggregates of felspar with variable admixtures of mica and quartz — or more rarely quartz and hornblende — or quartz and hypersthene. Examples of the first kind of granitic basis of the crust of the earth, are almost universal in mountainous regions; *e. g.* the Grampians, the Mourne and Wicklow mountains, Cumbria, Cornwall, Pyrenees, Alps, &c. Sienitic granite (holding hornblende with or instead of mica) occurs about Strontian and in Ben Cruachan; and hypersthenic granite shows itself in the Val di Fassa (Alps), gradually changing to common micaceous granite.

Seeing then the probably universal extent of the granitic floor beneath the stratified parts of the earth's crust, it becomes of great importance to ascertain if the law which is allowed to hold for all stratified rocks (*viz.* that the lowest are the oldest), is extensible to the subjacent granite, so that it may be ranked as *an older rock than any of the strata which rest upon it.* A