Lecture 1: Neolithic Scotland: changing perceptions, new approaches, a plethora of data, and contested narratives

Developments over the summer and autumn of 2020:

- Recently-published books about Orkney:


- Results of Irish Mesolithic and Neolithic DNA study:


The Mesolithic–Neolithic transition debate (and see also Lecture 2):


Alexander Henry Rhind’s excavation of chamber tombs in Caithness, 1853:

Rhind, A.H. 1854. Results of excavations in sepulchral cairns in the north of Scotland, identical in internal design with the great chambered tumuli on the Banks of the Boyne, in Ireland. *Ulster Journal of Archaeology* (First series) 2, 100–08 Results of Excavations in Sepulchral Cairns in the North of Scotland, Identical in Internal Design with the Great Chambered Tumuli on the Banks of the Boyne, in Ireland on JSTOR


Robert Innes Shearer's and Joseph Anderson's excavations in Caithness, Sutherland and Ross-shire, 1860s (and note: this is just a selection of the publications):


Anderson, J. 1866b. on the horned cairns of Caithness: their structural arrangement, contents of chambers etc. *Proceedings of the Society of Antiquaries of Scotland* 7 (1866–8), 480–512

Latest study of Neolithic chamber tombs and funerary practices in Scotland:


Introduction to the transformation in our understanding of, and approaches to, the Scottish Neolithic:

- Scotland’s Rock Art Project: Home - Scotland's Rock Art Project
- DigIt!: Dig It! | Discover Scotland's Stories (digitscotland.com): DigIt! 2017 Kilmartin Museum: 6,000 Years of Scottish History at Kilmartin Museum | Dig It! TV - YouTube
- Build n’Burn project. Isle of Arran and elsewhere: Brophy,K., Goeckeritz, C. & MacGregor, G. 2016. Build ‘N’ Burn: using fire to create memorable learning experiences for the public. Antiquity Project Gallery 90(350): http://www.antiquity.ac.uk/projgall/brophy350 See also Reach 08: Build n Burn (gla.ac.uk)

Education resources on Mesolithic and Neolithic Scotland created for Forestry and Land Scotland by Matt Ritchie:


Radiocarbon dating – archaeology’s second revolution:

- a pre-radiocarbon dating view of the date of Scotland’s Neolithic period:
- IntCal20: a new radiocarbon calibration curve:

- the use of Bayesian modelling of radiocarbon dates in Neolithic Orkney:


**Developments in the study of funerary monuments:**

- Survey and recording by Audrey Henshall, James Davidson & Graham Ritchie:


- 3D photogrammetric modelling of chamber tombs in Orkney by Dr Hugo Anderson-Whymark, on behalf of Historic Environment Scotland: Cuween passage tomb

[https://sketchfab.com/3d-models/cuween-hill-chambered-cairn-finstown-orkney-cbdcae809f3a41d0ac8dc84f14858c4e](https://sketchfab.com/3d-models/cuween-hill-chambered-cairn-finstown-orkney-cbdcae809f3a41d0ac8dc84f14858c4e)

…and other Orcadian monuments (and a whole lot of fascinating stuff!): 3D model collections by Historic Environment Scotland (@HistoricEnvironmentScotland) - Sketchfab

**Other kinds of survey technique:**

- conventional aerial photography:


For the National collection of AP images: National Collection of Aerial Photography | Hist Env Scotland (historicenvironment.scot)

- Airborne LiDAR: survey of Arran: Airborne laser scan reveals unknown ancient sites | Hist Env Scotland (historicenvironment.scot)


**Landscape reconstruction:**

- modelling sea-level change: Orkney: the *Rising Tide* project: The Rising Tide: Investigations into the Submerged Archaeology of Orkney | School of Geosciences | The University of Aberdeen (abdn.ac.uk)

Lecture by Dr Richard Tipping about the Kilmichael Glassary palaeoenvironmental reconstruction: https://www.youtube.com/watch?v=B3FCFvRbnoQ


**Palaeoclimate reconstruction, and climate change issues:**

Charman, D.J. 2010. Centennial climate variability in the British Isles during the mid-late Holocene. Quaternary Science Reviews 29, 1539–54 Centennial climate variability in the British Isles during the mid-late Holocene (exeter.ac.uk)


For the Northern Isles and Caithness during the final part of the Ice Age and the immediately succeeding millennia: Cochrane, A.A. 2020. Palaeoclimate reconstruction of the Northern Isles of Scotland, and Caithness, during the Last Glacial – Interglacial Transition. Unpublished PhD thesis, University of Stirling STORRE: Palaeoclimate reconstruction of the Northern Isles of Scotland, and Caithness, during the Last Glacial – Interglacial Transition (stir.ac.uk)

HES’ Climate Action Plan: Climate Action Plan | Historic Environment Scotland | HES

Swandro passage tomb and Iron Age settlement: Archaeology | Orkney | Swandro-Orkney Coastal Archaeology Trust

**Developments in artefact research:**

-Projet JADE, on axeheads and other artefacts of jadeite and other Alpine rock:


- Professor Mark Edmonds’ Working Stone project: https://www.orkneystonetools.org.uk
Lipid analysis of pottery:


Development of the technique of identifying cereal and other plant-based lipids:


- 3D photogrammetric modelling of carved stone balls:

https://blog.nms.ac.uk/2018/06/06/enormous-petrified-mulberries-a-new-dimension-on-carved-stone-balls/

- ways of recording impressions on pottery:

RTI image of textile impression on Grooved Ware from Ness of Brodgar: Evidence of woven textiles confirmed at the Ness – The Ness of Brodgar Excavation

and see the Card et al. 2020 *The Ness of Brodgar* book referred to above, p. 259 (and note on p.258 there is a photo of the base of a Grooved Ware pot from that site with a matting impression.

Professor Linda Hurcombe’s *Touching the Past* project:


Conventional photography, under raking light, of the matting impression on the base of a Grooved Ware pot from Barnhouse, Orkney: the image used in the lecture is by Lynda Aiano. A drawing of the pot in question can be found in Richards, C. (ed.) 2005. *Dwelling among the Monuments: the Neolithic village of Barnhouse, Maeshowe passage grave and surrounding monuments at Stenness, Orkney*. Cambridge: McDonald Institute, fig. 4.17, and a photo of the pot can be seen in:


- Reflectance Transformation Imaging (RTI) of various Neolithic artefacts:


- CT imaging and other research on Late Neolithic dog coprolites from Skara Brae:


https://doi.org/10.1007/s12520-020-01225-9

Developments in the study of human and animal remains:

- studies of Neolithic blunt force trauma (not just in Scotland):

Schulting, R. & Wysocki, M. 2005. ‘In this chambered tumulus were found cleft skulls…’: an assessment of the evidence for cranial trauma in the British Neolithic. Proceedings of the Prehistoric Society 71, 107–38. https://doi.org/10.1017/S0079497X00000979


- ZooMS (Zoocausthoe by Mass Spectrometry) as applied to Late Mesolithic bone fragments from Oronsay:


- sexing remains through peptide analysis of tooth enamel:


- isotope analysis:


On the debate about the interpretation of isotope results relating to the Mesolithic–Neolithic transition:


Current international project that includes isotopic analysis of Neolithic individuals from Orkney: Dr Jessica Smyth’s Passage Tomb People project Passage Tomb People – Investigating the social drivers of passage tomb construction

The claim that cattle and pigs were driven from Scotland to Durrington Walls for Late Neolithic feasts:


Barclay & Brophy’s critique:
https://doi.org/10.1080/00665983.2020.1769399

**DNA analysis:**

Professor Kristian Kristiansen hails this as the third revolution in archaeology:


First major study of British Mesolithic and Neolithic human aDNA:

https://doi.org/10.1038/s41559-019-0871-9; https://rdcu.be/bw1ED

Dr Tom Booth on the debate about interpreting aDNA results:


**Animal aDNA:**

**Cattle:**


**Sheep (and other mammals):**


**Deer:**


Orkney vole:


For critique, see Sheridan & Pétrequin 2014, listed above

**Barley:**


Phylogeographic analysis of barley DNA as evidence for the spread of Neolithic agriculture through Europe | Sue Colledge - Academia.edu

**Dog:**


Amanda Pendleton's blog: Village dog DNA reveals genetic changes caused by domestication - On Biology (biomedcentral.com)

**Rock art:**

Scottish Rock Art Project: [Home - Scotland's Rock Art Project](https://scarf.scot/)


Research frameworks covering Neolithic Scotland:


Regional research frameworks: [https://scarf.scot/regional/](https://scarf.scot/regional/)

- Regional Archaeological Research Framework for Argyll (RARFA)
- South East Scotland Archaeological Research Framework (SESARF)
- Highland Archaeological Research Framework (HighARF)
- Scotland’s Islands Research Framework for Archaeology (SIRFA)
- Perth and Kinross Archaeological Research Framework (PKARF)