

Between the Carp and the present channel of the river, a well defined ridge of crystalline rocks extends eastward from the vicinity of Fitzroy to within nine miles of Ottawa city, where it sinks down nearly to the level of the river and becomes covered over with Potsdam sandstone. The south side of the ridge is marked by a well defined line of fault which brings the Black River limestones against the crystalline rocks. It is supposable therefore that an old channel of the river flowed eastward along the depression in which the Carp River now lies.

To the north of the crystalline rock ridge just mentioned a second line of depression occurs also south of the Ottawa and separated from it by another rock ridge formed of Chazy shale and limestone. In this depression lies Lake Constant, and Constant Creek flows thence westward to the Ottawa into a deep depression known as Sand Bay. The elevation of the Creek and Lake is but a few feet above the present level of the river, the waters being sluggish throughout, and the depression extends eastward through a swampy tract into the Ottawa again at Shirley Bay a few miles west of Britannia. Great areas of reddish sand occupy the shores of the Ottawa about the mouth of Constant Creek and for several miles to the east and west.

The north side of the Ottawa between Hull and a point some miles west of the Chats Falls, practically as far west as the Ottawa opposite the east end of Calumet Island near Campbell's Bay above Bryson, is generally low and largely occupied by great deposits of clay or sand. Occasionally well defined beaches are seen, as in the area to the north-west of Quyon near the village of North Onslow, where they are crossed by the road between these two places. Occasional ridges of rock occur, as in the rear of the town of Ay'mer and north of Bristol station, but the main shore of the river was at one time undoubtedly marked out by the great ridge largely composed of reddish grey granite which rises in Kings Mountain, west of Chelsea, and extends westerly for many miles forming the northern limit of the great Ottawa plain.

The lower part of the Ottawa must have been at one time much broader and more delta shaped than at present. On the north side the range of the crystalline rocks must have defined the river much as at present, as far as the mouth of the