

Copy to
William

M. G. College.

Montreal

March 10/76

My dear Prof. Williams,

I try to thank you
for your letter of Feb 19 and
also for your lecture on
Coal. In the latter I
do not see much to
object to except that
on page 9 you seem to
say that there are in
the Devonian Coal-bearing
deposits equally important
with those of carboniferous,
of course you do not
mean this but it
reads like it. You

lecture is not unlike
 some I have given here
 and New York; but I
 have not printed any
 of them.

Now about disc: bearing
 tissue will you allow
 me to give even you
 a little lecture on
 structural botany. First
 Sclerophyllous tissue hereabove
 and made up of six or
 more layers is quite
 distinct in every respect
 from square cells parenchyma
 such as we have in Goads
 and Syllanus with beaded
 walls and about I have

called in my papers Pseudo-
Scleriform woody tissue

thus

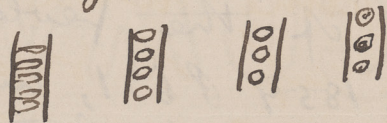


Scleriform

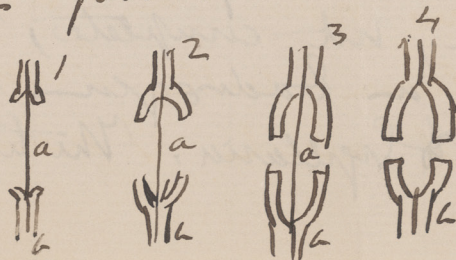


Pseudo-scleriform

Secondly from the Pseudo-scleriform there is an immense gradation which discloses thus

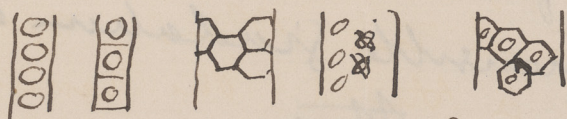


This may be seen in the young wood = cells of pines thus





1 to 4 represents the development a being the cell-wall b the thickening
See Sachs Botany p 257

Now as I explained years ago
 in my paper on the structures
 of Coal Cell-walls in these
 different states exist in various
 Sphæria & Colanodendra and
 in certain states of preservation
 or rather of decay the original
 Cell-wall may be destroyed
 so as to give sub forms as
 these according to circumstances,



All this you will find explained
 in the Journal of the Geological
 Society Vol XV, 1859 p 631, with
 the figures, also in Sachs Botany
 translated by Bennett 1875 p 25, where
 I have for the first time seen it in
 any work except my own and
 the reference, not complete, in
 your paper on Sphæria.
 Now as to Sphæria. The terms

of that plant in the
 unneral charcoal there
 mostly round pores either in
 one or several series. But in
 those of the living appears
 the original cells wall being
 gone. In some unneral
 specimens it is the same
 but in others the unneral
 portion appears as a central
 spot and in others again
 there is a third thickening
 in the form of a square
 or hexagonal areole or
 frame. All these proceed
 from internal thickening and
 as you will see by the
 figures at bottom of P 3
 the lenticular walling
 is only an accident of

development. Now in
 my sigillaria sent to
 you the inner cylinder shows
 pseudo-scalaniferous fibres thus 
 Cut the outer cylinder thus  and I
 hold to be rudimentary discs.

If you will my clear explain these
 points you will confer a great
 favour on your botanicals. I had
 struck them out for myself 15-
 years ago; but that is no use
 unless some of your English people
 will do it again.

I see by the way that Renault
 illustrates the true nature of the leaf-
 scar of Sigillaria in his memoir on
 S. spinulosa 1845, where he also gives
 a good account of the structure of the
 species of the Famularia type - accord to
legans of Thuyman.

Excuse my prolixity and believe
 me yours very truly
 W. Dawson