

and that west to the Ontario valley, was at Little Falls, the location being determined by the Precambrian rock mass there, brought up by the Little Falls fault.¹ Brigham has urged that West Canada creek was, at that time, tributary to the west flowing drainage, which he names the Rome river, coming into the valley at Oriskany by way of Holland Patent.² While the writer quite coincides with this view, he is also disposed to the belief that this route is comparatively modern, representing a capture of the upper part of the Black river drainage by a tributary of the Rome river. Black creek, the main tributary of West Canada creek, flows along the Precambrian boundary in a northwesterly course, and seems unquestionably to represent the former upper portion of the Black river, as is shown in an excellent manner on the new topographic map. There is heavy drift filling between, but no sign of any rocky col, and the tributaries from the northeast show perfect parallelism with the Black river head waters coming down from the same direction.

Youthful character of the present drainage. During the withdrawal of the Laurentide glacier from the northern Adirondacks, the preglacial stream courses cut in the valley base level were completely filled with glacial deposits, while at the same time the irregular floor of the valley base itself was covered and evened by them. After the departure of the ice, the courses of the streams were determined by the position and slope of these deposits, and some discrepancy between their present and former courses was produced. The slopes of the glacial deposits in the valleys were gentle, lakes occupied the hollows more numerous than at present, and the new streams obtained steep grades only after they emerged from the hills on the slopes leading down to the Champlain and St Lawrence valleys. Their profile was convex rather than concave, and so it remains to a large extent today, while in mature stream valleys the profile is concave.

The main streams of the region are of respectable size, and their slope is steep. The Saranac river from Lower Saranac lake to Lake Champlain, in a course of about 75 miles by the river, has a fall of over 1400 feet, nearly 20 feet to the mile. The Ausable, from Lake Placid down, has a greater fall than the Saranac

¹U. S. Geol. Sur. 3d An. Rep't, p.362.

²Geol. Soc. Am. Bul. 9:191.