

great valley"

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Otter lake, in
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valley. This traverses all the important rock members of the basal complex and trends almost at right angles to their structure. Where it crosses the Abijevis hills, it forms a remarkable, narrow, rift-like gorge walled in on either side by vertical scarps which rise to elevations of 200 feet above the surface of Eileen and Abijevis lakes.

Lake Opasatika, Caron lake, the Kekeko-Albee-Barrière chain of lakes, Kinojevis lake and part of Kinojevis river, Grand lake Victoria, Kipawa river between Wolf and Brennan lakes, and the northwest bay of lake Kipawa also lie in important linear depressions which are entirely unrelated to the structure of the rocks in which they occur. The trenches occurring in the area included in the map which accompanies this report are shown in Figure 3. It will be observed that the valleys trend in various directions and intersect one another in places thus forming basins for lakes and rivers radiating at various angles.

In order to determine whether there is a tendency to parallelism in the trend of the linear valleys, the directions of the lines shown in Figure 3, as tabulated in the following list, were plotted through a single point as shown in Figure 4.

Bearings of Linear Valleys.

Lake Namegosis	N. 38 E.
Grand lake Victoria	N. 34 E.
Ottawa river at lake Nimewaja	N. 24 E.
Dumoine and Antiquois lakes	N. 12 E.
Dumoine lake, Northwest bay	N. 14 W.
Kipawa river between Wolf and Brennan lakes	N. 25 E.
Lakes Robertson, Mackenzie, Abijevis, Wabaskus, and Vaudray	N. 2 E.
Caron lake	N. 30 E.
Lake Kinojevis	N. 50 W.
Barrière-Obikoba lake	N. 35 E.
Barrière and Kekeko lakes	N. 3 W.
Lake Opasatika, south end	N. 17 E.
Lake Opasatika, north end	N. 3 E.
Roger lake	N. 20 E.
Ottawa river, east of Roger lake	N. 20 E.
Morin lake	N. 16 W.
Lake Kipawa, Hay bay	N. 14 W.
Lake Kipawa, Taggarts bay	N. 57 W.
St. Amand, Galt, and Otter lakes	N. 10 W.
Lake Timiskaming, north end	N. 33 W.
Montreal river	N. 37 W.

It can be seen from Figure 4 that these lines appear to occur in three systems and all fall in the north and south quadrants.

Origin.

Faulting. The origin of the linear valleys of Timiskaming region by erosion along fault planes was discussed at some length in a previous report¹ and on that account merely a summarized statement of the data on which the hypothesis is based is included here.

¹ Geol. Surv., Can., Mem. 39, pp. 16-19.