

These pyroxenic intercalations among the schists, like the hornblendic and olivine bands mentioned below, seem to represent bands of igneous material (lavas or tuffs) either erupted contemporaneously with the deposition of the original material of the schists, or subsequently intruded into it, and thereafter exposed to the metamorphism which produced the foliation of the schists.

4. HORNBLLENDE-ROCKS.—**Amphibolites**—a name applied to a group of rocks, composed mainly of hornblende, sometimes schistose, sometimes thick-bedded. Besides the hornblende, numerous other minerals, such as are common among the schists, likewise occur—orthoclase, plagioclase, quartz, augite and varieties, garnet, zoisite, mica, rutile, etc. Where the rock is schistose, it becomes an **amphibolite-schist** or **hornblende-schist**; or if the hornblende takes the form of actinolite, **Actinolite-schist**. **Glaucophane-schist**—a bluish-gray or black rock, in which the hornblende occurs in the form of glaucophane, forms large masses in the Southern Alps, and occurs locally in Anglesey. Where an amphibolite is not schistose, it used to be termed *hornblende-rock*. **Nephrite** (Jade) is a compact, extremely finely fibrous variety. The presence of other minerals in noticeable quantity may furnish names for other varieties. Thus, where plagioclase (and some orthoclase) occurs, the rock becomes a **Felspar-amphibolite**, **Dioritic amphibolite**, or **Diorite-schist**.²²⁰ Amphibolites occur as bands associated with gneiss and other schistose formations. It was suggested by Jukes that they may possibly represent former beds of hornblendic or augitic lava and tuff, which have been metamorphosed together with the strata among which they were intercalated. This suggestion has received confirmation from the researches of the Geological Survey in the north of Scotland and in Ireland, where what were doubtless originally pyroxenic masses erupted prior to the metamorphism of the region, have had their augite changed by paramorphism into hornblende, and have partially assumed a foliated structure, passing into **Epidiorite**, **Epidiorite-schist**, **amphibolite-schists**, and even serpentine.

in Lower Austria. F. Becke, *Tschermak's Min. Mitth.* IV. p. 352. J. Lehmann's "Untersuchungen über die Entstehung der Altkrystallinischen Schiefergesteine," Bonn, 1884, p. 190. On the diabase-schists of the Taunus, see L. Milch, *Zeitsch. Deutsch. Geol. Ges.* xli. (1889), p. 394.

²²⁰ See F. Becke, *Tschermak's Min. Mitth.* IV. p. 233. The author likewise distinguishes diallage-amphibolite, garnet-amphibolite, salite-amphibolite, zoisite-amphibolite.