

H. H. Wood

July 29 / 89 Hanover N.H. July 29 1879

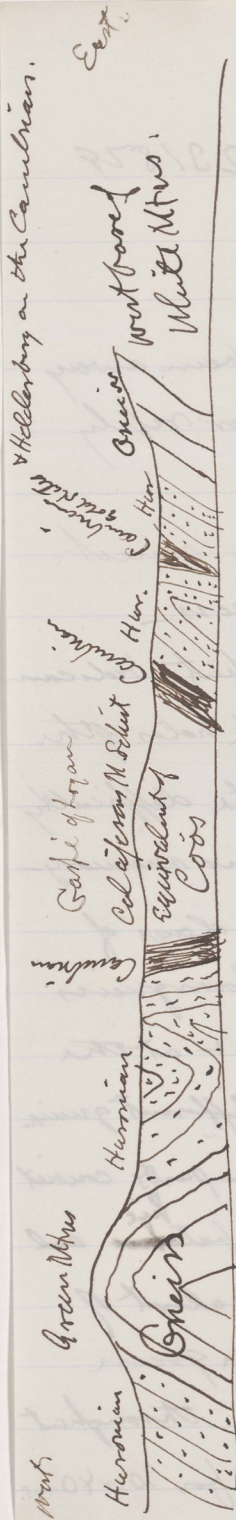
Princ. Dawson

Sectus - New York D. S. L. I.

I have been away from home without I could not sooner reply to your favor of July 1.

I like the sentiments of your letter much better than your published address.

In answer to your question as to what beds can be found in their natural order upon both sides of the Green Mts. anticlinal - I labor under the difficulty of relying upon twelve or fifteen years memory of observations mostly made before the days of Montalban suggestion - the central lowgneiss in the deepest cuts, as near Waterbury, & at the base of Mt. Mansfield, is a rather indifferent gneiss - feldspar not well developed - the higher parts consist of argillitic mica schists, more or less feldspathic <sup>ly</sup> and I am disposed to make this the equivalent of the Montalban. This is overlaid by the green schists wh. I have called Heronian, throughout N. H. & into the Eastern Townships for 30 or 40 ms.



The annexed rough section gives a generalised notion of the relations of the several rocks in N. Vt. & edge of N. H. The true Montalban lies to the east of this section altogether - but the gneiss visible is closely allied to it - so closely that Hunt thinks it should go with it. I do not mean that he has been over this particular section but rocks lithologically similar to those he claims for Montalban. For the relations between the real Montalban and these gneisses, I must refer to my chapter on the Classification of N. H. formations in Vol 2, Geol. N. H. I there give the reasons (with references to fuller expositions) for my entire scheme.

For a study of the relations of the Potsdam & higher limestones to the Green Mtn gneiss, I will refer you to a section in the southern part of the state of Vt. where the Huronian is absent upon the <sup>corresponding</sup> west side - and at about 17 1/2

place <sup>is</sup> ~~at~~ the Magnesian slate of Emmaus Zirconia.  
 It is Section V of the Vermont Report.  
 Going west from the central gneiss of Mt. Holly,  
 dipping west, we strike Potsdam, Lower Silurian  
 + Mag. slate. Going east is a quartzite (Potsdam  
 limestone (L. Sil.) + other Huronian - after  
 which the gneiss reappears - as follows.



W.  
 Now at first sight it looks as if the Huronian on  
 the east ought to correspond to the Mag. slate on  
 the west - they are alike in many respects lithologi-  
 cally - But the gneiss comes up as it were  
 above the Huronian - the same with that in the  
 Green Mts. Hence we must say that an overturn  
 exists, and the Quartz + limestone are more recent  
 than what I call Huronian. That will make the two  
 sections agree - since the recognized Potsdam + L. Silurian  
 lie entirely on the west side of the whole section - a whole  
 of + above the Huronian. This last is the only

Section that shows quartz limestone on the east side of the Green Mts, that can be at all compared with the quartz limestone upon the west side. Without further study than, I cannot give you a good well-defined satisfactory continuous series of formations upon both sides the Green Mts axis. The same difficulties apply to the view that this range is synclinal.

My N.H. Series I have made out by slow & cautious estimate (as given in Vol. 2), and I enclose a tabular arrangement from that chapter which will better answer your question than the reference to Vt. You will see that my two PALEOZOICS give plenty of thickness of strata to match all the Mesozoic, Acadian, & Lower Cambrian of Great Britain. I cannot say which should be referred to each one of the three - though it is easy to suggest. The Acadian is represented by the Brantree slate of Mass, which I cannot recognize by fossils in N.H., but certain patches in the Rockingham group closely resemble it - in so much that I have often searched for fossils in it. A friend of mine insists that these slaty patches in the Rockingham group lie unconformably upon the R. schist.

that point I was compelled to leave unsettled -  
 My Coös group wd well represent certain  
 parts of the Lower Cambrian - but I am in-  
 dined to put it higher - perhaps from  
 a suspicion that it may run near Helderberg -  
 Without fossils, however it is hardly to say more  
 than that my two PALEOZOICS cover the ground  
 you name. My Coös is much the same  
 with Logan's Gaspe series, in the eastern town-  
 ships - and the Coös may be equivalent to the Kearsarge  
 series - the names are local - used for convenience  
 till our studies enable us to discard them for  
 well established appellations.

I enjoy much your opinion that "American  
 geologists generally seem to have very inadequate  
 conceptions of the vast volume of fossil rocks under  
 the Potsdam and over the Laurentian" - & no one  
 can think differently who fairly strives to grasp  
 New England geology -

Your suggestion that rocks like the Huronian  
 - the Volcanic series - are known up to the Permian  
 is a very important one and has a more direct  
 bearing upon New England geology than anything else  
 you have mentioned in your letter - I must

Study this suggestion and see how it will apply to us -

I am now reviewing my own reports & notes concerning these debateable notes - hoping that I can discover how to patch together the bits of truth held by yourself, Frank, Evelyn, Dana & others - I assume that each one of us has a view of one side of the truth - and hence we must find a standpoint where the perfect image is discernible -

I thank you for your letter and am ready always to explain any points of my printed reports that are obscure

Yours

L. W. Hitchcock