

and Hungary, and in vast quantities in South America. It constitutes the loftiest summits of the Cordilleras.

Trachyte in an earthy condition, as it occurs in the Pays de Dome, in Auvergne, is called *domite*. Trachyte is usually porphyritic, and hence we have *trachytic porphyry*.

9. *Lava*.

Lava, as remarked in another place, embraces all the melted matter ejected from volcanos; and the two minerals, feldspar and augite, constitute almost the entire mass of these products. When the former predominates, light-colored lavas are the result, when the latter, the dark varieties. The former are called *feldspathic* or *trachytic*, and the latter, *augitic* or *basaltic* lavas.

Other simple minerals occur in lava. Thus, in the product of Vesuvius alone, not less than 100 species have been detected; but they form so inconsiderable a part of the whole mass, as not to deserve consideration in a general view like the present.

Trachytic lava corresponds in most of its characters to the trachyte of the older igneous rocks. When cooled under pressure, solid rock results; but when cooled in the air, it is porous, fibrous, and light enough to swim on water, as is the case with pumice, large masses of which are found sometimes in the midst of the ocean. Sometimes it is porphyritic, like the older trachytes.

In like manner the basaltic or augitic lavas exceedingly resemble the more ancient basalt; and are, in fact, the same thing, produced under circumstances a little different. When cooled under pressure, compact basalt is the result; but cooled in the open air, they are scoriaceous or vesicular, and are usually called scoriæ.

Graystone lava is a lead gray or greenish rock, intermediate in composition between basaltic and trachytic lavas; but the feldspar predominates, being more than 75 per cent.

Vitreous lava has a fracture like glass. *Obsidian* seems to be merely melted glass. *Pitchstone* is less glassy, with an aspect more like pitch. It is usually composed of feldspar and augite, and often passes into basalt. Its composition however varies.

The small angular fragments and dust of pumice, (which is vesicular trachytic lava), and of scoriæ, (which is vesicular basaltic lava), which are produced by an eruption, falling into the sea, or on dry land, and mixing with sand, gravel, shells, etc., and hardened by the infiltration of carbonate of lime or other cement, constitute the substance denominated *tuff* or *tufa*. When this