

By noting these and other characters, geologists have learnt that, besides the regions of still active volcanoes, there are few large areas of the earth's surface where proofs of former volcanic action or of the protrusion of igneous rocks may not be found. The crust of the earth, crumpled and fissured, has been, so to speak, perforated and cemented together by molten matter driven up from below.

(b) *Metamorphic*.—The sedimentary rocks of the land have undergone many changes since their formation, some of which are still far from being satisfactorily accounted for. One of these changes is expressed by the term *Metamorphism*, and the rocks which have undergone this process are called *Metamorphic*. It seems to have taken place under widely varied conditions, being sometimes confined to small local tracts, at other times extending across a large portion of a continent. It consists in the rearrangement of the component materials of rocks, and notably in their recrystallisation along particular lines or laminae. It is usually associated with evidence of great pressure; the rocks in which it occurs having been corrugated and crumpled, not only in vast folds, which extend across whole mountains, but even in such minute puckerings as can only be observed with the microscope. It shows itself more particularly among the older geological formations, or those which have been once deeply buried under more recent masses of rock, and have been exposed as the result of the removal of these overlying accumulations. The original characters of the sandstones, shales, grits, conglomerates, and limestones, of which, no doubt, these metamorphic masses once consisted, have been more or less effaced, and have given place to that peculiar crystalline laminated or foliated structure so distinctively a result of metamorphism.

An attentive examination of a metamorphic region