

The prevailing colours of slate are bluish or greenish grey : it has a silky lustre. Slate rocks, have, frequently, a distinct slaty structure and may even be split in two directions, which have an acute angle with each other ; but some slate rocks have a compact structure, and will not admit of splitting. Slate yields to the knife : it is fusible into a black slag. The composition of slate is various : indeed, by many geologists it is not regarded as an homogeneous rock. Its composition has been given as under :—Silex 48, alumine 23, manganese 1·6, oxide of iron 11·3, oxide of manganese 0·5, potass 4·7, carbon 0·3, water 7·6. The quantity of carbon increases in the upper formations of slate, and it passes by a greater admixture of carbon, into a soft, dark, slaty bed, denominated shale by the English miners. Slate is a very extensive formation, composing entire mountains in many alpine districts.

*Basalt* and compact lavas are classed, by some mineralogists, with simple minerals, but they are composed of three or more simple minerals closely united :—they will be afterwards described.

Some of the minerals, here enumerated, compose entire rocks ; other rocks are composed of an intermixture of two or more simple minerals, either cemented together by another mineral substance, or the minerals are crystallized and united without a cement. The different modes in which simple minerals are found, united together in rocks, have given rise to the following terms :—

*Granitic*, composed of grains or crystals united without a cement, as in granites, and some sand-stones.

*Porphyritic*, composed of a compact homogeneous rock, in which distinct crystals or grains are imbedded. The compact stone is called the base, and sometimes the paste. The base of some porphyritic rocks is granitic ; in this case, some of the crystals are much larger than the rest.

*Amygdaloidal*, containing rounded or kernel-shaped cavities, filled with mineral matter of a different kind.

*Breccia* is composed of angular fragments of rocks, cemented together.

*Pudding-stone* consists of rounded stones imbedded in a paste.\*

Fragments of stone, broken from *simple rocks*, display the structure of the internal parts. The face of the broken part is called the fracture. This internal structure may be denominated the mineral structure, and is either

*Compact*, without any distinguishable parts or divisions ; or

*Earthy*, composed of minute parts resembling dried earth.

*Granular*, composed of grains.

*Fibrous*, composed of long and minute fibres.

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\* When fragments of stone, whether angular or rounded, are large and are imbedded in strata of indurated clay, sand or sandstone, they are called *Conglomerates*.