complex two possibilities suggest themselves: (1) there may have been a depression in the Pre-Huronian peneplain surface throughout this belt when the Huronian sediments were laid down; or, (2) the Huronian rocks may have been downwarped or downfaulted throughout the region in which they occur, since they were deposited.

The occurrence in the basal complex of a great central igneous belt of granitic gneisses flanked on either side by surface rocks—sediments and volcanic flows—would seem to indicate that the belt of banded gneisses represents the core of a great Pre-Cambrian geanticlinal mountain range and that the folded surface rocks are the remnants of geosynclinal intermontane belts. If this interpretation of the structural relationships of the rocks of the basal complex be correct, then the mountain belt even after numerous cycles of erosion owing both to the original higher elevation and to the superior hardness of the granitic gneisses, would probably lag somewhat behind the intermontane areas in erosion and in consequence a depression might occur in the ancient peneplain surface throughout the geosynclinal areas.

In discussing the origin of the linear valleys of the Timiskaming region, it was pointed out that the Cobalt series had probably been subjected to faulting and it is probable that these rocks have in places been depressed relatively to the other rocks of the region, in this manner; furthermore, it is also possible that the deformation which has occurred in the Huronian rocks has taken place along structural lines which parallel the axial trends of the great geanticlinal and geosynclinal belts in the basal complex beneath, and, in such an event they might be downwarped or downfaulted or both downwarped and downfaulted throughout a region which would correspond to the geosynclinal belt in the basement complex. In order to establish this hypothesis, however, it would be necessary to show that the structural trend of the folds in the Huronian sediments has a northeasterly-southwesterly direction parallel to the axial trend of the folds in the older complex, and this has not yet been determined.

The great erosion interval during which the pre-Huronian peneplain was developed was finally terminated in Timiskaming region by the deposition of the Huronian Cobalt series of sediments which are believed to be in part of glacial origin. Following the deposition of the Cobalt series a second period of denudation ensued which continued into the early Palæozoic when a marine submergence occurred as shown by the presence of Ordovician and Silurian rocks at the north end of lake Timiskaming. It is probable that the larger part of the denudation which has occurred in the region since Pre-Cambrian time, took place during this interval; for the Palæozoic sediments rest, in part, on unroofed and denuded sills of Nipissing diabase, which were intruded into the