

the life of the sea would have
 travelled far inland, and
 its remains would have been
 sufficient to establish
 approximately the amount
 of elevation. All New England
 down 3000 feet or more, and
 sea-levels only to a height of
 200 feet on the coast of Maine
 would hardly be a possibility.
 Then again we can measure
 the depth of the Submergence
 by the coast deposits & terraces
 along Southern New England
 and ~~find that the streams~~
^{deposits up the river valleys}
 in the shape of valley terraces;
 and so prove the submergence to
 have been small, and the
^{-valley} river terraces to have been
 made by great streams occupying
 the valleys - just such flooded

New Haven, July 6. 1878

My dear Fay:

I received your proof
 this morning. Your views
 are excellent and well
 brought out - A sensible
 view of the Prairie question.
 I never thought much of
 Whitney's assumption.

I am glad you have
 had a pleasant time
 with Dawson. He is an
 ardent worker, though
 he does not always hit
 right in his conclusions.
 His views on the Glacial

era ~~had~~ formerly many adherents;
 now very few. I do not
 know any one on this
 side of the Atlantic that
 agrees with him excepting
 his son, and he has diverged
 quite a way, making much
 more use of Glaciers than
 Dawson used to do. The
 one great trouble with
 Dawson's theory - that is
 the Submergence theory,
 is that there is no evidence
 of it in marine relics ^{off}
 the submerged land, while
 freshwater relics are not
 uncommon. We find such
 marine relics up to ^a height of

500 feet on the St. Lawrence;
 only to 200 on the Coast of Maine;
 and we have to admit
 Submergence accordingly.
 But if the Submergence was
 one of two three or five
 thousand feet, there should
 be this kind of evidence over
 so vast a Continent somewhere
 up to ~~that~~ height or at least
 above 500 feet. When sea-
 waters flow in over a submerged
 land sea-life, will necessarily
 go in too - fishes first, and
 then the slower movers. .
 Supposing the Submergence were
 only for one century - not a
 hundredth of the time any
 geologist would think probable -

Streams, as would have
been made by the melting
of the ice of centuries.

There is a drift toward
the theory of submergence
on the part of some just
now setting in again, as
you will see on reading
Stevenson's article on
p. 245 & beyond of our last
volume. The high flat-
terraces of so great height
are a great puzzle - I
admit, especially as they
look down ~~toward~~ the
Ohio Valley, and there
seem to be no chance for
any obstacle to have ^{ever} existed
that could have set the

July 6 '78. (6)

freshwater back to such an
altitude. But there is that
difficulty - the absence of
every trace of marine relics.
Lesley, in our last no., seems
to support Stenenson's view;
and yet he mentions a
fact - that about extensive
clayey deposits with leaves
in abundance ^{over such a large} - ~~which~~ goes
right athwart it. Damming
by ice may meet some of
the cases, even the hardest.
We need more light;
but at present, the facts ~~are~~
favor freshwater submergence.

I had a letter a few days since from Lesley in which
- he admits he does not know which side
to take.

not marine. -

Very truly yours
James D. Dana



Dana, James Dwight. 1878. "Dana, James Dwight Jul. 6, 1878." *James Dwight Dana letters* –.

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