

n Gorm

Monadh

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This booklet and the accompanying music are an artistic outgrowth of *Looking Up*, a research project focusing on the post-glacial landscape, archaeology and heritage of the Scottish uplands, led by Sam Kelley (University College of Dublin, School of Earth Sciences), Graeme Warren (University College Dublin, School of Archaeology) and Alice Doughty (University of Maine, School of Earth and Climate Sciences). One of the project's aims was to discover new evidence of early Holocene hunter-gatherers on the Cairngorm high plateau. As the area is so expansive, a combination of archaeological predictive modelling, glacier modelling and geochronologic techniques were used to help narrow the search. This process generated new insights into the timing and character of deglaciation. One aspect of the research was to focus on locations where ice and snow would have persisted the longest. Contemporary examples of perennial snow patches in central Norway have regularly attracted reindeer herds seeking relief during warmer months. Similar locations in Scotland are therefore likely to have attracted humans who followed the seasonal migrations of reindeer. *Looking Up* also constructed models of the movement of reindeer across the Cairngorms with different extents of ice cover.

The technique used to determine the timing of deglaciation on the high plateau involved collecting samples of rock containing quartz grains — a common mineral that is resistant to weathering. The rock samples were crushed, pulverised, sieved and sorted, before being subject to magnetic and mineral separation in order to isolate the quartz grains which contain 'cosmogenic nuclides' from the other minerals that make up the rock. In turn, these nuclides provided a direct means of timing their prehistoric

exposure to cosmic radiation as the overlying cover of ice finally melted. In total, these samples give us a picture in space and time of the former glaciers in the Cairngorms in the face of warming post-glacial climate.

This process of sample collection and analysis has directly informed the composition of music and poetry presented here. Stones from the locality were collected and their surface interactions recorded at high frequency sample rates. The resulting waveforms were then subjected to granular analysis, so that 'single-cycle waveforms' displaying tonal characteristics could be isolated and extracted. These *grains of sound* became the foundation of the musical composition.

Similarly, a sample document of various texts produced or cited by the project was assembled as the sole source material for later poetic intervention. This textual mass was then algorithmically commingled in a way that mimicked both the crushing and pulverising of rock samples for nuclide detection and the natural weathering processes that produce the variegated composition of boulder fields and talus slopes on the Cairngorm high plateau. The resulting *text field* was then parsed and traversed in various ways to produce the following 'cosmogenic study'. In many ways, the process of 'finding' the poem within the text field was analogous to the activity of archaeological fieldwork itself.

Richard Skelton, June 2023

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an Càrn Gorm / am Monadh Ruadh
a cosmogenic study

In Scythia there is a beast called Tarandus, which chaungeth likewise colour as the Chamæleon: and no other creature bearing haire doth the same. The Tarandus is as bigge as an oxe, with an head not unlike to a stagges, but that it is greater, namely, carrying braunched hornes: cloven hoofed, and his haire as deepe as is the Beares. He taketh the colour of all trees, shrubs, plants, flowers, and places wherein he lieth.

Pliny

In the interior there is a distant country. There is a range of big mountains pure white in colour formed neither of snow, ice, nor white rock, but of caribou* hair. They are shaped like a house and so they are known as Caribou House (*ati'k wədzwa'p*). In this enormous cavity live thousands upon thousands of caribou under the overlordship of a human being who is white and dressed in black. He is master of the caribou and will not permit anyone to come within some one hundred and fifty miles of his abode, the punishment being death. Within his realm the various animals are two or three times their ordinary size. The 'white man' (another name of their supernatural owner) allows only such members of his flock to be killed as he wishes, granting to the hunters whom he favours a certain number of victims and no more. And if for any reason he is displeased with a hunter he refuses him an allowance, and the hunter, in consequence, may hunt in vain.

F.G. Speck

* Caribou, i.e. reindeer, *Rangifer tarandus*

The existence of some categories of people who had the right to sacral activity connected with a deer cult in Mesolithic society is confirmed by the presence of deer masks as well as burials with deer antlers.

Nataliia Mykhailova

after

unknown

periods

a deglaciation

of the remote body

a predictive history

of hunting

the panel of remains

no longer extant:

lupus soils

gulo sediments

and

other

underreported

species

low

subsistence

land emerging

from

the dammed archive

moraines caching

isotopic

fieldwork

early forms

of

writing

the restoration
of
failed bodies

cairngorm high plateau:

glaucous fields

risk landscapes

scarce sites

in blown environments

some evidence
of storage migrations
in corax dust

stadial mammals
in winged placements

mountains mapping
theories of birds

plateau
of the polar night

plateau
of the ice library

plateau
of the tributaries

plateau
of the moss roads

plateau
of the meltwaters

plateau
of the parasites

plateau
of the carbon scales

scree

papers

talus

studies

generations

of lost

understandings

small data

of snow heritage

interglacials overheating

thawing knowledge

and

prehistoric yeasts

plateau
of the hare

plateau
of the lark

plateau
of the eagle

plateau
of the bear

plateau
of the goat

plateau
of the wheatear

plateau
of the raven

new
structures
emerging

a store
of early species

ibex snow forms
arctos valleys

mineral gatherers

faint imagery
of
reindeer burrows

their nests

at unknown depths

ecological
heart
of
the mountain

a tailed
literature
of stone

but
where
are
the firm
artefacts

the evolution
grounds

of
human-animal
conjunction

where

is

the house

of the white one

tarandus

(with fur

of visible dark)

crowned emperor

of sequestration

quartz guide

at the lived limit

his forelands

a policy

of regional death

chapters pass
undated

a radar list
formed

the
mountains
fragment

further

humans
(blooded
like summer birds)

survey the decay
of the lower world

'this work was unsuccessful ... much more is needed'

how to open

the high collections

the long term
data storage
of ice and rock

how to find

the questions and concepts

the climatic exchange rates

the systems
of carbon placement

of animal
agencies

this work
is essential

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Richard Skelton
an Càrn Gorm / am Monadh Ruadh: a cosmogenic study

Quotations adapted from the following sources

- Nataliia Mykhailova, 'Shaman-Hunter-Deer', *Adoranten*, 2016
- C. Plinius Secundus, *The History of the World*,
(translated by Philemon Holland), 1634
- F.G. Speck, *Naskapi*, 1935

Poetry assembled from the following sources

- Sam Kelley & Graeme Warren, 'Looking Up: the future of early
prehistoric heritage in Europe's mountains', 2020
- Jørgen Rosvold, 'Perennial ice and snow-covered land as important
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- Graeme Warren, Deborah Buchanan, Micheál Butler, Alice Doughty, Martin
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Society of Antiquaries
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