

structure. To this is superadded a slaty structure. Hence the Huttonians infer, that these rocks must be mechanical deposites somewhat changed by the action of heat, because rocks, formed from a state of complete fusion, according to their system, cannot retain the slaty structure to any great extent. If this inference were correct, we should never find porphyry-slate, clay-slate, mica-slate, and slaty-quartz, in veins, because, according to the Huttonian Theory, all veins have been filled by the injection of fluid matter from below. It is well known, however, that all these rocks do occur in veins, which are often of immense magnitude, and issue from the most distinctly stratified rocks. These facts then demonstrate, that, although gneiss and mica-slate have a slaty structure, they are not mechanical deposites, and therefore are not composed of materials older than themselves; and consequently, that there exists a class of rocks whose origin cannot be traced to any thing antecedent.

This point may be still more minutely illustrated by a comparison of the structure of gneiss and mica-slate, with some rock, as Sandstone, which is universally admitted to be a mechanical formation. Sandstone is composed of particles of quartz, sometimes also particles of felspar and mica. These particles, when closely examined, bear all the marks of attrition, and are always connected together into a mass, by means of a cement which is either  
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