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REF. 30

Y. M. D.  
Edinburgh  
Aug 7 / 74

out in the form of liquid mud  
I made a rather curious discovery

Dear Papa

Since the meeting of  
the British Association has been  
over I have been going to several  
places of interest in this neighbourhood.

Last Friday I went to James Grant's  
at Skatford and on Saturday to  
Aberdeen, I walked along the shore  
to Pettycur, then back to Burntisland  
from where I got the boat to

Granton. I wanted to see some  
of the basalt & other igneous rocks  
again. I also had another look at  
the curious plant bed at Pettycur

In a bed below that which contains

the masses of plant limestone  
of which seems to have flowed  
out in the form of liquid mud.  
I made a rather curious discovery.  
The bed is greenish & compact though  
here & there showing amygdaloidal  
cavities full of Calc Spar. Mangled  
through its mass are fragments of  
plants, not perfect enough to  
show external form but still  
indistinctly vegetable. They are not  
changed as they must have had  
the enclosing rock hard & light colored  
brownish grey in colour. I examined  
some fragments under the  
microscope, the structure was not  
very perfect but seemed to  
consist of undotted ducts of  
the part. I did not discover  
what the markings in the rock  
were till I got home & so did

not examine the bid, so as  
as I would have liked

the Tuesday and all  
Arthur's deal & Salisbury Crags

to reclaiming all the points which  
Mrs. Reek had pointed out

to collect specimens of the various  
rocks. Tuesday I went to the

to walk along the shore from  
then to Portobello. At Portobello

had tea at James's or more  
properly Mrs. Lupton & afterwards

examined a quarry cutting  
in R. R. Road (quite impossible)

and a brick tile factory  
got my cheque for £20 from

Mrs. Reek the other day & have  
cashed it through David Kemp.

The B of Exchange which you sent

£ 20 I will deposit to  
Account in London on 2nd  
at which I will be pleased to tell  
you that during the B.C. Meeting I  
had a visit from Robert Dawson of  
Camden L<sup>o</sup> whom I believe you  
wrote last summer. He was  
here at the meeting & I read his  
Several times. It is towards about  
the meeting I should also tell  
you that Dr. Parfiter's argument  
that on account of representations  
that had been made, the Admiralty  
had agreed to consider favourably  
the proposition, when properly presented  
(of fitting out with all proper  
appliances for a 4 years  
expedition which is to circumnavigate  
the globe.

Your affectionate Son

George R. Dawson

had some previous work. also of

about the age of the  
constituted rocks of the Laurentian  
in them are granites which he supposed to  
be the same which Carpenter had found  
but thought not perfect enough to give  
any opinion on. He also mentioned that  
the rocks were not  
Laurentian but older than Laurentian

Woodward's 1850 Report on the

Crinoidal. Woodward mentioned that  
the trilobite trilobite  
legs were sternal arches. (Vid last page)  
also mentioned that a specimen in the  
British Museum showed a path on the hypostome.  
Pointed out that the trilobite trilobite

Proterozoic

Dicotylous. Plant from Coal formation  
primarily included under Dicotylous but  
has very different structure. Has  
cellular pith surrounded by a woody layer  
which is divided by many secondary rays.  
The rays being very thick & peculiar in  
being composed of many rows (p. 210)

of cells. Then an ordinary inner bark.

Surrounded by a thick outer bark through which bands radiate outwards

It gives the outside something the appearance of lenticular, the pith is spongy

Have no vascular bundle marks. Impressions of this have been figured

Called by various names. Outside a cellular epidermic layer

Given by Kurat and had sent him specimens which after much trouble

materially very anatomy sections to be determined

Species of Dactyloctenium nearly allied to the lateralium of Candolle

proposed to call Dactyloctenium laevigatum

It has horizontal plates of perfectly modified tissue

woody part of the trunk anatomy laevigatum

laevigatum seemed to much to contrast with Williams's ideas but did not know

how. Said it was most probably allied to the Lycopodiaceae. Burley said

(at 1891) laevigatum

back.

All specimens of *Dictya* which showed  
etc. another radiating outer layer.

G. J. Goode on the position of organic  
remains near Burntland. A short paper  
on the subject he showed to us last summer.  
Mr. Carruthers read the paper for him.

W. Carruthers on the vegetable contents of  
the same beds. Had carefully examined  
them in company with Morris. Thought  
the bed on the shore at Petty cur not  
the same as that seen at Kemp Wood

End. Had detected *Stenaria*, *Lepidodendron*  
*Lepidostrobus*, leaves of *Lepidodendron*, *Calamites*  
*R. frut.*, *Leis. stalks* &c. among the  
fossils some very well preserved. Several  
discussions took place on the manner  
in which the remains were preserved.

Dea's visit to the *Physical* & *Mathematical* &  
*Physical* section at least a very interesting  
paper by Lockyer & another by Janssen  
& consequently missed Smith's  
report on exploration of Kent's Cavern, &  
an interesting discussion on it &  
allied subjects.

L.C. Knell Further experiments on  
contraction of rocks. Had subjected  
various rocks to gradually increasing  
pressure for several months.  
Found that in this way limestone  
could be bent into any shape &  
retain it permanently. Sandstone  
flays were more difficult & slates  
had proved quite untractable.

Aug 5 Woodward read a paper on  
Carboniferous & other old land  
surfaces. Good enough but simply  
fused together from books & such  
nothing original. Other papers of  
no great or general interest.

Section adjourned at 8 o'clock  
& Arthur's seat & spent a  
most instructive afternoon  
under Prof Greker's guidance.



Any frags of Thompson's Report  
 on sections of fossil corals  
 showed some very beautiful photographs  
 of sections. Some on paper some  
 transparent for lantern, & others  
 copied by a transfer process &  
 printed in ordinary ink.

Sir R. Griffith. Boulder drift of  
 Esker Hills of Ireland. Considerable  
 discussion on the Esker hills or  
 long flat topped sand ridges.  
 They were compared to the  
 Chiswick Park on the coast of  
 England, but it did not seem  
 certain even whether this modern  
 Esker was due to tides or waves.

W. B. Saunders, Relation of quaternary  
 maxima to glacial period.

A good paper & we cut away  
 much work but the time was  
 so short that it had to be much

Rock

I abstracted, & only a short  
discussion allowed. He divided  
the animals into groups. Those  
which survived from Pliocene  
times. Those peculiar. Those  
still living. Of the peculiar he  
said he could only name 4 among  
these were the mammoth,  
Cervus Brownii. (I forgot the other  
two). He then divided into those  
belonging to a cold & those  
belonging to a warmer climate  
than that now existing. Such as  
the lion, Hyena &c. The remains  
of these classes are found  
mingled in many places. This  
is attributed to continental  
conditions of climate & summer  
or winter migrations. He  
adopts Renssels sequence of  
glacial phenomena. It  
seemed quite probable to me

that both may have passed glacial  
together in a temperate part  
of glacial climate & been separated  
by the migration of man into  
the same region. Dr. Brew  
attention to the findings of  
of man in the Chazy  
Chazy, Scotland, & also  
intercalations of peat in the  
I recorded to show that there  
had been numerous fluctuations  
in the limits of glaciers.

(Dawkins among other things  
found out in what part of  
England, mammalian remains  
were found, & showed that none  
were got in or near Wales  
Cumbria & Wales & that the  
accounts of supposing that these  
parts were covered with glaciers

I did not find any  
but that was it. with



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had discovered an autholite  
which showed that it was in  
reality a fruit-bearing organism.  
The leaf-like expansions were probably  
bracts, the so-called styles the pedicels  
of fruits & the fruits borne, those  
formerly known separately as  
Cardiocarpum. He had also found  
some very perfect specimens of  
Calamites with branches in  
situ & alternate & opposite.

Yesterday (Aug 8) was properly the  
last day of sectional meetings but  
several of the departments had to  
take an extra sitting today to  
overtake their papers. As there  
was nothing of special interest  
going on in Sect C, I went  
to the Biological where there  
were three papers & a discussion  
bearing on spontaneous generation

nothing particularly new however  
came out on either side.

At 2.30 this afternoon the  
closing meeting took place in the  
music hall. Everybody complimented  
everybody else so finally the

British Association was  
adjourned to Brighton where  
the next meeting is to take  
place on Aug 14. 1892. 32

Carpenter is understood to  
be the president-elect for this  
meeting. I will send with this  
copies of the "Scotsman" for the week  
of meeting in which you will find  
very good reports of the papers of your  
care, or have time to look at  
them. Your affectionate son

George