

Whebech

Hanover N.H. June 23 1879

Prof. Dawson

Dear Sir

Thanks for your paper upon the Quebec group - It is a pleasure to me to find geologists examining the questions that relate to the older rocks of New England, as progress cannot be made without research. You speak of the diverse opinions upon these rocks as held by Hunt, Selwyn & MacFarlane. As I understand their writings they agree in a radical point - that the rocks S. E. from Quebec became older as you proceed towards Maine - All questions of nomenclature ^{are} of less consequence than this. Logan admits as much in 1869, in allowing that Sutton and his associates are anticlinal structure wh I have found to be true of the main Green Mts range as far south as Massachusetts. I have published 16 sections across that ~~the~~ range - two thirds of them distinctly anticlinal - the others are inverted or folded axes. Dana's last article in Annals Jour. Geol. contains an admission fatal to his former generalization. He

It follows the quartzite next the crystallines in
NW corner East N.Y. to the Potsdam & thus the
succession in going west after leaving the crys-
tallines is, Potsdam, Calciferous & Limestone,
Hudson River, Limestone above & Potsdam in
such exposures as those of the Bald Mt. Troy. Or
in other words, a basin resting upon crystallines,
& if resting upon something, that something must
be older than Potsdam. Further more, I find
several localities in Mass. & Vt. where this Pot-
dam quartzite is evidently made of the ruins
of the crystallines to their east. All questions
of stratigraphy bow to such evidence as the deri-
vation of newer from older rocks, as well as to
the evidence of fossils. Hence if these
Green Mt. crystallines are older than the Pot-
dam, it is clear that Logan ~~is~~ was farther
from the truth than the others named,

I suppose all those who represent Logan's
side now are willing to concede whatever Prof.
Dana accepts. In his last edition of the Manual
he calls "Archean" three areas in E. N.Y. & W. Ct.
called K₁, K₂, K₃ by Percival, the Massachusetts
country, & various areas in eastern Massachusetts,
the shore of Maine & New Brunswick. If he were
to look at the various areas wh I have called by

3/ local names, Bethlehem, Lake Umbagog, Lyman
& Liban groups, together with Mount Alban, he will
find that I have referred nothing to the Essex
series that is not representable in some of these
mentioned areas. I merely extend further than
Dana the areas he allows to be prediluvian;
because I have had occasion to traverse the ground,
and find the rocks just like the ancient granites.

If we were to carry out various hints of Dana
at several times suggested, we should have
30,000 feet of Helderberg in New Hampshire.

An explanation is required in regard to a
point ^{of your paper,} on page 13, in reference to Mount Alban.
Dr Hunt and I have always differed as to the
place of the Mount Alban - he placing it above
& I below the Huronian. It so happens that
a mica schist very like the Mount Alban overlies
the Huronian - what I have called the Coös
group - and I have always told Hunt that he
has got two formations confounded together.
Of course he thinks I am wrong - I have therefore
recently followed up his chief argument. He
says that in Michigan formations XIX, XX,
of Brooks represent the Mount Alban & that they

overlie the Huronian, according to Brooks -
I have gone over the whole series of M. H. rocks
with Major Brooks - & without help from me,
he identified my Coös group with his XIX, XX,
and the Montalban with the lower part of the
Huronian or upper part of Laurentian. Brooks
therefore agrees with me perfectly - These Coös
rocks I denominate Silurian - Dana does
the same except he is more specific - calling
them Helderberg - You surmise that some of
these [Montalban] rocks are upper Cambrian or
Lower Silurian & therefore correct - but it
is not the real Montalban - it is my Coös group
I hope you will be at Saratoga - with others -
so that these subjects may be fully discussed
I like Selwyn's removal of the real Laurentian
to a horizon below the Eozoic, as it will re-
move a difficulty in the way of accepting Eozoic
as an organism in the minds of some. It was
supposed fossils in our Huronian I suppose you
know have proved to be mineral upon further
study -

Truly yours

C. H. Hitchcock