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Deposits of Carboniferous times, although not now found, may have originally occupied portions of the southwestern part of the district and have been subsequently removed in the long history of this part as a land area. It is believed that in the lower part of the plain 2,000 feet of beds have been eroded, and evidences of part of this sculpturing is found in the Monteregian hills, a remarkable group of rounded elevations standing as sentinels above the low plain, spaced at intervals of about 10 miles from Montreal eastward to the Appalachian hills. They are found to be ancient volcanic vents and haeoliths and on their surfaces still remain remnants of the rocks removed from the plain. These ancient volcanics indicate lines of weakness or fracturing, and originated, no doubt, during the late Paleozoic disturbances which were marked by igneous intrusion in the country to the east.

The St. Lawrence lowlands may be divided into three sections: (1) the St. Lawrence River plain separated from (2) the Eastern Ontario basin by a point of crystalline rocks, and (3) the Ontario Peninsula, a slightly more elevated plain whose eastern border is a steep escarpment, the eastern outcrop of a heavy limestone bed which underlies the western peninsula.

The St. Lawrence River plain occupies an embayment in the eastern edge of the granites of the Laurentian plateau. It is bordered by highlands on the east and west, but to the south by a belt of irregular somewhat rounded hills which form a connection between the Laurentian plateau and the Adirondack hills in New York. The southern part, from elevations of less than 300 feet, slopes to the northeast to a lower plain which, at Montreal, is 100 feet above the sea. The principal topographical feature of this part is the volcanic group called the Monteregian hills. These vary in elevation from 770 feet at Mount Royal, on the west, to 1,755 feet at Brome Mountain, on the east. The plain through which these hard rocks protrude is very even and is divided by the deep St. Lawrence channel as far as Montreal. Above this point, the two great rivers, which here meet, are still busily cutting into the rocks beneath and several very picturesque falls and rapids are to be found. On the St. Lawrence the channel is not as deeply or unevenly eroded as on the Ottawa, but is flowing over flat-lying beds so that the descent from Lake Ontario is gradual, but the rapids are steep enough to cause exciting navigation in their descent and require the aid of canal locks for their ascent. The surface of the plain, once well forested, is now mainly under cultivation and owes much of its even outline and fertility to the mantle of glacial drift which was distributed while the area was submerged beneath the sea. Since the glacier disappeared the St. Lawrence lowlands have risen in altitude about 600 feet near Quebec, 560 feet at Montreal, and over 475 feet at Ottawa.

The Eastern Ontario basin is underlain by gently-dipping beds that are the lower sediments of the series constituting the Appalachian plateau farther south. This plateau in post-Devonian time emerged from the sea and formed a coastal plain along the south of the Laurentian hills. The erosion of the shore deposits soon developed a belted plain, owing to the unequal hardness of the underlying rocks.

Several of the outer ridges of the early series still remain. The inner ones are now merged into one major ridge, caused by the presence of a heavy limestone bed which has resisted the general erosion; and, in consequence, there has been a deflection of much of the old drainage from down the old sea plain to channels running parallel to the face of this ridge or cuesta, with a resultant intensifying of the erosion accomplished. There is thus a portion of this old sea plain which has been excavated through the softer surface beds, including one resistant member, to a harder series beneath. This excavation in its deeper parts holds the waters of Georgian Bay and Lake Ontario, while the slope to the old continental shore constitutes the eastern Ontario land area. The western peninsula is the portion between Lakes Erie and Huron. In this there is a gentle rise from the lakes to the edge of the Niagara escarpment. The edge of the Appalachian plateau known as the Niagara escarpment is so called from the celebrated falls of Niagara which, in their early history, pitched