

*potassium, sodium, magnesium, and calcium*; and two, the oxides of which are neither earths nor alkalies, namely, *iron* and *manganese*. The remaining metallic substances, copper, lead, zinc, arsenic, silver, gold, &c. are comparatively unimportant in a geological point of view.

The common sedimentary rocks are in a great measure composed either of lime, silex, or argillaceous earth; and they possess, what in mineralogical language is called, a *cleavage*, or peculiar fracture, which is distinct in each. Thus, if I take a flint and break it at random, you perceive that it presents a glassy or *conchoidal* fracture, a sharp cutting edge; and subdivide it as I may, it still retains the same character: but if I break a piece of chalk, the edge is not sharp or cutting, but blunt and dull, exhibiting what is called in mineralogy an *earthy* fracture. Again, if I shiver to pieces with my hammer this calcareous spar, every fragment presents, more or less distinctly, a rhomboidal form; so true is the remark, that we cannot break a stone but in one of nature's joinings.

3. CRYSTALLIZATION.—Crystallization may be defined a methodical arrangement of the particles of matter according to fixed laws. For instance—there are nearly 500 varieties of crystallized carbonate of lime, each crystal being composed of millions of atoms of the same compound substances, and having one invariable primary form—that of a rhomboid. Mechanical division is incapable of