16. Hart St Bloomsbury

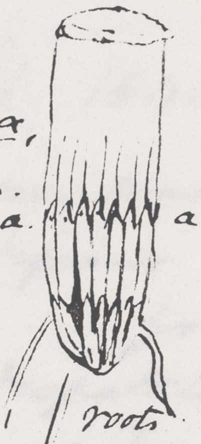
May 16. 1843

My dear Sir

My last letter which as you must have seen was written in great haste, I believe I took the figures differently from what I should have done ..... You may consider the former as a telegraphic despatch, which like our Indian News telegraphs through France may vary considerably from the information derived afterwards from the details. I remember telling you I wished you to be the discoverer of a Reptilian footstep or those ripple-marked mudstones & Sandstones of your Coal. It is strange that Logan should have found one, though he was not aware that it would prove to be of the Carboniferous epoch.

Your small slice of Stigmaria in glass is sufficient to prove that the structure is identical with the Stigmaria of our Coal-fields. I have not been able to get Mr. Brown to say any thing positive respecting the other woods, although I have spared no expense in Slicing & polishing. Some of them afford in the transverse section a very beautiful display of dicotyledonous structure & medullary rays, but in none is the longitudinal section quite satisfactory, & although the wood is no doubt coniferous we were disappointed at not being able to prove it by seeing the discs clearly, & ascertaining whether they resembled the wood of the Araucarian pines rather than our common deal as you know is the case in the fossils of our Coal-fields. If you ever see the vertical trees of the Joggins, search well for woody structure. There is a controversy in regard to Calamites, whether the small end is the top of the plant or the root; both Lindley & Adolph Brogniart suppose it to be the root, because according to the analogy of living plants, the leaves proceed from

from the upper part of each joint as at a, a, leaving a row of scars there, & not at the bottom.



Were you so able to throw light on this when you saw the upright Calamites at Dickson's Mills which were so obscurely seen when I was there. The more I study the Windsor and Debert R. shells & corals, the more I find them agree with our Carboniferous series.

It has been suggested that the dips at right angles on the opposite sides of faults may be explained by supposing E. & W. anticlinal folds or wrinkles to be tilted at angles of 45°. sometimes to the east sometimes to the west. Suppose the roof or rigging of a house to run east & west, the rain-water would run off to the north & south, such being the dip of the tiles, but if the roof be then tilted 45° to the west, the rain would then run off on one side to the N.W. and on the other to the S.W. & then faults parallel to the general strike would produce our "Retinoclinals". I find our Sharkstone near the Bend is a true Anhydrate & without quartz, but what we called Sharkstone at Gay's River is not Anhydrous, but true Selenite, mixed with grains of quartz. ~~I was once afraid of [illegible]~~ I forgot to answer your query as to a paper on the destruction of forests which I feel sure the Geographical Soc., of which I am a member would duly appreciate. You remember the kind of Lepidodendron so common in the coal grits of the gypsiferous series. I got it most abundantly at Windsor & Horton. I find this among my Maryland true coal species, & all my evidence goes as clearly to make the Shubenacadie & Windsor true coal by the flora as by the marine fauna. We must expect however some forms to prevail below the great coal on East river, Schubenacadie &c, different from the Albion mines, Joggins, and Sydney coal. Pray attend to this as it will throw light on another inquiry respecting the true position of some ... sian fossil plants which accompany shells & corals like those of Windsor &c called Permian by Murchison.

Believe me my dear Sir
ever truly yrs
Chas Lyell