

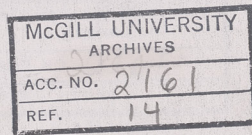
~~Copy.~~ (7) Sir C. Lyell to Dr. Dawson
Lyell to Dawson. 1. July 1868.

The new edition of your Acadia is
a work of which you may well feel proud
& I am much pleased with the rededication
of the book to me. I have not yet had
time to study the chapters on the fossils
of the Carboniferous & Devonian rocks.

You did well to give a restoration of the Flora
of the latter in the frontispiece not omitting
the insects. It marks the great step which
has been made in our science in twelve years,
& it is remarkable as you say, in how many
points Acadia is prominent in geology, even
if as I suspect the Eosaurus may turn out
to be Labyrinthodont. The Crinoid is
also a grand addition & a wonderful proof
of a persistent type.

By the way I should be very glad if you
could send me a specimen of Pupa Vetusta

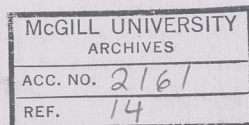
14A



The specimen which I have figured in the last edition of my Elements p. 508 was intended as an improvement on your figure, the inclination of the surface striae being given from the specimen I had out of the Decid. Quercus tree, but Bradley says that my artist has managed to make a not-size & to magnified so different that some conchologists of the hair-splitting class would say they belonged to distinct genera.

In regard to the antiquity of man I have great faith in the judgment of the Danish naturalists as to the long duration of the Neolithic period in their country. The extensive peat bogs have been well searched & although they cannot draw a precise line between the accumulation of peat in the last eighteen centuries & that of pre-historic date they can get from a tolerably correct notion of the relative importance of the accumulation of the two periods. To suppose a rotation of crops in the forest

14A



rees to have been brought about by
general conflagrations is too catastrophic
to suit my notions & would require some
monuments of the work of fire. The absence
in all Scandinavia, where they have collected
so many thousands of implements, of a
single specimen of the Palaeolithic type
of oval hatchets, or spear-shaped unpolished
tools, is a very strong negative proof of man not
having entered that country in the ancient
period of the Mammoth! Farther south the
evidence is steadily augmenting in favour
of the great geographical changes which have
taken place since England, France & other
parts of Europe were inhabited by the earliest
fabricators of the Palaeolithic tools.

14B

The Duke of Argyll has argued in an article
in "Good Words" that as the Stone period of
the Esquimaux coincided in date with
the Iron period of London & Paris so the
Ancient flint-folk north of the Alps may
have been contemporary with men of a more

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advanced civilization further south & he
wishes to make out that the Stone Age may
be connected with degradation & the driving
out of a surplus population into regions having
the worst climate. But when we go south of
the Alps & examine the drift containing the
bones of Mammoth & other extinct mammals
as at Rome or near Madrid or in Sicily we
find stone implements of the Amieus type
instead of the monuments of an Iron Age.
Late in the Presidency of Madras our
Indian Surveyors have found in the coast-
laterite at the height of 500 feet above the
sea-level quartz hammers marvellously similar
in size & shape to the flint implements of
Amieus. Certainly there are no signs in
warm latitudes of a civilization like that
of old Nineveh or Egypt having flourished
at such a remote date as to allow of
great subsequent changes in climate or
in physical geography, or in the mammalian

14B

na.

What think you of the alleged discoveries going on in the American Continent or in the auriferous gravel of California in which bones of Mastodon according to Dr. Shell together with some implements were found in the deep placers of Table Mountain (Silliman's Journ. vol 45. 1868.

Articles XL & XLI). These old alluviums have in one respect a more ancient aspect than our higher level ~~level~~^{valley} gravels, as they belong to a period when the drainage was more distinct in direction from that of the present rivers - This however would not prove a higher antiquity because the overlying basaltic lava shows that great volcanic action was going on in the New Country which would greatly accelerate geographical changes.

You have done well to point out that there was a Stone & reindeer period in Nova Scotia only three hundred years ago in the latitude of Central & Southern France. Boyd. Description in Frazer's Magazine for

14B

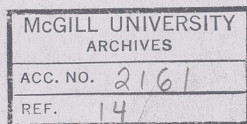
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the 1868 endeavours to identify the
reindeer-folk of the Dordogne caves with
the modern Esquimaux. Though he considers
the change of climate to indicate an
enormous antiquity.

What you have written on the glacial
period I like much, & I am sometimes
disposed to attribute the numerous lakes
of your country to submarine current &
ice-action, but I do not see my way, as
yet, I should like to know what may be
the velocity of these currents at the bottom.

You say at p. 70 that the present Arctic
current has its deep hollows. If it is capable
of scooping out its channel in softer strata
how comes it that it does not fill these
hollows & cause the depth of its channel
to be as nearly uniform as that of the
Mississippi. Perhaps what you say of the
ice picking up stones 10 feet diameter from
the bottom of the Straits of Caubear may

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explain why in certain places where the ice is in the habit of running aground there may be hollows formed by an annual grinding action all the results of trituration being removed like the largest erratics by the floating off of the same. I have advanced this hypothesis at p 174 Elements "last edition" & I suspect that for thousands of years or centuries we should find icebergs off Newfoundland running aground in the same parts of the sea.

This of course will not help us in the case of the Swiss lake basins.

It seems to me that you have assumed without sufficient data the power of marine currents to sweep out great lakes such as those of Canada - When I have time to read more of your book I will write again - Mr Carruthers thinks that

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ere is an undoubted monocotyledon
of the Arum family in the Edinburgh
Coal & that an Anthracolite from coal
near Manchester is a dicotyledon allied
to our dead nettle one of the family
Labiata, therefore of a high class not a
mere apetalous species. Should this
prove true it is strange that they should
be so rare -

Your Cray-tail argument p. 69
seems to me conclusive in favour of
Arctic Current.

July 1-1868

Byell to Dawson
Contiguity of other periods
State of drift or degradation
Ice-scraping of lake basins
Starch Great & relation of these other
from Dawson or Thrifts

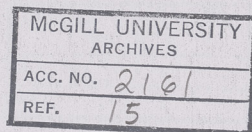
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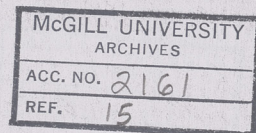
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Copy - Sir C. Lyell⁽⁸⁾ to Dr. Butler
to Dr. Butler. 3. July '68

I am sorry that the lateness
of the hour obliged us to hurry away
without bidding you & Mrs Butler
good bye. I hope some day when
you are in London you will do us
the favour of calling here. What
you & Dr Temple have been doing
in the cause of Education & on
another great question of the day has
my warmest sympathy and
admiration. & if the City to whom
it would be so much less a sacrifice
would act up to their convictions
with the same spirit & courage
we should soon be emancipated
from our old trammels.



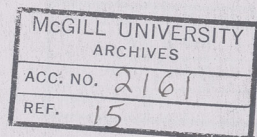
When I reflect on the vast im-
-portance of the objects of a Com-
-mission intended to bring the
teaching of our great schools more
into harmony with the spirit
of the age & the comparative insigni-
-ficance of almost all the other
political questions of the day I
could hardly bear with patience
a member of that Commission
professing almost to forget that he
had ever taken a part in it - or
what they had recommended to be
done - If instead of being so much
of a student I had been trained
in public life & practised in measuring
my expressions & keeping my temper



in a social party like that of yesterday
I should certainly have dealt with
the Commissions as freely as the Member
for Calne did so well with the
representative of an English University.

If I had dreamt of having an
opportunity of expressing my
opinions on such an occasion
I should have been able without
occupying more time to have said
something more to the point.

I have this morning had a
note from the Professor of Geology
at Strathurst begging me to try
& interest any of the Royal Com-
missioners for Military Education
whom I may know in forwarding



The teaching of Geology & Natural
History "as branches both of
General & Special Education".

Dr. C. Lyell
Dr. Bowen - Secretary
July 3. 1868

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