

EARLY DISCOVERERS
XXVII

ANNOUNCEMENT OF GLACIATION IN SCOTLAND
WILLIAM BUCKLAND (1784–1856)

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BEFORE 1840 Louis Agassiz had twice visited Great Britain upon invitations to discuss fossil fish, the subject on which his fame then rested. By the autumn of 1840 his great work, *Études sur les glaciers* (Agassiz, 1840[a]) was safely in final press, and in September and October 1840 he traveled with William Buckland through Scotland, where he discovered traces of glaciation and demonstrated them to Buckland. Buckland was President of the Geological Society of London and Professor of Geology at Oxford, and in 1845 he became Dean of Westminster. His route and discoveries have been determined in great detail by Davies (1968).

On 4 November 1840, Agassiz read a paper before the Geological Society of London "On glaciers, and the evidence of their having once existed in Scotland, Ireland, and England" (L. Agassiz, 1840[b]; E. C. Agassiz, 1885, vol. 1, p. 309; Marcou, 1896, vol. 1, p. 168–74; North, 1943, p. 22). Buckland had written on 15 October 1840 to Agassiz telling of Lyell's acceptance of the glacial theory (E. C. Agassiz, 1885, vol. 1, p. 309).

A letter written by Buckland on 4 October 1840, here reproduced, is his announcement of the discovery. It was sent the day after Agassiz had written to Robert Jameson about the glacial origin of the famous parallel roads of Glen Roy (Davies, 1968, p. 137). As far as I know the letter has, except for one sentence, never been published. The letter had been loaned to the biographer of Buckland, who barely mentioned the announcement as "1840" and quoted only one sentence of the letter (Gordon, 1894, p. 14; Davies, 1968, p. 137). The letter is not mentioned in Marcou's or in Mme Agassiz's biographies of Agassiz, because it was never known to them. The letter also provides some details of the routes taken by Dr and Mrs Buckland and Agassiz during 3–7 October 1840, and it strongly suggests that Agassiz then traveled by the most direct route from Aberdeen to Glasgow. The exact routes for these days have been less certain than those for the remainder of Agassiz's 1840 tour (Davies, 1968, p. 138–39).

The letter is on one folded sheet 11 by 17 cm, apparently enclosed in a small envelope 8.5 by 5.5 cm, which was presumably discarded. Fortunately, a pencil note establishes that Fleming was the recipient. The Rev. Professor John Fleming (1785–1857) was Professor of Natural Philosophy at the University of Aberdeen, 1834–45, and in 1845 he became Professor of Natural Science at the Free University in Edinburgh, having moved there as a result of his adherence to the Free Church at the time of the Disruption in 1843 (Duns, 1859). The note on the front of the letter is in the handwriting of Ralph Richardson, who was secretary of the Geological Society of Edinburgh and the husband of the granddaughter of Fleming. It was found inserted at page lxxv of the copy of Duns' memoir of Fleming, which appears to have belonged to Richardson, as this copy has other letters inserted and many penciled notes.

This book itself is of glacial interest because the second half (p. 1–102), consisting of Fleming's *Lithology*, is almost entirely on surficial materials, with detailed sketches and sections showing the anatomy of the glacial deposits. However, Fleming was uncertain of the origin of the deposits. Although he had entertained the two chief early proponents of the glacial theory almost at the very moment of their discovery of glacial action in Scotland, Fleming (always a stubborn man) did not really accept the glacial origins of the deposits. He asserted

be the coach to north.

Rev. D. Buckland's Letter
to the Rev. Professor Fleming
Abundant.

Connel House

My Dear Sir 4 Oct 1840
Professor Agassiz
& I have made the
following disposal
of our time which
we hope to accomplish
in the approaching
week
Tomorrow (Monday)
go to Lady Cummer
Gordon with Agassiz
& Mrs. Buckland
stay there Tuesday
come on Wednesday

by Monday day
Coach to Aberdeen
being taken up at
9 o'clock.
We hope to reach
your house that
evening in time
to enjoy your
hospitable shake
down. I to stay
with you Thursday
dinner at the Public
Agricultural dinner
on the 9th Agassiz
must depart for
Glasgow & Belfast

We have found
abundant traces
of glaciers round
Bon-Nivis -
He writes in best
regards
with
yours
W. D. Buckland
Prof. Agassiz will be much
obliged if you will have the
goodness to take a place for him
in the coach that leaves Aberdeen
on the 9th on the most direct road
to Glasgow. I suppose it will

(Duns, 1859, p. 61–62) that “The *droppings of melting icebergs* and the *moraines of glaciers* . . . may account for a small portion of these facts. . . . That a *debacle* of a singular kind had taken place, will scarcely admit of a doubt. . . . We cannot explain the phenomena, but we trust the reader will give us credit for having indicated the facts of the case. . . .” He did indeed set forth most carefully the “facts of the case” and was thus one of the very first anatomists of glacial deposits. It is fortunate that he preserved Buckland’s letter, even if he could not accept Buckland’s and Agassiz’s glacial theory.

TRANSCRIPT OF BUCKLAND’S LETTER TO FLEMING

[In pencil on back of letter: “Rev^d. D^r. Buckland’s Letter to the Rev^d. Professor Fleming Aberdeen”]

Connel House
4 Oct
1840

My Dear Sir

Professor Agassiz & I have made the following disposal of our time which we hope to accomplish in the approaching week.

Tomorrow: (Monday) go to Lady Cumming Gordon with Agassiz and M^{rs}. Buckland. Stay there Tuesday, come on Wednesday by Inverness day coach to Aberdeen being taken up at Forres.

We hope to reach your House that Evening in time to enjoy your hospitable shake down & to stay with you Thursday dining at the Public Agricultural Dinner. On the 9th Agassiz must depart for Glasgow & Belfast.

We have found abundant Traces of Glaciers round Ben Nevis—He unites in best regards

with

yours very Sincerely

W. Buckland

Prof^r. Agassiz will be much obliged if you will have the goodness to take a place for Him in the coach that leaves Aberdeen on the 9th. on the most direct road to Glasgow—I suppose it will be the coach to Perth.

MS. received 3 September 1969

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