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1872-10-04

Letter from N. D. Stebbins to John Muir, 1872 Oct 4 .

N. D. Stebbins

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Although I am extremely interested you
if you had not seen them - Now I want
you to find if possible about the time of the
Cretaceous period some evidences of the deposit
of ~~some~~ Ostracous coral reefs - If any where
I should look in the neighborhood of San
Luis Obispo - when these monstrous marine shells
are found - If I have remembered I am old
fellow - it is not uncommon to find old fields
at the present day - These woods, undressed
are found in Prof Dana's work - I see by an
extract from the Occident a San Francisco
religious paper Douglas's is now or has been
in Cal. if so you will see him. I was amused
in reading a criticism (from the same paper
inserted in our Eastern journals) on the
reception of Prof Agassiz - I will not know it
perhaps you may not have met with it - If
you ever meet with other old friends, I hope
I may come in then very best love I feel
anxious to know how far Agassiz agrees with
your theory of the origin of the Canons in the
Pacific slope - As I said in my last Mass like
I must be content to look on - but you Joshua
like be of good courage & bring the good Lord
bless you & fill you with knowledge both of Himself
& Nature

Will you attend to N. scientific of - what I think is S. F.?

Yours
T. J. Felt

Yours

N. J. Felt

Crescent Point, Potter Co. Pa,

Oct 4/72

My good friend Miner

I have just finished
the reading of Mr. Dana's new work on
"Corals & Coral Islands" - He closes up
the work by giving his "Geological conclusions"
I was so amused in seeing how he like
the Am. Lib. Prof. Winchell's work
on "Fossils of the Pacific" had been mislead
by Whitney I felt I must give you
the benefit - thinking you may not yet
yet met with the work & recently just
wished to the world - The Prof. (Dana)
gives what he thinks must have been
a submergence in some portions of the
Pacific - among other - one he thinks was
six thousand miles in length twenty-five
hundred wide extending from the Sandwich
to the Friendly Group - This submergence was
in progress in all probability during the Glacial
Era - there origin run back - into the Tertiary

The subsidence connected with the origin
of coal islands & basins of the Pacific
amounted to several thousands of feet perhaps
full 10000. And it may be here expected that
although this sounds large, the change of level is
not greater than the elevation which the Rocky
Mts, and the Alps & Himalayas - since the close
of the Cretaceous period (or the Early
Tertiary), & perhaps it does not exceed the
upward bulging in the Glacial era of part of
Northern America. - The author has presented
reasons for believing (Am. J. Sci. p. 71) that in the
Glacial era the watershed of Canada between
the River St. Lawrence & Hudson Bay, was raised
at least 5500 feet above its present level
(1500 ft) & that this plateau thus elevated was
the origin of the great glacier which moved
southward eastward over New England.
This region is the summit of the eastern
arm of the great V-shaped Arctie Area
of the Continent, the earliest elevated land
of North America; and it is not improbable that
the other arm of the V, reaching from

00024
Lake Superior & Huron, Northward, to the
Arctie, was raised at the same time to a higher
elevation, and was the source of glacial move-
ments over the more central portions of the continent.
We cannot say ^(the western) portions also, since
in the first place ^{the facts}, according to Prof. J. D
Whitney, do not sustain the statement; & in
the second, the great mountain ranges of the
west would have been a barrier to all influence
once from any central continental elevation,
& besides, the slopes of these ranges, even the
Pacific border was higher to the north than
now, would have determined the course of
all western glacial movements. The idea
that the two arms of the great Arctie V were raised
together, is not without some support. It is, there-
fore reasonable that, late geological history, during the
Glacial era after the mountain chains of the continent
had been made & raised to their full heights, the
surface crust thickened over all the continent except
that of the Arctie nucleus, by successive beds of a thick-
ness of thousands of feet, some 35000 by the close of the
Pleistocene - along the Appalachians, & much beyond this
Pacific border, &c

Coudersport, Potter Co., Pa.,
Oct. 4 '72.

My good friend Muir,

I have just finished the reading of Mr. Dana's new work on "Corals and Coral Islands". He closes up the work by giving his "Geological Conclusions". I was so amused in seeing how he like the Ann Arbor Prof. (Winchell) in his work on "Footsteps of Creation" had been misled by Whitney. I felt I must give you the benefit, thinking you may not as yet [have] met with the work so recently published to the world. The Prof. (Dana) gives what he thinks must have been a subsidence in some portion of the Pacific. Among others, one, he thinks, was six thousand miles in length and twenty-five hundred wide reaching from the Sandwich to the Friendly group. This subsidence was in progress, in all probability, during the Glacial era, their origin runs back into the Tertiary. The subsidence connected with the origin of coral islands and ~~and~~ barrier reefs of the Pacific amounted to several thousands of feet, perhaps full 10,000. And it may be here repeated that although this sounds large the change of level is not greater than the elevation which the Rocky Mountains, Andes, Alps and Himalayas since the close of the cretaceous era in the early Tertiary; and perhaps it does not exceed the upward bulging in the Glacial era of part of North America. The author has presented reasons for believing (Am. J. Sci. '71) that in this Glacial era the watershed of Canada between the River St. Lawrence and Hudson Bay was raised at least 5500 feet above its present level (1500), and that this plateau thus elevated was the origin of the great glacier which moved southeastward over New England. This region is the summit of the eastern arm of the great V-shaped azoic area of the continent, the earliest elevated land of North America; and it is not improbable that the other arm of the V, reaching from Lake Superior and Huron northwestward to the Arctic, was raised at the same time to a higher elevation and was the source of glacial movements over the more central portions of the continent. We cannot say ^(his italics) western portions also

since in the first place the facts, according to Prof. J. D. Whitney, do not sustain the statement, and in the second, the great mountain ranges of the West would have been a barrier to all influences from any central continental elevation, and besides the slopes of these ranges, even [if] the Pacific border, were higher to the north than now, would have determined the course of all western glacial movements. The idea that the two arms of the great azoic V were raised together is not without some support. It is therefore reasonable that late geological history, during the Glacial era after the mountain chains of the continent had been made and raised to their full height and the surface crust thickened over all the continent except the azoic nucleus, by successive beds to a thickness of thousands of feet, even 35,000 by the close of the Paleozoic along the Appalachians and much beyond this [along the] Pacific border.

I thought these extracts would interest you, if you had not seen them. Now I want you to find, if possible, about the time of the oolitic period some evidences of the deposits of cretaceous coral reefs. If anywhere, I should look in the neighborhood of San Luis Obispo where those monstrous marine shells are found. If I can remember -- I am [an] old fellow, and it is not uncommon to find old fools at the present day -- the words underscored are found in Prof. Dana's work. I see by an extract from the Occident, a San Francisco religious paper, Prof. Agassiz is now, or has been in California. If so you will see him. I was amused on reading a criticism (from the same paper, copied in our eastern journals) on the reception of Prof. Agassiz. I will enclose it, perhaps you may not have met with it.

If you ever meet with dear old friends Prof. and Mrs. Carr give them my best love. I feel anxious to know how far Agassiz agrees with your theory of the origin of the canyons on the Pacific slope. As I said in my last, Moses like, I must be content to look on, but you, Joshua like, be of good courage and strong, and the good Lord bless you and fill you with knowledge both of Himself and Nature.

Will you attend the scientific assn. which meets in S.F.?

Yours truly,

N. D. Stebbins