

Further, Logan's exact
measurements at the Higgins
give 14,540 feet of vertical
thickness; but if you will
look into Acadia Geology,
p 177, you will see that
I regard 2267 feet of this
as equivalent to my Upper
Coal Formation, and 2328
feet as Lower Carboniferous;
and of the remaining say
1000 feet some considerable
portion of the bottom no
doubt belongs to the group
equivalent to Hurlstone grit,
which everywhere in Nova
Scotia intervenes in great
thickness between the
Coal measures and the
Marine Limestones below.
I may observe here that
the abundant fauna of these

J. W. Dawson 155

McGill College
Montreal

Prof. Lesley,

Apr 25, 1883

My dear Sir,

I have to thank
you for copies of my note
on your Cape Breton section,
and your remarks thereon.
With respect to the
latter, I do not think that
any reply on my part is
necessary. I have done
my duty in placing my
summary of the ascertained
facts side by side with
your comparisons; and the
details I cannot now take
time to enter into.
I think it but
just to myself however,

I say that the supposed thickness of 25000 feet for the "Coal measures proper" on which you base your rejoinder is not maintained by me.

In my general summary of the Carboniferous rocks of Nova Scotia, in *Acadian Geology* p 117, I give as the thickness of the Middle Coal-^{formation} measures "2000 feet or more", for the Upper Coal-^{formation} measures 3000 feet, and for the Lower Carboniferous, including the equivalent of the Millstone grit, 6000 feet so that I assume a thickness of but 13000 feet for all of the following groups of strata —

- 1 Upper Coal-Formation, lower of productive coals
 - 2 Middle Coal-Formation, or true coal measures
 - 3 Red and gray lower formations and shales, equivalent to Millstone grit.
 - 4 Lower Carboniferous Marine formations, shales, &c
 - 5 Lower Coal measures.
- Still I regard this as a magnificent development of the Carboniferous system, not surpassed anywhere; and I think that none of it is Devonian, since its flora and fauna are Carboniferous throughout, and it rests unconformably on rocks holding a rich Devonian flora and fauna.

a very incorrect impression
from your comments.

With all good wishes
Truly yours
W. Dawson

P.S. Please observe that
my main objection is to
your supposing the sandstones
and shales under the prodigious
coal measures at the
Toppins and elsewhere, to be
sub-carboniferous or older, when
they really represent the Millstone
Grit. I trust further thought
and investigation will induce
you to correct this error (I am
sure it is) in time to prevent its
circulation in Nova Scotia and
elsewhere on your authority.
W.D.

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limestones, the backbone of
which have only last year
been critically examined by
Sanderson, is wholly carboniferous,
and it is the flora of
the Lower Coal Measures
below

You will thus see
that if any one ascribes
to the "Lower Coal Measures"
of Nova Scotia the incredible
thickness of 25,000 feet, I
am not responsible for
it, but is Sir M. Logan.

In the same way
you misinterpreted my statement
of the unity of the coal
flora. My assertion that
the flora is identical through
out the Middle Coal Measures,
of course does not refer
to your imaginary 25,000 feet

but to Sir Mr. Logan's
 actually measured 10000
 feet or so. The flora
 of these beds (the Middle
 Coal Measures) is identical,
 and at the same time
 distinguishable from that
 of the Upper & Lower
 Coal measures; though these
 also have a Carboniferous
 flora, as distinguished by
 broader differences from Permian
 or Devonian. The difficulties
 which you suppose in as-
 certaining such facts are
 quite imaginary where good
 sections full of fossils are
 exposed as in Nova Scotia.
 You deem however to be
 quite heretical on the
 subject of fossils; and

Somewhat strangely so, since
 while you are skeptical
 as to general results ad-
 mitted by all or nearly
 all palaeontologists, you
 express great faith in
 minute distinctions of the
 kind, which from their
 nature can scarcely be
 anything but local.
 I shall be glad
 if you will make known
 to the Academy my
 actual views as to the
 structure of the Nova Scotia
 Coal formation and the
 distribution of plants
 therein, as far as you
 have not read my
 publications on the
 subject, would your