

are extensively distributed throughout the districts now under consideration; but the only localities in which they have been clearly recognised, are along a line of outcrop on the northern margin of the hilly region westward of New Canaan. The first and most important of these exposures is at

#### NICTAUX.

At this place, 20 miles westward of New Canaan, the first old rocks that are seen to emerge from beneath the New Red Sand stone of the low country, are fine-grained slates, which I believe to be a continuation of the Dictyonema slates of Beech Hill. Their strike is N. 30 to 60 E., and their dip to the S. E. at an angle of 72°. Interstratified with these are hard and coarse beds, some of them having a trappean aspect. In following these rocks to the S. E., or in ascending order, they assume the aspect of the New Canaan beds; but I could find no fossils except in loose pieces of coarse limestone, and these have the aspect rather of the Arisaig series than of that of New Canaan. In these, and in some specimens recently obtained by Mr. Hart, I observe *Orthoceras elegantulum*, *Bucania trilobita*, *Cornulites flexuosus*, *Spirifer rugæcosta*? and apparently *Chonetes Nova-Scotica*, with a large *Orthoceras*, and several other shells not as yet seen elsewhere. These fossils appear to indicate that there is in this region a continuance of some of the upper Arisaig species nearly to the base of the Devonian rocks next to be noticed.

After a space of nearly a mile, which may represent a great thickness of unseen beds, we reach a band of highly fossiliferous peroxide of iron, with dark coloured coarse slates, dipping S. 30° E. at a very high angle. The iron ore is from 3 to 4½ feet in thickness and resembles that of the East River of Pictou, except in containing less silicious matter. The fossils of this ironstone and the accompanying beds, as far as they can be identified, are *Spirifer arenosus*,\* *Strophodonta magnifica*, *Atrypa unguiformis*,

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\* There is in the iron ore and associated beds another and smaller *Spirifer* as yet not identified with any described species, but eminently characteristic of the Nictaux deposits. It is usually seen only in the state of casts, and often strangely distorted by the slaty structure of the beds. The specimens least distorted may be described as follows: General form, semi-circular tending to semi-oval, convexity moderate; hinge line about equal to width of shell; a rounded mesial sinus and elevation with about ten sub-angular plications on each side; a few sharp growth ridges at the margin of the larger valves. Average diameter about one inch; mesial sinus equal in width to about three plications. I shall call this species, in the meantime, *S. Nictavensis*.