is only three. Two of them are *Linguloe*, named by Hall *L. prima*, and *L. antiqua;* and while these so far resemble one another that they might by some palæontologists be considered varieties of one species, we in Canada have a *Lingula* (*L. Belli* of Billings,) in the Chazy, which might almost be considered another variety of the same species, the peculiarity of them all being the length and sharpness of the beak. In Canada there is also found in the Potsdam, the impression of the spire of a large flat *Pleurotomaria*, which so strongly resembles the spire of *P. Laurentiana* (Billings) of the Calciferous, that they can scarcely be distinguished. In addition to these upward affinities in the only preserved forms, there are beds of passage between the Potsdam and Calciferous formations, in which the strongly marked distinctive lithological characters of the two are well preserved, and at St. Timothy on the Beauharnois Canal those beds of the inter-stratification which are allied to the lower rock are occasionally marked by *Scolithus linearis* (Hall), supposed to be ancient worm-holes, by which the Potsdam is characterised in many parts.

Immediately beneath these beds of passage are the celebrated foot prints of Beauharnois, to which Professor Owen has given the name of *Protichnites*. Since these were described by Owen, nothing has been discovered to throw further light upon the forms of the animals which made these impressions; but in thinning a large specimen with some of the tracks on it, for the purpose of placing it in the museum of the Geological Survey, it was ascertained that the surface on which the traces were impressed must have been subject to the ebb and flow of a tide. The surface on which the tracks are impressed and the one immedi ately beneath, shew ripple-mark; the next in succession which is about an eighth of an inch below, shews wind-mark, in a number of sharp and straight parallel ridges from two to four inches long and an eighth or a quarter of an inch wide. These characterize a considerable surface, and are precisely similar to the marks so familiar to every person who has examined blown sand. The surface must thus have been alternately wet and dry, and the organic remains of the formation being marine, we have thus pretty clear evidence of a tide.

Proverbially unstable as water is, the mean level of the sea, that is the point which is half-way between high and low water, is supposed to be the least changeable level on the face of the globe, and taking it to be now pretty much as it was during the Lower Silurian period, we establish the means of knowing approximately how much the position where the tracks are found, is higher than it was when these were impressed, the limit of error being the number of feet which would represent the differ ence between the ebb and flow of the sea in the locality, or perhaps not more than fifty feet. We have thus a bench-mark to test the rise not only of these strata at Beauharnois, but of their equivalents, wherever else they may be met with.

Finding that this ancient sand bank was exposed at the ebb of tide we naturally look out for some coast to which it was related. The Potsdam sandstone terminates some twenty miles to the north at a very low angle against the foot of the Laurentide hills, which rapidly rise up 500 or 600 feet above the Silurian plain. There is little doubt that we have in the flank of those hills the ancient limit of the Lower Silurian sea, the shore of which is thus traceable from Labra-