

Originally the two localities were at the same sea level. If the tilting took place at the rate of .42 of a foot in 100 miles, in 26 miles it would take place at the rate of .1092 feet in 100 years, and as the Montreal station is 100 feet above that at Covey hill we obtain the ratios (neglecting the third and fourth decimals): as .1 foot is to 100 years, so is 100 feet to the time required to elevate the Mt Royal station 100 feet above the Covey hill station. Solving this simple proportion we obtain 100,000 years as the time required. At this rate the land must have risen at the rate of .55 feet ($6\frac{5}{8}$ inches) a century at Montreal and .45 feet ($5\frac{4}{8}$ inches) a century at the international boundary on the north and south line passing through the Champlain and Hudson valleys.

This estimate of 100,000 years is for the time since the highest marine beach was level. This highest beach marks approximately the time of disappearance of the ice sheet from the St Lawrence valley so as to permit the free incursion of the sea. If the assumption used in this calculation were right it would follow that the Laurentide ice sheet disappeared from the St Lawrence valley as long as 100,000 years ago.

It may be, though, that the rate of tilting in the north-south direction through the Champlain-Hudson valleys is now and has been at a more rapid rate than that ascertained for the Great Lake district on a south-southwest line. If we assume the rise at Montreal has been at a rate five times as fast as that inferred above or 2.75 feet a century then it has required 20,000 years to effect the change. It does not seem possible that the rate of uplift at Mt Royal could have been on the average more rapid than 2.75 feet in 100 years and there is no reason to assume that it was slower than the rate of tilting now observable in the Great Lakes district. The disappearance of the ice sheet from the low grounds about the northern open mouth of the Lake Champlain valley may be said therefore with some probability to have taken place not less than 20,000 years ago and not longer than 100,000 years ago. That it was somewhere between these limits is more probable than that it was either 20,000 years or else 100,000 years ago.

There is yet another method which though equally interesting is not more trustworthy perhaps. By reference to the diagram, plate 28, it will be noted that on the assumption of essential