bedded crystals. In granitic porphyry that is very poor in quartz, the feldspathic base is almost granular and laminated.*

3. *Greenstones, Diorite*, are granular mixtures of white albite and blackish-green hornblende, forming dioritic porphyry when the crystals are deposited in a base of denser tissue. The greenstones, either pure, or inclosing laminæ of diallage (as in the Fichtelgebirge), and passing into serpentine, have sometimes penetrated, in the form of strata, into the old stratified fissures of green argillaceous slate, but they more frequently traverse the rocks in veins, or appear as globular masses of greenstone, similar to domes of basalt and porphyry.†

Hypersthene rock is a granular mixture of labradorite and hypersthene.

Euphotide and serpentine, containing sometimes crystals of augite and uralite instead of diallage, are thus nearly allied to another more frequent, and, I might almost say, more *energetic* eruptive rock—augitic porphyry.‡

Melaphyre, augitic, uralitic, and oligoklastic porphyries To the last-named species belongs the genuine *verd-antique*, so celebrated in the arts.

Basalt, containing olivine and constituents which gelatinize in acids; phonolithe (porphyritic slate), trachyte, and dolerite; the first of these rocks is only partially, and the second always, divided into thin laminæ, which give them an appearance of stratification when extended over a large space. Mesotype and nepheline constitute, according to Girard, an important part in the composition and internal texture of basalt. The nepheline contained in basalt reminds the geognosist both of the miascite of the Ilmen Mountains in the Ural,§ which has been confounded with granite, and sometimes contains zirconium, and of the pyroxenic nepheline discovered by Gumprecht near Lobau and Chemnitz.

To the second or sedimentary rocks belong the greater part of the formations which have been comprised under the old

* Dufrenoy et Elie de Beaumont, *Géologie de la France*, t. i., p. 130.

† These intercalated beds of diorite play an important part in the mountain district of Nailau, near Steben, where I was engaged in mining operations in the last century, and with which the happiest associations of my early life are connected. Compare Hoffmann, in Poggendorf's *Annalen*, bd. xvi., s. 558.

‡ In the southern and Bashkirian portion of the Ural. Rose, *Reise*, bd. ii., s. 171.

§ G. Rose, *Reise nach dem Ural*, bd. ii., s. 47–52. Respecting the identity of eleolite and nepheline (the latter containing rather the more lime), see Scheerer, in Poggend., *Annalen*, bd. xlix., s. 359–381.