## Macfarlanc on the Primitive Formations

under the general term of argillaceous slate, which is frequently applied to these rocks, there occurs a clay slate, described as being both micaceons and chloritic, (Chloritischer Thonglimmerschiefer); from which it appears that, even mechanically, the same substances are distinguishable in some clay slates, which Sauvage found by chemical analysis to be present in the slates of the Ardonnes; viz., a chloritic mineral which was decomposed by hydrochloric acid, with a micaceous mineral decomposable by sulphuric acid, and quartz.\*

3. Chlorite schist, "a soft schistose, mostly greenish colored rock, consisting principally of chlorite. Quartz or feldspar, or both together, are however frequently mixed with the chlorite."<sup>†</sup> It is often found in its characteristic form, but is also frequently described merely as chloritic schist, and occurs principally in the districts around Trondhjem.

4. Limestone comes next in frequency. It is developed especially in the districts of Tromsen and Senjen, where its texture varies from granular to impalpable, and its colour from white to dark grey. The limestone of the districts around Trondhjem, is mostly yellowish-white, and of an impalpable, sometimes slaty structure.

5. Quartz slate and Quartzite, appear as transitions from mica schist, in the manner above referred to.

6. Gneiss, more or less characteristic, occurs in the group, especially towards the junction with the Primitive Gneiss Formation.

7. Hornblende schist, occurs in the Trondhjem region, and also in more northern districts. In both, it is connected with, and forms transitions into diorite.

8. Diorite and other Greenstones. Diorite is "a crystalline, granular mixture of hornblende and albite, sometimes also slaty or porphyritic."<sup>†</sup> Most of the greenstones in this group seem to be diorites. They are, however, often of very variable characters, and by the substitution of diallage for hornblende, graduate into a species of diabase.

9. Granite and Symite, are also eruptive rocks occurring in the group, sometimes intimately associated with the diorites. Hornblendic granite, a connecting link between granite and symite, and granulite are also mentioned.

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<sup>\*</sup> Ann : des Mines VII, 441.

<sup>†</sup> Cotta : Gesteinlehre, p. 145.

<sup>†</sup> Cotta : Gesteinlehre, p. 57.