

SMITHSONIAN INSTITUTION

S. P. LANGLEY, Secretary
G. BROWN GOODE, Assistant Secretary,
in charge of U. S. National Museum

UNITED STATES NATIONAL MUSEUM

Washington, May 14th, 1889

Dr. J. W. Dawson,
Peter Redpath Museum,
Montreal, Canada,

Dear Sir:

I have received the copy of my paper on the Ophiolite of Warren Co, N.Y. and have noted your comments with interest.

There is perhaps a slight misunderstanding on the part of each of us. In my paper I had reference particularly to the origin of the Serpentinous matter. Its bearing upon regional structure was wholly secondary. I endeavored to show that the Serpentinous matter in the rocks in question was derived by a process of metasomatism, a process.

which in this case consisted mainly in the assumption of water and liberation of lime by a non-aluminous pyroxenic mineral. This fact I consider well established, and I fail to see why a mineral of the proper composition may not undergo hydration and serpentinization in sedimentary beds as well as in eruptive masses. I have no idea the limestones are eruptive.

In regard to the use of the word injection, I will say that I supposed I was using it in the same sense as did you on pp. 16-20-21 & others of your paper. As I understand it you and Dr. Hunt regard the serpentine as injected in the form of serpentine or a hydrous silicate resembling glauconite, and filling the cavities of fossils. My idea was that it is a secondary product

after the Pyroxene. That this serpentine matter may have in some cases been transported and was not always derived from pyroxenes occupying the spaces now filled by serpentine I regarded as very probable as you will note by reference to the lines underscored at the bottom of page 190, and top of page 191.

In the Essex Co rocks indeed I find serpentine matter apparently derived from pyroxene replacing wholly or in part Calcite granules which evidently existed as such prior to the formation of the Serpentine itself.

In conclusion I will say that while at present I am not a believer in the organic nature of the zoöon I am not so firmly grounded in that as I trust

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any belief as to be no longer open to conviction
on presentation of proper evidence,

Very respectfully Yours,

George F. Hervey
Curator, Dept of Lith & Phy Geology

Howell
(Mar 1894)
1894