

Carboniferous rocks exposed on the Joggins shore of Nova Scotia. The Lower Carboniferous red sediments, which we have been examining during the past summer, have contributed a portion of the material from which the Middle and Upper Carboniferous formations of central New Brunswick have been built up, in the same way that the lithologically similar Millstone-grit in Nova Scotia has, according to Sir W. E. Logan, contributed an abundance of fragments to the conglomerates at the base of the coal measures near New Glasgow. We have as yet, however, met with no evidence which would justify the separation of the red conglomerates, &c., bordering the central Carboniferous area of New Brunswick from the Lower Carboniferous limestones with which they are associated: they are, therefore, both included in the following remarks, as members of the Lower Carboniferous formation.

The beds which, though not the very lowest, are those most commonly met with at the base of this formation are conglomerates, these latter consisting of large or medium sized, seldom well rounded, but mostly sub-angular fragments, which are derived from neighbouring ridges of older rocks. A narrow belt of these conglomerates spans the space between the St. Croix and Magaguadavic Rivers, at a distance of about five miles south of the European and North American railway. It crosses the St. Stephen and Woodstock road just south of Trout Brook, a small stream flowing into the St. Croix, and rises towards a rather prominent hill in the direction of the St. Andrews and Quebec railway, having a dip N. 20° W. $< 15^{\circ}$. In most of the beds of this belt the paste, which is usually sandy, but often argillaceous, is of a red colour; but in fragments observed about the sources of the Digdeguash, where the conglomerate belt crosses the St. Andrews and Quebec railway, the matrix was observed to be in rare instances of a grey colour. In both varieties the pebbles are chiefly fragments of argillite and fine sandstone; both flecked with scales of silvery mica on the layers, and varying in colour from apple-green to grey. Some beds have white quartz pebbles freely scattered through the paste, and there are occasionally fragments of jaspery blood-red hematite. The argillite and sandstone fragments which most abound in the conglomerates are similar to those of Devonian age (Cordaites slates) which cover a large area to the southward. Besides the greenish fragments, however, there are many pieces of red argillite and sandstone, not differing otherwise than in colour from the green. We have found no ledges outside of the conglomerate belt corresponding in colour to these red fragments. Their hue may have arisen from the same causes which have universally given a red colour to the paste of the Lower Carboniferous conglomerates, and to the accompanying shales.

In the western portion of the above described belt, the red conglomerates are the only rocks met with. Beyond the Digdeguash River, how-

Beds at the base of the formation.

Belt of conglomerates.

Character of the pebbles.