

granite. **Augite-granite**—a variety in which augite occurs with black mica. **Tourmaline granite**—a granite with disseminated tourmaline. **Greisen**—a rare granitic rock from which the felspar has disappeared, found in some granite districts, especially in those wherein mineral-veins occur. **Aplite**—a fine-grained mixture of quartz and felspar, which have not infrequently intergrown (micropegmatite); found especially in veins in granite. "Elvan" is a Cornish term for a crystalline-granular mixture of quartz and orthoclase, forming veins which proceed from granite, or occur only in its neighborhood, and are evidently associated with it.¹⁶⁹ Under the name *Granulite* M. Michel-Lévy includes certain fine-grained granites with white mica, which to the naked eye appear to be composed entirely of felspar and quartz, or of felspar alone, though both mica and quartz appear in abundance when the rocks are microscopically examined. He includes in this category most of the rocks of the Alps described as "protogine."

Surrounding large masses of granite there are usually numerous veins, which consist of granite, quartz-porphry, felsite, or sometimes even spherulitic material (Mull). There can be no doubt that these finer-grained protrusions really proceed from the crystalline granite mass. Lossen has shown that the Bode vein in the Harz has a granitoid centre, with compact porphyry sides, in which he found with the microscope a true glassy base.¹⁷⁰ Sometimes the rocks associated in this way with granite differ in composition from the main granite. Tourmaline is one of the characteristic minerals of granite-veins, though less observable in the main body of the rock; with quartz, it forms **Schorl-rock**.

Granite weathers chiefly by the decay of its felspars. These are converted into kaolin, the mica becomes yellow and soft, while the quartz stands out scarcely affected. The granite of the southwest of England has weathered to a depth of 50 feet and upward, so that it can be dug out with a spade, and is largely used as a source of porcelain-clay.

Granite occurs (1) as an eruptive rock, forming huge bosses, which rise through other formations both stratified and unstratified, and sending out veins into the surrounding and overlying rocks, which usually show evidence of much alteration as they approach the granite; (2) connected with

¹⁶⁹ J. A. Phillips, Q. J. Geol. Soc. xxxi. p. 334. Michel-Lévy, Bull. Soc. Géol. France, iii. 3d ser. p. 201.

¹⁷⁰ Zeitsch. Deutsch. Geol. Ges. xxvi. (1874), p. 856.