

The Kiask series lies almost flat in the Bannockburn area. This peculiarity makes it difficult to distinguish from the Cobalt series, where similar rock types, such as the argillites, are under consideration. The difficulty is most pronounced on the eastern side of the area, where there are heavy deposits of argillite. Part of these are clearly Cobalt series, as they are filled with the red arkose layers and red feldspar grains characteristic of the series. Other argillites have no such earmarks, and have been mapped with the Kiask. However, the determination is doubtful in places.

The mapping shows that the Bannockburn area is an anticline the axis of which strikes north 10 degrees west and is plunging to the south at a low angle where the formation disappears below the Cobalt series on the south. The pronounced synclinal bend in the boundary of the formation on Boyer lake is probably the crossing of the principal axis of the Midlothian fold. The Bannockburn fold is, therefore, a pronounced anticlinal cross fold, if we consider north 65 degrees east as the principal axis of folding; and the flatness of the strata in the Bannockburn area is probably due to the counteracting influences of the synclinal folding and anticlinal cross folding at this point.

In the Mistinikon down-faulted area the beds are all steeply dipping, with a strike south 65 degrees east and dip 65 degrees north.

*Metamorphic Effects of Folding.* The effects of folding on the rocks of the Kiask series have been surprisingly slight. Apparently they acted as massive, competent units even where folding was severe as in the Midlothian area. The granite conglomerate, wherever found, is invariably unshattered and non-schistose. The greenstone conglomerate which overlies the granite conglomerate to the west of Midlothian lake has suffered more, and in places has been squeezed and the pebbles flattened to a very considerable extent. The grits and arkoses have suffered comparatively little, but the argillites have been badly contorted and in places converted into true slate.

*Time of Folding.* The folding of the Kiask series evidently took place before the deposition of the Cobalt series, as that series is comparatively unmetamorphosed in this vicinity. It also probably occurred before the intrusion of the great batholiths of granite, as these are nowhere sheared. The folding movement may, therefore, be stated as post-Kiask and pre-granitic or pre-batholithic.

*Faulting.* Faults are rather common. A block fault with a north-south strike passes through Fault lake and weathering along the fault has produced a valley of some length, of which the lake occupies a part. The northern boundary of the Midlothian area is a fault, with a general east-west strike. It has brought the Kiask series against the basalts of the volcanic series. The fault has not apparently affected the band of Huronian to the east, and is probably, therefore, pre-Huronian. The boundaries of both the Midlothian and Bannockburn areas against the band of Cobalt series that runs through Montrose township are faults. As will later be shown in the discussion of the Cobalt series, this band forms a downfaulted block in the northern part of Montrose township, the displacement of which decreases toward the south.

The eastern boundary of the Bannockburn area seems to be also a fault line or a series of them. The members of the Cobalt series in contact