the shales a little obliquely to the strike cuts out a portion of them. On the east side of the fault two or three hundred feet of shales occur, and then a layer of conglomerate limestone, the fragments of limestone varying in size from pebbles to masses six feet in diameter. The fossils in the limestone conglomerate have an Upper Cambrian aspect and include *Lingula* sp. ?, *Amphion*? sp. ?, *Bathyurus* sp. ?, a fauna that may be compared to that obtained in *some* of the bowlders of the Point Levis conglomerate. Below the horizon of the conglomerate and in situ in the shales we found *Lingulella*, *Agnostus*, *Ptychoparia*, and *Solenopleura*. With the exception of the *Solenopleura* the species appear to be identical with those in the limestone "lentile" (9) of the Georgia section.

§ 18. A section taken east of Swanton by Sir William Logan (Geol. Canada, 1863, pp. 281, 282) gave 520 feet of the limestone series; by tracing the strata north nearly to the Canadian boundary, he found 1,410 feet in the section; another series north of the Province line gave 790 feet, making a total of 2,200 feet, part of which is estimated.

That this portion of the Georgia Formation thickens rapidly to the north there is little doubt; but, until further study is given to the correlation of the horizons in the different sections, I should hesitate in giving it a greater thickness than 1,500 feet within the limits of Vermont.

§ 19. The fauna of the Olenellus horizon east of Swanton gives *Kutorgina cingulata*, *K. Labradorica*, *Orthisina Orientalis*, *O. festinata*, *Camarella antiquata*, *Salterella pulchella*?, *Olenellus Thompsoni*, *Ptychoparia Adamsi*, and *Protypus senectus*.

§ 20. The Georgia section is the most complete yet taken in Vermont. At the base the great belt of dolomitic limestone, 1,000 feet in thickness, rests against and, by a fault, overlaps the Trenton limestones of the Ordovician (Lower Silurian). What was originally beneath the limestone belt is yet undetermined.[1] In the Highgate section the limestone belt is nearly 1,200 feet thick. The base is unknown, and it does not appear, so far as I know, in the section between the boundary of the United States and Canada and the outcrops in the town of Georgia.

Following the Georgia section up, a great mass of argillaceous shales, 3,500 feet in thickness, occurs before the great "lentile" is reached; this adds 1,700 feet, and above it 3,500 feet of shales come in before a probable line of faulting is met with.

§ 21. East of the supposed fault line, which is indicated by the disturbed strata and a high ridge of hills, just east of the Vermont Central Railroad track, a great thickness of hard argillaceous shales or argillites occurs, in which no traces of organic life have been discovered to my knowledge. It may be that in taking the section eastward of Parker's quarry faults occur that have duplicated the thickness of the

[1] It may be that the great mass of shaly argillites east of the Vermont Central Railroad track, in the Georgia section, are older than the limestones at the base of the section; but until further evidence is obtained this is merely conjectural. (See § 13.)