and bituminous shales associated with grey sand-stones and containing fossils similar to those of the series below. It especially abounds in fish-scales and *Oythere*; and several of the fishes are specifically identical with those of the upper part of the Middle Coal-measures as seen in the southern trough, south of New Glasgow. These beds are about 200 feet thick. Mr. H. Poole has described them in the 'Canadian Naturalist' for August 1860.

5. The beds up to this point may be considered the equivalents of the Middle Coal-measures or of the upper part of them, and are now succeeded in ascending order by thick grey and reddish sandstones and reddish and grey shales, including, however, thin coaly bed and underclays, and clays with nodular limestone. These may be regarded as belonging to the Upper Coal-formation; and their aggregate thickness as far as Pictou Harbour may be 2000 feet. They contain Calamites, trunks of Dadoxylon materiarium, Lepidodendron, Pecopteris arborescens? and Neuropteris.

The dip of the Conglomerate is high; and that this is not altogether due to false stratification is shown by the fact that to the eastward of New Glasgow the limestone and the Coal-measure beds rest on the Conglomerate at an angle of 45° ; but this rapidly diminishes to 20° , and in the greater part of the section it is only from 8° to 6° .

The line of demarcation between the Middle and Upper Coalformations is not marked here by any great physical break, but merely by the cessation of the characteristic beds of the Middle Coal-formation and the change to sandstones associated with red shales.

At first sight it might appear that as the beds north of the Conglomerate dip uniformly to the north, and mostly at slight angles, and those south of its outcrop are much more disturbed, there might be evidence of unconformability. This, however, is due to a line of fault extending along the outcrop of the Conglomerate, and to the greater relative disturbance of the beds of the southern synclinal.

2. Section west of Carribou Harbour.

This Section exposes the scuth side of the third or northern synclinal, and may be supposed to begin not far above the base of the Upper Coal-formation. It extends in ascending order obliquely across the synclinal for about ten miles along a coast in which the beds are on the whole well exposed, with uniform dips of about N. 30° E. magnetic, or nearly true north, and at an angle of about 10° ; and no break or evidence of unconformability exists throughout the series, which amounts here in thickness to about 2500 feet.

The lowest beds seen in this section at the mouth of Carribou River are red and grey shales, and grey, red, and brown sandstones, including a small bed of coal 5 inches thick, with *Stigmaria*-rootlets in the underclay; and at Carribou Island, nearly in the line of strike, there is a somewhat thicker bed of coal. The overlying series may be described as consisting of indefinite alternations of shales, mostly deep red, with sandstones, grey, red, and brown, the latter sometimes

Q. J. G. S. No. 119.