

occur in Norway, principally in regard to their petrographical and economic characters. I shall follow the order in which they are mentioned above, inserting at the end of each description, a few remarks on their development in Canada. The various facts related in the following descriptions are principally derived from such authorities as Naumann and Keilhau; my personal observations of the districts under notice, having only served to imprint on my mind the descriptions of these and other philosophers. The particulars narrated as to the various mining establishments, are to a great extent however, the results of my own experience and observation. As to the various features touched upon with regard to Canada, my principal source of information has of course been the reports of the officers of the Geological Survey.

I. THE PRIMITIVE GNEISS FORMATION.

In Keilhau's "First attempt towards a Geological Map of Norway," as yet the only complete geological map of the country published, there are distinguished three geographical divisions, belonging to the Primitive Gneiss formation, separated from each other by groups of rocks, belonging either to the primitive slate, the eruptive granite and syenite, or to the Silurian series. The first of these is situated high up in Finmark, its most northern point being the North Cape. The second stretches from Beiern-fiord, north of Trondhiem, along the whole coast of Norway, southward to Christiansand, and from thence north-eastward to Kragerö. To this division, the gneiss districts of Kongsberg and Modum also belong. The third division is that lying to the eastward of Christiania-fiord and lake Miosen. These three divisions form only the most westerly parts of the great Primitive Gneiss formation, which extends through Sweden to Finland, and which is the characteristic feature of Scandinavian geology. The rocks which constitute this formation are the following:—

1. *Gneiss* in many varieties, the most common being what is called by Keilhau, *characteristic gneiss*, and which he thus describes. "The rock consists of white or reddish white feldspar, (orthoclase), grey quartz and black mica; the feldspar and quartz being combined with each other granularly, and the mica arranged in this mass in parallel layers; so that the structure is more an alternatively granular and slaty one, than a regularly slaty structure, with quite equal distributions of the three con-