

dor to Lake Ontario and from there past Winnipeg to the Arctic Ocean, Hudson Bay being included between the two arms of the V. This is generally believed to have been the starting point in the development of America, fixing not only its position but its form and mode of growth, and the Pre-Cambrian belts of New Brunswick and Nova Scotia would seem to have played a part of similar importance in the determination of the future Acadia. In other parts of the continent more or less considerable areas of Pre-Cambrian rocks are now disclosed, in the Adirondacks, the city of New York, the Appalachian Mountains and the Rockies, but they are small compared with the finished continent, only just enough to indicate the form and position of the latter. The time was one of almost universal oceans, and the lands were too small for the development of lakes or rivers of any magnitude. So far as we know, no vegetation clothed the land, and there were no forms of life except such as were confined to the ocean. Acadia and America were both in embryo, with great potentialities, but as yet with little that was definite and fixed. Among the potentialities may be included, perhaps, the great mineral wealth with which many of the Pre-Cambrian districts are endowed, including enormous iron deposits, the nickle ores of Sudbury, Ont., yielding in five years more than \$10,000,000, the silver and arsenic of the Cobalt region of Ontario, where a single car load, of thirty tons, was estimated at \$80,000, the asbestos beds of Quebec, etc., and possibly the gold of Nova Scotia.

Just how the Pre-Cambrian rocks themselves came to be produced is a matter largely of conjecture. Many of them, including gneisses, slates, quartzites and limestones, are clearly stratified, and therefore originally sedimentary in origin, though now highly crystalline; others are as evidently volcanic. In the upper portion of the group in particular, sometimes known as Huronian, we find evidences of volcanic activity upon a large scale. Rocks thus produced are conspicuous in Carleton, (St. John), where they constitute the hill supporting the Martello Tower, they form the hills about Coldbrook and Loch Lomond, and to the south of the latter along the road to St. Martins cover large tracts. Indeed from some points in this region, the only rocks visible for miles, are old volcanic lavas and the like, with a thickness of thousands of feet,

while, if a visit be made to any of the limestone quarries about St. John, especially the Green Head quarry or Stetson's quarry near Indiantown, one can see where the great dykes of once molten rock came up through the associated strata, often altering the latter and developing crystalline minerals, garnets, etc., along the lines of contact. It is not yet certain by what means or from what source the great limestone beds which form the basis of an important industry were derived, but their distinct stratification and relations to other beds seems to indicate that they are aqueous sediments, and the presence therein of a few though obscure organic forms tends to confirm this conclusion. The occurrence of graphite, such as was formerly mined within a few rods of the railway bridge at the Falls, near St. John, suggests vegetable accumulations, but may have been of purely mineral origin. I should add that the Pre-Cambrian rocks though originally horizontal, and now everywhere folded and crumpled, as may also be well seen in the sections around St. John, showing the extensive disturbances to which they have been subjected, and in connection with which, no doubt, the volcanic materials gained access to the surface.

Having now, I trust, obtained a solid foundation upon which to build, I shall in a later article, endeavour to give some account of the process of building, first inviting my readers to take with me a walk on the Cambrian beach.

The Boy and the Sparrow.

Once a sweet boy sat and swung on a limb,
On the ground stood a sparrow-bird looking at him;
Now the boy he was good, but the sparrow was bad,
So it shied a big stone at the head of the lad,
And it killed the poor boy, and the sparrow was glad.
Then the little boy's mother flew over the trees—
"Tell me, where is my little boy, sparrow-bird, please?"
"He is safe in my pocket, the sparrow-bird said,
And another stone shied at the fond mother's head,
And she fell at the feet of the wicked bird, dead.
You imagine, no doubt, that the tale I have mixed,
But it wasn't by me that the story was fixed;
'Twas a dream a boy had after killing a bird,
And he dreamed so loud that I heard every word,
And I jotted it down as it really occurred.

—Good Words.