

shows that here and there the alteration and recrystallisation have proceeded so far that the rocks graduate into granites and other so-called igneous rocks. A series of specimens may be collected showing unaltered or at least quite recognisable sedimentary rocks at the one end, and thoroughly crystalline igneous rocks at the other. Thus the remarkable fact is brought home to the mind that ordinary sandstones, shales, and other sedimentary materials may in the course of ages be converted by underground changes into crystalline granite. The framework of the land, besides being knit together by masses of igneous rock intruded from below, has been strengthened by the welding and crystallisation of its lowest rocks. It is these rocks which rise along the central crests of mountain chains, where, after the lapse of ages, they have been uncovered and laid bare, to be bleached and shattered by frost and storm.

## ii.—*The Architecture of the Land.*

Let us now proceed to consider how these materials, sedimentary and crystalline, have been put together, so as to constitute the solid land of the globe.

It requires but a cursory examination to observe that the sedimentary masses have not been huddled together at random; that, on the contrary, they have been laid down in sheets one over the other. An arrangement of this kind at once betokens a chronological sequence. The rocks cannot all have been formed simultaneously. Those at the bottom must have been laid down before those at the top. A truism of this kind seems hardly to require formal statement. Yet it lies at the very foundation of any attempt to trace the geological history of a country. Did the rocks everywhere lie undisturbed one above another as