a great depth of erosion to remove the Cobalt series from the old surface, so that the Cobalt series forms merely a comparatively thin scale on it. The old surface cannot, therefore, be far below the present peneplained surface, and accordingly was a peneplain of much the same contour as at present.

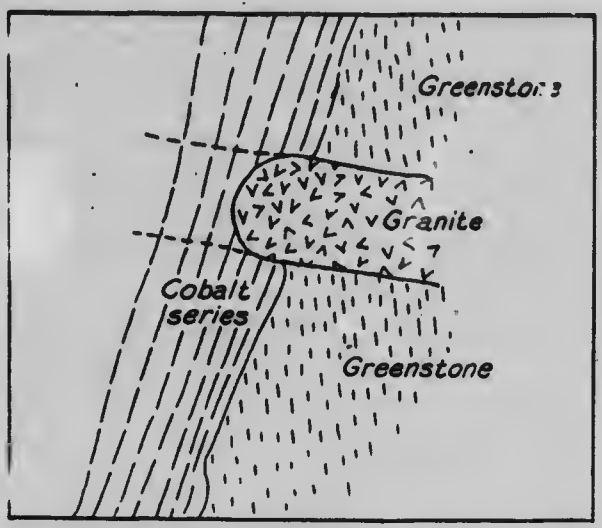

Figure 1. Diagrammatical representation of the contact of a younger sedimentary series, such as the Cobalt series, with an older unpeneplained surface. The granite is supposed to have stood up from the greenstones as a ridge.

Relations to Younger Formations. The only younger formation of the region is the Nipissing diabase. In the Gowganda area to the south the diabase intruded the Cobalt series in large dykes and sills. None was found in Matachewan area, cutting the Cobalt series.

NIPISSING DIABASE.

As mentioned, no diabase was found in Matachewan area cutting the Cobalt series, and, therefore, definitely determinable as the Nipissing diabase. Dykes of quartz diabase are occasionally found cutting the volcanics, Kiask series, and granites, however, and some of these may be the Nipissing diabase. Such dykes are very numerous in Kimberley township, and these are very probably Nipissing, and related to the large sill of diabase in the southern part of the township. For full description of the diabase the reader is referred to the reports of W. H. Collins.[1]

[1] Geol. Surv., Can., Mem. 33, 1913, pp. 59-93; Mem. 95, 1917, pp. 84-101.