NEW BRUNSWICK

farther to the westward, indicating a former considerable extension in that direction. To the north of Fredericton also, in the valley of the Keswick, above Cardigan station on Gardens creek and in Myshrall settlement, the same conditions may be observed. Moreover, some of the isolated Carboniferous areas in this direction are so situated as to indicate that rocks of this age at one time covered a large portion of northern as well as central and southern New Brunswick. Thus, in the parish of Prince William, in York county, occurs a small area of coal bearing rocks, resting unconformably upon what are believed to be Silurian slates, and upon granite, the interval between them and the great central coal-field being not less than thirty miles. So, between the two main branches of the Beccaguimic river, in Carleton county, and at a distance of about fifty miles from the central basin, is a similar isolated area, of considerable size, while the distribution of boulders indicate that several such areas exist between the last named river and the Lower Carboniferous tract of the Tobique. It is alto. gether probable that these were once connected with each other and with the central field, for their elevated position, much higher than any portion of the latter, as well as their structure and relation to the subjacent rocks, are against the supposition of their representing basins of original and separate deposition. The elevation of some of these higher Carboniferous rocks is nearly one thousand feet above the sea, and though the contrast between this and the ordinary level of the coal-measures in Queens and Sunbury may possibly in part be accounted for by differential movements, it can hardly be doubted that the facts given indicate an enormous amount of erosion, and the removal of Carboniferous rocks from vast areas once covered by them. This vast erosion is to be assigned to several periods. It is certain that after the time of deposition of the Lower Carboniferous strata, they were largely denuded, for at several widely separated points, as at Prince William in York county, and Coal creek and Newcastle in Queens county, the coal-measures rest on the earlier Paleozoic rocks, without the interposition of Lower Carboniferous deposits, as though the latter had first been swept away. Some of the coarse grits again in the upper part of the coal measures have been observed (by Mr. Poole) to contain rounded fragments of coal, indicating the breaking up of seams of the latter subsequent to their formation. It is probable, however, that a large part of the waste is to be ascribed to the glacial period, all parts of the coal-field showing abundant evidence of exce sive glaciation, while the amount and distribution of the drift has been largely influential in determining the distribution and thickness of the mantle-covering, as well as the course and character of the existing drainage channels.

Elevation of some of the carboniferous rocks.

Period of erosion.

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