

strangely intersected ridge. The bareness of the mountains, their forms—pointed or rounded, sometimes terminating in scarped plateaux—give to the whole landscape an appearance at once picturesque and characteristic. The peak of Le Mezen, which rises 5,820 feet above the sea, forms the culminating point of the chain. The phonolites of which it consists have been erupted from fissures which present themselves at a great number of points, ranging from north-north-west to south-south-east.

On the banks of the Rhine and in Hungary the trachytic formation presents itself in features identical with those which indicate it in France. In America it is principally represented by some immense cones, superposed in the chain of the Andes; the colossal Chimborazo being one of those trachytic cones.

BASALTIC FORMATIONS.

Basaltic eruptions seem to have occurred during the Secondary and Tertiary periods. Basalt, according to Dr. Daubeny,* in its more strict sense, "is composed of an intimate mixture of augite with a zeolitic mineral, which appears to have been formed out of labradorite (felspar of Labrador), by the addition of water—the presence of water being in all *zeolites* the cause of that bubbling-up under the blow-pipe to which they owe their appellation." M. Delesse and other mineralogists are of opinion that the idea of augite being the prevailing mineral in basalt, must be abandoned; and that although its presence gives the rock its distinctive character, as compared with trachytic and most other trap rocks, still the principal element in their composition is felspar. Basalt, a lava consisting essentially of augite, labradorite (or nepheline) and magnetic iron-ore is the rock which predominates in this formation. It contains a smaller quantity of silica than the trachyte, and a larger proportion of lime and magnesia. Hence, independent of the iron in its composition, it is heavier in proportion, as it contains more or less silica. Some varieties of basalt contain very large quantities of olivine, a mineral of an olive-green colour, with a chemical composition differing but slightly from serpentine. Both basalts and trachyte contain more soda and less silica in their composition than granites; some of the basalts are highly fusible, the alkaline matter and lime in their composition acting as a flux to the silica. There are examples of basalt

* "Volcanoes," 2nd ed.