

a much larger portion of its original heat than is now experienced.

But to this *speculation*, and indeed to almost all the partial inferences which it is intended to embrace, there is the general objection made, that the present mineral aspect of the gneiss and mica schist does not prove their origin from granite, but their partial re-conversion to that rock ; that the absence of organic remains in these ancient strata is a fruit of such re-aggregation of the mass of the rocks ; and that thus the whole basis of the reasoning and speculation changes, gneiss and mica schist become types of *metamorphic* rocks, and the monuments of the origin of watery action and organic life on the globe are wholly and irrecoverably lost. It must be confessed, that the doctrine of metamorphism of rocks has well explained the changes near trap dykes, in sandstones, shales, and limestones,—has fully explained the production of crystallised minerals among sedimentary strata (Teesdale, Plas Newydd) ; but the condition of the grains in mica schist and gneiss is not such, nor is the manner of their aggregation such as to justify a belief that these strata have undergone so complete a metamorphosis as Mr. Lyell's doctrine teaches. They are generally indurated ; near granite rocks specially changed : every where they have suffered the influence of pervading heat, but not enough to recrystallise the fragmentary mica, quartz, and felspar, for these are not re-crystallised. Moreover there are cases where organic remains do occur (Dauphiné), among strata of analogous composition though different antiquity. The absence of organic remains in these ancient strata is still a fact to be explained otherwise than by the action of heat. The watery origin of these rocks is a truth ; the alterations which they have since undergone are intelligible ; and, thus, we appear to be justified in rejecting the doctrine which denies the power of discovering monuments of the commencement of watery action and organic life upon the earth.