the air with greater rapidity, and under less pressure, than under the deep roots of a volcanic mountain. The same materials which, cooled at the surface of the earth, may be of glassy nature, as obsidian, or cellular, as most lava, may be, and probably are, at great depths in the earth's crust, or even under the sea, solidified with structures as highly crystalline, and in masses as dense, as those of granite or greenstone. And as in fact we know, from careful observation, that granites, greenstones, and other ancient rocks of igneous origin, *were* solidified under the pressure of the sea, and generally below a great mass of strata on its bed, it is not without good reason that modern geologists have drawn a line of distinction between the *plutonic* rocks, elaborated in the deep recesses of the earth, and the *volcanic* products, which are solidified at or near the surface. This distinction is indeed one of *degree*, and may be misapplied, and is neither complete nor exact when used, as it frequently is, absolutely to separate the consideration of the old and the modern products of heat. There are crystallised rocks among the products of modern volcanos, and glassy lavas among the ancient strata; basalt is both an ancient and a modern product; yet, as a general rule, it is true that the ancient igneous rocks possess those characters which we may believe to belong to slower cooling under greater pressure than the lavas which flow from subaerial volcanos have experienced. A philosophical consideration of the subject will always recognise the essential differences of subterranean, submarine, and subaërial solidification, as independent of geological antiquity; and philosophical observation will gradually enable us to detect these differences, and to employ them in tracing the changing conditions of the terraqueous globe.

Mineral Composition of Unstratified Rocks.

In those rocks of igneous origin, which permit the ingredients of which they are composed to be clearly