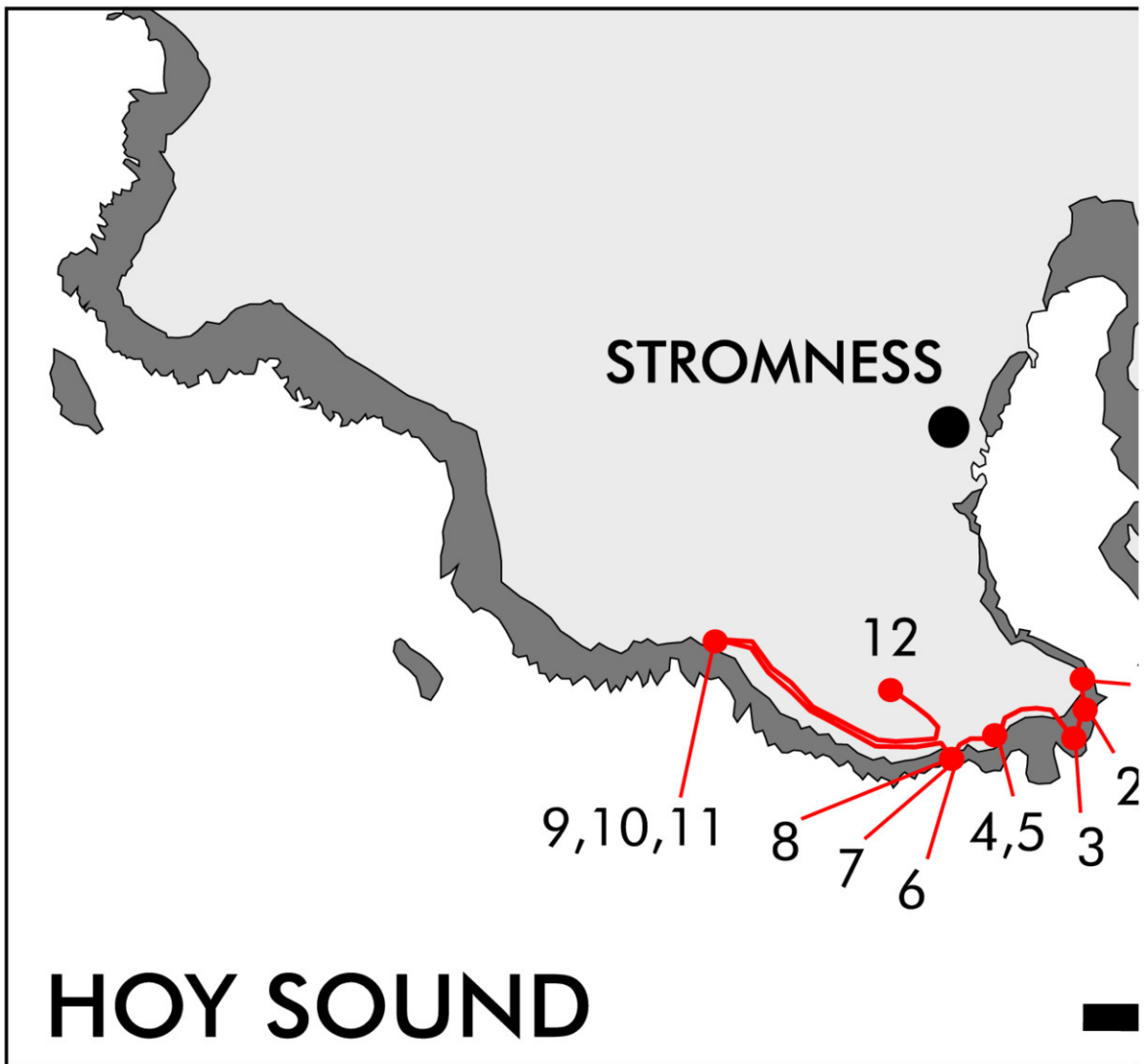


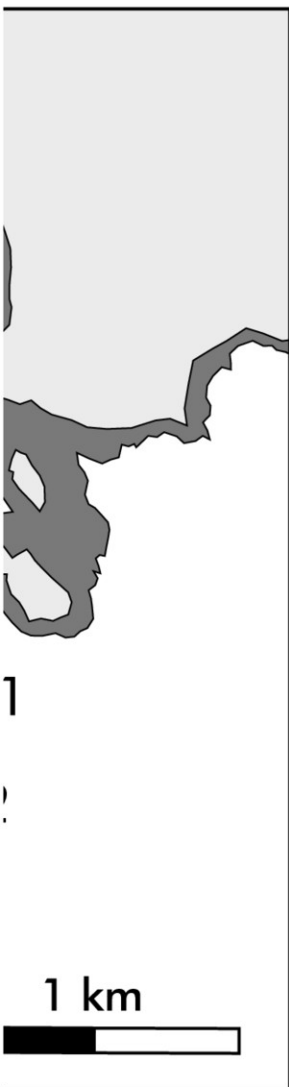
**TRAVERSING THE SOUND
PUBLIC WALK ON THE WEST SHORE**

DEEP TIME FESTIVAL 2017

WALKING THE SOUND



FESTIVAL OF DEEP TIME



1. Ness Point
2. Flagstones
3. Stromatolites
4. Nuclear seaweed
5. Granite
6. Deep time watch - laminations
7. Graffiti & Tender Tables
8. Writing, silvering & quadrats
9. Fish Beds
10. Hoy landscape
11. Anthropocene bedding
12. Ness Battery & geological sonification



Photo by Carina Fearnley



Living Stromatolites at Shark Bay, Western Australia.
Photos courtesy of Paul Lavery.

ORKNEY HERITAGE SOCIETY
"NO URANIUM" CAMPAIGN

PUBLIC DEMO

in support of
O.I.C. VERSUS E.E.C.
on
WEDNESDAY, 21st MARCH, 1979

All those taking part assemble at 9.30 a.m.
on Wednesday, 21st March at Kirkwall Harbour

Procession - Bridge Street, Albert Street, Broad Street, Palace Road,
School Place to Council Buildings
FOR SILENT DEMONSTRATION

The Orcadian, March 15 and March 22 1979



DEEP TIME CALENDAR

| Era | Period | Epoch | Estimated Millions of Years Ago | |
|---|---------------|---------------|---------------------------------|-----|
| Cenozoic | Neogene | Quaternary | (Recent) | .01 |
| | | | Pleistocene | 2 |
| | Paleogene | Tertiary | Pliocene | 5 |
| | | | Miocene | 24 |
| | | | Oligocene | 38 |
| | | | Eocene | 55 |
| | | | Paleocene | 63 |
| | | | | |
| | Mesozoic | Cretaceous | | 205 |
| | | Jurassic | | 240 |
| Triassic | | | 290 | |
| Paleozoic | Carboniferous | Pennsylvanian | 330 | |
| | | Mississippian | 360 | |
| | Devonian | 410 | | |
| | Silurian | 435 | | |
| | Ordovician | 500 | | |
| | Cambrian | 570 | | |
| | | | 4,550 | |
| Precambrian The Precambrian is the time between the origins of the Earth and the beginning of the Cambrian period. | | | | |

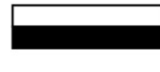
- Two supercontinents during the Devonian: *Euramerica* (Europe, North America & Greenland), and *Gondwana* (Southern Hemisphere land masses).
- The **Orcadian Basin** is Devonian and it was located at the south of the equator (average temperature = 27.6 °C).
- The basin was filled by **Lake Orcadie**.
- Finely bedded sedimentary rocks were deposited forming **alternating layers**.

CALENDAR OF ...

1 – ANNUAL DEPOSITION – varves



Wilson (2012)

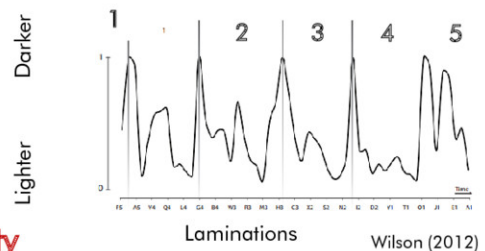


Clastic laminae
Run-off and river discharge in wet season.

Carbonate laminae
Precipitation from increase in pH and decrease in CO₂ caused by seasonal photosynthesis (algal blooms).

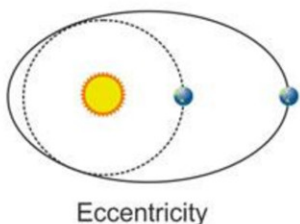
2 – SUNSPOT PERIODICITY – ~11-year cycle

Periodic change in the Sun's activity (levels of solar radiation and number of sunspots).



3 – ASTRONOMICAL CYCLES – millennial-scale cyclicity

Milankovitch Cycles



~100,000 yr



~41,000 yr



~26,000 yr

Eccentricity, obliquity and precession of equinoxes affect the Earth climate in regular cycles. Cycles can be detected in the geological record using statistical analyses.

Thanks to John F. Brown for his invaluable information.

FESTIVAL OF DEEP TIME



Graffiti on the West Shore at the Tender Tables showing human time inscribed in the rock laminations that represent the vastness of deep geological time.

Photo by Niamh Downing, 2017.

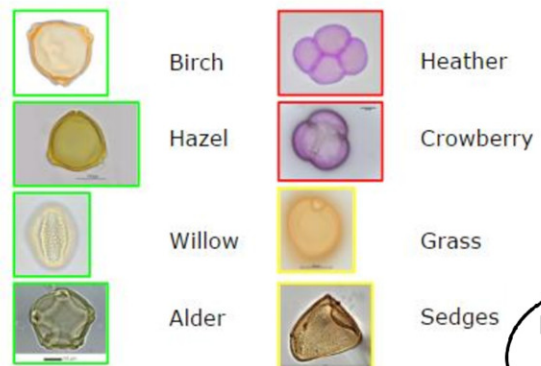
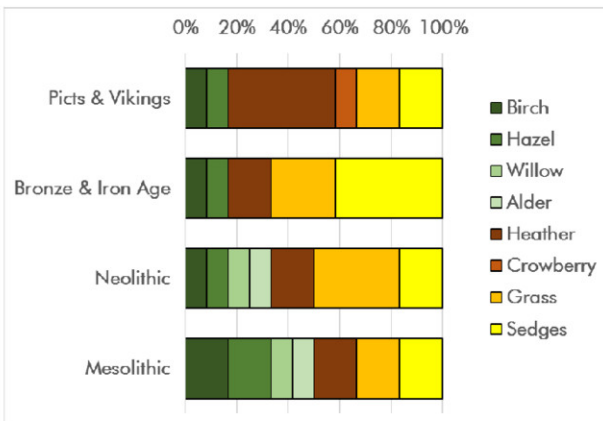
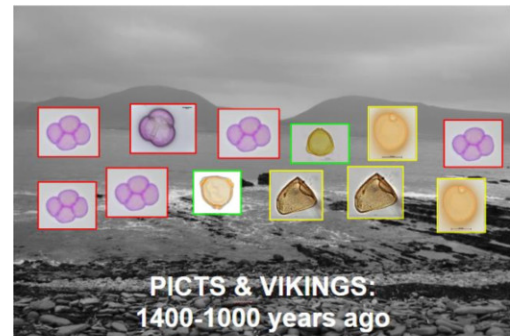
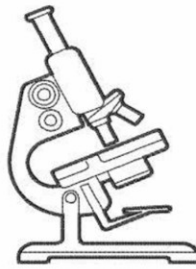
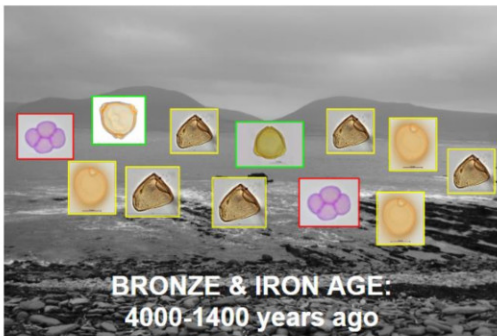
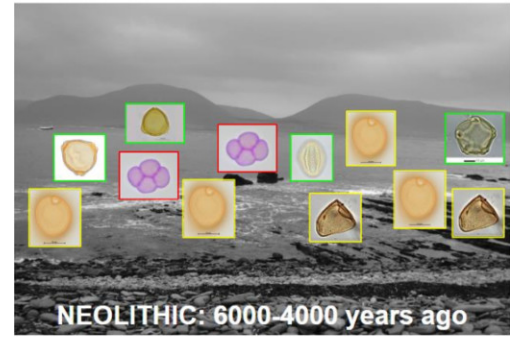
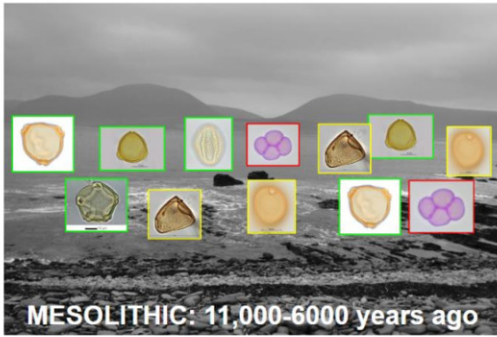
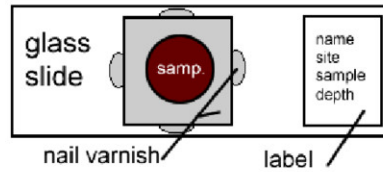
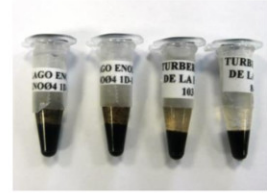
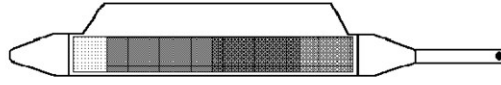
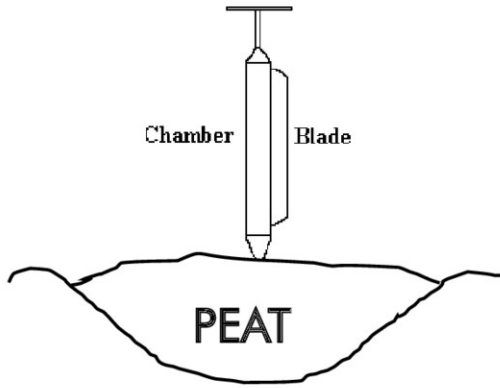
During this section of the walk, walkers were able to spend time silvering a rock, composing poems with stones, or examining small sections of the shore using quadrats.

The booklet contained several blank pages for walkers to write, draw and record their own musings.



Silvering a rock. Photo by Niamh Downing, 2017.

HOLOCENE VEGETATION AT HOY





Photos by Carina Fearnley



