

mann, Keilhau and others, who specially studied the various Scandinavian formations, but Kjerulf and Dahll, to whose researches I have yet to refer, have lately declared themselves opposed to this view. According to Keilhau, the gneiss formation of Kongsberg and of Flesberg, is, to the east of these districts, conformably overlaid by the Tellemarken quartzose group, into the rocks of which the gneiss forms a gradual transition. The same relations are described by Keilhau, as occurring at other points of junction, and he concludes that the Tellemarken quartzose group is to be regarded as filling up a very broad depression in the underlying gneiss formation. The quartzose group is not found in contact with any of the schistose series described, but the analogous quartzose group of Alten and Quænaenger is overlaid conformably by the mica schist rocks of Tromsen and Senjen. The relations of the latter to the Dovrefjeld slates are unknown, for whereas the last mentioned come in contact with strata belonging to the primitive gneiss formation, both the quartzose and mica schist groups are absent, and the slates of Dovrefjeld rest conformably on the gneissoid strata. On the other hand, these Dovrefjeld slates form a continuous transition, through less and less crystalline slates, greywacke slates, and sandstones, into the fossiliferous Silurian strata of the district north of Mjösen Lake. It seems therefore that the succession of these groups, in the order of their antiquity, is as follows:—

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|--|------------------------------|
| 1. Primitive Gneiss formation.                   |                              |
| 2. Quartzose group.                              | } Primitive Slate formation. |
| 3. Micaceous group.                              |                              |
| 4. Argillaceous and chloritic group.             |                              |
| 5. Greywacke slates, sandstones, and limestones. |                              |
| 6. Fossiliferous Silurian strata.                |                              |

It is to be remarked, that besides these stratified groups, various eruptive formations occur, whose age or place in the above list it is difficult to determine. Among these, the gneiss-granite of Vestfjord, and the granite and gneiss-granite in the southern parts of Bratsbergs Amt are the most important. The relations of the latter to the Tellemarken quartzose group, have been minutely investigated by Dahll, and described in his paper "*Om Tellemarkens Geologie*." He there unequivocally establishes the following succession, commencing with the more modern formations.

1. Syenite with associated granite, rhomboidal porphyry and augite porphyry.