



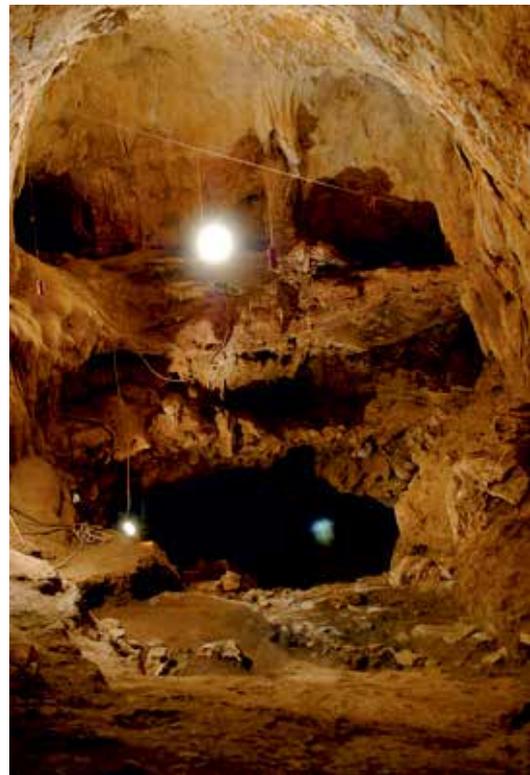
New light on a ritual cave in central Italy: Pastena Cave (Lazio)

Pastena Cave is located in central Italy and its archaeological occupation spans from the Neolithic to the Middle Bronze Age. It is characterised by a big entrance chamber, crossed by the Rio Mastro river, and presents several niches under the vault of the cave. One of the most interesting alcoves is the 'Grotticella W2'. This is the only area not affected by post-depositional events, such as Rio Mastro overflows. The area was investigated from 2012 to 2018 by the Soprintendenza Archeologica del Lazio e dell' Etruria Meridionale and the University of Rome Tor Vergata.

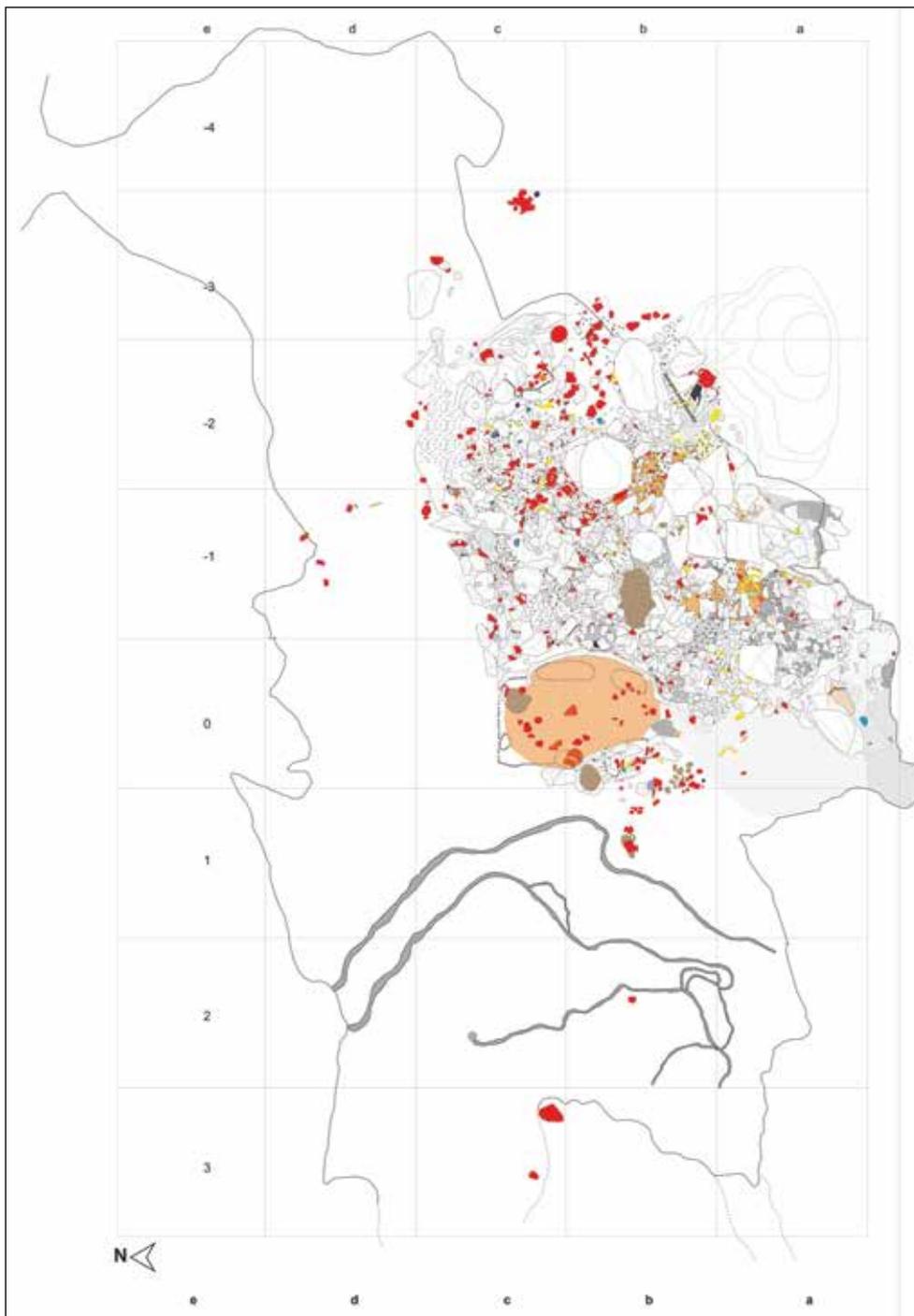
The archaeological deposit is completely excavated. It shows a very complex stratigraphy characterised by four protohistoric layers dating to the Middle Bronze Age (1700–1350 BC). They covered the whole surface of Grotticella W2 and had an overall depth of 70 cm. The deposit showed traces of repeated human activity, often characterised by the same features and remarkable archaeological finds, suggesting ritual use of the cave. In detail, these are:

- Seven pits, some of which were intentionally dug into the stalagmite crusts of the archaeological deposit, while others filled natural concavities. They were identified only in deeper layers.
- Stone floors, the most remarkable features of the Grotticella. They consist of pavings made of flat stones and stalagmite sheet fragments of different lengths (2–30 cm). The purpose of the pavings was presumably to construct a sub-horizontal surface to perform activities.
- Reddened areas, which were mainly observed on natural clay layers and never on stone floors. Colour and texture of the soil indicate that fires, without hearth structures, had been lit, as suggested by burnt seeds, ash and charcoal.
- Several hearths surrounded by stone structures. They were lit in marginal areas, while further fires without delimitations burnt on the stone pavings; it is possible that structures associated with hearths were dismantled after use.

Grotticella W2 has also yielded finds. The most interesting are metal ornaments, faience, spindle-whorls and vessels deposited upside-down. However, the most abundant finds are seeds, fauna, pottery and human bones. In the investigated area over one hundred thousand burnt carpological remains have been found: 90% of them are broad beans, 10% cereals. The fauna comprises mostly domestic animals, such as sheep/goat, pig and cattle, and also hare and dog; several bones of domestic animals show cut or butchering marks. Pottery is represented largely by bowls and jars, although cups, jugs and two spouted forms have been identified.



Grotticella W2 (photo courtesy of Prof M.F. Rolfo)



Stratigraphic situation of Grotticella W2. Colour coding: light yellow – soil in natural concavities; dark yellow – faunal remains; pink – human bone; orange – reddened area; red – pottery; purple – burnt pottery; brown – clay cooking slab; grey – ash and burnt stones; black – charcoal

Finally, human bones were retrieved in a disarticulated state on the cave floor. They belong to a minimum of four individuals of different age classes (6 months, 6–8 years, 10–13 years and an adult). There are different hypotheses for why the bones were found in this area: they could be the result of an intentional selection or, more likely, the remains of pre-existing burials disturbed by subsequent rituals.

Several archaeological elements suggest that the cave had a ritual use: burnt broad beans are usually linked with the funerary sphere (e.g. Grotta Nuova, Grotta Misa); upside-down bowls are typical in ritual caves (e.g. Grotta dell'Orso di Sarteano, Grotta Vittorio Vecchi); and pits, stone pavings, reddened areas and hearths indicate that rituals were

potentially carried out in the investigated area. The cut marks on faunal remains, the body parts represented and the difficult-to-access location suggest meat consumption related to rituals.

The archaeological materials of the Grotticella W2 were typochronologically dated to the Middle Bronze Age. A recent radiocarbon measurement (SUERC-94454), generously funded by the Prehistoric Society and SUERC, confirms the hypothesis, as the obtained date is 3253 ± 24 BP (calibrated to 1494–1456 cal BC at 95.4 % confidence). A sample of seeds which belongs to a layer characterised by a massive spread of burnt carpological remains has been chosen for the date.

At the moment, thanks to the archaeological studies and the radiocarbon analysis, it is possible to affirm that people used Grotticella W2 during the Middle Bronze Age in two different moments: the first consisted in a funerary phase, the second in a phase of other ritual activity.

Further radiocarbon dating is ongoing to clarify the relationship between these rituals and the deposition of human bones; a fuller account of the site is currently in preparation. Moreover, stable isotope analyses, which are one of the main

topics of my ongoing PhD project, have already been carried out on carpological remains, fauna and human bones in order to reconstruct the economic strategies of the people that visited the cave.

Francesca Cortese, Università degli Studi di Roma "Tor Vergata" (francesca.cortese@uniroma2.it); Mario Federico Rolfo, Università di Roma "Tor Vergata"; Letizia Silvestri, Durham University

Form vs function: a use-wear and experimental analysis of microdenticulates in Mesolithic Wales

Commonly described as blades or flakes with fine contiguous notches, microdenticulates are an unassuming yet complex lithic type. It has been argued the type is devoid of meaningful diagnostic value, as what differentiates the fine notches of microdenticulates from other fine-notched types, such as serrated implements, is ambiguous. Microdenticulates are also functionally diverse, with their hypothesised use ranging from the processing of plant fibres to hide working and butchery. This combination of morphological uncertainty and functional breadth presents the microdenticulate as a typological puzzle. Whilst prevalent throughout prehistoric assemblages, there has been little use-wear analysis exploring microdenticulates within a British context. By examining microdenticulates from Mesolithic sites across Wales, a recent

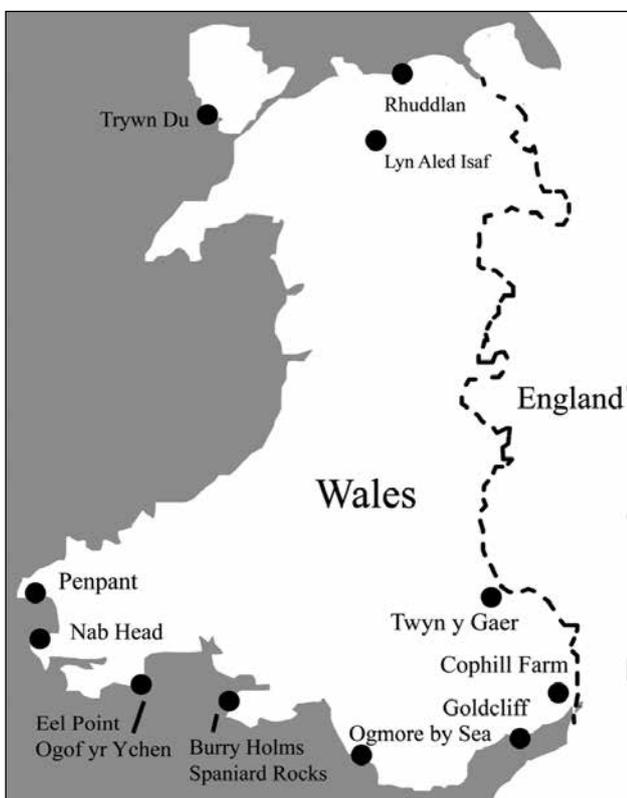
study seeks to examine functionality whilst contributing to the debate surrounding their validity as a type.

The archaeological materials assessed come from 13 occupational and/or task sites which span the entire Mesolithic period. In addition to microdenticulates, I also studied lithics of other types but with 'fine contiguous notches' to explore functional and typological homogeneity both within and between categories. A three-pronged approach of macroscopy, microscopy and experimental replication was utilised to explore the relationship between morphology, function and typology.

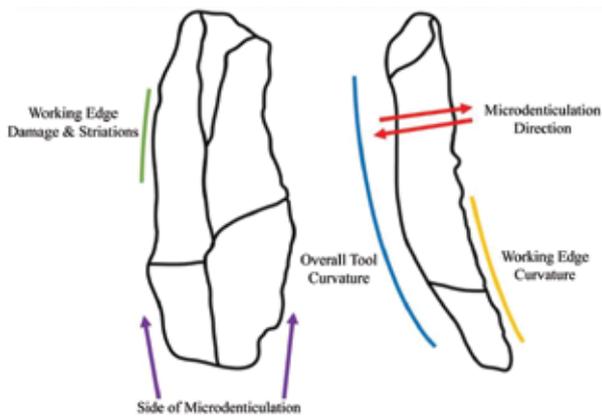
In total, 30 experimental microdenticulates ('replicas') were manufactured from flakes and blades using direct percussion. Denticulation was formed via 'grinding' and/or blunt force using a rigid, yet fine-edged flake. The experimental programme consisted of conducting basic tasks and motions of use on the following materials: wood (*Pinus sylvestris*), animal bone (*Sus scrofa*), red deer antler (*Cervus elaphus*), raw meat (*Bos taurus*, flank), and soft rushes (*Juncus effusus*). These species were chosen because of similarity with readily available Mesolithic resources. During manufacture, denticulation direction and working edge placement were chosen according to what felt most comfortable in the hand.

Replica tools were assigned to each material with respect to assumed ease of use and efficiency. For example, a tool with a longer working edge was applied to pinewood, as it is likely more efficient than a tool with a shorter or thinner edge. To avoid bias, time intervals were randomly assigned. A 'plain,' 'biface,' and four 'uniface' lithics were assigned to each material for intervals of 0, 10, 60, and 300 seconds to capture wear indicative of a variety of tasks and lithic lifespans. The replicas which did not undergo use (0 seconds) acted as controls and aided the identification of manufacturing wear.

To avoid data misinterpretation, striations and edge damage known to have resulted from manufacture and/or post-depositional processes were marked as such. No solvents or abrasive materials were used to clean the archaeological artefacts or experimental replicas before analysis. Preliminary



Map showing study sites within Wales (illustration: author)



Overview of parameters recorded during macro- and microscopic analysis, excluding polish (illustration: author)

assessment of wear consisted of macroscopic analysis (noting general morphology and metrics), working edge damage and polish. For microscopy a Nikon SMZ100 stereomicroscope (0.8x to 6x) and a Nikon ME600 optical microscope (50x to 1,000x) were used. Due to time constraints, only a sample of the archaeological artefacts were chosen for this stage, whilst all experimental 'replicas' were included. The parameters for analysis were the same as for macroscopic analysis, plus the addition of working edge striations. Pre-existing systems were used to record working edge damage, striations and polish in both the macro- and microscopic stages.

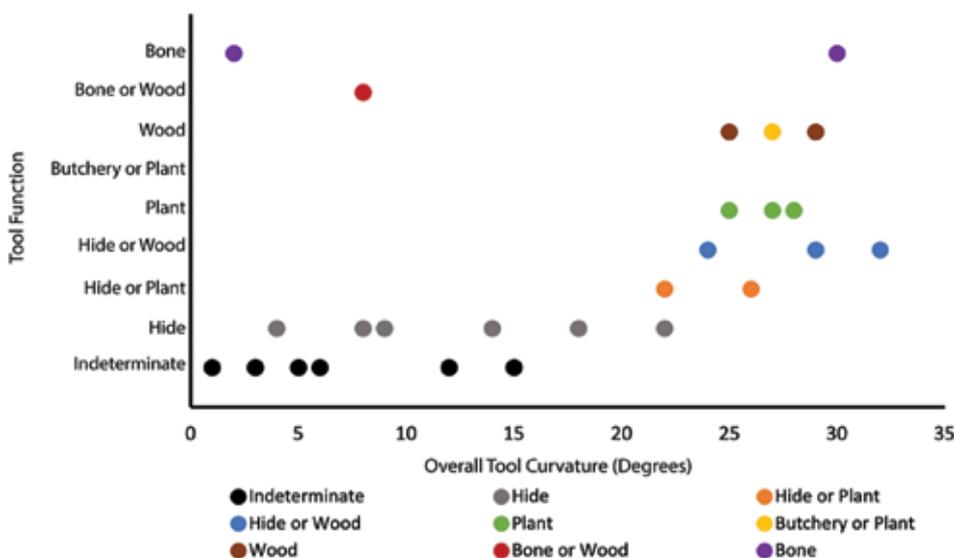
The use-wear evidenced on the Mesolithic microdenticulates is consistent with working dry hide, wood, plant fibres, bone and antler; this supports pre-existing hypotheses surrounding their function and aligns with studies carried out on Continental assemblages. A sizeable proportion of the sample presented wear patterns indicating multiple materials and represent multi-functional tools.

The majority of wear within the Mesolithic sample implies a transverse motion of use, particularly those with 'biface' microdenticulation (i.e. with notches on alternate faces). Conversely, the experimental programme found biface

microdenticulates least efficient when used in a transverse motion. This creates a technological conundrum: the intentional manufacture of bifaces which are then used in the 'least efficient' way.

Plant processing, and more specifically the creation of bast fibres, could provide an answer. Plant fibre processing has long been an assumed microdenticulate function, with several experimental and use-wear studies focusing on its occurrence within European contexts. Considering fish traps made of plant fibres have been found in Denmark and Ireland, and a possible fish trap motif is incised on a pebble at Rhuddlan (Wales), such a use is possible. Alternatively, microdenticulates could have been used to hack away vegetation as a part of land clearance practices, such as those evidenced at Goldcliff (Wales). Yet little polish diagnostic of use on siliceous plant material was recognised on the Mesolithic 'bifaces.' Hide working, whilst not included in the experimental programme, could explain the lack of polish. However, this is unlikely given the high risk of piercing hide when using a denticulate in a transverse motion. Interestingly the use-wear on the 'biface' tools mostly suggested multiple materials. Regardless of exact function, it is still reasonable to suggest that these 'biface' tools demonstrate clear technological intention and represent a specialised sub-category of microdenticulate.

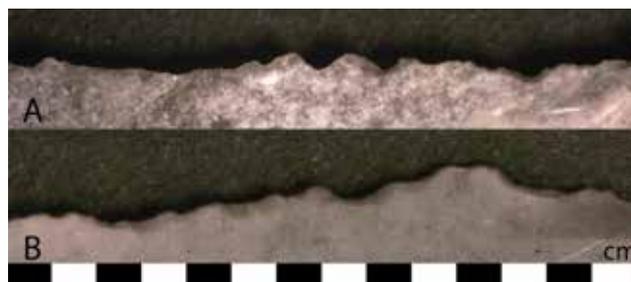
The microdenticulates investigated in this study had a variety of functions and were manufactured from flakes, flake-blades and blades of various morphologies. Assigning all these tools to a single type thus suggests a false functional and morphological homogeneity. Understandably, the general morphology of a tool has influence upon final function, and this study found a relationship between function and overall lithic curvature. If this relationship is validated by a larger sample, then sub-categorising microdenticulates by curvature could better reflect the nuanced relationship between morphology and function. However, it does not address the core issue of microdenticulates as a typological category.



Relationship between overall tool curvature and function (as derived by use-wear) within the Mesolithic assemblage. Only includes artefacts which underwent full microscopy (illustration: author)

As mentioned above, the distinction between microdentulates and other notched or serrated tools is vague. In the Mesolithic assemblages studied here, only 20% are formally identified as microdentulates, but if any tool with 'fine contiguous notches' is considered, this grows to nearly 90%. What distinguishes fine notching from fine serration and/or notch-like retouch is indeed vague, particularly when both microdentulates and other serrated or retouched edges can be very similar visually. It could be argued that depth and consistency of 'notches' differentiate microdentulates, serrated and utilised lithics. Yet this does not address the effect of use or post-depositional processes on notch size, nor does it consider the relation of typological designations and presumed or actual function. Within this study, no clear relationship between typology and function was found: both 'microdentulates' and the other types analysed showed similar wear and functionality. If types overlap both morphologically and functionally, then their usefulness and validity are debatable. This clearly shows the problems of standardisation within existing lithic terminology and typologies.

Two questions for the future then arise: what differentiates a microdentulate from other 'finely notched/serrated' tools; and what constitutes a valid typology within the expectations and nuances of current research? Without first establishing



Comparison between A) the working edge of a microdentulate (2006.15H/81 Amgueddfa Cymru) and B) a utilised blade (2010.28H/857 Amgueddfa Cymru). Photos: author

a universal terminology based on distinctive morphological attributes and function our answers could be irrelevant.

Acknowledgements

This contribution is a summary of research undertaken as part of my undergraduate dissertation at Cardiff University. Special thanks to my supervisor Ian Dennis for his endless support and encouragement throughout this project, and Elizabeth Walker and the Amgueddfa Cymru/National Museum Wales for access to collections vital to this project.

Victoria Alexander, Red River Archaeology
(victoria@rrarc.co.uk)

A county of missing houses – the impact of 'roads archaeology' on the discovery of Neolithic houses in Cork County, Ireland

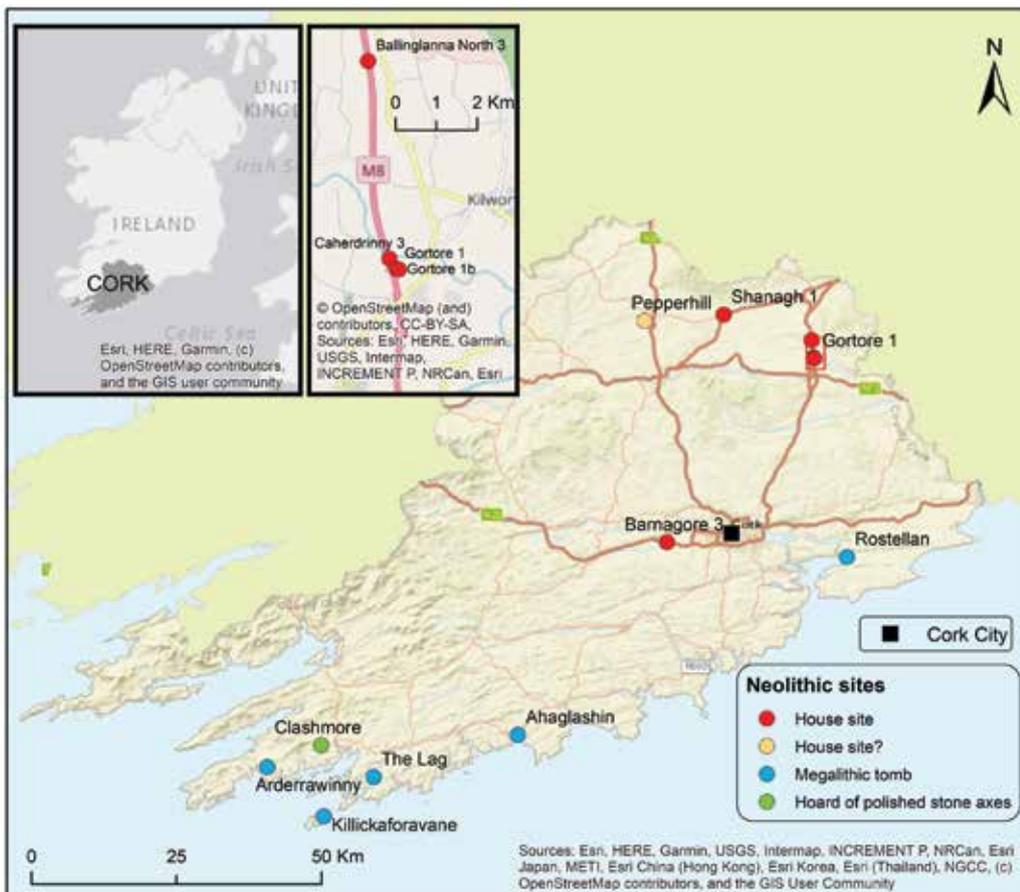
In a 1992 paper published in *Antiquity* – based on a lecture to the Prehistoric Society – the late Professor Peter Woodman of University College Cork lamented that until the late 1980s, scholars, on finding evidence for a Neolithic in any area in Ireland, seemed hesitant to believe that it could exist without the validation of a relevant megalithic tomb in the region. Until then, the study of the Neolithic of Ireland had largely been a study of megalithic tombs.

This rang particularly true in the case of County Cork where, up until relatively recent times, not a single dwelling of Neolithic date was known – not a single abode from approximately 1600 years of Neolithic presence, in what is Ireland's largest county (comprising roughly 9% of the island)! Clearly, it was only a matter of time before the homes of Neolithic people would be found. They had, after all, left their mark in many other ways. Examples of megalithic tombs of Neolithic date, albeit few, are known and comprise both portal and passage tombs. In addition, individual Neolithic finds (mostly polished stone axes) have been discovered at various locations throughout the county, mostly as stray finds from farmland and bogs, although there are a few hoards, for example from Clashmore.

The first suggestion of a Neolithic house from the county was reported from archaeological excavations undertaken in 1988 along the route of a proposed gas pipeline. In the

townland of Pepperhill, west of Buttevant town, a short length of shallow trench and some postholes/pits associated with Neolithic pottery and lithics were interpreted by the excavator (Gowen) as the north-west corner of a possible rectangular structure or house. While referred to as the 'Pepperhill house' for many years, the incompleteness of the remains has diminished confidence in classifying this as a house, particularly in more recent research. For example, it is notably absent from Smyth's 2014 book *Settlement in the Irish Neolithic*, published in the Prehistoric Society Research Papers series. So, potentially a house? Yes, but Neolithic Cork, it seems, was still without a confirmed example.

The turning point came in the early 2000s, when the Irish Government set out an ambitious plan for public investment, including over 100 major road projects. Cognisant of the anticipated archaeological implication of these nation-wide works, a Code of Practice was agreed between the National Roads Authority (NRA) and the Minister for Arts, Heritage, Gaeltacht and the Islands. As part of this code the NRA (now operating as Transport Infrastructure Ireland) assigned project archaeologists to the various National Roads Design Offices across the country to oversee all archaeological aspects of the national road-building programme. These public infrastructure investments led to one of the most intense periods of archaeological investigation ever undertaken in Ireland.



Location map of newly identified Neolithic house sites in County Cork (map: Ken Hanley)

As a result, many new sites containing remains of Neolithic date have since been discovered. However, the first breakthrough in terms of a confirmed Neolithic house came in 2002, during archaeological investigations along the route of the N22 Ballincollig Bypass, just west of Cork City. At Barnagore 3, archaeologists from Archaeological Consultancy Services Ltd identified the foundation remains of a timber-built, sub-rectangular Early Neolithic house. The burnt remains of timber planking and posts survived along the west and south walls. The plank remnants comprised radially split oak, one of which was radiocarbon dated to 3940–3640 cal BC, while a burnt oak stake from the eastern slot-trench was radiocarbon dated to 3790–3520 cal BC. No hearth or floor surface survived.

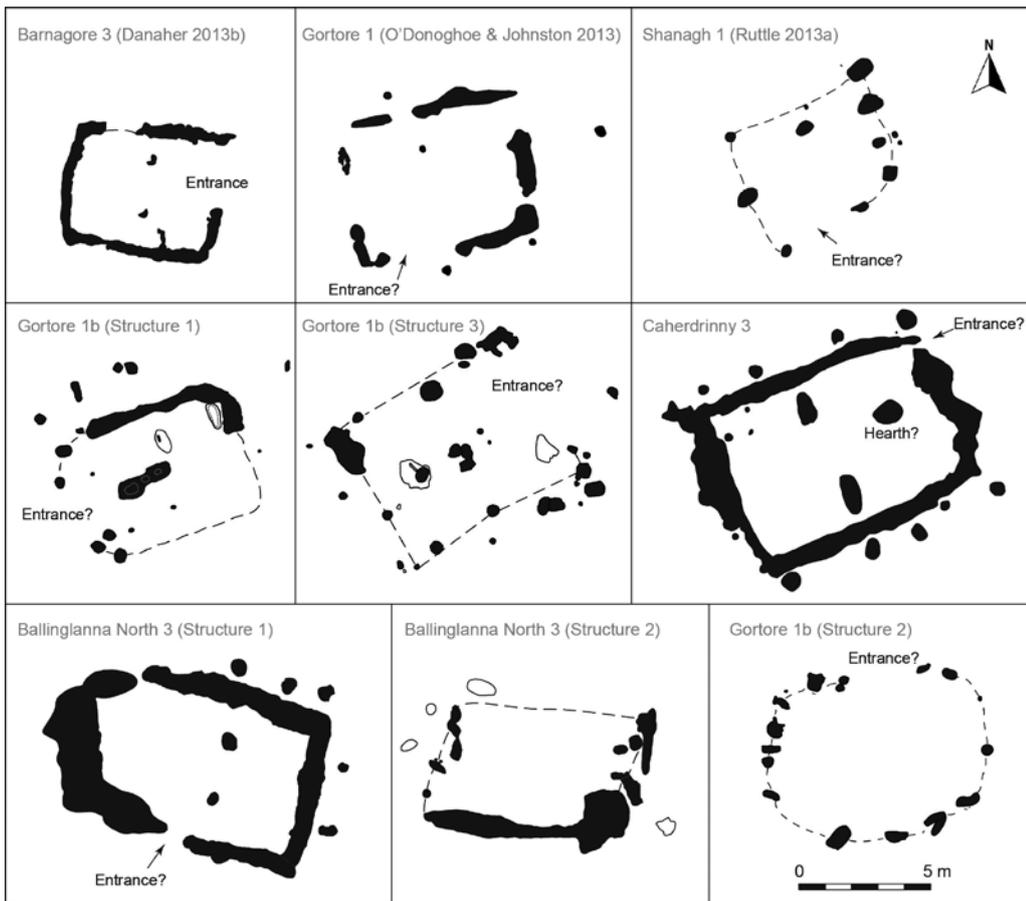
In 2007, an Early Neolithic house was excavated by Eachtra Archaeological Projects at Gortore 1, north-east of Fermoy town, in advance of the M8 Rathcormac–Fermoy motorway. Here, *c.* 330 m from the River Funshion, a series of intermittent slot-trenches formed a sub-rectangular floor plan. A radiocarbon date of 3928–3655 cal BC was returned.

This first trickle of new sites soon turned into a pour, with a seismic shift in terms of discovery occurring later that same year. During investigations by Eachtra Archaeological Projects in advance of the adjoining M8 Fermoy–Mitchelstown motorway, the remains of a further six buildings were identified, all believed to be Neolithic houses.

The first of these excavations was at Gortore 1b. Much of the archaeology comprised pit/posthole clusters spread across a wide area. These were subsequently identified as the outline remains of possibly two sub-rectangular Early Neolithic houses (Structures 1 & 3). This reinterpretation, though convincing, is not straightforward. Structure 1 was in a poor state of preservation. A sherd of Early Neolithic carinated bowl was recovered from an internal posthole, but two charcoal samples produced Chalcolithic dates. On balance, however, the form of the building is more comparable with other Early Neolithic houses. The sub-rectangular Structure 3 was not radiocarbon dated, but sherds of Early Neolithic carinated bowl were recovered in the foundations. Nearby, a sub-rectangular/sub-circular outline of a possible Middle Neolithic house (Structure 2) was identified. One of the structural postholes contained a sherd of Middle Neolithic globular bowl. This building is currently the only known example of a Middle Neolithic house excavated in County Cork.

At Caherdrinny 3, south of Mitchelstown, the earth-cut remains of a seemingly larger, more robust house were excavated. Sherds of Early Neolithic pottery were distributed throughout its postholes and foundation trenches. One of the external roof supports was radiocarbon dated to 3766–3650 cal BC.

At Balinglanna North 3, two further Early Neolithic houses were excavated. Building 1 survived only as a foundation trench, which would once have held end-set planks and posts.



Composite floor plans of the Neolithic houses identified in advance of road construction projects in County Cork (drawings: Ken Hanley)

A radiocarbon date of 3766–3656 cal BC was obtained. The second building (Building 2), located on an opposing ridge, was less well preserved, surviving as a foundation trench which was radiocarbon dated to 3938–3708 cal BC.

In 2012, yet another Early Neolithic building (suspected house) was discovered at Shanagh 1, 16 km south-west of Mitchelstown, this time during archaeological investigations by TVAS (Ireland) Ltd in advance of the N73 Clogher



Artist's impression of the Early Neolithic house excavated at Gortore 1 (image: Digitale Archäologie)

Cross to Waterdyke Road Realignment Scheme. At the heavily ploughed site, a series of earth-cut features formed a roughly rectangular outline. One of the pits/post-holes was radiocarbon dated to 3796–3640 cal BC, another to 3766–3531 cal BC.

As has been shown, 'roads archaeology' has played a driving role (no pun intended!) in our understanding of the form and distribution of Neolithic settlement in County Cork. These discoveries have added to the growing corpus of Neolithic houses (now more than 100) excavated in Ireland, many of which were also identified during pre-construction archaeological investigations in advance of road projects, managed by the National Roads Authority/Transport Infrastructure Ireland in partnership with the various local authorities.

The relevant excavation reports for the above sites can be downloaded from the TII Digital Heritage Collection housed by the Digital Repository of Ireland (www.dri.ie) using the site codes provided in the appendix (available in the online version for this issue of *PAST*, see <http://www.prehistoricsociety.org/publications/past/>). For further detail on the archaeological work and resources from Transport Infrastructure Ireland, see <https://www.tii.ie/technical-services/archaeology>.

Ken Hanley, Project Archaeologist, Transport Infrastructure Ireland (ken.hanley@tii.ie)

The Prehistoric Society 2020

This report covers the period of January to December 2020. 2020 was a very unusual year. In-person events were cancelled from March onwards, our AGM was delayed until October, and many grants have had to delay their spending. In spite of this we have been able to use digital tools and social media to move talks, events, and meetings online, reaching out to more people than ever before.

Lectures, meetings and study tours

In spite of the pandemic the Society has continued to fulfil its commitment to reach regional audiences and to promote its aims and objectives through lectures and conferences. In February 2020, before the pandemic took hold, our day school 'Landscapes of the dead: exploring Neolithic monuments and mortuary practice', organised by Vicki Cummings, took place in London. It featured a packed programme with talks covering the full chronological range and geographic extent of the British Neolithic (see *PAST* 95). This year's day school will take place online on Saturday 6 March and will explore the barrows of the Yorkshire Wolds.

The number of collaborative events with other archaeological bodies and societies has been increasing for the past few years. For events moved online this year, many local societies have seen record attendance. Joint lectures were given with the Cambridge, Devon, Cornwall, London and Middlesex, Norwich and Norfolk, and Scarborough Archaeological societies. We began a new collaborative lecture series with the Buckinghamshire Archaeological Society that had 180 attendees. We also supported the fourth annual Pitt Rivers Lecture, delivered by Chris Stringer (Natural History Museum) and titled 'The origins of our species'. Annelou van Gijn, scheduled for the biennial joint Society of Antiquaries of Scotland and Prehistoric Society lecture, was unfortunately ill. Our meetings secretary Matt Knight generously stepped in at the last minute and gave an excellent lecture.

For the past few years we have been supporting student and early-career led conferences. In 2020, the Iron Age Research Student Symposium, hosted by the University of Manchester, became one of the first student-run archaeology conferences to move online and was widely praised for its innovative and effective format. We are also continuing to support the Neolithic and Early Bronze Age Research Student Symposium; their event has been postponed until 2021.

Europa Prize

Colin Haselgrove (University of Leicester) was the 2020 recipient of the Europa Prize, but the associated event was postponed. The Society is currently working on delivering the Europa conference in 2021.

Research Grants

Grants were awarded in February 2020 and the successful applicants notified. As the pandemic developed, the awardees were allowed to defer grants until 2021. Research grants were awarded to Allison Casaly (New York) for the stable

isotope analysis of faunal remains from the Iron Age ceremonial centre of Dún Ailinne, Co. Kildare; Ute Guenkel-Maschek (Heidelberg) for survey and artefact mapping at Minoan Koumasa, Crete; and Barry Taylor and Amy Gray Jones (Chester) for investigations at the Mesolithic site of No Name Hill, Lake Flixton, North Yorkshire. Ravindra Devra (IISER Mohali) and Devara Kumar (Baroda) were allowed funds to attend the European Association for South Asian Archaeology and Art conference in 2020, which was unfortunately cancelled.

A SUERC Award offered Francesca Cortese (Rome) one date for her work on Pastena Cave, Italy, and Eirini Konstantinidi (Cardiff) two dates for work on Neolithic caves in south-west Britain (both covered in this issue). The John and Bryony Coles Award went to Simone Chisena (York) for reflectance transformation imaging of Magdalenian engraved plaquettes from La Marche (held at the Musée Sainte-Croix, Poitiers, France) and to George Prew (Glasgow) for the study of dress assemblages from Gabii and Osteria dell'Osa tombs, held in the British School at Rome. The James Dyer Prize was awarded to Karen Hardy (Barcelona) for excavations at South Cuidrach, Isle of Skye. The Bob Smith Prize was given to Martin Bell (Reading) for excavations of a Mesolithic palaeochannel edge in the Kennet Valley. The Leslie Grinsell Prize was awarded to Roland Williamson for work replicating the south-west Norfolk torc.

The Annual General Meeting for 2019/20

The AGM was due to be held during the Europa conference at Leicester, but instead took place over Zoom on Wednesday 21 October, with many members in attendance. The President reported on an unusual, yet successful year, providing details of the Society's core activities, publications, lectures and conferences. The Zoom format effectively highlighted many of the Society's digital outreach initiatives, particularly the fabulous online educational resources to help teachers deliver prehistoric content (<https://theprehistoricsociety.school.blog/>). These are the culmination of extensive work by many past and present council members, particularly Roy Loveday, Stuart Needham, Pippa Bradley, Courtney Nimura, Helen Chittock and Ben Geary. Extra thanks were extended to Tessa Machling for her exceptional social media work throughout various lockdowns, with daily posts on a range of prehistoric themes leading to steady growth in our social media following.

The proposed rise in subscription rates has been postponed and will be addressed by Council in 2021. The President thanked all Council and members who have assisted with events during the year. Warm thanks were offered to retiring officers and Council members: Vice President Roy Loveday and council members Laura Basell, Ben Geary and Leo Webley.

The following officers and members of Council were elected and re-elected:

President	Prof Clive Gamble
Vice-Presidents	Dr Joanna Brück, Dr Melanie Giles, Prof Linda Hurcombe Dr Jacqui Mulville
Treasurer	Dr Clare Randall
Secretary	Dr Rachel Crellin
Managing Editor/Editor of PPS	Dr Julie Gardiner
Deputy Editor of PPS	Dr Courtney Nimura
Editor PAST	Dr Daniela Hofmann
Editor, Prehistoric Society Research Papers Series	Dr Mike Allen
Book Reviews Editor	Ms Pippa Bradley
Meetings Secretary	Dr Matthew Knight
Conservation Co-Ordinator	Dr Jane Sidell
Council	Dr Sophia Adams, Dr Richard Brunning, Dr Helen Chittock, Dr Peter Clark, Dr James Cole, Dr Susanna Harris, Dr Jodie Lewis, Dr Ben Roberts, Dr Anne Teather, Annabell Zander

The meeting ended with the online release of the Sara Champion lecture on YouTube, allowing many more people to view the event than would normally have been possible (see report in this issue).

The Baguley Award

The Baguley Award (for best paper in *PPS* 85) was awarded to Matthew Knight (National Museum of Scotland) for 'Going to pieces: investigating the deliberate destruction of Late Bronze Age swords and spearheads'.

Undergraduate Dissertation Prize

As in previous years, each University department was invited to submit one dissertation; this year we received a particularly large volume of submissions. The winner was Phillippa Kent (Oxford). Three runners-up were also highly commended: Owen Gilmore-Noble (York), Kate Maclachlan (Manchester) and Molly Pye (Leicester); a fuller report can be found in this issue of *PAST*. The students were informed of their success and will be invited to accept their awards at the Europa event in 2021.

Publications

During 2020, the Society published Volume 86 of the *Proceedings of the Prehistoric Society*, which contained 12 refereed papers covering a variety of prehistoric topics in the UK and abroad. As usual, three editions of *PAST*, the Society's newsletter, were published. The editor of *PAST*, Dani Hofmann, is due to step down in 2021 and a replacement was sought (see this issue). In addition, the society published a new research paper volume under the editorship of Mike Allen. *The social context of technology* by Leo Webley, Sophia Adams and Joanna Brück explores evidence for non-ferrous metalworking in later prehistoric Britain and Ireland.

Advocacy

The Society continued its active role in advocacy led by Jane Sidell. We have offered letters of support to the Kilmartin Museum's application to be recognised as a Nationally Significant Collection, objected to the planning proposals at Old Oswestry Hillfort and joined with the Royal Anthropological Institute to provide a submission to the Joint Standing Committee on Northern Australia review into the destruction of the Juukan rock shelters. We also sent a letter to the National Trust over proposed cuts to curatorial staff at the Alexander Keiller Museum, Avebury.

We continue to foster links with the European Association of Archaeologists in the wake of Brexit and to support the inclusion of prehistory in the primary school's National Curriculum; the launch of our website of resources is an important contribution in this area.

Membership and administration

Membership is healthy and continues to rise. The Society's online and social media presence has grown, with 5250 followers on Twitter (up from 4700 last year) and 16800 members from 101 countries on Facebook (up from 14500 last year).

As ever, the Society would not be able to function without a large number of individuals giving freely of their time and knowledge to organise events and to deliver the results of their work. The Society offers sincere thanks to all those who have helped throughout the year, and especially to its administrator, Tessa Machling.

Apply for EAA corporate membership

The Prehistoric Society is a corporate member of the European Association of Archaeologists and as such can nominate people from amongst its membership to represent the Society at EAA meetings and events. This can take the form of representing the Society at formal EAA meetings (AGM, Corporate Members' Meeting, President's Working Lunch) and organising a session/delivering a lecture under the Society's aegis. The Society has always been keen to encourage student and early career researchers and has decided to solicit applications for EAA corporate membership from amongst its student membership.

Corporate student members will pay no EAA membership fees, will receive access to the EAA journal, be invited to propose sessions/participate at the annual conference and qualify for reduced conference fees (student rate) at the EAA annual conference. Successful applicants will receive student corporate membership for two years in the first instance, but membership may be extended depending on external circumstances such as timetabling etc.

To apply, please contact prehistoric@ucl.ac.uk for an application form.

Becoming metallic: the emergence of metals in Britain and Ireland

The 19th Sara Champion Memorial Lecture was given virtually on 21 October 2020 by Dr Rachel Crellin of the University of Leicester. In a touching nod to the circumstances of its delivery, Rachel noted that her talk dealt with how prehistoric societies adapted to new technologies – an experience with which many members will identify, as we find new ways to engage with our much-missed colleagues and friends. On this night, we were able to learn (quite literally) from the cutting edge of theoretical ideas on the introduction of metallurgy to the British Isles, through Rachel's study of the copper and bronze flat axe (a case study drawn from her monograph *Change and Archaeology*, published by Routledge last year).

Rachel's lecture suggested that the making and finishing of copper axes was initially figured within both the expectations and aesthetics of stone axe manufacture. Whilst hammering (to enhance durability) was a novel advance, the heating of substances to create a hardened edge was not. Peter Bray's ideas on 'metalleity' and Joanna Brück's work on the metaphorical bonds (conceptual 'alloys?') between human and material substances underpinned Rachel's study. Yet to these ideas she added her own particular expertise in wear analysis to reveal the hidden histories of flat axes, particularly those from hoards. Rachel's key point was that this new material was configured within local understandings of what an axe should be: how it should look, how it might be reworked or re-enlivened (following damage or wear) and when it should be consigned (temporarily or permanently) to the ground. This painstaking research was a striking counterpoint to models of larger-scale invasion or migration which have dominated recent media reports on Bronze Age research: a salient reminder that whilst new knowledge or skills may arrive with new people, what we see



archaeologically as 'change' always takes time and is subtly reconfigured by local knowledge, histories and desires.

At the time of writing, Rachel's lecture has garnered nearly 550 views on YouTube (https://www.youtube.com/watch?v=UjJyAYza_S4): far beyond the seating capacity of the Society of Antiquaries elegant lecture room. We may have missed the occasion, the learned setting and the physical company of our peers, but in adopting this novel format, the Society has taken a leaf out of Rachel's book – embracing change whilst cherishing our charitable aims to extoll and disseminate the very best of new ideas about the past. Sara would, I am sure, have approved.

Mel Giles, University of Manchester
(Melanie.Giles@manchester.ac.uk)

Undergraduate Dissertation Prize for 2020

The Prehistoric Society awards one major annual prize to the best undergraduate dissertation based on prehistory from any department in Britain or Ireland. This year's deserved winner was Philippa Kent (Oxford) for *Unearthing Pompeii: a study of the stratigraphic sequence beneath the Roman town using tephra analysis*. Philippa will be awarded three years' free membership of the Society, her choice of one of the Society's in-print monographs, a cheque for £100 and the opportunity to submit an abridged version of her dissertation for publication in the *Proceedings*. Three runners-up, each

receiving a year's membership of the Society, were highly commended: Owen Gilmore-Noble (York, who wrote on *Ochre in Upper Palaeolithic Europe and the African Middle Stone Age: a comparative analysis*), Kate Maclachlan (Manchester, for her *A social zooarchaeology of wild boar during the Mesolithic in Great Britain and Ireland*) and Molly Pye (Leicester, with *Neanderthals in the print media*). The awards have been deferred until the Europa celebrations, where we hope to introduce these rising stars to a network of international scholars.

We are pleased to announce the launch of the Prehistoric Society Online Collections, curated by members of the Prehistoric Society's Council and Editorial Board. The Collections bring together seminal papers which highlight long-standing topics of interest in the study of prehistory, from monuments and metals to seafaring and rock art. Acting as starting points into important themes, they introduce readers to the many pathways of prehistory that interlace the *Proceedings of the Prehistoric Society*. New collections, free to members, will be launched in the coming months and years, and can be enjoyed here: <https://www.cambridge.org/core/journals/proceedings-of-the-prehistoric-society/online-collections>

Clive Gamble, Julie Gardiner & Courtney Nimura

Prehistoric Society Undergraduate Dissertation Prize 2021

The Prehistoric Society invites submissions for the 2021 Undergraduate Dissertation Prize. The award celebrates the dissertation that has made the greatest contribution to the study of prehistory in any part of the world. The prize is open to students from any university in Britain and Ireland.

Each department is invited to submit one dissertation by a candidate who completes her or his degree during the 2020–2021 academic year. The judges will assess entries on the basis of the quality of work, the originality of the approach and the degree to which the research advances our understanding of prehistory. The final decision is at the discretion of the Society.

The winner will receive three years' free membership of the Society, the choice of one of the Society's in-print monographs and £100. An abridged version of the successful dissertation will be considered for publication in the *Proceedings*. Three

runners-up will be awarded a year's free membership and will be invited to the award ceremony, where they will be presented with a certificate. Highly commended entries will also receive a year's free membership. The Prize will be presented prior to the Sara Champion lecture (exact date and venue to be announced) in October 2021.

This prestigious award represents an excellent opportunity for outstanding young scholars to have their work publicly recognised. Entries for the current academic year are to be sent as a single PDF document by the nominated staff representative of the host department to Dr Melanie Giles at melanie.giles@manchester.ac.uk by Friday 16th July (please note: we will not accept entries directly from the student). It is advised that the file name comprise the student's name and institution. Entries can only be accepted if accompanied by the email address, postal address and contact phone number both for the candidates and for their supervisors.

Europa conference moves online

It is with a heavy heart that we have decided not to hold the Europa Conference in Leicester this year. We had postponed the conference last year in the hope that we would be able to meet in June 2021. However, given the current uncertainties surrounding the global pandemic, we have decided to turn the Europa Conference in honour of Colin Haselgrove into an online event to be held in June 2021. We are also hoping to undertake a live event with Colin's Europa lecture later in the year. Details about the Europa events will be announced on our website, social media and via email.

For those who have already booked to attend the conference through Eventbrite, your ticket will be automatically

refunded in full. If you do not receive a refund by 31 March, please contact Annabell Zander (az661@york.ac.uk). For those who have paid by cheque, please contact Tess Machling (prehistoric@ucl.ac.uk) for a refund.

Notice of AGM 2021

We will be holding our AGM on 20 October 2021. As usual the agenda and papers will be published in *PAST* well in advance. We are planning for this to be an online meeting, but should circumstances change, as we all hope they will, then we will return to a face-to-face event.

PAST has a new editor!

After a run of six years, the current editor of *PAST*, Daniela Hofmann, is hanging up her red pen and taking a well-earned break. Stepping into those editorial shoes will be Susan Greaney, an archaeologist with a career in heritage interpretation and specialist knowledge of the British Neolithic. After degrees at Sheffield and Oxford, and working for a short time in commercial archaeology, since 2005 Susan has worked for English Heritage in the role of Properties Historian. She is responsible for the archaeological and historical content of interpretation schemes and exhibitions at prehistoric and other sites, including projects at Tintagel Castle, Chysauster Ancient Village and Stonehenge, where



she developed and wrote the exhibition in the new visitor centre and now curates the temporary exhibition programme.

Since 2014, Susan has been undertaking a part-time PhD at Cardiff and Southampton Universities, funded by the AHRC through their Doctoral Training Partnership scheme. The research focuses on the emergence and development of Neolithic monument complexes in Britain and Ireland, and includes new radiocarbon dating of several important sites in Dorchester, Dorset. Under her care, *PAST* will continue to

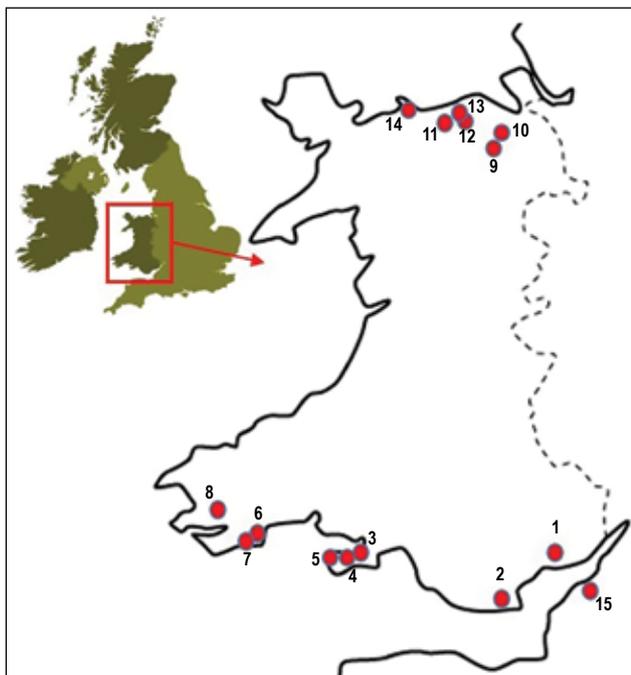
bring you the latest Society news and report on exciting developments in research and heritage.

Disarticulated human remains from Neolithic cave burials in south-west Britain

The Neolithic constitutes the earliest period for which a large quantity of human bone survives in Britain, primarily from mortuary monuments. Human remains from caves have been less comprehensively studied due to a predominance of insecure contexts and limited dating. The state of the remains also poses challenges, with co-mingled and disarticulated human remains dominating. Previous research on Neolithic cave interments has created a corpus of evidence, often focused on dating and regional analyses of burial patterns and diet. This research has made major contributions, but gaps remain in terms of analytical methods and geographical coverage. A considerable quantity of human remains, specifically from caves in Wales, has still not been examined and our knowledge of Neolithic burial practices in Britain remains unbalanced.

This situation has provided the impetus for a doctoral research project exploring Neolithic mortuary practices in Britain, focusing on these neglected caves in Wales. By combining novel multi-scalar taphonomic analysis with osteological study and targeted radiocarbon dating, our understanding of mortuary deposition in caves will be enhanced.

The multi-scalar taphonomic analysis focuses on agents that contribute to the process of decomposition and degradation. These taphonomic proxies provide key information for understanding how the body was treated at and after death.



Distribution of caves across Wales and North Somerset examined in this project: 1, Ifton Quarry; 2, George Rock Shelter; 3, Cathole Cave; 4, Spurge Hole; 5, Red Fescue Hole; 6, Nanna's Cave & Ogof-y-Benglog; 7, Little Hoyle Cave; 8, Priory Farm Cave; 9, Ogof Colomendy; 10, Orchid cave; 11, Cae Gronw cave; 12, Pontnewydd cave; 13, Gop cave; 14, Little Orme's Head Quarry; 15, Backwell Cave (drawing: author)

Macroscopic taphonomic analysis provides information on the degree and duration of exposure of the remains, the nature of manipulation and/or disturbance and modifying agents that impact the bone (e.g. weathering, fracturing, gnawing). Microscopic taphonomic analysis assesses the degree and nature of microstructural preservation of bones, with a particular focus on bioerosion. Evidence of bioerosion (bacterial attack linked to the depositional environment and the speed of flesh removal) provides insights into early post-mortem mortuary treatment (e.g. sub-aerial exposure or exhumation prior to final burial).

So far, macroscopic taphonomic analysis has been undertaken on fifteen caves in Wales (with direct evidence of Neolithic activity) with microscopic analysis of six of these sites. Comparative data from a cave in North Somerset are currently being collected. Radiocarbon dating evidence of eleven elements (from eight sites) is also underway to clarify the chronology of deposition. This multi-factorial approach is novel in Neolithic cave archaeology. Preliminary findings from disarticulated and fragmented remains recovered from two sites, Ifton Quarry, Monmouthshire, and George Rock Shelter, Vale of Glamorgan, are presented here.

Remains discovered in a crevice at Ifton Quarry in 1908 primarily consist of human crania with a few accompanying post-cranial remains. Four radiocarbon dates have confirmed Middle to Late Neolithic activity. No other finds were present.

Demographic information revealed a minimum of seven individuals of different ages (five adults and two juveniles) and both sexes (three probable adult females and two probable adult males). Trauma was observed on three of the crania. One probably male adult cranium exhibited a healed fracture and a probable cutmark on the parietals. A cutmark was identified on the frontal bone of one adult female, with a second exhibiting blunt force trauma and scraping/defleshing marks on the parietals. Macroscopic taphonomic analysis of the crania revealed evidence of severe root etching, slight abrasion (polishing) and variable staining (all of which occurred in the burial environment).

Post-cranial remains included smaller elements such as metacarpals/metatarsals, ribs, calcanei and fragments of thoracic vertebrae and scapulae, but there was a distinct lack of long bones. Remains were highly fragmented and exhibited similar taphonomic modifications to the crania (black staining, root etching and occasional abrasion). Evidence of staining was observed on all long bones (two tibia shafts, three femora, two fibulae, four humeri and two ulnae) and the majority of the elements were eroded. Gnawing marks were also observed, primarily around the trochanteric area and head of one femur. Fracture analysis of the long bones revealed dry/mineralised post-depositional



1) Ifton Quarry crania showing evidence of trauma. Left: sharp force trauma on frontal bone; right: root etching and staining on parietal and occipital bones (photos: author)

2) Ifton Quarry cranium with probable evidence of blunt force trauma on right parietal (right) and scraping/defleshing marks on occipital bone (left) (photos: author)

3) Talus/plantar view, subtalar articular surface (left), and rib fragment (right) with evidence of root etching from George Rock Shelter (photos: author)

fractures (with evidence of small modern breaks in places), suggesting these did not occur during primary burial when the bones were fresh.

Extensive evidence of human-inflicted trauma (blunt force, cutmarks, healed fracture, possible scraping/defleshing marks) make this site unusual. Results from macroscopic analysis suggest primary or short sub-aerial exposure prior to final deposition in the rock shelter. This is supported by the presence of dry fractures resulting from later disturbance, possibly anthropogenic (e.g. circulation of bone). The presence of extensive root etching and staining requires at least partial subterranean deposition; however, this could have happened elsewhere. Remains were recovered from a narrow area underneath a projecting shelf of limestone near the summit of a steep slope, meaning that access to the rock shelter was limited and consecutive visits were impossible. The evidence therefore suggests that the site was used for final deposition after the remains underwent a series of processing steps.

George Rock Shelter, excavated by Dr Rick Peterson and Prof Stephen Aldhouse-Green between 2005 and 2007, has four main stratified contexts, two of which contained Neolithic human remains. Artefacts, pottery and a post-Neolithic radiocarbon date demonstrate the site's long history of use, from the Mesolithic to the post-medieval period.

Remains were highly fragmented but analysis revealed a minimum of six individuals (three adults, one adolescent, one juvenile and one perinate, all unsexed). Small cranial fragments, a range of hand/foot elements, rib fragments and loose teeth dominated the Neolithic assemblage. However, vertebral fragments, long bones (one ulna, two fibulae) and cremated bone were also recovered from the post-medieval

layer. Given the uncertain chronology of the context, with only one radiocarbon date available, these remains could be part of the Neolithic assemblage, but this can only be ascertained with further ^{14}C dates. All human remains were severely impacted by root action, erosion and occasional black staining. The consistent macroscopic damage and the presence of smaller elements (which disarticulate from the body rapidly) suggest that remains were deposited for primary burial shortly after death, whilst the absence of larger elements possibly implies their deliberate post-deposition removal from the burial context.

The patterns of decomposition, modification and skeletal representation in these two case studies suggest that multi-stage practices played a role in cave deposition. Deposition in caves involved a sequence of pre- and post-depositional events. Forthcoming microscopic analysis and new radiocarbon dates for these and other sites will elucidate the patterns of mortuary practice (inhumation, exhumation, excarnation) and clarify whether deposition occurred at the same time or over longer periods.

Acknowledgements

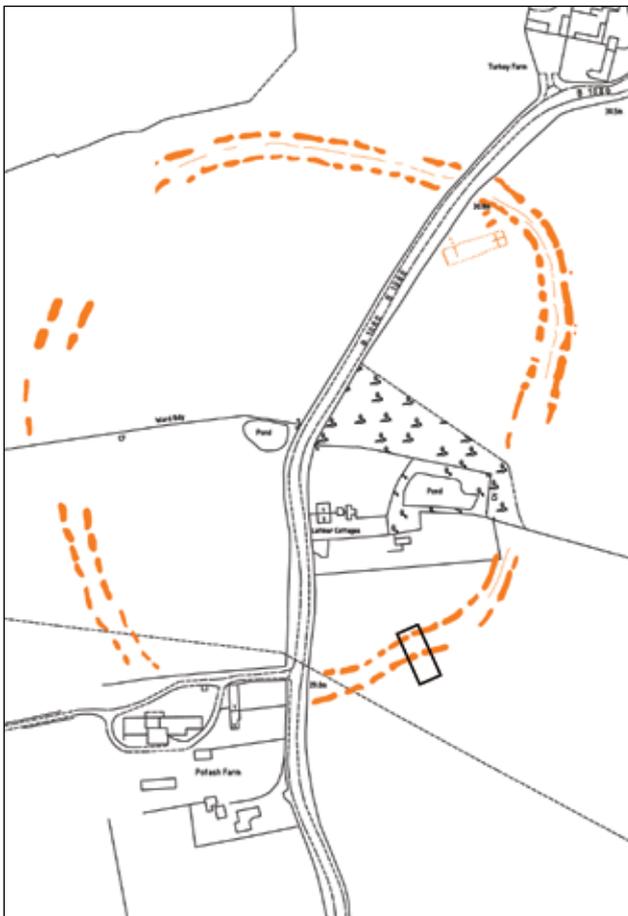
Generous funding for radiocarbon dating was provided by the Prehistoric Society, the British Cave Research Association (BCRA) and the National Environmental Isotope Facility (NEIF). Special thanks to National Museum Wales, Newport Museum and Art Gallery, Tenby Museum and Art Gallery and Dr Rick Peterson for enabling this project to take place. I would also like to acknowledge my supervisors, Dr Richard Madgwick and Prof Jacqui Mulville, for the support and endless work we have put into this project.

*Eirini Konstantinidi, Cardiff University
(konstantinidie1@cardiff.ac.uk)*

New work at the Freston causewayed enclosure, Suffolk

The Freston interrupted ditch system was discovered by aerial photography in 1969 and long thought to be an Early Neolithic causewayed enclosure. However, this had never been tested by excavation. This changed in 2019 when a small team undertook six weeks of fieldwork at the site, funded by Canada's Social Science and Humanities Research Council and the Prehistoric Society.

This work began with a 0.76 ha geophysical survey within the monument's south-east quadrant, after which the topsoil was mechanically stripped from a 10 × 35 m trench. Afterwards, all archaeological deposits were excavated by hand, with 100% of soil sieved and the volume recorded for artefact quantification. At least 40 l of soil per context was put through a flotation system to recover material too small to collect by hand, such as seeds and microliths. The excavation focused on two opposing inner ditch terminals that were roughly 5 m wide, and some 2.5–3.5 m deep. The



Site plan from 1969 aerial photograph with 2019 excavation trench (drawing: T. Schofield)

earliest infills of these features were artefact-rich, the material interpreted as debris from various activities performed within the enclosure, which had subsequently been gathered up and deposited into the ditches. The more compact layers that seal these primary fills suggest the ditches became overgrown, after which they gradually silted up. The depositional history will be detailed further by a micromorphological study of samples taken from the sections.

The finds are typical of the East Anglian Early Neolithic. The pottery is dominated by Mildenhall Ware, in use *c.* 3700–3400 cal BC, with finely decorated bowls with incised lines and impressed dots as well as plain vessels. Local flint was worked on site to produce the typical blades and bladelets of the period, with retouched tools including leaf-shaped points, scrapers and denticulates. No polished stone was recovered, though axes in local and exotic raw materials have previously been found as surface finds at the site. Over 10 kg of unworked burnt stone was also recovered, conceivably pot-boilers for cooking or from the open firing of ceramic vessels. Although feasting is one of the activities commonly associated with causewayed enclosures, the excavation failed to recover any animal remains. While in theory the bones may have been deposited in another location, it is unfortunately more likely that they do not preserve in the local acidic soils. There are, however, quantities of burnt plant material, including foodstuffs such as wheat and hazelnuts, as well as chunks of hardwood fuels such as oak, birch and hazel.

Four small pits inside the enclosure were also exposed by the excavation; three contained handfuls of artefacts, while the fourth produced a significant quantity of burnt flint and charcoal, potentially the rake-out from a hearth or the open-firing of pottery. The final feature excavated was part of a narrow trench for an oak palisade that ran between the ditches.

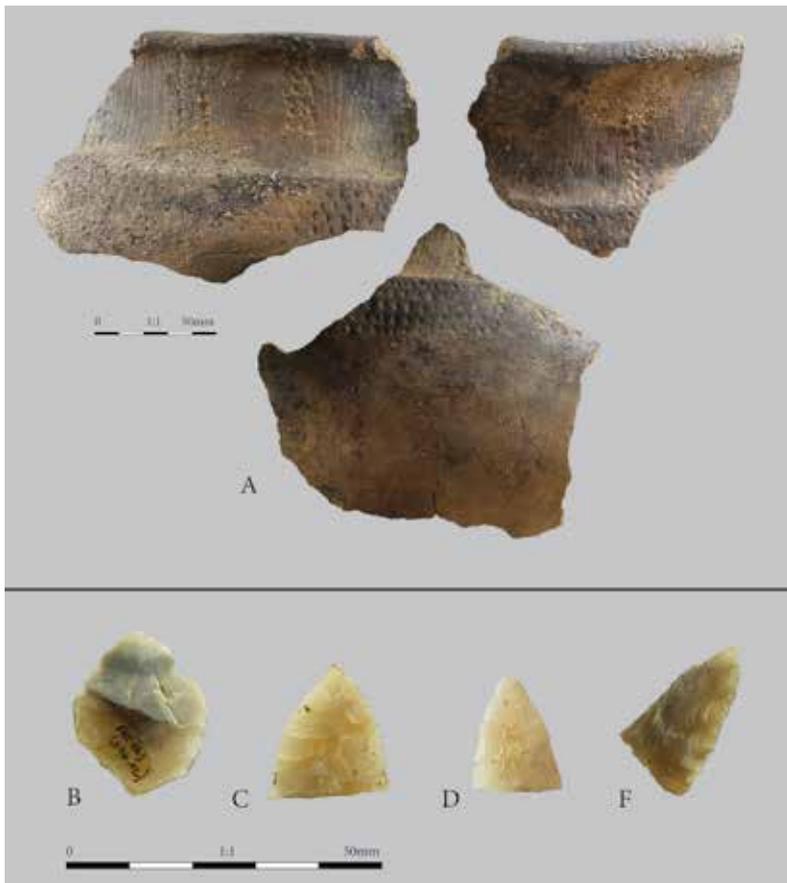
This small-scale project has thus proven Freston's status as an Early Neolithic causewayed enclosure. At 8.5 ha, it is the fifth largest of its kind in Britain, and one of the easternmost examples. The site's central feature is a spring or pond, where we hope to take a hand-drilled core into the silt to recover pollen, which will help us understand how the landscape may have been altered by these early farmers. Short-life samples of plant remains are also being selected for radiocarbon dating to determine the monument's construction history, in particular to see if the palisade was integral from the outset or represented a defensively-oriented reconfiguration of the site.

Ultimately, one of the project's main aims is to shed light on the introduction of farming into coastal East Anglia, and

Meetings programme: updates

The current situation is still making it difficult to effectively plan the format of meetings and lectures very far in advance. Please check our events website regularly for all the latest news and updates, and for how to register for the many (digital) events that are still going ahead: <http://www.prehistoricsociety.org/events/>

Of course, you can also follow us on social media!



Early Neolithic finds from Freston 2019. A: Mildenhall Ware, B–E: leaf-shaped arrowheads (photos: G. Bowen / Cotswold Archaeology, Suffolk)

the establishment of monumental gathering spaces a few generations later. When early agriculturalists came to settle at Freston, might they have been attracted to a location of importance for the indigenous hunter-gatherers, namely the spring that the enclosure was centred upon (much as Wiltshire’s Blick Mead)? The first farmers of Freston – be they an offshoot population from founder groups to the south-east, or continental migrants – may be behind a rectangular structure, revealed in outline in the site’s north-east quadrant, as such timber-built longhouses are characteristic of the earliest Neolithic in Britain. The enclosure’s location at the head of a valley with a prominent view over the nearby river Orwell also suggests that those coming to the site had both estuarine and maritime socio-economic outlooks, with the North Sea only 13 km downstream. COVID-19 permitting,

we hope to resolve these issues with further post-excavation studies and fieldwork in 2021.

Acknowledgements

I would like to thank Historic England (Will Fletcher), Suffolk County Council Archaeological Service (Faye Minter), Charlotte Diffey, Nat Jackson, Rose Moir (FARM team members), Cotswold Archaeology, Suffolk County Council Archaeological Service (Stuart Boulter, Linzi Everett, Tim Schofield), Ben Chan, Dana Challinor, John Marriot, Edward Martin, Geoff Mayhew, Jezz Meredith and Patience Shone.

Tristan Carter, McMaster University (stringy@mcmaster.ca)

Nebra again

Readers of *PAST* may have heard recent media reports concerning the Nebra disc, specifically that it was not associated with the Bronze Age swords that allegedly came from the same findspot, and that it dates instead to the Iron Age. These assertions come from a short article published online on 3 September in *Archäologische Informationen* (vol. 43) by Rupert Gebhard (Munich) and Rüdiger Krause (Frankfurt), and have led to a media frenzy in Germany and beyond. This is serious for science in general and archaeology

in particular, since it suggests that archaeologists do not really know what they are talking about, and rely instead on guesswork. Since readers may not be aware of the background to this story, I will attempt to put it in context here.

Gebhard and Krause are well known as the excavators of a hillfort at Bernstorff, Bavaria, from where extraordinary finds of amber and gold came in 1998–2000, including two pieces engraved with Linear B signs, one also showing



The Nebra disc (photo: Dbachmann 2006, published with CC BY-SA 3.0 license at https://commons.wikimedia.org/wiki/File:Nebra_Scheibe.jpg)

a bearded face. These objects have been the subject of controversy ever since: doubts were expressed about both the find circumstances (not from controlled excavation) and their form (the amber seemingly carved recently, the gold so pure it could not have been produced in the Middle Bronze Age). Gebhard and Krause attempted to counteract these criticisms in a 2016 book (*Bernstorf: Archäologisch-naturwissenschaftliche Analysen der Gold- und Bernsteinfunde vom Bernstorfer Berg bei Kranzberg, Oberbayern*). Reviews of the book have, however, been uniformly dismissive of their arguments, and it is fair to say that almost no professional archaeologist in Germany believes in the authenticity of the gold and the carved amber.

What has this got to do with the Nebra disc? Nothing, on the face of it – other than that both are unique finds and both are (or were) thought to date to the Bronze Age. Why the controversy then?

Gebhard and Krause point out, correctly, that what we know of the Nebra disc is incomplete, partly because of the find circumstances (it was found by two metal detectorists, whose subsequent accounts differed in significant respects), and partly because the team from the State Museum for Prehistory in Halle, under the direction of Harald Meller (an outspoken critic of Bernstorf), has so far only published preliminary accounts, scattered specialist reports and a popular book. This makes a full appreciation of the

situation difficult. Gebhard and Krause point to supposed inaccuracies in Meller's description of the form of the disc and the sequence of events that led to its creation, deposition and recovery, and to inconsistencies in the account of the excavation examining the detectorists' pit. Other points of debate concern the soil on the objects and the metal composition of disc and swords. The depictions on the disc are unique, so parallels are hard to find. Much depends on the supposed association with two swords that are certainly Bronze Age; but here the difficult find circumstances play a major role. Gebhard and Krause then plump for an Iron Age date, adducing various possible analogies to the motifs on the disc (none of them at all close).

The Halle team immediately wrote a press release refuting these arguments, and are preparing a long article by way of rebuttal. Needless to say, they do not accept the redating, and are convinced that the disc and swords were buried together.

What is really going on here? Can we be sure of the Bronze Age date for the disc? And is the newly published argument purely academic?

There are personal circumstances at work here, into which I cannot dig too far. It has been obvious for some time (at least since a meeting in Munich in 2014 to discuss the Bernstorf finds) that the two research teams were at daggers drawn. Both have tended to use their own publication outlets to express their views, seeking to promote 'their' site. Neither would cede any ground to the other: a situation ripe for media exploitation, with unfortunate consequences for archaeology. The new arguments and suggested date for Nebra have a strong whiff of payback about them. It is perfectly obvious that there is otherwise no connection between the two sites.

Can we say for sure what the date of the Nebra disc is? No. We can only go on the balance of probabilities. It seems *likely* that it was associated with the swords. While analyses have shown that the copper came from the Mitterberg sources in Austria, which were exploited in the Bronze Age, no good analogies are available for the form and motifs of the object, from any prehistoric period. Looking at the track record of the two teams, and the antagonism that has built up, my expectation is that the scientific world will ignore the suggested new dating and continue to treat the disc as a Bronze Age object. One can only hope that the media will lose interest in what they want to see as evidence of incompetence as quickly as they developed it.

Anthony Harding, University of Exeter
(A.F.Harding@exeter.ac.uk)

The copy date for PAST 98 is the 10th of May 2020. Contributions to Editor, Susan Greaney, English Heritage, Bristol & Cardiff University, Cardiff, UK. Email: pasteditor@gmail.com. Contributions as e-mail attachments are preferred (either Word or rtf files) but submissions on disc are also accepted. Illustrations can be sent as drawings, pdf, tif or jpeg files. The book reviews editor is Pippa Bradley, c/o Wessex Archaeology, Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB, email: p.bradley@wessexarch.co.uk. Queries over subscriptions and membership should go to the Society administrator Tessa Machling at the London address on page 1.

Appendix to “A county of missing houses—the impact of ‘roads archaeology’ on the discovery of Neolithic houses in Cork County, Ireland” by Ken Hanley

The table below contains details of the Neolithic houses excavated in County Cork under the auspices of Transport Infrastructure Ireland (formerly the National Roads Authority). Using the site/excavation reference, reports can be downloaded from the TII Digital Heritage Collection housed by the Digital Repository of Ireland (www.dri.ie).

Site/ Excavation Ref.	Road scheme	Internal dimensions (m)	Floor area (m ²)	Hearth	Long axis orientation	Entrance (width/ orientation)	Elevation / aspect	Associations
Barnagore 3/ 02E0384	N22 Ballincollig Bypass	5.5 x 4.5	25	No	E–W	c. 2.7 m/NE	30 m OD/ level	–
Gortore 1 E2119	M8 Rathcormac– Fermoy motorway	6.3 x 5.1	33	No	E–W	c. 2.7 m/S	43 m OD/ N	Sherds of ENcb, emmer wheat, charred apple core, apple/pear pips, hazelnut shells
Gortore 1b (Structure 1)/ E2410*	M8 Fermoy– Mitchelstown motorway	6.5 x 4.6	30	No	ENE–WSW	c. 2.5 m/ WSW	43 m OD/ level	Sherd of ENcb
Gortore 1b (Structure 2)/ E2410*	As above	6.5 x 8	c. 48	No	E–W	c. 2.5/N	30 m OD/ N	Sherds of Middle Neolithic globular bowl
Gortore 1b (Structure 3)/ E2410*	As above	6.4 x 5.2	43	No	ENE–WSW	c. 4.3 m/ENE	30 m OD/ N	Sherds of ENcb
Caherdrinny 3 (Building 1)/ E2422	As above	8 x 5.7	57	Yes?	ENE–WSW	c. 0.2 m/NE	148 m OD / SW	Sherd of ENcb, lithics, hazelnut shells, fruit seeds, cereal grains (including emmer wheat).
Ballinglanna North 3 (Building 1)/ E2416	As above	7.8 x 5.2	49	No	ESE–WNW	c. 1.2 m OD/ south	113 m OD / S	Sherds of ENcb, hazelnut shells
Ballinglanna North 3 (Building 2)/ E2416	As above	7.2 x 4	45	No	E–W	Unknown	110 m OD / N	Sherds of ENcb
Shanagh 1/ 12E0086	N73 Clogher Cross to Waterdyke Realignment	5.5 x 5	27.5	No	ENE–WSW	c. 2.7 m/SSE	87 m OD/ level	Sherds of ENcb, lithics, cereal grain

ENcb = Early Neolithic carinated bowl.

*note that the description of Structures 1, 2 and 3 at Gortore 1b given in the main contribution derives from a reinterpretation of the original excavation report findings